



Alcatel-Lucent 5620

SERVICE AWARE MANAGER | RELEASE 9.0 R6

Alcatel-Lucent 5650

CONTROL PLANE ASSURANCE MANAGER | RELEASE 5.0 R6

INSTALLATION AND UPGRADE GUIDE
3HE 06494 AAAF TQZZA Edition 01

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Alcatel-Lucent License Agreement

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- 3.2 Alcatel-Lucent may terminate this Agreement: (a) upon notice to Customer if any amount payable to Alcatel-Lucent is not paid within thirty (30) days of the date on which payment is due; (b) if Customer becomes bankrupt, makes an assignment for the benefit of its creditors, or if its assets vest or become subject to the rights of any trustee, receiver or other administrator; (c) if bankruptcy, reorganization or insolvency proceedings are instituted against Customer and not dismissed within 15 days; or (d) if Customer breaches a material provision of this Agreement and such breach is not rectified within 15 days of receipt of notice of the breach from Alcatel-Lucent.
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- 8.1 Under no circumstances shall either party be liable to the other for any failure to perform its obligations (other than the payment of any monies owing) where such failure results from causes beyond that party's reasonable control.
- 8.2 This Agreement constitutes the entire agreement between Alcatel-Lucent and Customer and supersedes all prior oral and written communications. All amendments shall be in writing and signed by authorized representatives of both parties.
- 8.3 If any provision of this Agreement is held to be invalid, illegal or unenforceable, it shall be severed and the remaining provisions shall continue in full force and effect.
- 8.4 The Licensed Program may contain freeware or shareware obtained by Alcatel-Lucent from a third party source. No license fee has been paid by Alcatel-Lucent for the inclusion of any such freeware or shareware, and no license fee is charged to Customer for its use. The Customer agrees to be bound by any license agreement for such freeware or shareware. CUSTOMER ACKNOWLEDGES AND AGREES THAT THE THIRD PARTY SOURCE PROVIDES NO WARRANTIES AND SHALL HAVE NO LIABILITY WHATSOEVER IN RESPECT OF CUSTOMER'S POSSESSION AND/OR USE OF THE FREWARE OR SHAREWARE.
- 8.5 Alcatel-Lucent shall have the right, at its own expense and upon reasonable written notice to Customer, to periodically inspect Customer's premises and such documents as it may reasonably require, for the exclusive purpose of verifying Customer's compliance with its obligations under this Agreement.
- 8.6 All notices shall be sent to the parties at the addresses listed above, or to any such address as may be specified from time to time. Notices shall be deemed to have been received five days after deposit with a post office when sent by registered or certified mail, postage prepaid and receipt requested.
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- 8.9 No term or provision of this Agreement shall be deemed waived and no breach excused unless such waiver or consent is in writing and signed by the party claimed to have waived or consented. The waiver by either party of any right hereunder, or of the failure to perform or of a breach by the other party, shall not be deemed to be a waiver of any other right hereunder or of any other breach or failure by such other party, whether of a similar nature or otherwise.
- 8.10 This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario. The application of the United Nations Convention on Contracts for the International Sale of Goods is hereby expressly excluded.

Preface

The Preface provides general information about the 5620 Service Aware Manager documentation suite, including this guide.

Prerequisites

Readers of the 5620 SAM documentation suite are assumed to be familiar with the following:

- 5620 SAM software structure and components
- 5620 SAM GUI operations and tools
- typical 5620 SAM management tasks and procedures
- device and network management concepts

5620 SAM documentation suite

The 5620 SAM documentation suite describes the 5620 SAM and the associated network management of its supported devices. Contact your Alcatel-Lucent support representative for information about specific network or facility considerations.

Table 1 lists the documents in the 5620 SAM customer documentation suite.

Table 1 5620 SAM customer documentation suite

Guide	Description
5620 SAM core documentation	
<i>5620 SAM Release Description</i>	The <i>5620 SAM Release Description</i> provides information about the new features associated with a 5620 SAM software release.

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Guide	Description
<i>5620 SAM Planning Guide</i>	The <i>5620 SAM Planning Guide</i> provides information about 5620 SAM scalability and recommended hardware configurations.
<i>5620 SAM System Architecture Guide</i>	The <i>5620 SAM System Architecture Guide</i> is intended for technology officers and network planners to increase their knowledge of the 5620 SAM software structure and components. It describes the system structure, software components, and interfaces of the 5620 SAM. In addition, 5620 SAM fault tolerance, security, and network management capabilities are discussed from an architectural perspective.
<i>5620 SAM 5650 CPAM Installation and Upgrade Guide</i>	The <i>5620 SAM 5650 CPAM Installation and Upgrade Guide</i> provides OS considerations, configuration information, and procedures for the following: <ul style="list-style-type: none"> installing, upgrading, and uninstalling 5620 SAM and 5650 CPAM software in standalone and redundant deployments 5620 SAM system migration to a different system conversion from a standalone to a redundant 5620 SAM system
<i>5620 SAM User Guide</i>	The <i>5620 SAM User Guide</i> provides information about using the 5620 SAM to manage the service-aware IP/MPLS network, including GUI basics, commissioning, service configuration, and policy management. The <i>5620 SAM User Guide</i> uses a task-based format. Each chapter contains: <ul style="list-style-type: none"> a workflow that describes the steps for configuring and using the functions detailed procedures that list the configurable parameters on the associated forms 5620 SAM management information specific to LTE network elements is covered in the <i>5620 SAM LTE ePC User Guide</i> and <i>5620 SAM LTE RAN User Guide</i> . 5620 SAM management information specific to 1830 PSS network elements is covered in the <i>5620 SAM Optical User Guide</i> .
<i>5620 SAM Integration Guide</i>	The <i>5620 SAM Integration Guide</i> provides procedures to allow the 5620 SAM to integrate with additional components.
<i>5620 SAM Supervision Module User Guide</i>	The <i>5620 SAM Supervision Module User Guide</i> provides information about how to configure and use the web-based 5620 SAM Supervision Module for fault management and at-a-glance network element monitoring.
<i>5620 SAM Scripts and Templates Developer Guide</i>	The <i>5620 SAM Scripts and Templates Developer Guide</i> provides information that allows you to develop, manage, and execute CLI-based or XML-based scripts or templates. The guide is intended for developers, skilled administrators, and operators who are expected to be familiar with the following: <ul style="list-style-type: none"> CLI scripting, XML, and the Velocity engine basic scripting or programming 5620 SAM functions
<i>5620 SAM Parameter Guide</i>	The <i>5620 SAM Parameter Guide</i> provides: <ul style="list-style-type: none"> parameter descriptions that include value ranges and default values parameter options and option descriptions parameter and option dependencies parameter mappings to the 5620 SAM-O XML equivalent property names There are dynamic links between the procedures in the <i>5620 SAM User Guide</i> and the parameter descriptions in the <i>5620 SAM Parameter Guide</i> . Parameters specific to LTE network elements are covered in the <i>5620 SAM LTE Parameter Reference</i> . Parameters specific to 1830 PSS network elements are covered in the <i>5620 SAM Optical Parameter Reference</i> .
<i>5620 SAM Statistics Management Guide</i>	The <i>5620 SAM Statistics Management Guide</i> provides information about how to configure performance and accounting statistics collection and how to view counters using the 5620 SAM. Network examples are included.

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Guide	Description
<i>5620 SAM Maintenance Guide</i>	The <i>5620 SAM Maintenance Guide</i> provides procedures for: <ul style="list-style-type: none"> generating baseline information for 5620 SAM applications performing daily, weekly, monthly, and as-required maintenance activities for 5620 SAM-managed networks
<i>5620 SAM Troubleshooting Guide</i>	The <i>5620 SAM Troubleshooting Guide</i> provides task-based procedures and user documentation to: <ul style="list-style-type: none"> help resolve issues in the managed and management networks identify the root cause and plan corrective action for: <ul style="list-style-type: none"> alarm conditions on a network object or customer service problems on customer services with no associated alarms list problem scenarios, possible solutions, and tools to help check: <ul style="list-style-type: none"> network management LANs network management platforms and operating systems 5620 SAM client GUIs and client OSS applications 5620 SAM servers 5620 SAM databases
<i>5620 SAM Alarm Reference</i>	The <i>5620 SAM Alarm Reference</i> provides a list of all alarms that the 5620 SAM can raise. The reference is organized by network element type.
<i>5620 SAM Glossary</i>	The <i>5620 SAM Glossary</i> defines terms and acronyms used in all of the 5620 SAM documentation, including 5620 SAM LTE documentation.
<i>5620 SAM Network Element Compatibility Guide</i>	The <i>5620 SAM Network Element Compatibility Guide</i> provides release-specific information about the compatibility of managed device features in 5620 SAM releases.
5620 SAM LTE documentation	
<i>5620 SAM LTE RAN Release Description</i>	The <i>5620 SAM LTE RAN Release Description</i> provides information about the LTE RAN features associated with the release.
<i>5620 SAM LTE ePC User Guide</i>	The <i>5620 SAM LTE ePC User Guide</i> describes how to discover, configure, and manage LTE ePC devices using the 5620 SAM. The guide is intended for LTE ePC network planners, administrators, and operators. Alcatel-Lucent recommends that you review the entire <i>5620 SAM LTE ePC User Guide</i> before you attempt to use the 5620 SAM in your LTE network.
<i>5620 SAM LTE RAN User Guide</i>	The <i>5620 SAM LTE RAN User Guide</i> describes how to discover, configure, and manage the Evolved NodeB, or eNodeB, using the 5620 SAM. The guide is intended for LTE RAN network planners, administrators, and operators. Alcatel-Lucent recommends that you review the entire <i>5620 SAM LTE RAN User Guide</i> before you attempt to use the 5620 SAM in your LTE network.
<i>5620 SAM LTE Parameter Reference</i>	The <i>5620 SAM LTE Parameter Reference</i> provides a list of all LTE ePC and LTE RAN parameters supported in the 5620 SAM.
5620 SAM-O documentation	
<i>5620 SAM XML OSS Interface Developer Guide</i>	The <i>5620 SAM XML OSS Interface Developer Guide</i> provides information that allows you to: <ul style="list-style-type: none"> use the 5620 SAM XML OSS interface to access network management information learn about the information model associated with the managed network develop OSS applications using the packaged methods, classes, data types, and objects necessary to manage 5620 SAM functions
<i>5620 SAM 3GPP OSS Interface Developer Guide</i>	The <i>5620 SAM 3GPP OSS Interface Developer Guide</i> describes the components and architecture of the 3GPP OSS interface to the 5620 SAM. It includes procedures and samples to assist OSS application developers to use the 3GPP interface to manage LTE devices.

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Guide	Description
<i>5620 SAM 3GPP OSS Interface Compliance Statements</i>	The <i>5620 SAM 3GPP OSS Interface Compliance Statements</i> document describes the compliance of the 5620 SAM 3GPP OSS interface with the 3GPP standard.
5620 SAM optical documentation	
<i>5620 SAM Optical User Guide</i>	The <i>5620 SAM Optical User Guide</i> describes how to discover, configure, and manage optical devices using the 5620 SAM. The guide is intended for optical network planners, administrators, and operators. Alcatel-Lucent recommends that you review the entire <i>5620 SAM Optical User Guide</i> before you attempt to use the 5620 SAM in your network.
<i>5620 SAM Optical Parameter Reference</i>	The <i>5620 SAM Optical Parameter Reference</i> provides a list of all optical device parameters supported in the 5620 SAM.

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Obtaining customer documentation

You can obtain 5620 SAM customer documentation:

- from the product
- on the web

On-product documentation

The 5620 SAM on-product customer documentation is delivered in HTML and PDF. Choose Help→User Documentation from the 5620 SAM client GUI to open the help system in a web browser.

The help system opens to the User Documentation Index, which provides a summary of and links to all 5620 SAM customer documents.

Click on the Using the help system tab on the User Documentation Index page to find usage tips for navigating and searching within the on-product customer documentation.

You can return to the User Documentation Index at any time by clicking on the Home icon, shown in Figure 1.

Figure 1 Home icon



Documentation on the web

The 5620 SAM customer documentation is available for download in PDF format from the Alcatel-Lucent Customer Support Center: <http://www.alcatel-lucent.com/myaccess>. If you are a new user and require access to this service, please contact your Alcatel-Lucent support representative.

In addition to the guides listed in Table 1, Release Notices and other documents not delivered on-product are posted to this site.

Working with PDFs

You can download PDFs of individual guides from the Alcatel-Lucent Customer Support Center, or you can choose to download a zip of all PDFs for a particular release.

You can use the Search function of Acrobat Reader (File→Search) to find a term in a PDF of any 5620 SAM document. To refine your search, use appropriate search options (for example, search for whole words only or enable case-sensitive searching). You can also search for a term in multiple PDFs at once, provided that they are located in the same directory. For more information, see the Help for Acrobat Reader.

Cross-book hotlinks, for example, from a parameter name in the *5620 SAM User Guide* to a description of that parameter in the *5620 SAM Parameter Guide*, work only if both PDF files are in the same directory.



Note — Users of Mozilla browsers may receive an error message when opening the PDF files in the 5620 SAM documentation suite. The offline storage and default cache values used by the browsers are the cause of the error message.

Alcatel-Lucent recommends changing the Mozilla Firefox offline storage or Mozilla 1.7 cache value to 100 Mbytes to eliminate the error message.

Documentation conventions

Table 2 lists the conventions that are used throughout the documentation.

Table 2 Documentation conventions

Convention	Description	Example
Key name	Press a keyboard key	Delete
Italics	Identifies a variable	<i>hostname</i>
Key+Key	Type the appropriate consecutive keystroke sequence	CTRL+G
Key-Key	Type the appropriate simultaneous keystroke sequence	CTRL-G
*	An asterisk is a wildcard character, which means “any character” in a search argument.	log_file*.txt
↵	Press the Return key	↵
—	An em dash indicates there is no information.	—
→	Indicates that a cascading submenu results from selecting a menu item	Policies→Alarm Policies

Procedures with options or substeps

When there are options in a procedure, they are identified by letters. When there are substeps in a procedure, they are identified by Roman numerals.

Example of options in a procedure

At step 1, you can choose option a or b. At step 2, you must do what the step indicates.

- 1 This step offers two options. You must choose one of the following.
 - a This is one option.
 - b This is another option.
- 2 You must perform this step.

Example of substeps in a procedure

At step 1, you must perform a series of substeps within a step. At step 2, you must do what the step indicates.

- 1 This step has a series of substeps that you must perform to complete the step. You must perform the following substeps.
 - i This is the first substep.
 - ii This is the second substep.
 - iii This is the third substep.
- 2 You must perform this step.

Measurement conventions

Measurements in this document are expressed in metric units and follow the *Système international d'unités* (SI) standard for abbreviation of metric units. If imperial measurements are included, they appear in brackets following the metric unit.

Table 3 lists the measurement symbols used in this document.

Table 3 Bits and bytes conventions

Measurement	Symbol
bit	b
byte	byte
kilobits per second	kb/s

Important information

The following conventions are used to indicate important information:



Warning — Warning indicates that the described activity or situation may, or will, cause equipment damage or serious performance problems.



Caution — Caution indicates that the described activity or situation may, or will, cause service interruption.



Note — Notes provide information that is, or may be, of special interest.

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Getting started

1 — Before you begin

1 — Before you begin

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1.1 Overview

This chapter contains general and OS-specific information about the deployment of the Alcatel-Lucent 5620 SAM software components in a network.



Caution 1 — The upgrade or conversion to redundancy of the Alcatel-Lucent 5620 SAM software components in a network requires a thorough understanding of 5620 SAM system administration and OS-specific requirements. The conversion or upgrade must be planned, documented, and tested in advance on a lab system that is representative of the target live network.

Contact Alcatel-Lucent technical support to assess the upgrade requirements for your network implementation of the 5620 SAM. Alcatel-Lucent offers an upgrade service that should be engaged for upgrades and conversions to redundancy.

Caution 2 — Alcatel-Lucent supports 5620 SAM software deployment only under the conditions described in this guide, the *5620 SAM Planning Guide*, and the *5620 SAM Release Notice*.

Guide conventions

A 5620 SAM software DVD-ROM is platform-specific. View the DVD-ROM label to verify that you have the correct DVD-ROM.

This document uses the following terminology:

- station—a discrete physical processing entity, such as a Windows PC or a Solaris workstation
- peer—means an equivalent component in the same 5620 SAM system. For example, in a redundant deployment, the peer main server of the primary main server is the standby main server, and the peer main server of the standby main server is the primary main server. The term peer is used because the terms primary and standby are relative to the functional role of a component, and these roles can change.

The figures and associated text in this guide display a typical or default parameter value when appropriate. A default value is acceptable in many deployment environments, but must be validated against specific requirements, for example, firewall constraints. See the *5620 SAM Planning Guide* and the current *5620 SAM Release Notice* for more information, or contact Alcatel-Lucent technical support.

An installer panel field that has a yellow background is a mandatory field that requires a valid entry before you can proceed to the next panel.

The 5620 SAM installer prompts the user before it creates a directory on the local file system.

5620 SAM client installation, upgrade, and configuration updates

The following 5620 SAM client software installation methods are available:

- using the client installer on the 5620 SAM software DVD-ROM
- using a web browser that connects to a 5620 SAM main server

Each method sets up a basic client environment that includes the 5620 SAM auto-client update utility. The auto-client update utility then downloads the client software from a 5620 SAM main server and installs it.

The 5620 SAM main server must be installed and initialized before you can use a web browser to install the auto-client update utility and client software. You can use the DVD-ROM client installer to install the auto-client update utility, regardless of the main server state, but the main server must be initialized before the auto-client update utility can install the client software.

See chapter 2 for client installation procedures. See chapter 3 for client upgrade procedures.

The auto-client update utility can also be used for the central management and automatic distribution of client software upgrades and configuration changes.

During startup, the client software checks for available updates on a 5620 SAM main server. If a configuration change is available, the client automatically applies it. If a client software upgrade is available, the client applies the upgrade in response to a user prompt.

Client software upgrades

After a 5620 SAM main server is upgraded, a GUI client that connects to the server automatically detects the release mismatch and attempts an upgrade to the server release level.

During a software upgrade, a 5620 SAM client downloads and installs only the files required for the upgrade. The upgrade process removes previously downloaded local 5620 SAM files that are not required by the updated client software.

Client configuration changes

When the GUI clients that connect to a 5620 SAM server require a configuration change, an administrator updates the global client configuration stored on a main server. Each client detects the update at the start of the next client session and applies the required configuration changes. See the *5620 SAM User Guide* for information about updating client configurations.

By default, the client configuration after an automatic update matches the server configuration, but this behavior is configurable using client startup options. To retain a customized configuration on a client, you can specify that the client does not apply any configuration changes from the server. If a client configuration change is mandatory and affects the customized configuration, you must allow the update and then manually reapply the custom configuration entries. See the *5620 SAM User Guide* GUI chapter for a description of each 5620 SAM client startup option.

Considerations and restrictions

Consider the following before you attempt to use the automatic 5620 SAM client update function.

- When a client detects an error during an auto-update attempt, for example, when the client is unable to connect to the server, it displays a message about the error.
- An auto-client update proceeds only when there is sufficient disk space on the client station. Otherwise, the client displays a message and exits.
- When a GUI client tries to connect to a server that is at an earlier 5620 SAM release than the download server, the client displays a message to this effect, restarts, and tries to connect to the other server in the cluster.
- A client backs up the existing configuration files before it performs a configuration change.
- The user documentation location is configurable during a 5620 SAM server installation. By default, the clients retrieve the documents from a URL, but you can specify a location such as the client file system.

1.2 General 5620 SAM deployment information

The information in this section applies to all platforms. You must comply with the requirements in this section and in the [“5620 SAM deployment on Windows”](#) or [“5620 SAM deployment on Solaris”](#) section, as appropriate, before you attempt a 5620 SAM installation or upgrade.



Note — It is important to record all information that you specify when you perform procedures in this guide; the information may be required for a subsequent operation. Store the recorded information in a secure location, such as a non-5620 SAM station, for later use.

Platform

The following are general 5620 SAM platform requirements and restrictions. See the appropriate section in this chapter for information about installing or upgrading the 5620 SAM on a specific platform.

- The 5620 SAM installation platform must meet the minimum requirements described in the *5620 SAM Planning Guide* for the 5620 SAM release.
- The system locale must be C or POSIX.
- The hostname of a 5620 SAM component must meet the following criteria:
 - It contains only ASCII alphanumeric and hyphen characters.
 - It does not begin or end with a hyphen.
 - If the hostname is an FQDN, period characters delimit the FQDN components.
 - The FQDN of the hostname does not exceed 63 characters.
- The 5620 SAM platform must be dedicated to the 5620 SAM application only. 5620 SAM operation may be adversely affected by the activity of another application on the same platform. Alcatel-Lucent does not support the sharing of the 5620 SAM platform with another application.
- The 5620 SAM main server and database components in a 5620 SAM system must be installed on stations that use the same OS at the same patch level.

- Before you install or upgrade a redundant 5620 SAM system, you must enable SSH on each main server, auxiliary server, and database station in the system.
- A 5620 SAM client on a Windows or Solaris station can interact with a 5620 SAM server that runs on any OS in a standalone or redundant configuration.
- A 5620 SAM single-user client or client delegate server cannot be installed on the same station as a 5620 SAM server or database.
- The 5620 SAM OSS and GUI client real-time clocks must always be synchronized with the main server real-time clock. Alcatel-Lucent strongly recommends using NTP or an equivalent time protocol for synchronization.

Table 1-1 lists the platforms that each 5620 SAM component supports.

Table 1-1 Platforms supported by 5620 SAM components

5620 SAM component	Solaris 10 on SPARC station	Solaris 10 on x86 station	Microsoft Windows
Main server (distributed)	✓	✓	
Main server with 3GPP interface (distributed)		✓	
Database (distributed)	✓	✓	
Collocated main server and database	✓	✓	
Collocated database and main server with 3GPP interface		✓	
Auxiliary server	✓	✓	
Client delegate server	✓	✓	
Single-user client	✓	✓	✓

Software

The following are general 5620 SAM software requirements and restrictions.

- You cannot upgrade the 5620 SAM to a release that is chronologically older than the currently installed release. For example, you cannot upgrade from Release 7.0 R8 to 8.0 R1, because Release 8.0 R1 predates Release 7.0 R8.
- The 5620 SAM server and database installers are available in English only.
- The prompts and descriptive text displayed during a client installation are in English; subsequent client upgrades use the language associated with the locale configured for the client on the server.
- An Alcatel-Lucent 5620 SAM license key is required during an 5620 SAM installation or upgrade. Before you install or upgrade a 5620 SAM system, confirm that your license key enables the function that you require and is configured for the number of network objects that you intend to manage.
- You cannot share an existing Oracle installation with the 5620 SAM.
- No other application can use the 5620 SAM Oracle software.
- The Oracle installation files must be in the same directory as the database installer file, for example, the directory on the product DVD-ROM.

- The 5620 SAM supports the upgrade of a 5620 SAM component that is no more than two major releases older than the current release. For example, you can upgrade a 5620 SAM Release 7.0 system to Release 9.0, but you cannot upgrade a Release 6.0 system directly to Release 9.0; you must first perform an intermediate upgrade to at least Release 7.0.
- After an upgrade to an intermediate release, for example, an upgrade from Release 6.0 to Release 7.0 before a final upgrade to Release 9.0, each 5620 SAM main server must be started and allowed to initialize fully before the final upgrade, or the final upgrade fails.
- Ensure that you have sufficient time to complete a 5620 SAM database upgrade. The time required for a database upgrade depends on the platform type, database complexity and tablespace configuration. See the *5620 SAM Planning Guide* for database upgrade time estimates.
- A 5620 SAM software upgrade from Release 8.0 or earlier to Release 9.0 R1 or later removes an SSL or HTTPS configuration on a 5620 SAM component. If SSL and HTTPS are enabled in a Release 8.0 or earlier 5620 SAM system before an upgrade, you must enable secure communication on each main server, auxiliary server, and client during the upgrade. The 5620 SAM installation utility includes an SSL configuration panel. See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.
- To enable or disable SSL on a single-user GUI client or delegate client, you must uninstall the single-user client or client delegate server software, and then select the appropriate SSL option during the client or client delegate server re-installation. A GUI client cannot connect to a main server that has a different SSL configuration, so the main server cannot update the client with the new SSL configuration.
- A 5620 SAM software upgrade from Release 8.0 or earlier to Release 9.0 R1 or later removes the SSO configuration on a 5620 SAM component. If SSO is enabled before an upgrade, and you want SSO enabled after the upgrade, you must configure SSO during the upgrade on each main server. See the *5620 SAM Integration Guide* for information about configuring SSO.
- At the beginning of a 5620 SAM server upgrade, the 5620 SAM installation utility backs up specific configuration and log files to a timestamped directory under the installation directory. The utility then deletes directories under the server installation directory. If you have created or customized a file under the server installation directory, you risk losing the file unless you back up the file before the upgrade to a storage location that is unaffected by the upgrade.

Release-specific considerations

The 5620 SAM Release Notice contains important release-specific information. Ensure that you read the Release Notice before you begin a 5620 SAM installation or upgrade.



Note — After an upgrade from a release earlier than 8.0 R5, the 5620 SAM clears the existing EquipmentRemoved and ContainingEquipmentMissing alarms during network resynchronization.

Network

The following are the 5620 SAM network requirements and restrictions.

5620 SAM management network

The following conditions apply to the 5620 SAM management domain.



Warning — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panels:

- **5620 SAM Database Configurator**
 - General Database Configuration Info
 - Primary Database Configuration Info
 - Standby Database Configuration Info
 - Get Upgrade Database Info
 - Standalone Database Info
- **5620 SAM/5650 CPAM Server Installer**
 - Main Server Configuration for Auxiliary Servers
 - Main Server Configuration for Peer Server
 - Auxiliary Server Address Configuration
 - CPAM Server Configuration for Auxiliary Servers
 - CPAM Server Configuration for Peer Server
- Specifying a TCP or UDP port other than the default during an installation or upgrade can affect firewall configuration; ensure that you record changes to default port numbers and make the ports available through firewalls.
- Before you can specify an IPv6 address for a 5620 SAM component, the IPv6 interface must be plumbed and operational. See the appropriate OS documentation for information about enabling and configuring an IPv6 interface.
- You must use an IP address, and not a hostname, to identify a database station.
- When you use hostname to identify a 5620 SAM component, you must use local hostname resolution.
- During a single-user client installation, you can specify a hostname instead of an IP address to identify a main server. A client upgrade, however, occurs automatically through a connection to a predefined server in the client configuration. See the *5620 SAM User Guide* for information about updating the client configuration.
- Alcatel-Lucent does not support DNS or NIS name resolution on a main or auxiliary server, and a pre-existing name service must not conflict with 5620 SAM server address resolution. Alcatel-Lucent supports DNS or NIS name resolution on a 5620 SAM GUI or OSS client.

- Network addressing for 5620 SAM components has the following requirements:
 - An IP address that a 5620 SAM client, database, or server uses to communicate with another 5620 SAM component must be an IPv4 address in dotted-decimal format. Support for IPv6 addressing is limited to network discovery and management by 5620 SAM servers on Solaris.
 - You cannot specify “localhost” or an alias IP address.



Caution 1 — Alcatel-Lucent strongly recommends the use of hostname resolution for GUI and OSS client communication with a 5620 SAM main server when there is a NAT firewall between the main server and clients.

Caution 2 — When a 5620 SAM main server and clients use IP addresses to traverse a NAT firewall, the firewall must be configured with an address loopback mechanism for each main server and client.

Managed network and external systems

The following conditions apply to the network of 5620 SAM- managed devices and to external systems with which the 5620 SAM is integrated:

- Before you upgrade a 5620 SAM system, you must confirm that the new 5620 SAM software release supports the releases of the 5620 SAM-managed devices. If this is not the case, you must perform one of the following before you attempt the upgrade, or service disruption may occur.
 - Upgrade the devices to a release that the new 5620 SAM release supports.
 - Use a 5620 SAM client to unmanage the devices and remove them from the 5620 SAM-managed network.
- Before you upgrade a 5620 SAM system, you must ensure that the new 5620 SAM software is compatible with the software release of each connected external system, for example, the 5620 NM. Contact Alcatel-Lucent technical support about 5620 SAM and external system compatibility.



Note 1 — You cannot upgrade a 5620 SAM system when a managed NE contains an HSMDAv1 daughter card. You must decommission each HSMDAv1 daughter card in the managed network before you attempt a 5620 SAM system upgrade. Contact Alcatel-Lucent technical support for more information.

Note 2 — If you have a 5620 SAM system that manages one or more OmniSwitch devices as generic NEs, you must unmanage and delete the OmniSwitch generic NEs before you upgrade the 5620 SAM software. You can manage the devices directly, rather than as generic NEs, when the 5620 SAM upgrade is complete.

Note 3 — Because of changes in 5620 SAM Release 7.0, a 5620 SAM upgrade disables the resynchronization of a MIB entry in some devices if the MIB entry has the former default polling interval of 24 h. The affected devices are the 7210 SAS-E, 7450 ESS, 7701 CPAA, 7705 SAR, 7710 SR, and 7750 SR. A MIB entry that has a non-default polling interval is unaffected by a 5620 SAM upgrade.

1.3 LTE-specific requirements

The following installation and upgrade conditions apply to a 5620 SAM deployment for LTE network management.

- The 5620 SAM 3GPP OSS interface is supported only on x86-based platforms.
- A 5620 SAM system that manages one or more eNodeB devices has special disk partitioning requirements. See [“Disk configurations and partitioning”](#) in section 1.5 for more information.
- Before you can use a 5620 SAM system to manage one or more eNodeB devices, the 5620 SAM and eNodeBs must use a common time-synchronization server that runs a protocol such as NTP. 5620 SAM eNodeB PM statistics collection fails when the eNodeB and 5620 SAM real-time clocks are not synchronized.
- Some 5620 SAM LTE RAN functions, for example, performance measurement transfers and network snapshots, require configuration before the 5620 SAM can manage an eNodeB. See the *5620 SAM LTE RAN User Guide* for eNodeB management configuration information.

1.4 5620 SAM deployment on Windows

This section describes the 5620 SAM deployment requirements and restrictions that are specific to a Microsoft Windows platform. The 5620 SAM supports only single-user client installation and upgrade on a Microsoft Windows platform. You must comply with the requirements in the [“General 5620 SAM deployment information”](#) section and in this section before you attempt to perform a 5620 SAM component installation or upgrade on a Windows platform.

Platform

The following are 5620 SAM platform requirements and restrictions for Windows.

- Alcatel-Lucent supports the installation or upgrade of a 5620 SAM single-user client on a station that runs one of the following Windows releases:
 - Windows 2000 Professional, 32-bit edition
 - Windows 2003, 32-bit edition
 - Windows 7, 32- and 64-bit editions
 - Windows XP Professional, 32-bit edition
 - Windows Vista Business, 32-bit edition (5620 SAM client only)
 - Windows Vista Ultimate, 32-bit edition (5620 SAM client only)
- Alcatel-Lucent does not support 5620 SAM single-user client installation on Windows when Windows is installed in a virtual environment.
- Before you attempt to install a single-user client on Windows 2003, you must enable Windows XP compatibility for the installer utility executable file. See the appropriate Microsoft product documentation for more information.

Security

The following are 5620 SAM security requirements and restrictions for Windows.

- The user that installs a 5620 SAM single-user client requires local user privileges.
- The user that starts an installed 5620 SAM single-user client must be the user that installs the client software, or a user with sufficient permissions on the client files and directories, such as a local administrator.
- The user that uninstalls the 5620 SAM single-user client software must be the user that installs the client software, or a user with local administrator privileges.

1.5 5620 SAM deployment on Solaris

This section describes the 5620 SAM deployment requirements and restrictions that are specific to a Solaris platform. You must comply with the requirements in the [“General 5620 SAM deployment information”](#) section and in this section before you attempt to perform a Solaris-specific procedure in this guide.

The following components comprise a 5620 SAM system on Solaris:

- one main server in a standalone deployment, or two in a redundant deployment
- one database in a standalone deployment, or two in a redundant deployment
- one or more auxiliary servers (optional)
- one or more single-user clients or client delegate servers



Note — A redundant 5620 SAM system upgrade requires a network-management outage and must be performed only during a scheduled maintenance period of sufficient duration for the upgrade.

Network

The following are 5620 SAM network requirements and restrictions for Solaris.



Caution — Before you can use a 5620 SAM system to manage one or more eNodeB devices, the 5620 SAM and eNodeBs must use a common time-synchronization server that runs a protocol such as NTP. 5620 SAM eNodeB PM statistics collection fails when the eNodeB and 5620 SAM real-time clocks are not synchronized.

- If you move a standalone 5620 SAM main server to a different station during a cross-platform migration, Alcatel-Lucent recommends that you remove the trap-target entries for the former server from the SNMP configuration of each NE.
- A 5620 SAM main server listens for GUI and OSS client communication on only one interface unless you specify a hostname for the main server during an installation or upgrade.
- If NAT is used between the 5620 SAM and managed 7250 SAS or Telco devices, you must add the private IP address of the 5620 SAM main server to the TFTP section of the main server configuration file, and then restart the main server. Contact Alcatel-Lucent technical support for more information.

- During a main server installation or upgrade, you must use hostnames to identify the main server interfaces under the following conditions:
 - when the OSS and GUI clients communicate with a main server using multiple IP addresses for the main server
 - when the OSS and GUI clients use different addresses to communicate with a main server through one interface on the main server
- When two components use hostnames to communicate, the `/etc/hosts` file on each component station must contain the following local entries:
 - an entry that maps the hostname assigned to the interface on the other component to the IP address used to reach the other component
 - an entry that maps the hostname of the other component station to each IP address used to reach the other component
- Using NAT adds an extra level of complexity to a 5620 SAM network. The `/etc/hosts` file on each component station must contain the correct public and private address entries for reaching other components at the following times:
 - during normal operation
 - after a 5620 SAM component or network component failure
- A 5620 SAM main server can use IPv6 addressing for network discovery and management only, and only if an IPv6 server address is specified during a server installation or upgrade.

Platform

The following are 5620 SAM platform requirements and restrictions for Solaris.



Note — See the current *5620 SAM Release Notice* for information about the required Solaris version and patch level.

- 5620 SAM deployment on Solaris in a live network requires a station that has at least two hard disks. Alcatel-Lucent supports a one-disk layout only for lab trials or for demonstration purposes.
- 5620 SAM component installation is supported for Solaris 10 in 64-bit mode on a SPARC or an x86-based station.
- The Solaris `forcedirectio` disk-partitioning option is not required or recommended on a disk partition in a 5620 SAM system.
- You can deploy a collocated or distributed 5620 SAM system in a standalone or a redundant configuration.
- In a redundant 5620 SAM deployment, the main server time zones must match.
- When a 5620 SAM database station has multiple CPUs, the 5620 SAM installation utility uses Oracle parallel processing to speed a database upgrade.
- If the 5620 SAM is expected to collect statistics on a large scale, as defined in the *5620 SAM Planning Guide*, Alcatel-Lucent requires the use of a disk array with the 5620 SAM database to increase system performance.
- The Solaris release and patch levels on all main server, auxiliary server, and database components in a 5620 SAM deployment must be identical.
- The 5620 SAM does not support the use of Solaris zones.
- The Solaris TFTP server conflicts with the 5620 SAM TFTP server. The Solaris TFTP server must be disabled on a 5620 SAM server.

- Alcatel-Lucent recommends that you disable the Solaris webconsole service on each station in a 5620 SAM system.
- If you plan to convert a standalone 5620 SAM system to a redundant system and plan to upgrade the system, you must perform the upgrade before the conversion.
- You must relink the Oracle executable files after you apply a Solaris OS patch or after a Solaris OS upgrade. See the *5620 SAM Maintenance Guide* for more information.
- Table 1-16 lists the Solaris packages that the 5620 SAM requires in addition to a Solaris core distribution. The 5620 SAM may also be installed on a Solaris Entire Distribution installation with the OEM Support option. See the appropriate Solaris OS documentation for more information about package installation.
- An auxiliary or client-delegate server requires a dedicated station. Alcatel-Lucent does not support the sharing of an auxiliary or client-delegate server station with another 5620 SAM component.
- An auxiliary server must be accessible to each main server and database in a redundant 5620 SAM deployment. Optimally, all components in a deployment are in the same LAN and have high-quality network interconnection.
- The 5620 SAM supports the use of Solaris IP network multipathing, or IPMP, only when IPMP is deployed in an active-standby configuration. See the appropriate Solaris documentation for information about configuring IPMP.

Security

The following are 5620 SAM security requirements and restrictions for Solaris.

- A 5620 SAM server installation creates a user account called samadmin that is required for 5620 SAM operation and administration.
 - The samadmin account is created on a main, auxiliary, or client delegate server.
 - The account home directory is the 5620 SAM server installation directory; the samadmin user is the owner of this directory. The samadmin user owns most of the files and directories in the installation directory; the root user owns only a few files and directories.
 - The root user must assign a password to the samadmin user after an installation creates the samadmin user account.
 - Only the samadmin user can start or stop a 5620 SAM main or auxiliary server.
 - Only the root and samadmin users can modify the server configuration and run server scripts.
 - Server uninstallation does not remove the samadmin account or home directory.
 - Root user privileges are required for some low-level functions.
- The Oracle management user requires full read and write permissions to the 5620 SAM database installation directory and any specifically created partitions, for example, /opt/5620sam.
- The user that installs a 5620 SAM client requires local user account privileges.
- The user that starts a 5620 SAM client must be the user that installs the client software, or another user that has read, write, and execute privileges on the client files and directories.

- A 5620 SAM domain name defines the network-management domain to which a 5620 SAM component belongs and must be unique to a network. A 5620 SAM component can interact only with other 5620 SAM components in the same 5620 SAM domain. During 5620 SAM installation, you must specify the same domain name for all components in a 5620 SAM system.
- Alcatel-Lucent supports the disabling of Solaris services using the Solaris “Secure by default” feature on 5620 SAM stations. The feature disables network listening for Solaris services that do not use SSH.



Note — The “Secure by default” feature disables the FTP service. You must enable the FTP service after you activate the feature, or FTP clients such as OSS applications may be adversely affected.

The following conditions apply to enabling the feature in a 5620 SAM system:

- You must ensure that SSH is functioning properly for remote access before you disable network services such as Telnet
- You must enable the feature only while the 5620 SAM is shut down during a maintenance period of sufficient duration.
- You must re-enable the NTP client service on a station after you enable the feature.
- You must consult the appropriate Solaris documentation for information about enabling the feature and the services that are affected by enabling the feature.

Client delegate servers

The 5620 SAM supports the use of one or more client delegate servers in the management network. A 5620 SAM client delegate server supports simultaneous 5620 SAM client GUI sessions using one client software installation. A client delegate server can host local and remote user sessions, and supports the use of a third-party remote access tool such as a Citrix access gateway.

A 5620 SAM client GUI session that is opened through a client delegate server is functionally the same as a single-user client session. The client delegate server locally stores the files that are unique to each user session, such as the client logs and GUI preference files, using a directory structure that includes the UNIX username.

A 5620 SAM main server monitors the registered client delegate servers and displays information about them in the GUI. To register a client delegate server, you specify the client delegate server IP address during main server installation or configuration.

You can use the 5620 SAM client GUI to list the following:

- registered client delegate servers and the availability of each server
- active client delegate server sessions
- active client sessions on a specific client delegate server
- active client sessions for a specific 5620 SAM user

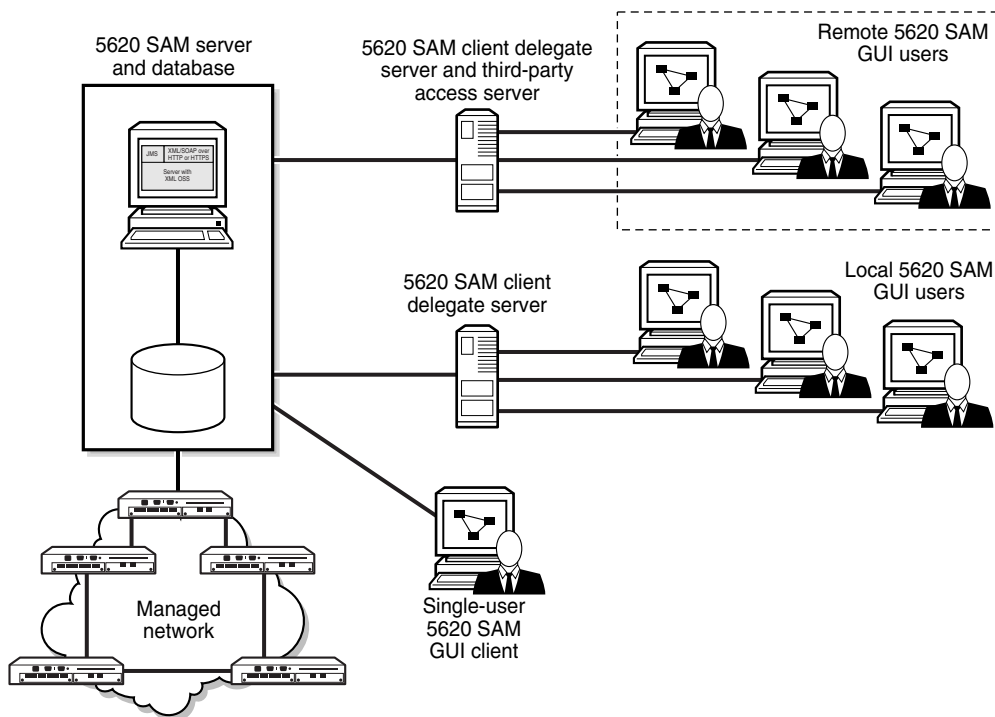
If a client delegate server becomes unreachable, the 5620 SAM raises an alarm and changes the color of the associated session entries in the GUI. The alarm clears when the server is again reachable.

You can use the client software on a client delegate server from the local console. Alcatel-Lucent recommends that you install a client delegate server, rather than a single-user client, to facilitate the deployment of additional clients.

The number of allowed 5620 SAM client sessions on a client delegate server is configurable as a threshold using the 5620 SAM GUI. If a user tries to open a client session that reaches or exceeds the threshold, the session proceeds and the client delegate server raises an alarm. This threshold-crossing function can help to balance the session load across multiple client delegate servers. You require the Update user permission on the Server package to configure the threshold. See the *5620 SAM User Guide* for more information.

Figure 1-1 shows two client delegate servers that are deployed in a 5620 SAM management network. Multiple local users log in to a client delegate server directly. Multiple remote users log in through a client delegate server that hosts a third-party access tool such as a Citrix access gateway. Another local user opens a session on a single-user client station.

Figure 1-1 Client delegate server configuration



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The following restrictions apply to client delegate servers.

- Client delegate server installation is supported only on Solaris.
- Alcatel-Lucent supports the installation of one client delegate server on a station.
- Only the root user can perform a client delegate server installation, configuration, upgrade, or uninstallation.
- A user that opens a session on a client delegate server must belong to the client delegate server user group named `sam`; this user group is created during client delegate server installation, if the user group does not exist.
- You cannot change a 5620 SAM single-user client to a client delegate server.
- A client delegate server connects to only one release of 5620 SAM main server; multiple main servers to which the client connects must be the same release.

Disk configurations and partitioning

This section describes the hard-disk configuration guidelines and restrictions for 5620 SAM software components on Solaris stations. The partition sizes are based on the use of 73-Gbyte or 146-Gbyte hard disks. You may need to adjust the partition sizes to accommodate disks of a different capacity.

If a 5620 SAM system is expected to collect statistics on a large scale, Alcatel-Lucent requires that you include a disk array in the database disk layout. See the *5620 SAM Planning Guide* for scaling guidelines related to statistics collection. Contact Alcatel-Lucent technical support for information about using a disk array with the 5620 SAM.



Caution 1 — The Solaris `forcedirectio` partition option is not required on 5620 SAM disk partitions. Alcatel-Lucent strongly recommends that you do not enable this option on a 5620 SAM disk partition.

Caution 2 — Each disk partition described in this section must be a mounted partition and not a symbolic link. The 5620 SAM does not support the use of symbolic links to represent partitions.



Note — For each database disk layout in this section, the Oracle management user home directory specified by the `ORACLE_HOME` environment variable is `/opt/5620sam/oracle11r2`.

Using RAID with the 5620 SAM

Alcatel-Lucent supports the use of hardware RAID 0, or disk striping. The disk I/O performance of RAID 0 is required only for a 5620 SAM database that has a high transaction rate, as defined in the *5620 SAM Planning Guide*. Alcatel-Lucent does not recommend using software-based RAID 0.

Alcatel-Lucent supports the use of RAID 1, or disk mirroring. When extra system resilience is required, Alcatel-Lucent recommends the use of 5620 SAM platform redundancy rather than RAID 1, because RAID 1 may affect system performance. If RAID 1 is used, RAID 1 must be hardware-based and have the number of disks recommended in the *5620 SAM Planning Guide*.



Note 1 — Alcatel-Lucent is not responsible for the installation, administration, or recovery of RAID on a 5620 SAM platform.

Note 2 — A RAID 0 stripe size of 512 kbytes is required for optimal 5620 SAM disk performance. If a platform does not support a stripe size of 512 kbytes, choose the next largest stripe size, for example, 256 kbytes. Specifying a smaller or larger stripe size may result in degraded performance that compromises 5620 SAM network management.

Partitioning guidelines

Table 1-2 describes where to find disk partitioning information for 5620 SAM components in different deployment types.

Table 1-2 Disk partitioning guidelines by deployment type

Deployment type	Components	Number of disks	See in this section
Collocated	Main server and database	1	One-disk collocated main server and database partitioning
		2	Two-disk collocated main server and database partitioning
		4	Four-disk collocated main server and database partitioning
		>4	Using more than four disks for a database or collocated system
Distributed	Main server	1	One-disk main server partitioning
		2	Two-disk main server partitioning
	Database	1	One-disk database partitioning
		2	Two-disk database partitioning
		4	Four-disk database partitioning
		>4	Using more than four disks for a database or collocated system
—	Statistics-collection auxiliary server	1	One-disk statistics-collection auxiliary server partitioning
		2	Two-disk statistics-collection auxiliary server partitioning
		≥4	Four-or-more-disk statistics-collection auxiliary server partitioning
	Call-trace auxiliary server	≥4	Call-trace auxiliary server partitioning
	Client or client delegate server	1	Client or client delegate server partitioning

One-disk collocated main server and database partitioning

Table 1-3 lists the recommended partition configuration for a single disk on a Solaris station that hosts the 5620 SAM main server and database applications. The recommendations apply when only one disk is available for use by the 5620 SAM main server and database, or when two disks are available but one disk is used as a physical mirror of the other disk.



Caution — Alcatel-Lucent does not support the use of a one-disk layout for a collocated 5620 SAM system deployment in a live network. A one-disk layout is supported only for lab trials or for demonstration purposes.



Note 1 — Alcatel-Lucent does not support one-disk collocated 5620 SAM server and database installation using a 73-Gbyte disk; the minimum requirement for such a deployment is a 146-Gbyte disk.

Note 2 — The /opt/5620sam partition requires an additional 10 Gbytes above the recommended minimum for every 1000 eNodeB devices in the managed network.

Table 1-3 One-disk collocated partitioning scheme

Partition	Content	Disk size (Gbytes)	
		146	300
/	root, including /usr	15	30
—	swap	Equal to RAM, up to 16	
/var	var	3	10
/opt/5620sam (see Note 2 above table)	5620 SAM main server and database software	20	60
/opt/5620sam/dbbackup	Database backups	33	70
/opt/5620sam/samdb/tablespace	Database tablespaces and database redo logs	40	70
/opt/5620sam/samdb/archivelog	Database archive logs	16	40

Two-disk collocated main server and database partitioning

Table 1-4 lists the recommended partition configuration for two disks on a Solaris station that hosts the 5620 SAM main server and database applications. The recommendations apply when only two disks are available for use by the 5620 SAM main server and database, or when two pairs of disks are available but one disk pair is used as a physical mirror of the other disk pair.



Note 1 – Alcatel-Lucent recommends 146-Gbyte hard disks for a 5620 SAM installation. Existing 73-Gbyte disks are sufficient for a 5620 SAM upgrade, but Alcatel-Lucent recommends that you upgrade to 146-Gbyte disks to accommodate system expansion.

Note 2 – The /opt/5620sam partition requires an additional 10 Gbytes above the recommended minimum for each 1000 eNodeB devices in the managed network.

Table 1-4 Two-disk collocated partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
Disk 1				
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
/opt/5620sam (see Note 2 above table)	5620 SAM main server and database software	15 (10 minimum)	41	60
/opt/5620sam/dbbackup	Database backups	24	60	100
/opt/5620sam/samdb/redolog	Database redo logs	8	8	30 (8 minimum)
Disk 2				
/opt/5620sam/samdb/archivelog	Database archive logs	15	40	100
/opt/5620sam/samdb/tablespace	Database tablespaces	40	80	100
/opt/5620sam/samdb/tablespace/statstbs01 /opt/5620sam/dbbackup/staging	Accounting statistics tablespace (optional)	10	10	20
	Accounting statistics staging directory (optional)	—	5	5
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

Four-disk collocated main server and database partitioning

Table 1-5 lists the recommended partition configuration for four disks on a Solaris station that hosts the 5620 SAM main server and database applications. The recommendations apply when only four disks are available for use by the 5620 SAM main server and database, or when two sets of four disks are available but one disk set is used as a physical mirror of the other disk set.



Note 1 — Alcatel-Lucent recommends 146-Gbyte hard disks for a 5620 SAM installation. Existing 73-Gbyte disks are sufficient for a 5620 SAM upgrade, but Alcatel-Lucent recommends that you upgrade to 146-Gbyte disks to accommodate system expansion.

Note 2 — The /opt/5620sam partition requires an additional 10 Gbytes above the recommended minimum for each 1000 eNodeB devices in the managed network.

Table 1-5 Four-disk collocated partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
Disk 1				
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
/opt/5620sam (see Note 2 above table)	5620 SAM main server and database software	29 (15 minimum)	45	60
/opt/5620sam/samdb/redolog	Database redo logs	8	8	30 (8 minimum)
/opt/5620sam/server/xml_output	Output of OSSl file-export operations	—	10	20
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		
Disk 2				
/opt/5620sam/samdb/tablespace	Database tablespaces	40 minimum	80 minimum	100
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		
Disk 3				
/opt/5620sam/dbbackup	Database backups	60	60 minimum	100
/opt/5620sam/dbbackup/staging	Accounting statistics staging directory (optional)	5	5	5
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

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Partition	Content	Disk size (Gbytes)		
		73	146	300
Disk 4				
/opt/5620sam/samdb/archivelog	Database archive logs	30	60	100
/opt/5620sam/samdb/tablespace/statstbs01	Accounting statistics tablespace (optional)	10	35	50
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

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Using more than four disks for a database or collocated system

When more than four disks are available for a 5620 SAM database, or for a collocated main server and database, you can reduce disk contention by locating specific database partitions on unused disks. Alcatel-Lucent recommends locating the following partitions on unused disks:

- /opt/5620sam/samdb/redolog
- /opt/5620sam/samdb/tablespace/statstbs01



Caution 1 – If you plan to locate only one partition on an unused disk, this partition must be the redolog partition.

Caution 2 – You must not alter the specified redolog partition size.



Note – The /opt/5620sam partition that contains the 5620 SAM main server software requires an additional 10 Gbytes above the recommended minimum for each 1000 eNodeB devices in the managed network.

One-disk main server partitioning

Table 1-6 lists the recommended partition configuration for a single disk on a Solaris station that hosts the 5620 SAM main server application under typical operating conditions.



Note 1 — Alcatel-Lucent recommends 146-Gbyte hard disks for a 5620 SAM installation. Existing 73-Gbyte disks are sufficient for a 5620 SAM upgrade, but Alcatel-Lucent recommends that you upgrade to 146-Gbyte disks to accommodate system expansion.

Note 2 — Alcatel-Lucent strongly recommends using at least a two-disk layout for a 5620 SAM main server because a single-disk configuration greatly limits the 5620 SAM system performance, managed-network size, and data storage capacity. Alcatel-Lucent discourages the use of a single-disk configuration in a 5620 SAM server deployment.

Note 3 — The /opt/5620sam partition requires an additional 10 Gbytes above the recommended minimum for each 1000 eNodeB devices in the managed network.

Table 1-6 One-disk main server partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
/opt/5620sam (see Note 3 above table)	5620 SAM main server software	35 (25 minimum)	35 (25 minimum)	60
/opt/5620sam/server/xml_output	Output of OSSl file-export operations	10	10	20
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

Two-disk main server partitioning

Table 1-7 lists the recommended partition configuration for two disks on a Solaris station that hosts the 5620 SAM main server application under typical operating conditions.



Note 1 – Alcatel-Lucent recommends 146-Gbyte hard disks for a 5620 SAM installation. Existing 73-Gbyte disks are sufficient for a 5620 SAM upgrade, but Alcatel-Lucent recommends that you upgrade to 146-Gbyte disks to accommodate system expansion.

Note 2 – The /opt/5620sam partition requires an additional 10 Gbytes above the recommended minimum for each 1000 eNodeB devices in the managed network.

Table 1-7 Two-disk main server partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
Disk 1				
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
Disk 2				
/opt/5620sam (see Note 2 above table)	5620 SAM main server software	35 (25 minimum)	35 (25 minimum)	60
/opt/5620sam/server/xml_output	Output of OSSI file-export operations	10	10	20
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

One-disk database partitioning

Table 1-8 lists the recommended partition configuration for a single disk on a Solaris station that hosts the 5620 SAM database application. The recommendations apply when only one disk is available for use by the 5620 SAM database, or when two disks are available but one disk is used as a physical mirror of the other disk.



Caution — Alcatel-Lucent does not support the use of a one-disk layout for a 5620 SAM database deployment in a live network. A one-disk layout is supported only for lab trials, or for demonstration purposes.



Note — Alcatel-Lucent does not support one-disk 5620 SAM database installation using a 73-Gbyte disk; the minimum requirement for such a deployment is a 146-Gbyte disk.

Table 1-8 One-disk database partitioning scheme

Partition	Content	Disk size (Gbytes)	
		146	300
/	root, including /usr	15	30
—	swap	Equal to RAM, up to 16	
/var	var	7 (3 minimum)	10
/opt/5620sam	5620 SAM database software	20	60
/opt/5620sam/dbbackup	Database backups	33	70
/opt/5620sam/samdb/tablespace	Database tablespaces and redo logs	40	70
/opt/5620sam/samdb/archivelog	Database archive logs	16	40

Two-disk database partitioning

Table 1-9 lists the recommended partition configuration for two disks on a Solaris station that hosts the 5620 SAM database application. The recommendations apply when only two disks are available for use by the 5620 SAM database, or when two pairs of disks are available but one disk pair is used as a physical mirror of the other disk pair.

The recommendations in Table 1-9 apply regardless of the number of available disks on the station. The available disk space on a 5620 SAM database station using two disks typically exceeds the 5620 SAM application requirements. Because the partitioning recommendations do not consume all of the available disk space on a station, the remaining disk space is available for partitioning according to operator discretion.



Note — Alcatel-Lucent recommends 146-Gbyte hard disks for a 5620 SAM installation. Existing 73-Gbyte disks are sufficient for a 5620 SAM upgrade, but Alcatel-Lucent recommends that you upgrade to 146-Gbyte disks to accommodate system expansion.

Table 1-9 Two-disk database partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
Disk 1				
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
/opt/5620sam	5620 SAM database software	18 (10 minimum)	41	60
/opt/5620sam/dbbackup	Database backups	25	60	100
/opt/5620sam/samdb/redolog	Database redo logs	8	8	30 (8 minimum)
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		
Disk 2				
/opt/5620sam/samdb/archivelog	Database archive logs	15	40	100
/opt/5620sam/samdb/tablespace	Database tablespaces	40	80	100
/opt/5620sam/samdb/tablespace/statstbs01 /opt/5620sam/dbbackup/staging	Accounting statistics tablespace (optional)	10	10	20
	Accounting statistics staging directory (optional)	—	5	5
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

Four-disk database partitioning

Table 1-10 lists the recommended partition configuration for four disks on a Solaris station that hosts the 5620 SAM database application. The recommendations apply when four disks are available for use by the 5620 SAM database, or when two sets of four disks are available but one disk set is used as a physical mirror of the other disk set.

The recommendations in Table 1-10 apply regardless of the number of available disks on the station. The available disk space on a 5620 SAM database station using four disks typically exceeds the 5620 SAM application requirements. Because the partitioning recommendations do not consume all of the available disk space on a station, the remaining disk space is available for partitioning according to operator discretion.



Note — Alcatel-Lucent recommends 146-Gbyte hard disks for a 5620 SAM installation. Existing 73-Gbyte disks are sufficient for a 5620 SAM upgrade, but Alcatel-Lucent recommends that you upgrade to 146-Gbyte disks to accommodate system expansion.

Table 1-10 Four-disk database partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
Disk 1				
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
/opt/5620sam	5620 SAM database software	29 (15 minimum)	45	60
/opt/5620sam/samdb/redolog	Database redo logs	8	8	30 (8 minimum)
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		
Disk 2				
/opt/5620sam/samdb/tablespace	Database tablespaces	40 minimum	80 minimum	100
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		
Disk 3				
/opt/5620sam/dbbackup	Database backups	60	60 minimum	100
/opt/5620sam/dbbackup/staging	Accounting statistics staging directory (optional)	5	5	5

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Partition	Content	Disk size (Gbytes)		
		73	146	300
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		
Disk 4				
/opt/5620sam/samdb/archivelog	Database archive logs	30	60	100
/opt/5620sam/samdb/tablespace/statstbs01	Accounting statistics tablespace (optional)	10	35	50
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

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One-disk statistics-collection auxiliary server partitioning

Table 1-11 lists the recommended partition configuration for a single disk on a Solaris station that hosts the 5620 SAM auxiliary server application for statistics collection under typical operating conditions.



Note 1 — Alcatel-Lucent recommends 146-Gbyte hard disks for a 5620 SAM installation. Existing 73-Gbyte disks are sufficient for a 5620 SAM upgrade, but Alcatel-Lucent recommends that you upgrade to 146-Gbyte disks to accommodate system expansion.

Note 2 — Alcatel-Lucent strongly recommends using at least a two-disk layout for a 5620 SAM auxiliary server because a single-disk configuration greatly limits the 5620 SAM system performance, managed-network size, and data storage capacity. Alcatel-Lucent discourages the use of a single-disk configuration in a 5620 SAM server deployment.

Table 1-11 One-disk auxiliary server partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
/opt/5620sam	5620 SAM auxiliary server software	35 (25 minimum)	35 (25 minimum)	60
/opt/5620sam/auxserver/xml_output	Collected statistics	10	10	20
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

Two-disk statistics-collection auxiliary server partitioning

Table 1-12 lists the recommended partition configuration for two disks on a Solaris station that hosts the 5620 SAM auxiliary server application for statistics collection under typical operating conditions.



Note — Alcatel-Lucent recommends 146-Gbyte hard disks for a 5620 SAM installation. Existing 73-Gbyte disks are sufficient for a 5620 SAM upgrade, but Alcatel-Lucent recommends that you upgrade to 146-Gbyte disks to accommodate system expansion.

Table 1-12 Two-disk statistics-collection auxiliary server partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
Disk 1				
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
Disk 2				
/opt/5620sam (see Note 2 above table)	5620 SAM auxiliary server software	35 (25 minimum)	35 (25 minimum)	60
/opt/5620sam/lte	Collected eNodeB statistics	—	80	100
/opt/5620sam/auxserver/xml_output	Collected statistics from NEs other than the eNodeB	10	10	20
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

Four-or-more-disk statistics-collection auxiliary server partitioning

Table 1-13 lists the recommended partition configuration for a 5620 SAM auxiliary server that uses four or more disks and performs statistics collection at a high rate.



Note 1 — You must configure disks 3 and above in a RAID 0 configuration, and follow the partitioning recommendations described in Table 1-13. To accommodate a greater volume of statistics data, or for increased statistics-collection performance, you must combine additional disks with disks 3 and 4 in a RAID 0 configuration. See the *5620 SAM Planning Guide* for information about statistics data storage and throughput requirements.

Note 2 — A RAID 0 stripe size of 512 kbytes is required for optimal 5620 SAM disk performance. If a platform does not support a stripe size of 512 kbytes, choose the next largest stripe size, for example, 256 kbytes. Specifying a smaller or larger stripe size may result in degraded performance that compromises 5620 SAM network management.

Table 1-13 Four-disk statistics-collection auxiliary server partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
Disks 1 and 2				
/	root, including /usr	10	15	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
/opt/5620sam	5620 SAM auxiliary server software	35 (25 minimum)	35 (25 minimum)	60
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		
Disks 3 and above, in RAID 0 configuration				
/opt/5620sam/lte	Collected eNodeB statistics	—	80	100
/opt/5620sam/auxserver/xml_output	Collected statistics from NEs other than the eNodeB	20	20	40
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

Call-trace auxiliary server partitioning

Table 1-14 lists the recommended partition configuration for a 5620 SAM auxiliary server that performs call-trace functions. A call-trace auxiliary server requires at least four disks.



Note 1 – Alcatel-Lucent does not recommend the use of 73-Gbyte disks in a call-trace auxiliary server.

Note 2 – You must configure disks 3 and above in a RAID 0 configuration, and follow the partitioning recommendations described in Table 1-14. To accommodate a greater volume of call-trace data, or for increased call-trace performance, you must combine additional disks with disks 3 and 4 in a RAID 0 configuration. See the *5620 SAM Planning Guide* for information about call-trace data storage and throughput requirements.

Note 3 – A RAID 0 stripe size of 512 kbytes is required for optimal 5620 SAM disk performance. If a platform does not support a stripe size of 512 kbytes, choose the next largest stripe size, for example, 256 kbytes. Specifying a smaller or larger stripe size may result in degraded performance that compromises 5620 SAM network management.

Table 1-14 Call-trace auxiliary server partitioning scheme

Partition	Content	Disk size (Gbytes)	
		146	300
Disks 1 and 2			
/	root, including /usr	15	30
—	swap	Equal to RAM, up to 16	
/var	var	7 (3 minimum)	10
/opt/5620sam	5620 SAM auxiliary server software	35 (25 minimum)	60
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder	
Disks 3 and above, in RAID 0 configuration			
/opt/5620sam/calltrace	Call-trace output	80% of disk	
/opt/5620sam/debugtrace	Call-trace debug output	20% of disk	

Client or client delegate server partitioning

Table 1-15 lists the recommended partition configuration for disks on a Solaris station that hosts the 5620 SAM client application.

The recommendations in Table 1-15 apply regardless of the number of available disks on the station because the available disk space on a 5620 SAM client station typically exceeds the 5620 SAM application requirements. Because the partitioning recommendations do not consume all of the available disk space on a station, the remaining disk space is available for partitioning according to operator discretion.

Table 1-15 Client or client delegate server partitioning scheme

Partition	Content	Disk size (Gbytes)		
		73	146	300
/	root, including /usr	10	10	30
—	swap	Equal to RAM, up to 16		
/var	var	7 (3 minimum)	7 (3 minimum)	10
/opt/5620sam	5620 SAM client software	5	5	20
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder		

Required Solaris packages

If you perform only a core Solaris installation instead of the Entire Distribution + OEM Support installation, you must install specific Solaris packages in addition to the core distribution. If one or more required packages are missing, the installation cannot continue until the packages are installed.

Table 1-16 lists the additional Solaris packages required on a station that hosts a 5620 SAM database.

Table 1-17 lists the additional Solaris packages required on a station that hosts a 5620 SAM main or auxiliary server.

Table 1-18 lists the additional Solaris packages required on a station that hosts a 5620 SAM client delegate server or single-user client.



Note 1 — A station that hosts a collocated 5620 SAM main server and database requires each package listed in Tables 1-16 and 1-17.

Note 2 — A Solaris core installation with the additional required packages listed in this section does not include the Solaris desktop. In such a configuration, before you can use the graphical 5620 SAM installer, you must invoke a basic X-window manager, for example, twm, and then redirect the X display to an X server on another station,

Table 1-16 Additional Solaris packages required for 5620 SAM database

Package name	Description
SUNWadmfr	System and Network Administration Framework Configuration
SUNWadmfw	System and Network Administration Framework
SUNWarc	Archive Libraries
SUNWbash	GNU Bourne-Again shell (bash)
SUNWbtool	CSS tools bundled with SunOS
SUNWctpls	Portable Layout services for Complex Test
SUNWeurf	European codeset fonts
SUNWgzip	The GNU Zip (gzip) compression utility
SUNWhea	SunOS Header Files
SUNWi15cs	X11 ISO8859-15 Codeset Support
SUNWi1cs	X11 ISO8859-1 Codeset Support
SUNWi1of	ISO-8859-1 (Latin-1) Optional Fonts
SUNWi15rf	X11 fonts for ISO8859-15 character set (required fonts)
SUNWj5rt	JDK 5.0 Runtime Env. (1.5.0_07)
SUNWlibm	Forte Developer Bundled libm
SUNWlibmr	Math Library Lint Files (Root)
SUNWlibms	Math Library Lint Files (Usr)
SUNWmfrun	Motif Run Time Kit
SUNWntpr	NTP (/)
SUNWntpu	NTP (/usr)
SUNWpool	Resource Pools
SUNWpoolr	Resource Pools (Root)
SUNWsshcu	SSH Common (Usr)
SUNWsshdr	SSH Server (Root)
SUNWsshdu	SSH Server (Usr)
SUNWsshr	SSH Client and utilities (Root)
SUNWsshu	SSH Client and utilities (Usr)
SUNWspot	Solaris Bundled tools
SUNWtoo	Truss and other troubleshooting tools
SUNWuiu8	Iconv modules for UTF-8 Locale
SUNWxcu4	XCU4 Utilities
SUNWxcu4t	XCU4 make and sccs utilities
SUNWxwfont	X Window System platform required fonts
SUNWxwice	X Window System Inter-Client Exchange (ICE)
SUNWxwopt	X Window System Optional Clients

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Package name	Description
SUNWxwplr	X Window System platform software configuration
SUNWxwplt	X Window System platform software
SUNWxwrtl	X Window System & Graphics Runtime Library

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Table 1-17 Additional Solaris packages required for 5620 SAM main or auxiliary server

Package name	Description
SUNWadmfr	System and Network Administration Framework Configuration
SUNWadmfw	System and Network Administration Framework
SUNWbash	GNU Bourne-Again shell (bash)
SUNWctpls	Portable Layout services for Complex Test
SUNWgzip	The GNU Zip (gzip) compression utility
SUNWmfrun	Motif RunTime Kit
SUNWntpr	NTP (/)
SUNWntpu	NTP (/usr)
SUNWscpr	utilities for user interface and source build compatibility with SunOS 4.x
SUNWscpu	utilities for user interface and source build compatibility with SunOS 4.x
SUNWsshcu	SSH Common (Usr)
SUNWsshdr	SSH Server (Root)
SUNWsshdu	SSH Server (Usr)
SUNWsshr	SSH Client and utilities (Root)
SUNWsshu	SSH Client and utilities (Usr)
SUNWuiu8	Iconv modules for UTF-8 Locale
SUNWxcu4	XCU4 Utilities
SUNWxwfnt	X Windows System platform required fonts
SUNWxwice	X Windows System Inter-Client Exchange (ICE)
SUNWxwopt	X Window System Optional Clients
SUNWxwplr	X Window System platform software configuration
SUNWxwplt	X Windows System platform software
SUNWxwrtl	X Windows System & Graphics Runtime Library

Table 1-18 Additional Solaris packages required for 5620 SAM client delegate server or single-user client

Package name	Description
SUNWadmfr	System and Network Administration Framework Configuration

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Package name	Description
SUNWadmfw	System and Network Administration Framework
SUNWbash	GNU Bourne-Again shell (bash)
SUNWcar	Core Architecture, (Root)
SUNWcsd	Core Solaris Devices
SUNWcsl	Core Solaris, (Shared Libs)
SUNWcsr	Core Solaris, (Root)
SUNWcsu	Core Solaris, (Usr)
SUNWctpls	Portable Layout services for Complex Test
SUNWdbus-bindings-priv	Simple IPC library based on messages
SUNWdbus-priv-libs	Simple IPC library based on messages - client libraries
SUNWdtbas	CDE application basic runtime environment
SUNWfontconfig	Fontconfig library
SUNWfreetype2	FreeType2 Font library
SUNWgnome-base-libs-priv	GNOME base GUI libraries
SUNWgnome-config	GNOME configuration framework - platform dependent files, /usr filesystem
SUNWgnome-libs	GNOME libraries - platform dependent files, /usr filesystem
SUNWgnome-vfs	GNOME Virtual File System Framework and application/MIME type registry - platform dependent files, /usr filesystem
SUNWgzip	The GNU Zip (gzip) compression utility
SUNWj5rt	JDK 5.0 Runtime Env. (1.5.0_01)
SUNWjdsrm	Java Desktop System Upgrade Package Remove
SUNWkvm	Core Architecture, (Kvm)
SUNWlibC	Sun Workshop Compilers Bundled libC
SUNWlibms	Math & Microtasking Libraries (Usr)
SUNWlibmsr	Math & Microtasking Libraries (Root)
SUNWmfrun	Motif RunTime Kit
SUNWntpr	NTP (/)
SUNWntpu	NTP (/usr)
SUNWogg-vorbis	Ogg bitstream and Vorbis audio codec libraries
SUNWpostrun	Delayed execution environment for procedural package scripts
SUNWscpr	utilities for user interface and source build compatibility with SunOS 4.x
SUNWscpu	utilities for user interface and source build compatibility with SunOS 4.x
SUNWsshc	SSH Common (Usr)
SUNWsshdr	SSH Server (Root)
SUNWsshdu	SSH Server (Usr)

(2 of 3)

Package name	Description
SUNWsshr	SSH Client and utilities (Root)
SUNWsshu	SSH Client and utilities (Usr)
SUNWuiu8	Iconv modules for UTF-8 Locale
SUNWxcu4	XCU4 Utilities
SUNWxwfont	X Windows System platform required fonts
SUNWxwice	X Windows System Inter-Client Exchange (ICE)
SUNWxwopt	X Window System Optional Clients
SUNWxwplr	X Window System platform software configuration
SUNWxwplt	X Windows System platform software
SUNWxwrtl	X Windows System & Graphics Runtime Library

(3 of 3)

5620 SAM deployment

- 2 – 5620 SAM installation**
- 3 – 5620 SAM upgrade**
- 4 – 5620 SAM conversion to redundancy**
- 5 – 5620 SAM platform migration**
- 6 – 5620 SAM uninstallation**

2 — 5620 SAM installation

- 2.1 5620 SAM installation overview 2-2
- 2.2 5620 SAM installation procedures list 2-2
- 2.3 Standalone 5620 SAM installation workflow 2-3
- 2.4 Standalone 5620 SAM system installation 2-3
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2.1 5620 SAM installation overview

This chapter describes how to install a 5620 SAM network management system. The following components comprise a 5620 SAM system:

- one main server in a standalone deployment, or two in a redundant deployment
- one database in a standalone deployment, or two in a redundant deployment
- one or more auxiliary servers (optional)
- one or more single-user clients or client delegate servers

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this guide.



Caution — Alcatel-Lucent supports 5620 SAM software configuration only under the conditions described in chapter 1.

See Appendix A for detailed 5620 SAM installation parameter descriptions.

2.2 5620 SAM installation procedures list

Table 2-1 lists the 5620 SAM software installation procedures.

Table 2-1 5620 SAM installation procedures list

Procedure	Purpose
To install a standalone 5620 SAM system	Install the 5620 SAM database and server software in a standalone configuration on one or more Solaris stations.
To install a redundant 5620 SAM system	Install the 5620 SAM database and server software in a redundant configuration.
To install a 5620 SAM single-user client on Solaris using a web browser	Install the 5620 SAM single-user client software on a Solaris station using a web browser.
To install a 5620 SAM single-user client on Solaris using the software DVD-ROM	Install the 5620 SAM single-user client software on a Solaris station from the 5620 SAM software DVD-ROM.
To install a 5620 SAM client delegate server	Install the 5620 SAM client delegate server software on a Solaris station for access by multiple users.
To add a client delegate server to an existing 5620 SAM system	Add a new 5620 SAM client delegate server to an existing 5620 SAM system.
To install a 5620 SAM auxiliary server	Install the 5620 SAM auxiliary-server software on a Solaris station as part of a standalone or redundant 5620 SAM system.
To add auxiliary servers to a 5620 SAM system	Add a new 5620 SAM auxiliary server to an existing 5620 SAM system.

2.3 Standalone 5620 SAM installation workflow

The following is the sequence of high-level actions required to install a standalone 5620 SAM system. A section heading in quotation marks is a reference to a section in Procedure 2-1.

- 1 Install the database. See “[Install standalone database](#)” for more information.
- 2 Install the main server. See “[Install standalone server](#)” for more information.
- 3 Install one or more auxiliary servers, if required. See Procedure 2-9 for information about installing an auxiliary server.
- 4 Install one or more 5620 SAM clients. See “[Install client](#)” for more information.

2.4 Standalone 5620 SAM system installation

This section describes how to install the software components of a standalone 5620 SAM system. Procedure 2-1 describes how to install the 5620 SAM server and database software.



Warning — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panels when you perform a procedure in this section:

- **5620 SAM Database Configurator**
General Database Configuration Info
- **5620 SAM/5650 CPAM Server Installer**
Main Server Configuration for Auxiliary Servers



Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

Note 2 — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

Procedure 2-1 To install a standalone 5620 SAM system

Perform this procedure to install the 5620 SAM main server and database software in a standalone deployment on one or more Solaris stations. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.

You require the following user privileges to perform this procedure:

- on the main server station
 - root
- on the database station:
 - root
 - Oracle management



Note 1 — The samadmin user account is created on the main server station during this procedure.

Note 2 — The Oracle management user account is created on the database station during this procedure.

Run Oracle pre-installation script

- 1 Log in to the station that is to be the database station as the root user.
- 2 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive on the database station.
- 3 Open a console window.
- 4 Navigate to the DVD-ROM drive.

- 5 Perform one of the following to change to the appropriate directory.

- a On a SPARC station, enter the following:

```
# cd Solaris ↵
```

- b On an x86-based station, enter the following:

```
# cd Solarisx86 ↵
```

- 6 Enter the following:

```
# ./OracleSw_PreInstall.sh ↵
```

The following prompt is displayed:

```
Please select between the following option:
```

```
1) NEW INSTALL OF 5620 SAM
```

```
2) UPGRADE OF 5620 SAM
```

- 7 Enter 1 ↵. The script generates INFO messages as it validates the OS requirements, and then prompts you for Oracle management user information.



Note 1 — To reduce the complexity of subsequent software upgrades and technical support activities, Alcatel-Lucent recommends that you press ↵ to accept the default for each parameter that has a default.

Note 2 — If you specify a value other than the default, you must record the value for use when the OracleSw_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

- 8 Provide the following information when you are prompted; the console may display status messages between prompts:

- user group name (default is dba)
- user name (default is oracle)
- user home directory (default is /opt/5620sam/oracle11r2)
- user password, if one of the following is true:
 - there is no password
 - there is a password, but you specify that you want to change it



Note — If the script generates a “failed to create group” message, ensure that NIS is disabled and re-run the pre-installation script. Contact Alcatel-Lucent technical support for more information.

The script updates the system configuration and exits.

- 9 When the script execution is complete, enter the following to reboot the database station:

```
# shutdown -y -i6 -g0 ↵
```

The database station reboots.

Before database installation can occur, the Oracle management user and group created by the pre-installation script require ownership of the directory that is to hold the database. The next section of the procedure describes how to configure the directory ownership.

Set directory ownership for database installation

10 After the database station reboots, log in to the database station as the root user.

11 Open a console window.

12 Enter the following to change the current directory to /opt:

```
# cd /opt ↵
```

13 Enter the following to specify the required user and group ownership of the 5620sam directory and subdirectories:

```
# chown -R user:group 5620sam ↵
```

where

user is the username specified in step 8, typically oracle

group_name is the group name specified in step 8, typically dba

14 Enter the following to change to the 5620sam directory below /opt:

```
# cd 5620sam ↵
```

15 Enter the following to confirm that the Oracle management user home directory has the correct user and group ownerships:

```
# ls -l ↵
```

If the command output is not as shown below, repeat steps 12 to 15. Do not proceed unless the output is as shown.

```
drwx----- 2 user      group          512 Apr 11 11:15 directory
```

where

user is the username specified in step 8, typically oracle

group is the group name specified in step 8, typically dba

directory is the Oracle management user home directory name specified in step 8, typically /opt/5620sam/oracle11r2

Install standalone database

16 Log in to the station that is to be the database station as the root user.

17 Open a console window.

- 18 Enter the following to switch to the Oracle management user created by the pre-installation script:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

- 19 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 20 Navigate to the DVD-ROM drive.
- 21 Perform one of the following to open the 5620 SAM database installer.

- a On a SPARC station:

- i Enter the following:

```
bash$ cd Solaris ↵
```

- ii Enter the following:

```
bash$ ./DBConfig_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

- b On an x86-based station:

- i Enter the following:

```
bash$ cd Solarisx86 ↵
```

- ii Enter the following:

```
bash$ ./DBConfig_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

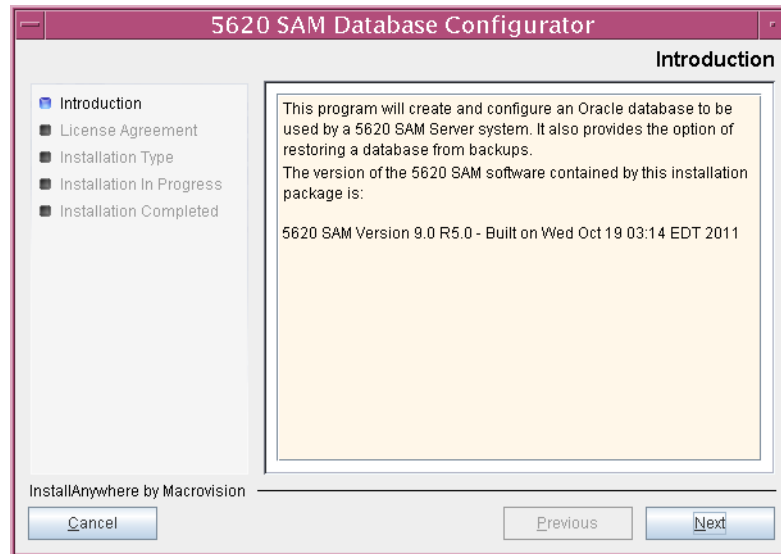
The splash screen shown in Figure 2-1 opens.

Figure 2-1 5620 SAM installer



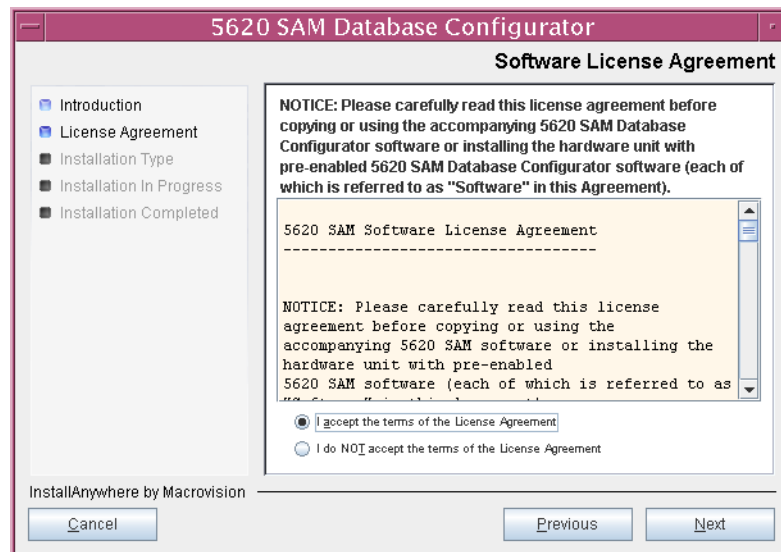
- 22 The 5620 SAM database installer opens, as shown in Figure 2-2. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-2 Introduction



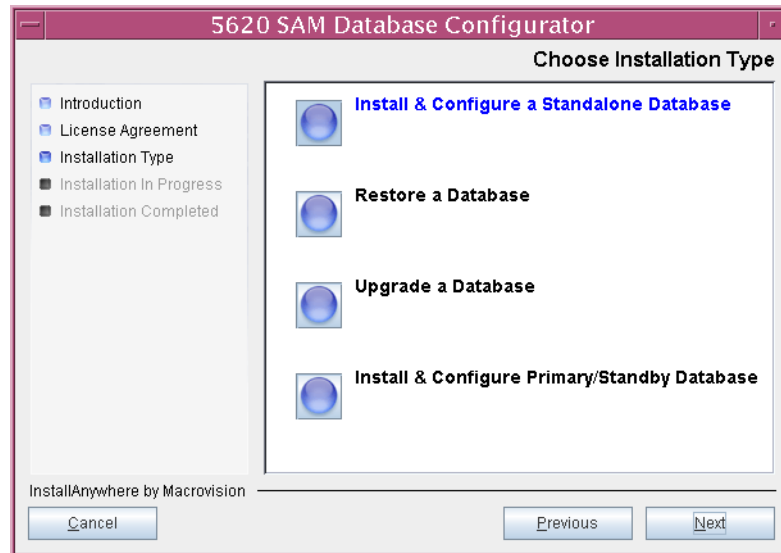
- 23 Review and accept the terms of the license agreement shown in Figure 2-3. Click on the Next button.

Figure 2-3 Software License Agreement



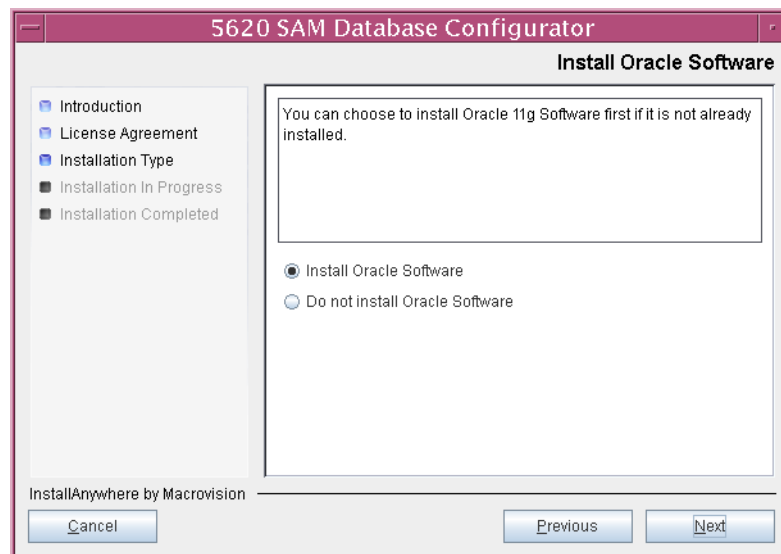
- 24 Select Install and Configure a Standalone Database, as shown in Figure 2-4. Click on the Next button.

Figure 2-4 Choose Installation Type



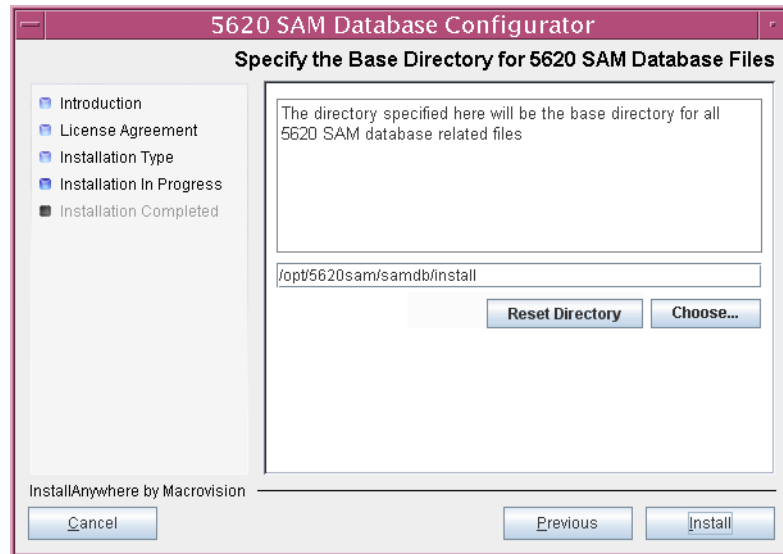
- 25 Select Install Oracle Software, as shown in Figure 2-5. Click on the Next button.

Figure 2-5 Install Oracle Software



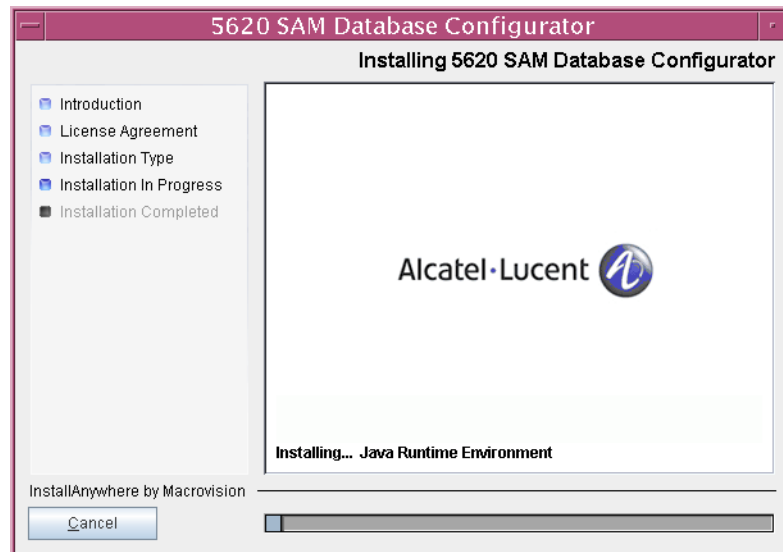
- 26 Specify a base directory in which to install the 5620 SAM database (typically /opt/5620sam/samdb/install), as shown in Figure 2-6. Click on the Install button to begin the database software installation.

Figure 2-6 Specify the Base Directory for 5620 SAM Database Files



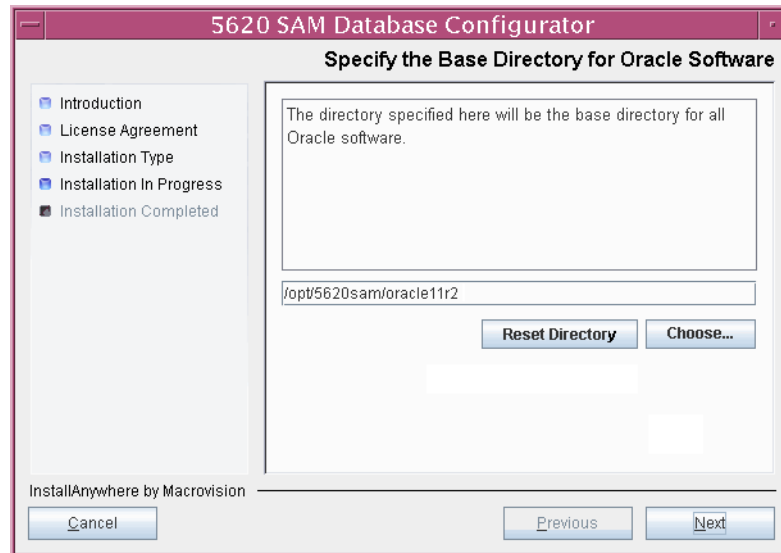
The installer prepares to install the database, as shown in Figure 2-7.

Figure 2-7 Installing 5620 SAM Database Configurator



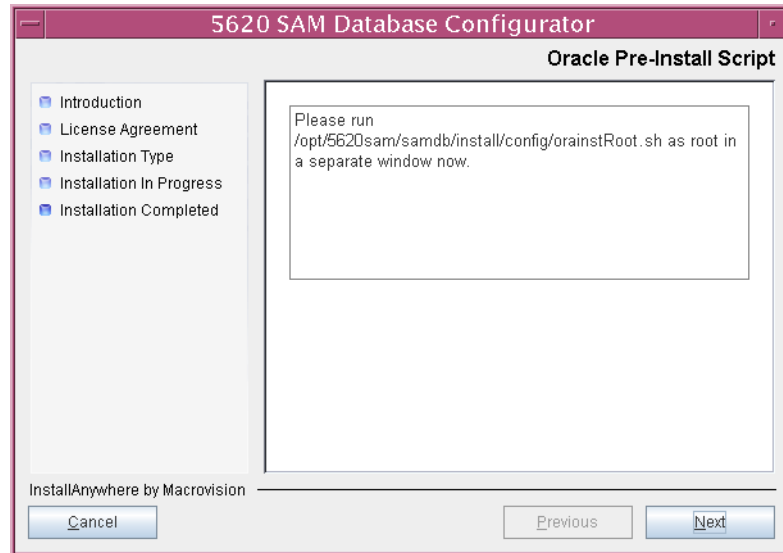
- 27 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle11r2), as shown in Figure 2-8. Click on the Next button.

Figure 2-8 Specify the Base Directory for Oracle Software



- 28 Perform the following steps when the panel in Figure 2-9 is displayed.

Figure 2-9 Oracle Pre-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:


```
# su -
```
- iii Enter the following to run the Oracle pre-install script:


```
# path/install/config/orainstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script generates messages like the following:

```
Creating the Oracle inventory pointer file
(/var/opt/oracle/oraInst.loc)
```

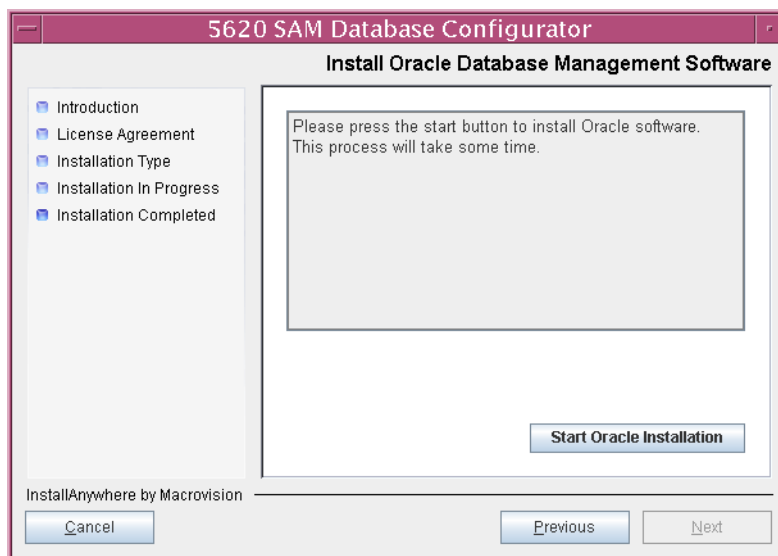
```
Creating the Oracle inventory directory
(/opt/5620sam/oracle11r2/oraInventory)
```

```
Changing groupname of /opt/5620sam/oracle11r2/oraInventory to
(dba).
```

- iv When the script execution is complete, close the console window.
- v Click on the Next button.

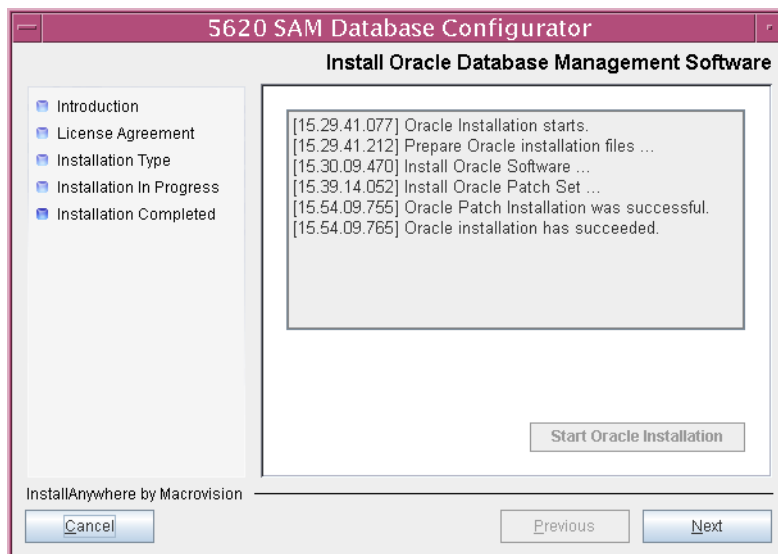
- 29 You are prompted to install Oracle software, as shown in Figure 2-10. This operation can take one hour or more. Click on the Start Oracle Installation button to begin the Oracle software installation.

Figure 2-10 Install Oracle Database Management Software



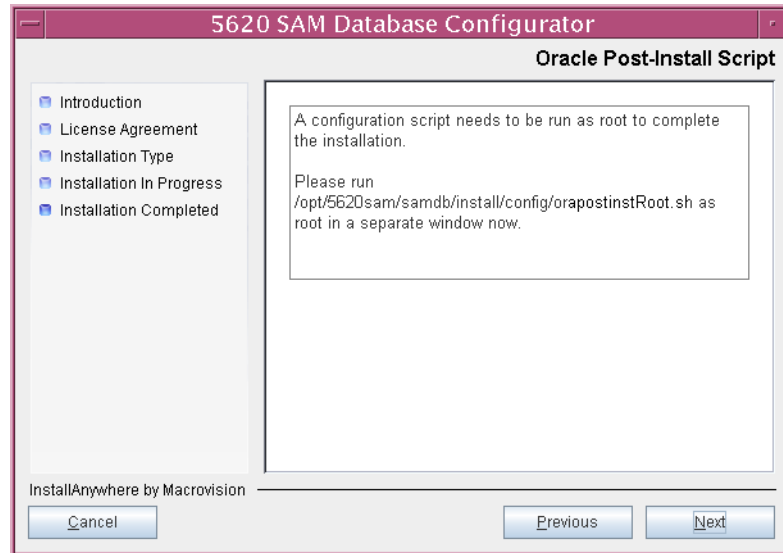
- 30 As shown in Figure 2-11, Oracle installation details are displayed as the installation progresses. When the installation is complete, click on the Next button.

Figure 2-11 Install Oracle Database Management Software



- 31 Perform the following steps when the panel in Figure 2-12 is displayed.

Figure 2-12 Oracle Post-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle post-install script:

```
# su -
```

```
# path/install/config/orapostinstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script displays the following message:

```
Check path/username_hostname_timestamp.log for output
```

where

path is the directory that contains the script log file, typically
/opt/5620sam/oracle11r2/install

username is the Solaris account name of the current user, for example, root

hostname is the hostname of this station

timestamp is the script execution start time

- iv If the script generates a message that contains the word “error”, view the script log file named in the message for more information, and contact Alcatel-Lucent technical support for assistance, if required.
- v When the script execution is complete, close the console window.
- vi Click on the Next button.

32 Configure the following parameters shown in Figure 2-13, then click on the Next button:

- NAT (network address translation) Used
- Public IP (accessible to servers)
- Private IP
- Database Name (typically samdb)
- Instance Name (typically samdb)
- User Name (typically samuser)
- User Password



Note — The “Private IP” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

The “User Password” value that you specify must meet the following criteria:

- The password must be between 4 and 30 characters long.
- The password must contain at least three of the following:
 - lower-case alphabetic character
 - upper-case alphabetic character
 - numeric character
 - special character, which is one of the following:
\$ _
- The password must not contain four or more of the same character type in sequence.
- The password must not be the same as the user name or its reverse.
- The password must not contain a space character.

Figure 2-13 General Database Configuration Info

The screenshot shows the '5620 SAM Database Configurator' window with the 'General Database Configuration Info' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Installation Type, Installation In Progress, and Installation Completed. The main area contains instructions to enter network interface information. A checkbox for 'NAT (network address translation) Used' is checked. Below it, the 'Public IP (accessible to servers)' is set to '192.168.200.133'. Other fields include 'Database Name' (samdb), 'Instance Name' (samdb), 'User Name' (samuser), 'User Password' (masked with asterisks), and 'Confirm User Password' (masked with asterisks). At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons.

33 Configure the following parameters in Figure 2-14, then click on the Next button:

- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)

Figure 2-14 General Database Configuration Info (cont.)

The screenshot shows a window titled "5620 SAM Database Configurator". Inside, the "General Database Configuration Info (cont.)" tab is active. On the left, a sidebar lists the installation steps: Introduction, License Agreement, Installation Type, Installation In Progress, and Installation Completed. The main panel contains two text input fields: "Database Listener Port" with the value "1523" and "Database Proxy Port" with the value "9002". At the bottom of the window, there are three buttons: "Cancel", "Previous", and "Next". The footer text "InstallAnywhere by Macrovision" is visible.

34 Configure the following parameters shown in Figure 2-15, then click on the Next button.

- SYS Password
- Confirm SYS Password

The password value that you specify must meet the following criteria:

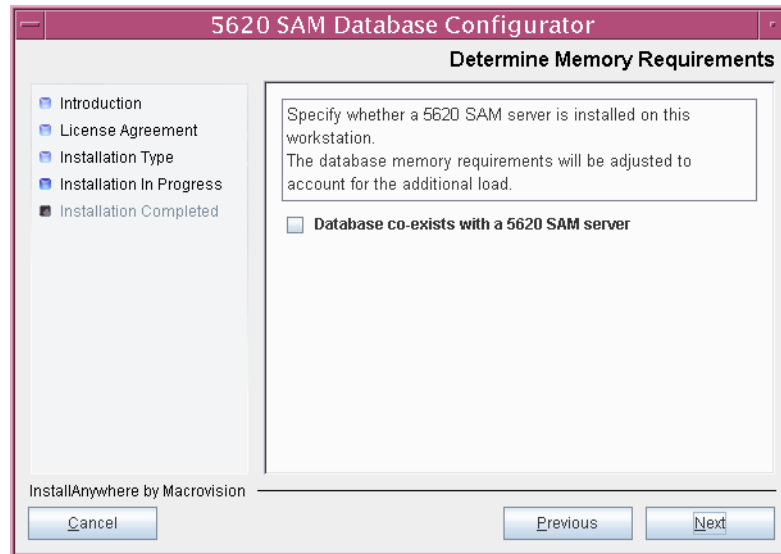
- The password must be between 4 and 30 characters long.
- The password must contain at least three of the following:
 - lower-case alphabetic character
 - upper-case alphabetic character
 - numeric character
 - special character, which is one of the following:
\$ _
- The password must not contain four or more of the same character type in sequence.
- The password must not be the same as the user name or its reverse.
- The password must not contain a space character.

Figure 2-15 Oracle SYS Password

The screenshot shows a window titled "5620 SAM Database Configurator" with a sub-tab titled "Oracle SYS Password". On the left is a navigation pane with five items: "Introduction", "License Agreement", "Installation Type", "Installation In Progress", and "Installation Completed", each with a small blue square icon. The main area contains a text box with the message: "IMPORTANT: the password needs to be known to the 5620 SAM administrator for future reference". Below this are two text input fields: "SYS Password" and "Confirm SYS Password", both containing a series of asterisks. At the bottom left, it says "InstallAnywhere by Macrovision" above a "Cancel" button. At the bottom right are "Previous" and "Next" buttons.

- 35 If the 5620 SAM server and database are to be installed on the same station, select the “Database co-exists with a 5620 SAM Server” parameter shown in Figure 2-16. Click on the Next button.

Figure 2-16 Determine Memory Requirements

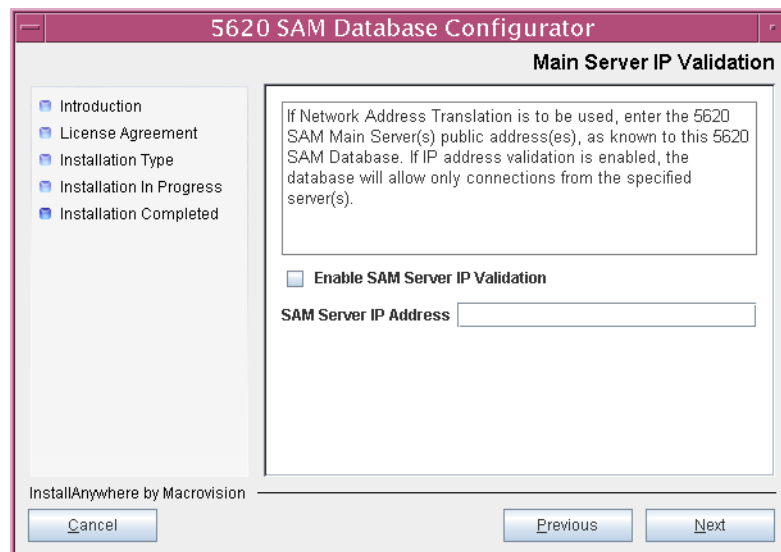


- 36 Configure the following parameters shown in Figure 2-17, then click on the Next button.

If the “Enable SAM Server IP Validation” parameter is selected, only the server at the specified IP address or hostname can connect to the database.

- Enable SAM Server IP Validation
- SAM Server IP Address

Figure 2-17 Main Server IP Validation

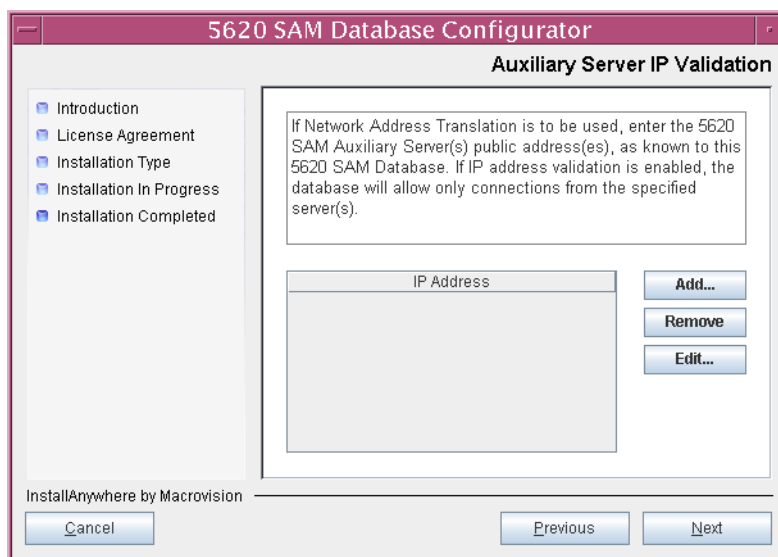


- 37 The panel in Figure 2-18 is displayed If the “Enable SAM Server IP Validation” parameter in step 36 is selected. Otherwise, go to step 39.

If the 5620 SAM system includes an auxiliary server, perform the following steps.

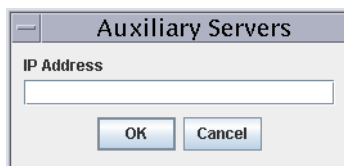
- i Click on the Add button shown in Figure 2-18. The Auxiliary Server Configuration form shown in Figure 2-19 opens.

Figure 2-18 Auxiliary Server IP Validation



- ii Enter the IP address or hostname of the auxiliary server.

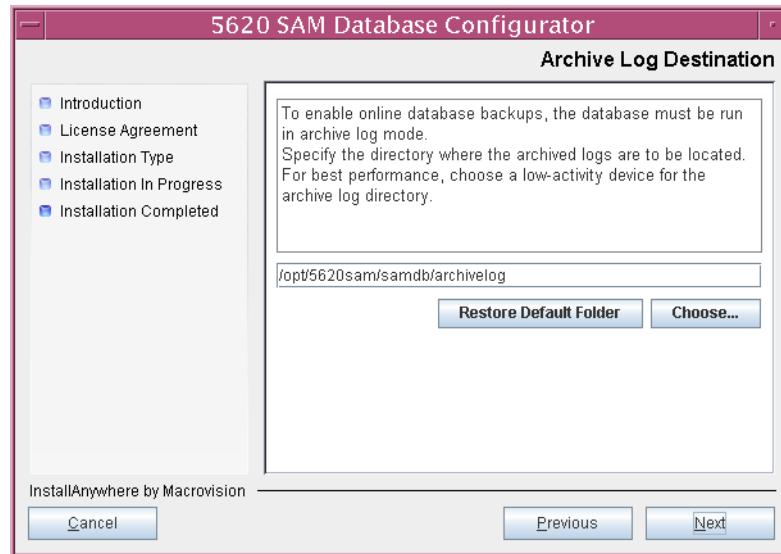
Figure 2-19 Auxiliary Servers



- iii Click on the OK button to save the information and close the form.
 - iv Repeat steps 37 i to iii to specify an additional auxiliary server, if required.
- 38 Click on the Next button.

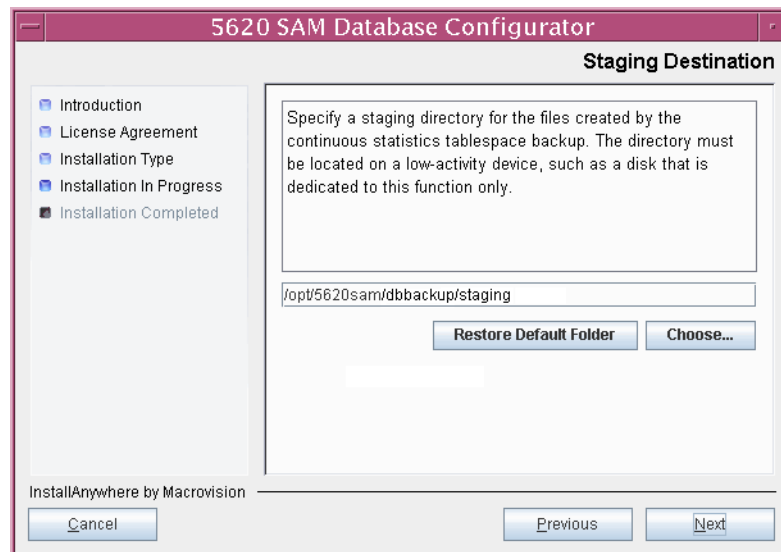
- 39 Specify a directory as the archive log destination (typically /opt/5620sam/samdb/archivelog), as shown in Figure 2-20. Click on the Next button.

Figure 2-20 Archive Log Destination



- 40 Specify a directory for the continuous statistics tablespace backup, as shown in Figure 2-21. Click on the Next button.

Figure 2-21 Staging Destination

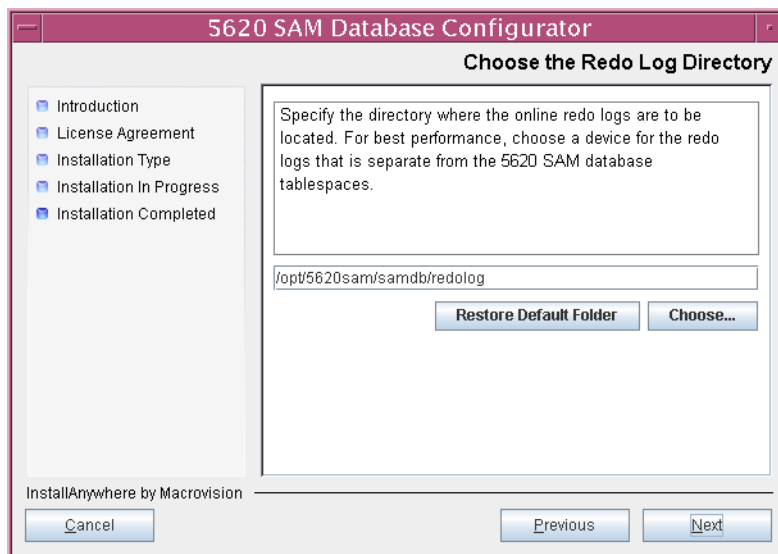


- 41 Specify a directory for the Redo logs (typically /opt/5620sam/samdb/redolog), as shown in Figure 2-22. Click on the Next button.



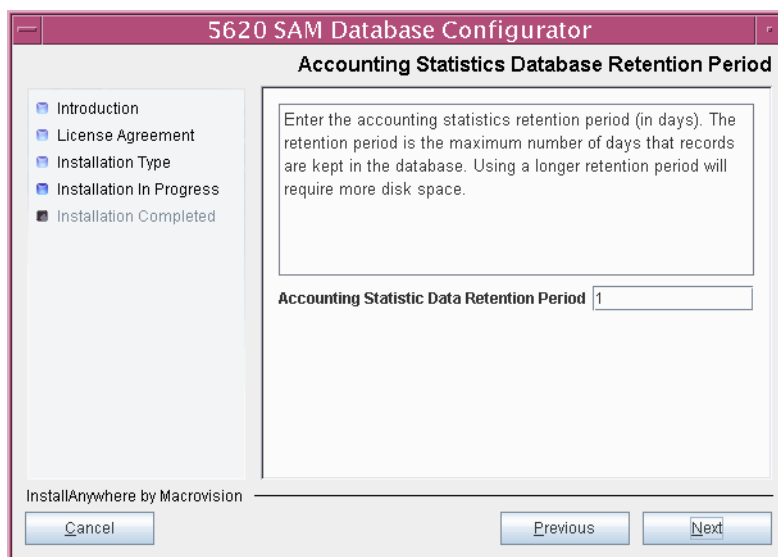
Note — In a one-disk configuration, the redo log directory must be the same directory that you specify as the tablespace directory later in the procedure.

Figure 2-22 Choose the Redo Log Directory



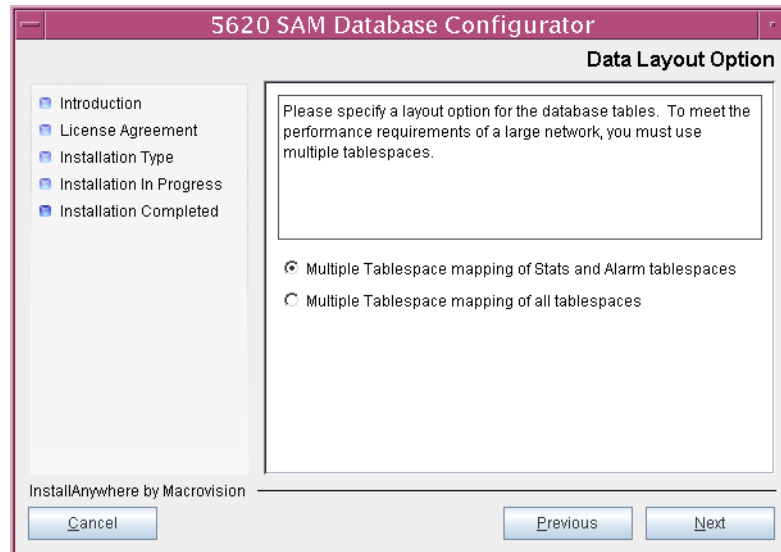
- 42 Configure the “Accounting Statistic Data Retention Period” parameter shown in Figure 2-23. Click on the Next button.

Figure 2-23 Accounting Statistics Database Retention Period



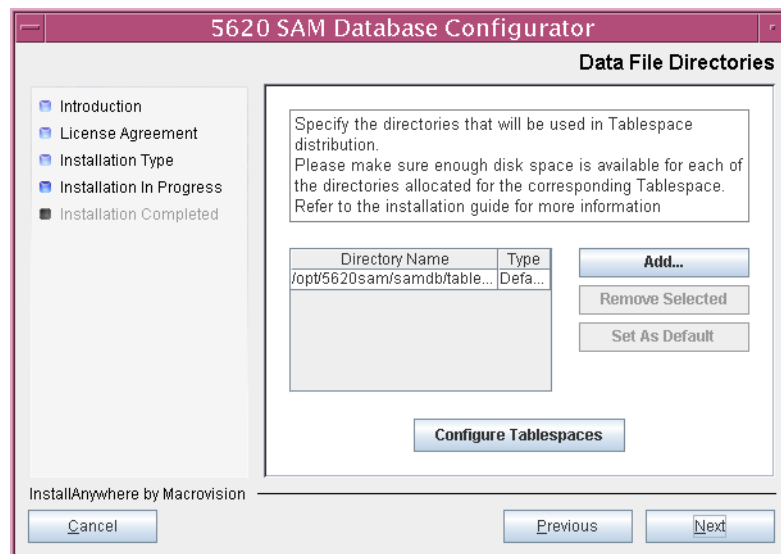
- 43 Choose one of the data layout options shown in Figure 2-24. Click on the Next button. Contact Alcatel-Lucent technical support for information about data layout options.

Figure 2-24 Data Layout Option



- 44 Choose the tablespace directories.

Figure 2-25 Data File Directories



- i Click on the Add button shown in Figure 2-25. A file browser form opens.
- ii Use the file browser form to choose a tablespace directory.
- iii Repeat steps 44 i and ii to specify an additional tablespace directory, if required.

- 45 Associate tablespaces with the directories specified in step 44.

Figure 2-26 Configure Tablespaces

- i Click on the Configure Tablespaces button. The tablespace configuration form shown in Figure 2-26 opens.

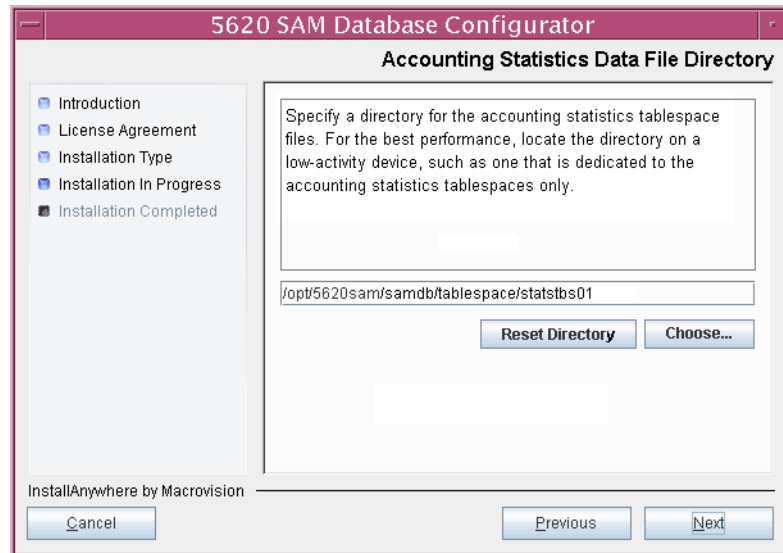


Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

- ii Follow the instructions at the top of the form to associate tablespaces with the directories, as required.
- iii Click on the OK button. The tablespace configuration form closes and the “Data File Directories” panel in Figure 2-25 reappears.
- 46 Click on the Next button.

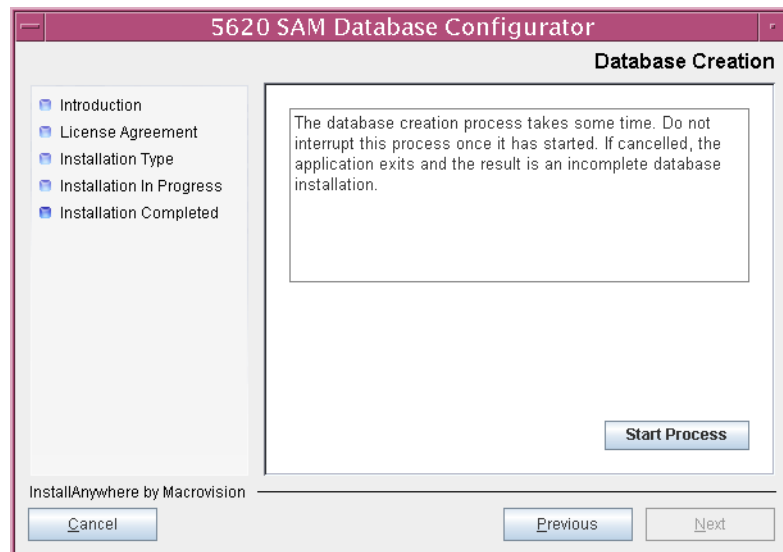
- 47 Specify a directory for the accounting statistics tablespace files, as shown in Figure 2-27. Click on the Next button.

Figure 2-27 Accounting Statistics Data File Directory



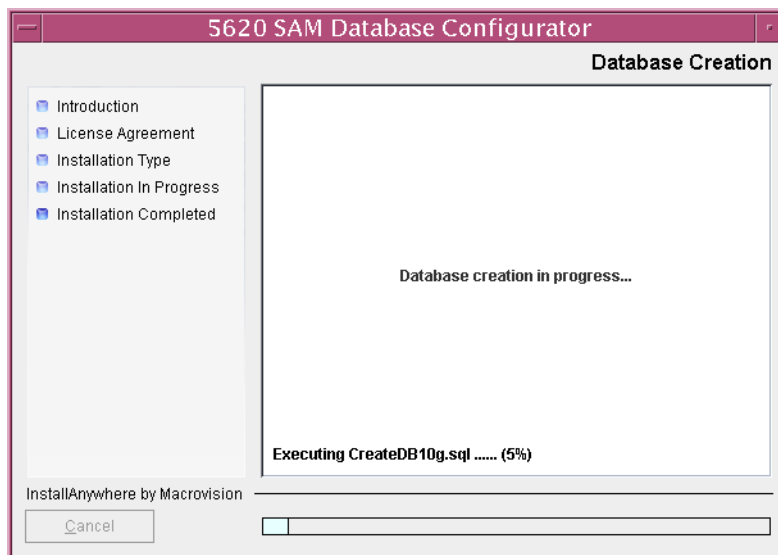
- 48 You are prompted to begin database creation, as shown in Figure 2-28. Database creation can take one hour or more, depending on the tablespace configuration. Click on the Start Process button to begin the database creation.

Figure 2-28 Database Creation



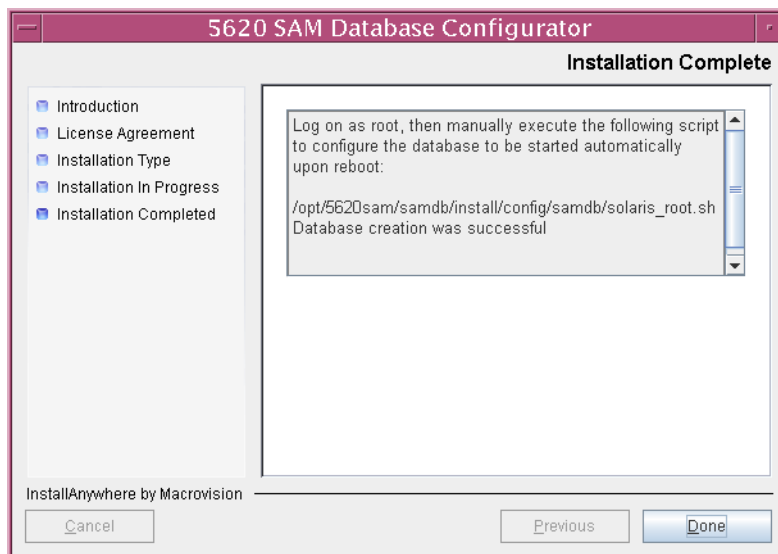
The next panel displays database creation progress, as shown in Figure 2-29.

Figure 2-29 Database Creation



- 49 When the panel in Figure 2-30 is displayed, the 5620 SAM database installation is complete, but as shown in the panel text, you must run a script to enable automatic database startup.

Figure 2-30 Installation Complete



Perform the following steps to run the script described in the panel.

- i Open a separate console window as the root user.
- ii Enter the following:

```
# path/solaris_root.sh
```

where *path* is the `solaris_root.sh` script location, typically
`/opt/5620sam/samdb/install/config/samdb`

The script returns messages similar to the following:

```
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
```

- iii When the script execution is complete, close the console window.

- 50** Click on the Done button to close the database installer.

The next section of the procedure describes the installation of the standalone 5620 SAM main server. You can install the server on the same station as the database, or on another station. Server installation requires root user privileges.

Install standalone server

- 51** Log in to the station that is to be the server station as the root user.
- 52** Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 53** Open a console window.
- 54** Navigate to the DVD-ROM drive.

55 Perform one of the following to open the 5620 SAM server installer.

a On a SPARC station:

i Enter the following:

```
# cd Solaris ↵
```

ii Enter the following:

```
# ./ServerInstall_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
# cd Solarisx86 ↵
```

ii Enter the following:

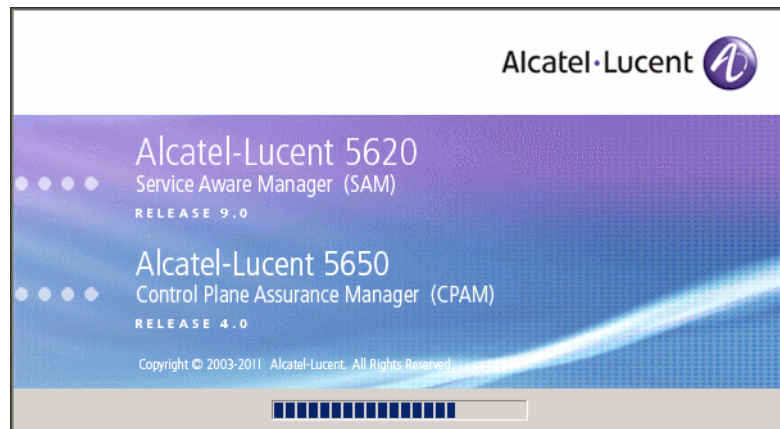
```
# ./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

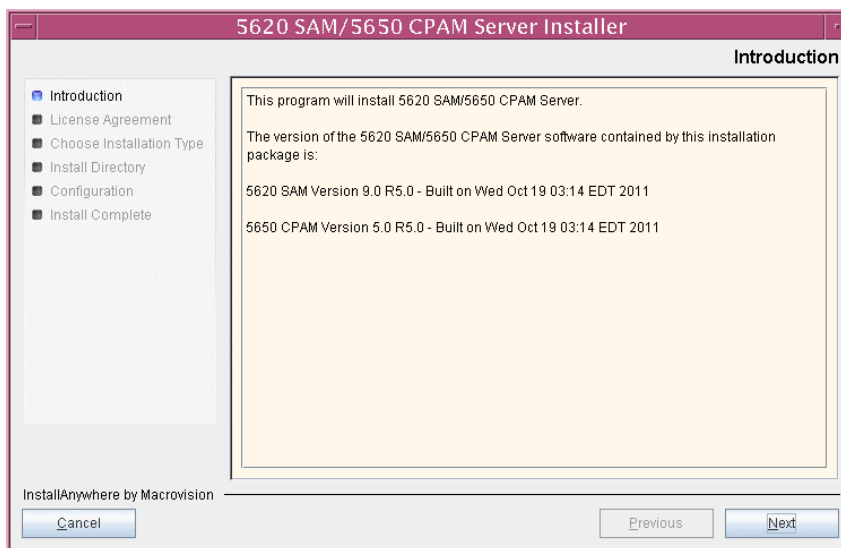
The splash screen shown in Figure 2-31 opens.

Figure 2-31 5620 SAM installer



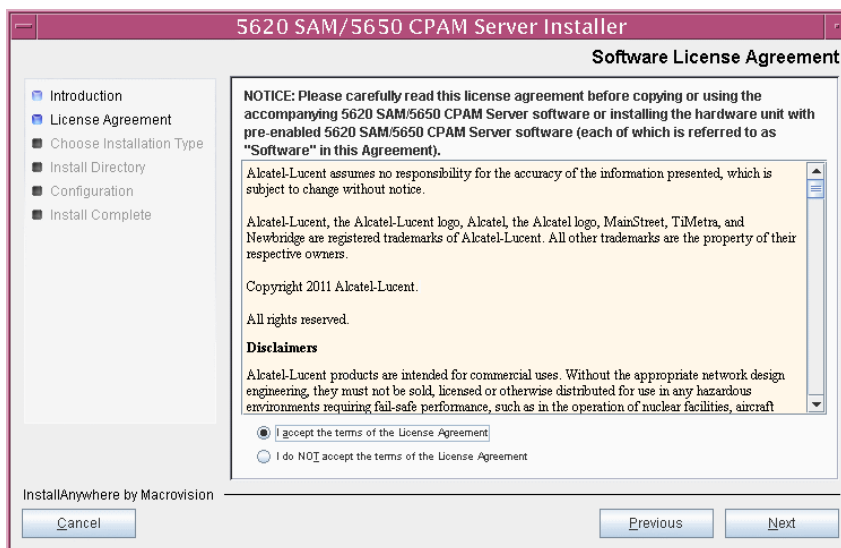
- 56 The 5620 SAM server installer opens, as shown in Figure 2-32. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-32 Introduction



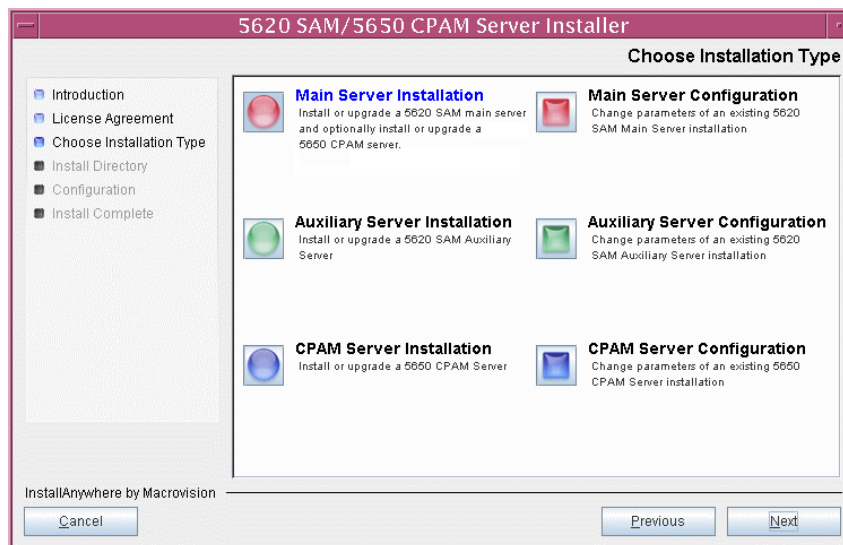
- 57 Review and accept the terms of the license agreement shown in Figure 2-33. Click on the Next button.

Figure 2-33 Software License Agreement



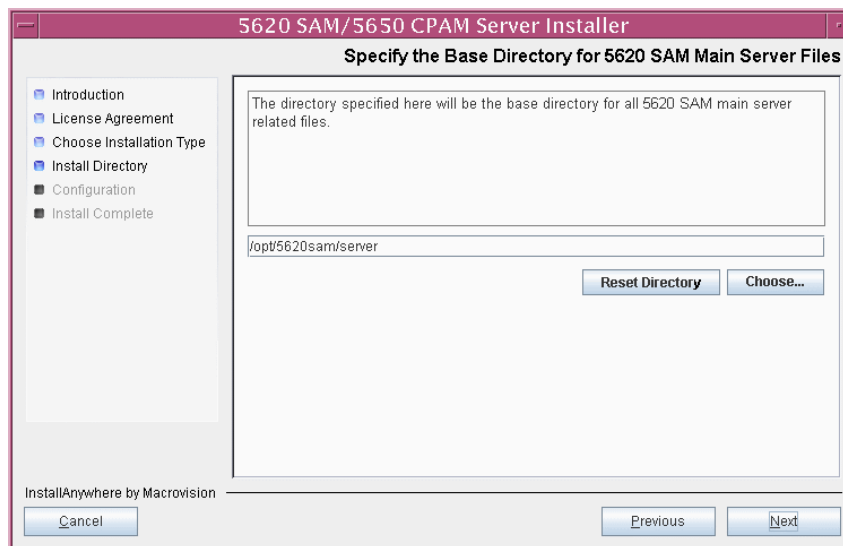
- 58 Select Main Server Installation, as shown in Figure 2-34. Click on the Next button.

Figure 2-34 Choose Installation Type



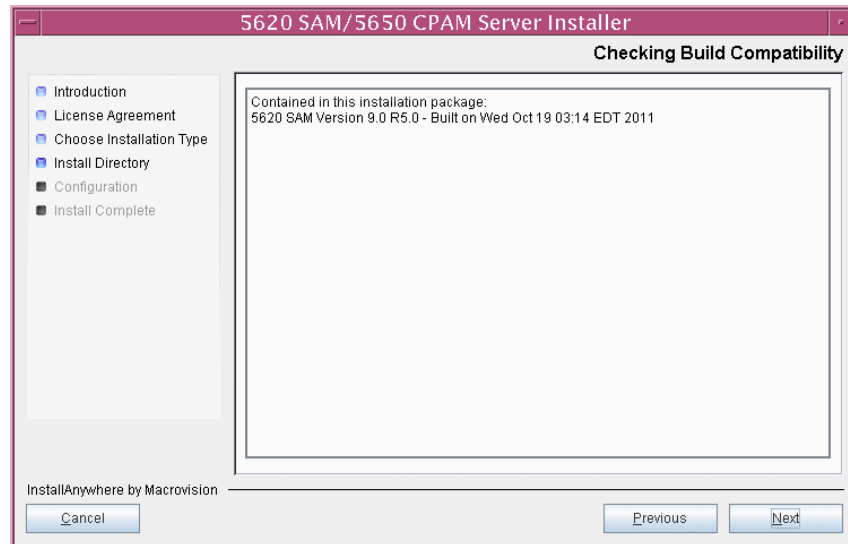
- 59 Specify a base directory in which to install the 5620 SAM main server software (typically /opt/5620sam/server), as shown in Figure 2-35. Click on the Next button.

Figure 2-35 Specify the Base Directory for 5620 SAM Main Server Files



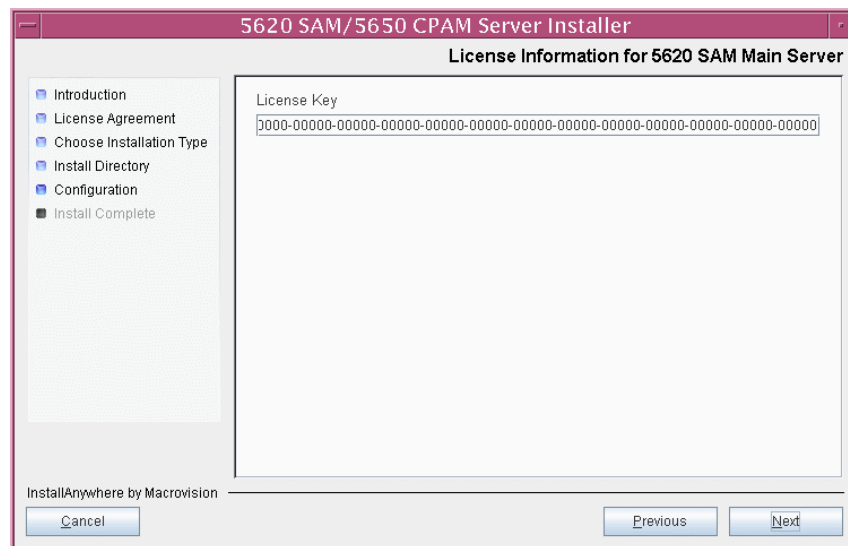
- 60 As shown in Figure 2-36, the installer indicates which release of 5620 SAM software is to be installed. Verify the information. Click on the Next button.

Figure 2-36 Checking Build Compatibility



- 61 Enter the license key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 2-37. Click on the Next button.

Figure 2-37 License Information for 5620 SAM Main Server



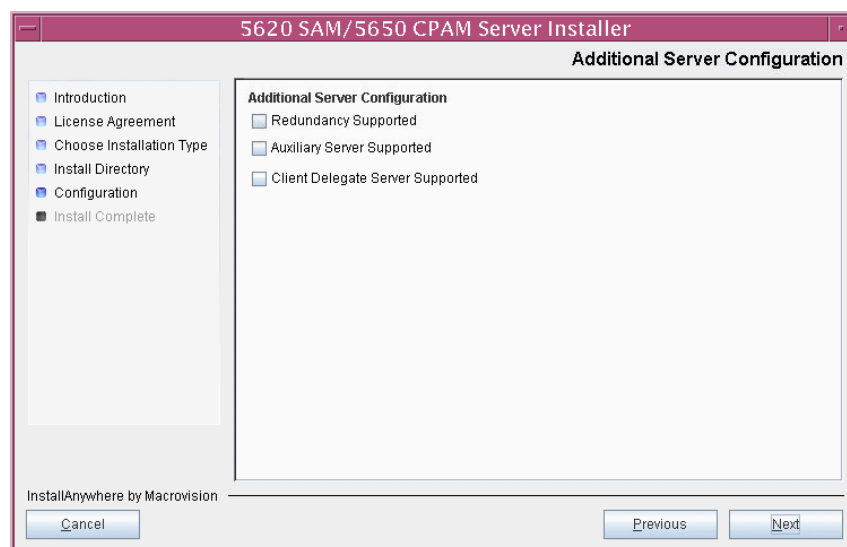
62 Configure the following parameters shown in Figure 2-38, then click on the Next button.

- Redundancy Supported
- Auxiliary Server Supported
- Client Delegate Server Supported



Note — You must leave the “Redundancy Supported” parameter unselected.

Figure 2-38 Additional Server Configuration



63 Configure the following parameters, shown in Figure 2-39, using the recorded values from the database installation. Click on the Next button.

- Database Server IP address
- Database Server Port (typically 1523)
- Database Instance Name (typically samdb)
- Database User Name (typically samuser)
- Database User Password
- Database Proxy Port (typically 9002)

Figure 2-39 Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Database Configuration' tab selected. The window has a sidebar on the left with a tree view containing: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'If NAT (network address translation) is to be used, enter the 5620 SAM database's public IP address as known to the 5620 SAM server.' Below this are six input fields: 'Database Server IP Address' (highlighted in yellow), 'Database Server Port' (1523), 'Database Instance Name' (samdb), 'Database User Name' (samuser), 'Database User Password' (masked with asterisks), and 'Database Proxy Port' (9002). At the bottom, there is a 'Cancel' button on the left and 'Previous' and 'Next' buttons on the right. The footer text reads 'InstallAnywhere by Macrovision'.

64 Configure the following parameters shown in Figure 2-40, then click on the Next button:

- Online Backup Interval (Hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number Of Backup Sets (typically 3)



Note — The “Online Backup Destination” value is a path on the file system of the database station specified in step 63.

Figure 2-40 Online Database Backup

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is pink. The window has a sidebar on the left with a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The 'Configuration' step is currently selected. The main area is titled 'Online Database Backup'. It contains a text box with the instruction: 'The database backup directory resides on the database workstation. Please ensure that the specified directory exists on the database workstation and it is writable.' Below this are three input fields: 'Online Backup Interval (Hours)' with the value '24', 'Online Backup Destination' with the value '/opt/5620sam/dbbackup', and 'Number Of Backup Sets' with the value '3'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The 'Next' button is highlighted.

- 65 The panel in Figure 2-41 is displayed if you select the “Auxiliary Server Supported” parameter in step 62. Otherwise, go to step 67.

Perform the following steps to specify an auxiliary server, if required.

- i Configure the following parameters shown in Figure 2-41:
 - NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main and auxiliary servers.
 - Private IP (accessible only by this server)
 - Public IP (accessible to auxiliary)
 - Server Port (typically 12800)
 - Enable Stats Collection on Auxiliary Servers
 - Enable Call Trace Collection on Auxiliary Servers



Note 1 — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

Note 2 — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-41 Main Server Configuration for Auxiliary Servers

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Auxiliary Servers' panel active. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main panel contains the following configuration options:

- A text box with the instruction: "Enter the the network interface information that this 5620 SAM main server requires to communicate with the 5620 SAM auxiliary servers. At least one service type checkbox must be selected."
 - ☒ NAT (network address translation) Used
 - Private IP (accessible only by this server): 192.168.200.111
 - Public IP (accessible to auxiliary): (empty yellow box)
 - Server Port: 12800
 - ☐ Enable Stats Collection on Auxiliary Servers
 - ☒ Enable Call Trace Collection on Auxiliary Servers

At the bottom, there is a footer with 'InstallAnywhere by Macrovision' and three buttons: 'Cancel', 'Previous', and 'Next'.

- ii Click on the Next button.

- iii Click on the Add button shown in Figure 2-42 to specify an auxiliary server. The form shown in Figure 2-43 opens.



Note 1 — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

Note 2 — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

Figure 2-42 Auxiliary Servers

5620 SAM/5650 CPAM Server Installer

Auxiliary Servers

Specify all the 5620 SAM auxiliary servers that this server connects to. There must be at least one preferred auxiliary server. If NAT (network address translation) is to be used, enter the 5620 SAM auxiliary server(s) public IP address(es) as known to the 5620 SAM server.

IP Address	Port	Type

Add... Remove Edit...

Configure Call Trace Auxiliary Servers

InstallAnywhere by Macrovision

Cancel Previous Next



Note — To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

Figure 2-43 Auxiliary Server Configuration

Auxiliary Server Configuration

IP Address

Port 12800

Type Preferred

OK Cancel

- iv Configure the following parameters:
 - IP Address
 - Port (typically 12800)
 - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 65 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 65 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 2-42. Otherwise, go to step 66.
- viii The form shown in Figure 2-44 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 2-44 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

Preferred Auxiliary Servers	
IP Address	Port
10.1.1.1	12800
10.1.1.2	12800
10.1.1.3	12800

Reserved Auxiliary Servers	
IP Address	Port
10.2.2.1	12800
10.2.2.2	12801
10.2.2.3	12800

Server Pairs	
Preferred Server IP	Reserved Server IP

Make Pair from Selected Remove Selected Pair OK Cancel

- ix Repeat step 65 viii to configure another call-trace auxiliary server pair, if required.

- 66 Click on the Next button.
- 67 Perform the following steps.
- i Configure the following parameters shown in Figure 2-45:
 - **Server Domain Name** (typically 5620sam)
This parameter uniquely identifies the 5620 SAM server cluster to which the main server belongs.
 - **Use Hostname for Communication**
Select this parameter if the main server is to use multiple interfaces for GUI and OSS client communication.

Figure 2-45 Main Server Configuration for Clients

5620 SAM/5650 CPAM Server Installer

Main Server Configuration for Clients

Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server.

If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.

Server Domain Name: 5620sam

☐ Use Hostname for Communication (recommended if NAT is used)

☒ NAT (network address translation) Useu

Private IP (accessible only by this server): 192.168.200.111

Public IP (accessible to clients):

EJB JNDI Server port: 1099

EJB JMS Server port: 8093

☐ Enable 5670 RAM

☐ Enable 3GPP OSS Interface

InstallAnywhere by Macrovision

Cancel Previous Next

- ii If you select the “Use Hostname for Communication” parameter, go to step 67 vi.

iii Configure the following parameters:

- NAT (network address translation) Used
- Private IP (accessible only by this server)
- Public IP (accessible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)
- Enable 5670 RAM
- Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

iv Click on the Next button.

v Go to step [68](#).

vi Configure the following parameters shown in Figure 2-46:

- NAT (network address translation) Used
- Private IP (accessible only by this server)
- Public Hostname
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)
- Enable 5670 RAM
- Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-46 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main configuration area contains the following fields and options:

- Server Domain Name:** 5620sam
- ☒ **Use Hostname for Communication (recommended if NAT is used)**
- ☒ **NAT (network address translation) Used**
- Private IP (accessible only by this server):** 192.168.200.111 (dropdown menu)
- Public Hostname:** (empty text field)
- EJB JNDI Server port:** 1099
- EJB JMS Server port:** 8093
- ☐ **Enable 5670 RAM**
- ☐ **Enable 3GPP OSS Interface**

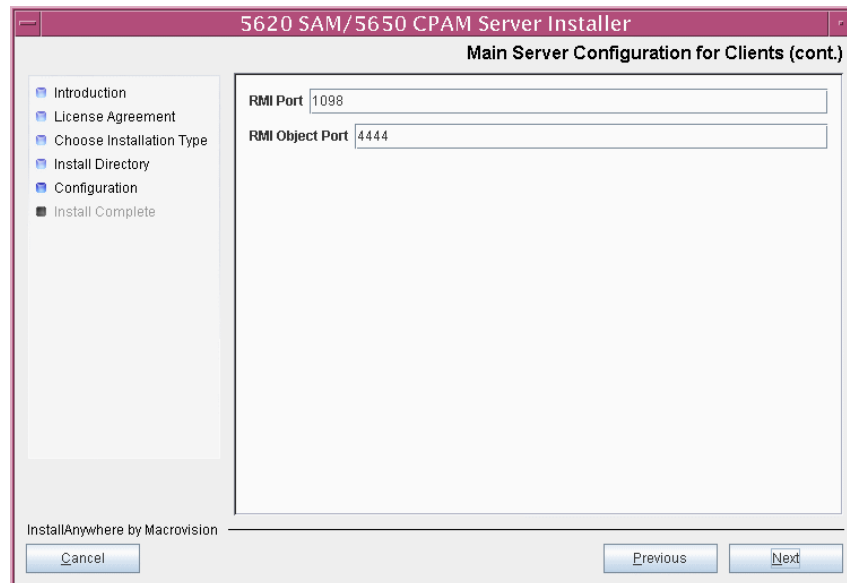
At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

vii Click on the Next button.

68 Configure the following parameters shown in Figure 2-47, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

Figure 2-47 Main Server Configuration for Clients (cont.)



- 69 The panel in Figure 2-48 is displayed if you do not select the “Auxiliary Server Supported” parameter in step 62. Otherwise, go to step 70.

Configure the parameters shown in Figure 2-48:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the OSS clients.
- Public IP (accessible to OSS clients)

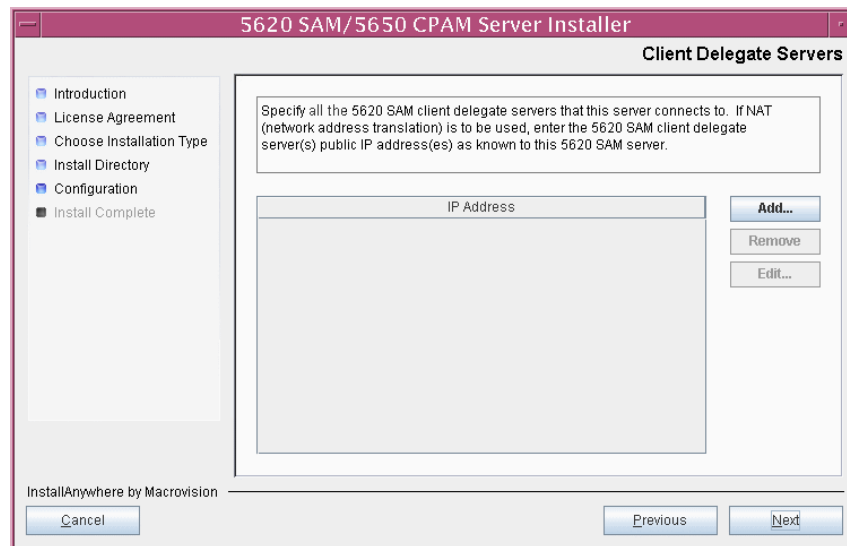
Figure 2-48 Server Configuration for OSS Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The 'Server Configuration for OSS Clients' panel is active. On the left, a navigation pane lists steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'Enter the network interface information that the OSS clients require to retrieve statistic data from this 5620 SAM server.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox is a label 'Public IP (accessible to OSS clients)' followed by a dropdown menu showing the value '192.168.200.111'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Install'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- 70 The panel in Figure 2-49 is displayed if you select the “Client Delegate Server Supported” parameter in step 62. Otherwise, go to step 71.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5620 SAM server and client delegate servers, specify the public IP address. Click on the Next button.

Figure 2-49 Client Delegate Servers



- 71 Perform the following steps to enable communication security between the main server and clients, and between the main and auxiliary servers. Otherwise, click on the Next button.



Note — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 2-50.

Figure 2-50 SSL Configuration

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password

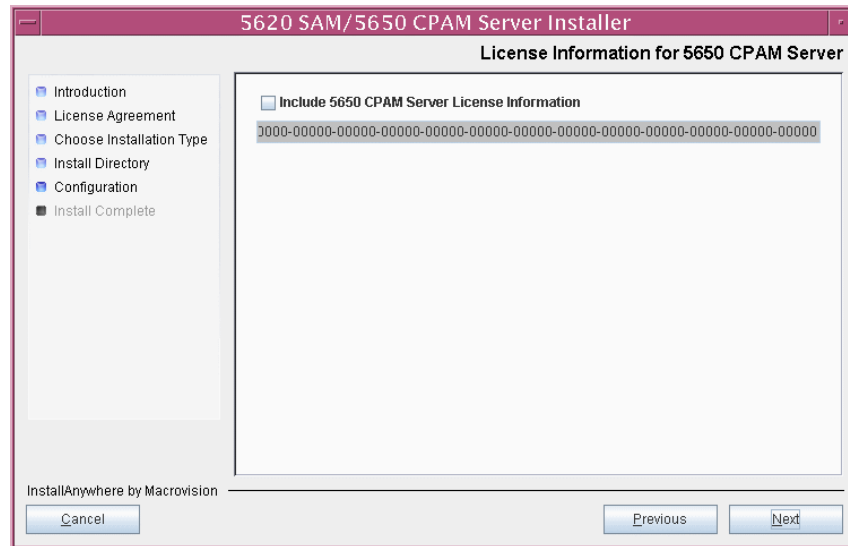


Note — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The main server copies the files, imports them into the main server configuration, and transfers the keystore file to each client and auxiliary server.

- 72** Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 2-51. If it does, enter the 5650 CPAM license key provided by Alcatel-Lucent. Include the dashes in the key. Click on the Next button.

Figure 2-51 License Information for 5650 CPAM Server



73 Configure the following parameters shown in Figure 2-52, then click on the Next button:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

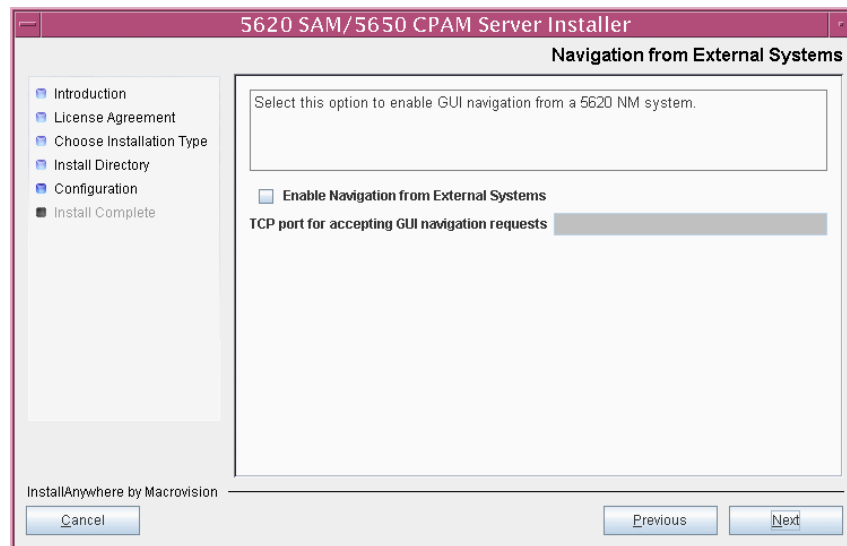


Note — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 2-52.

Figure 2-52 SNMP Configuration

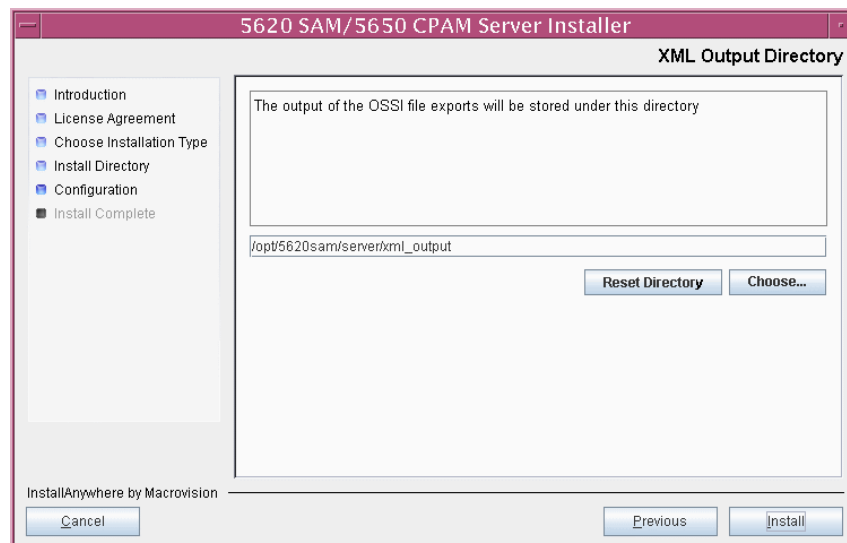
- 74 If you require 5620 SAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 2-53 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button.

Figure 2-53 Navigation from External Systems



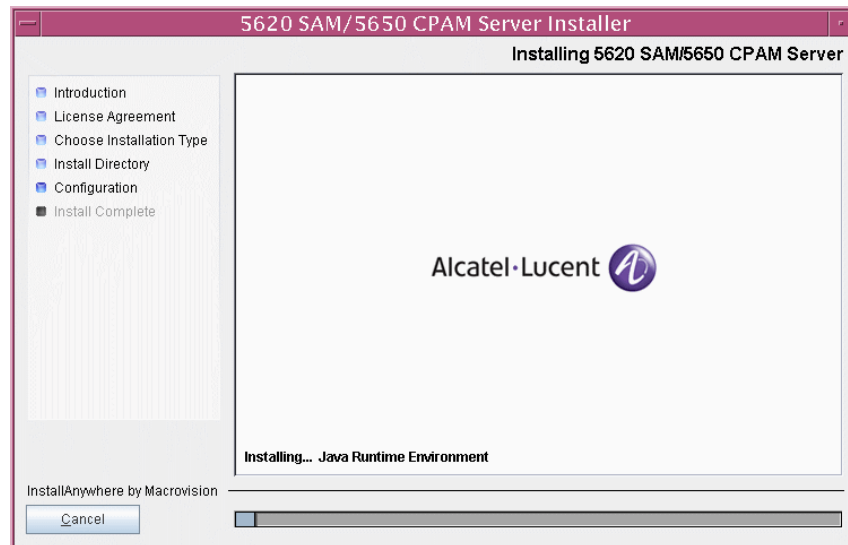
- 75 Specify an OSS XML output location (typically /opt/5620sam/server/xml_output), as shown in Figure 2-54. Click on the Install button to begin the server installation.

Figure 2-54 XML Output Directory



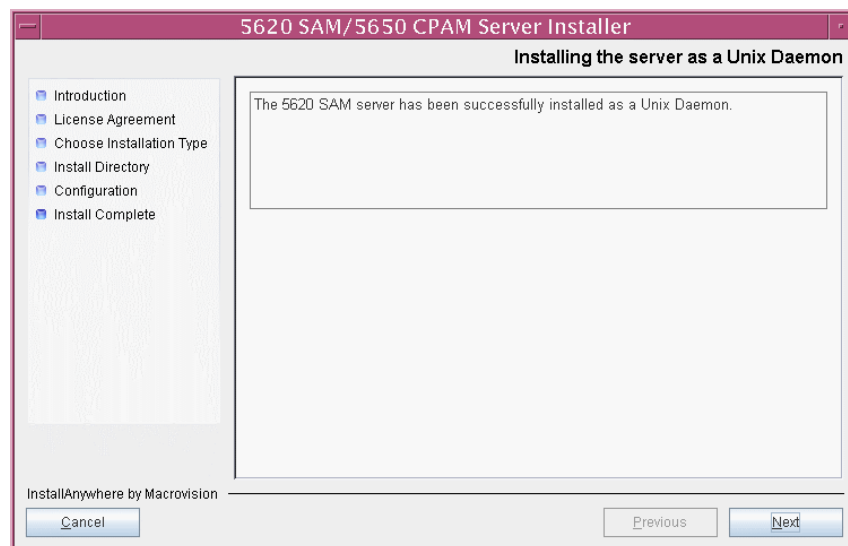
The next panel displays installation progress, as shown in Figure 2-55.

Figure 2-55 Installing 5620 SAM/5650 CPAM Server



- 76 The 5620 SAM server is installed as a UNIX daemon, as shown in Figure 2-56. Click on the Next button.

Figure 2-56 Installing the Server as a Unix Daemon

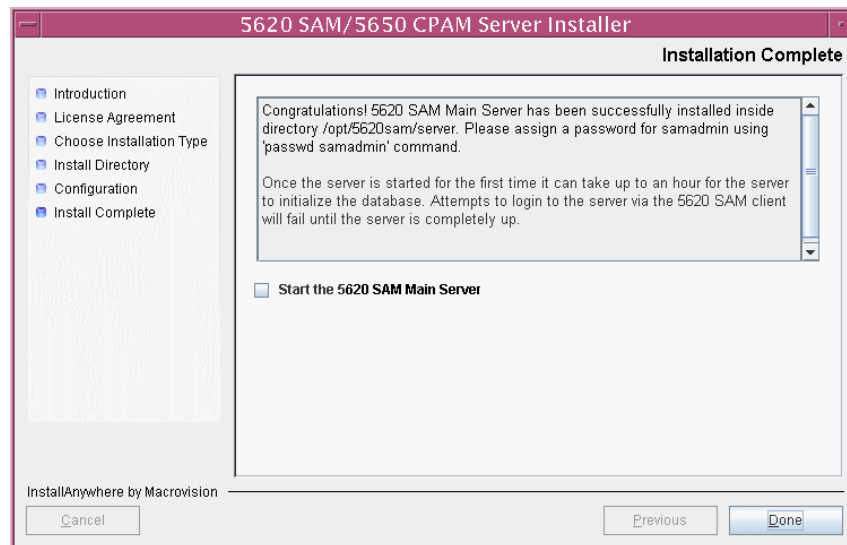


- 77 When the main server installation is complete, as shown in Figure 2-57, configure the “Start the 5620 SAM Main Server” parameter to specify whether you want the server to start immediately after the installation.



Caution — If the 3GPP OSS interface is enabled in step 67, ensure that the “Start the 5620 SAM Main Server” parameter is not selected.

Figure 2-57 Installation Complete



- 78 View the panel text to see whether it states that you must assign a password to samadmin, as shown in Figure 2-57. This information is required in step 80.
- 79 Click on the Done button to close the server installer. If you specified that the main server is to start after installation, the server starts. Initial server startup can take twenty minutes or more.
- 80 If this is the first 5620 SAM server installation on the station, the installer creates a user account called samadmin for 5620 SAM system administration.

If you must assign a password to samadmin, as determined in step 78, perform the following steps.



Note — The samadmin password must not contain the @ symbol, or eNodeB device management may be compromised.

- i Enter the following:

```
# passwd samadmin
```

The following prompt is displayed:

```
New Password:
```

- ii Enter the new password and press ↵.

The following prompt is displayed:

```
Confirm New Password:
```

- iii Enter the new password again and press ↵. The password is changed.
- iv Record the new password and store it in a secure location.

81 If the 3GPP OSS interface is enabled in step 67, perform the following steps.

- i Open the *path/nms/cnbi/home/config/cnbi.properties* file using a plain-text editor

where *path* is the 5620 SAM main server installation location, typically *opt/5620sam/server*

- ii Locate the following line:

```
CNBI.SAMO.USER=
```

- iii Edit the line to read:

```
CNBI.SAMO.USER=3GPP_OSS_user_name
```

where *3GPP_OSS_user_name* is the user name that OSS applications must send in requests to the interface

- iv Locate the following line:

```
CNBI.SAMO.PASSWORD=
```

- v Edit the line to read:

```
CNBI.SAMO.PASSWORD=3GPP_OSS_password
```

where *3GPP_OSS_password* is the MD5-encrypted user password that OSS applications must send in requests to the interface

- vi Save and close the file.
- vii Go to step 83.

82 If you specified that the main server is to start after installation, perform the following steps to verify that the 5620 SAM server is started.

- i Enter the following to switch to the samadmin user:

```
# su - samadmin ↵
```

- ii Enter the following:

```
bash$ path/nms/bin/nmsserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically */opt/5620sam/server*

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- SAM Server is UP
```

- iii If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.



Note — Do not proceed to the next step until the server is completely started.

- 83 If you specified not to start the main server immediately after the installation, perform the following steps to start the server manually.

- i Log in to the main server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to start the 5620 SAM server software:

```
bash$ ./nmsserver.bash start ↵
```

- v Enter the following:

```
bash$ path/nms/bin/nmsserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- SAM Server is UP
```

- vi If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.



Note — Do not proceed to the next step until the server is completely started.

- 84 Close the console window.

Install client

- 85** Perform one of the following to install a 5620 SAM client.
- a Perform Procedure [2-3](#) or [2-4](#) to install a single-user client on a Solaris station.
 - b Perform Procedure [2-5](#) or [2-6](#) to install a single-user client on a Windows station.
 - c Perform Procedure [2-7](#) to install a client delegate server.
- 86** If the 3GPP OSS interface is enabled in step [67](#), perform the following steps.
- i Log in to a 5620 SAM GUI client as the admin user.
 - ii Create a user account for 3GPP OSS interface access. Observe the following when you create the account:
 - The user name must be the user name specified in step [81](#).
 - The password must be the password specified in step [81](#).
 - The user account requires full permissions on the fm and oss packages.

See the *5620 SAM User Guide* for information about creating 5620 SAM user accounts.

2.5 Redundant 5620 SAM installation workflow

The following is the sequence of high-level actions required to install a redundant 5620 SAM system. A section heading in quotation marks is a reference to a section in Procedure [2-2](#).

- 1 Prepare the primary database station for the installation. See “[Run Oracle pre-installation script for primary database](#)” and “[Set directory ownership for database installation](#)” for more information.
- 2 Install the primary database. See “[Install primary database](#)” for more information.
- 3 Prepare the standby database station for the installation. See “[Run Oracle pre-installation script for standby database](#)” and “[Set directory ownership for database installation](#)” for more information.
- 4 Install the standby database. See “[Install standby database](#)” for more information.
- 5 Install the primary server. See “[Install primary server](#)” in Procedure [2-2](#) for more information.
- 6 Install a single-user client or client delegate server. See “[Install client](#)” for more information.
- 7 Reinstantiate the primary database on the standby database station. See “[Reinstantiate database on standby station](#)” for more information.
- 8 Install the standby server. See “[Install standby server](#)” for more information.

- 9 Install one or more auxiliary servers, if required. See Procedure 2-9 for more information.
- 10 Install a single-user client or client delegate server. See “Install additional client” for more information.

2.6 Redundant 5620 SAM system installation

This section describes how to install the software components of a redundant 5620 SAM system. Procedure 2-2 describes how to install the primary and standby 5620 SAM database and main server software.



Warning — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panels when you perform a procedure in this section:

- **5620 SAM Database Configurator**
 - Primary Database Configuration Info
 - Standby Database Configuration Info
- **5620 SAM/5650 CPAM Server Installer**
 - Main Server Configuration for Auxiliary Servers
 - Main Server Configuration for Peer Server



Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

Note 2 — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

Procedure 2-2 To install a redundant 5620 SAM system

Perform this procedure to install the 5620 SAM primary and standby main server and database software. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.

You require the following user privileges to perform this procedure:

- on each main server station:
 - root
- on each database station:
 - root
 - Oracle management



Note 1 — The samadmin user account is created on each main server station during this procedure.

Note 2 — The Oracle management user account is created on each database station during this procedure.

Run Oracle pre-installation script for primary database

- 1 Before you perform a 5620 SAM database installation, you must run the OracleSw_PreInstall.sh script. This script creates and configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Log in to the station that is to be the primary database station as the root user.

- 2 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 3 Open a console window.
- 4 Navigate to the DVD-ROM drive.
- 5 Perform one of the following to change to the appropriate directory.

- a On a SPARC station, enter the following:

```
# cd Solaris ↵
```

- b On an x86-based station, enter the following:

```
# cd Solarisx86 ↵
```

- 6 Enter the following:

```
# ./OracleSw_PreInstall.sh ↵
```

The following prompt is displayed:

Please select between the following option:

```
1) NEW INSTALL OF 5620 SAM
```

2) UPGRADE OF 5620 SAM

- 7 Enter 1 ↵. The script generates INFO messages as it validates the OS requirements, and then prompts you for Oracle management user information.



Note 1 — To reduce the complexity of subsequent software upgrades and technical support activities, Alcatel-Lucent recommends that you press ↵ to accept the default for each parameter that has a default.

Note 2 — If you specify a value other than the default, you must record the value for use when the OracleSw_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

- 8 Provide the following information when you are prompted; the console may display status messages between prompts:
- user group name (default is dba)
 - user name (default is oracle)
 - user home directory (default is /opt/5620sam/oracle11r2)
 - user password, if one of the following is true:
 - there is no password
 - there is a password, but you specify that you want to change it



Note — If the script generates a “failed to create group” message, ensure that NIS is disabled and re-run the pre-installation script. Contact Alcatel-Lucent technical support for more information.

The script updates the system configuration and exits.

- 9 When the script execution is complete, enter the following to reboot the primary database station:

```
# shutdown -y -i6 -g0 ↵
```

The primary database station reboots.

Before database installation can occur, the Oracle management user and group created by the pre-installation script require ownership of the directory that is to hold the database. The next section of the procedure describes how to configure the directory ownership.

Set directory ownership for database installation

- 10 After the primary database station reboots, log in to the primary database station as the root user.
- 11 Open a console window.
- 12 Enter the following to change the current directory to /opt:

```
# cd /opt ↵
```

- 13 Enter the following to specify the required user and group ownership of the 5620sam directory and subdirectories:

```
# chown -R user:group 5620sam ↵
```

where

user is the username from step 6, typically oracle

group_name is the group name from step 6, typically dba

- 14 Enter the following to change to the 5620sam directory below the /opt directory:

```
# cd 5620sam ↵
```

- 15 Enter the following to confirm that the Oracle management user home directory has the correct user and group ownerships:

```
# ls -l ↵
```

If the command output is not as shown below, repeat steps 12 to 15. Do not proceed unless the output is as shown.

```
drwx----- 2 user      group          512 Apr 11 11:15 directory
```

where

user is the username specified in step 6, typically oracle

group is the group name specified in step 6, typically dba

directory is the Oracle management user home directory name specified in step 6, typically /opt/5620sam/oracle11r2

Install primary database

- 16 Log in to the station that is to be the primary database station as the root user.

- 17 Open a console window.

- 18 Enter the following to switch to the Oracle management user created by the pre-installation script:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

- 19 Navigate to the DVD-ROM drive that contains the 5620 SAM software DVD-ROM.

20 Perform one of the following to open the 5620 SAM database installer.

a On a SPARC station:

i Enter the following:

```
bash$ cd Solaris ↵
```

ii Enter the following:

```
bash$ ./DBConfig_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
bash$ cd Solarisx86 ↵
```

ii Enter the following:

```
bash$ ./DBConfig_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

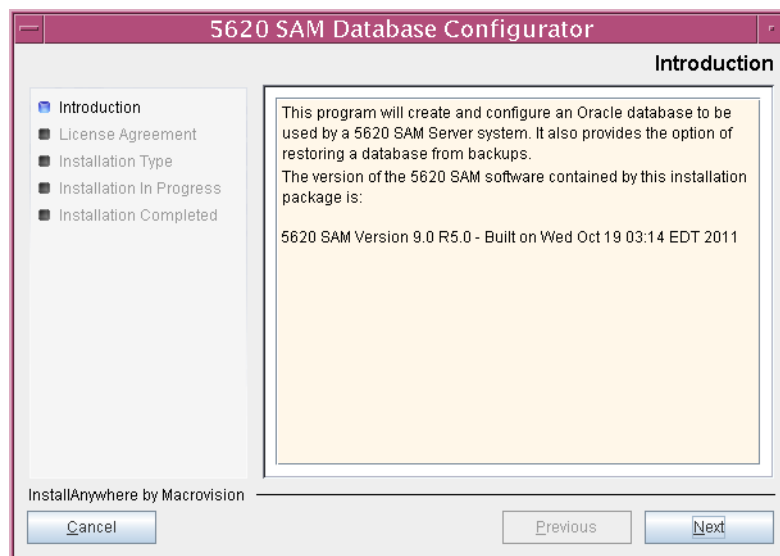
The splash screen shown in Figure 2-58 opens.

Figure 2-58 5620 SAM installer



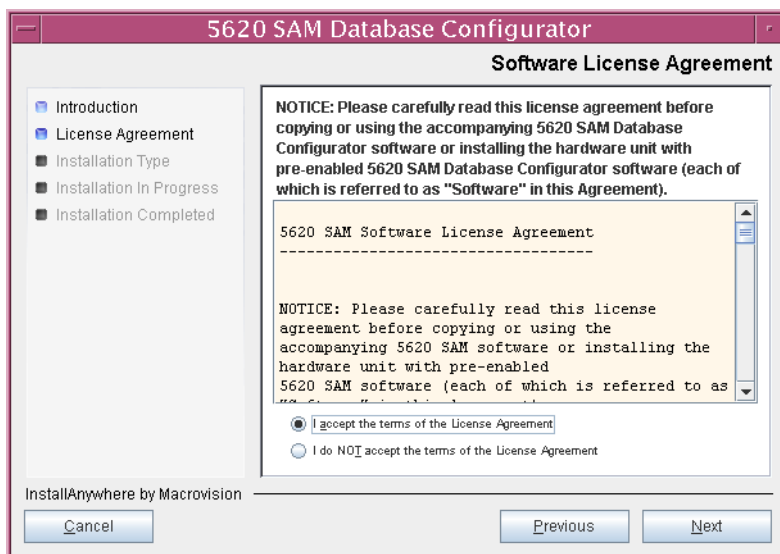
- 21 The 5620 SAM database installer opens, as shown in Figure 2-59. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-59 Introduction



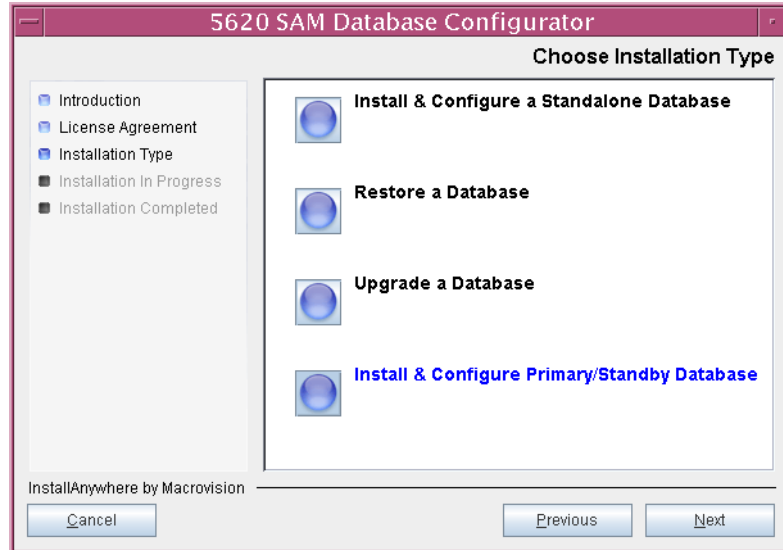
- 22 Review and accept the terms of the license agreement shown in Figure 2-60. Click on the Next button.

Figure 2-60 Software License Agreement



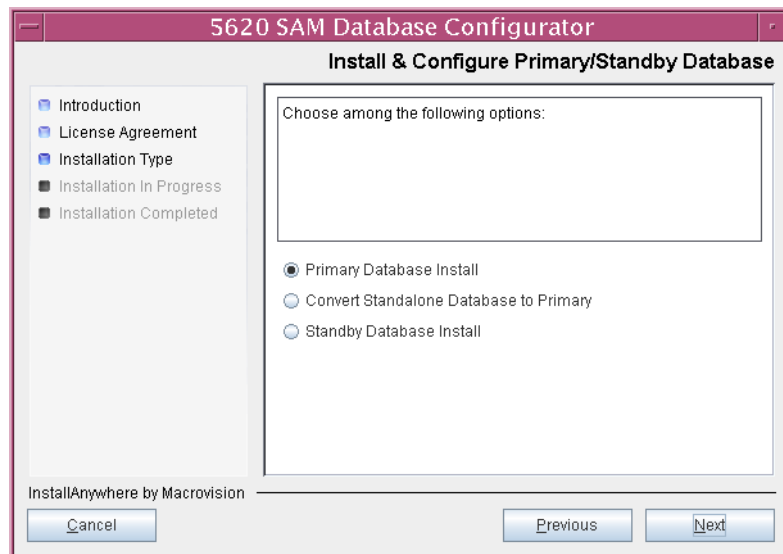
- 23 Select Install & Configure Primary/Standby Database, as shown in Figure 2-61. Click on the Next button.

Figure 2-61 Choose Installation Type



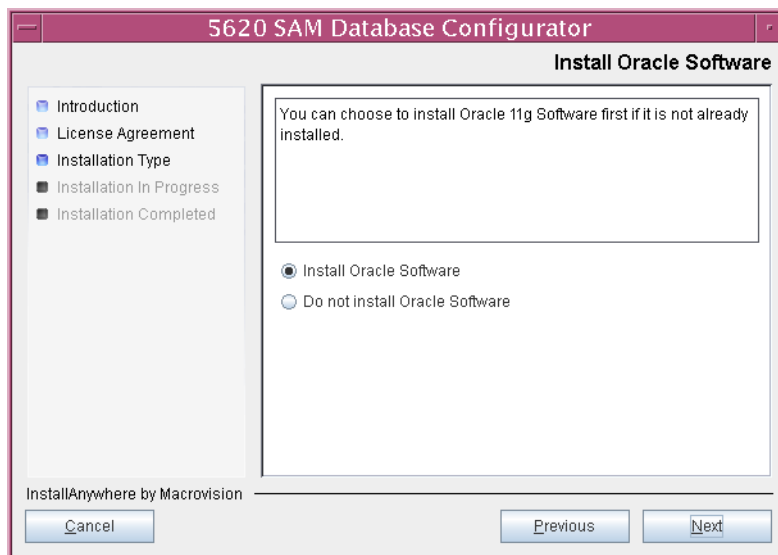
- 24 Select Primary Database Install, as shown in Figure 2-62. Click on the Next button.

Figure 2-62 Install & Configure Primary/Standby Database



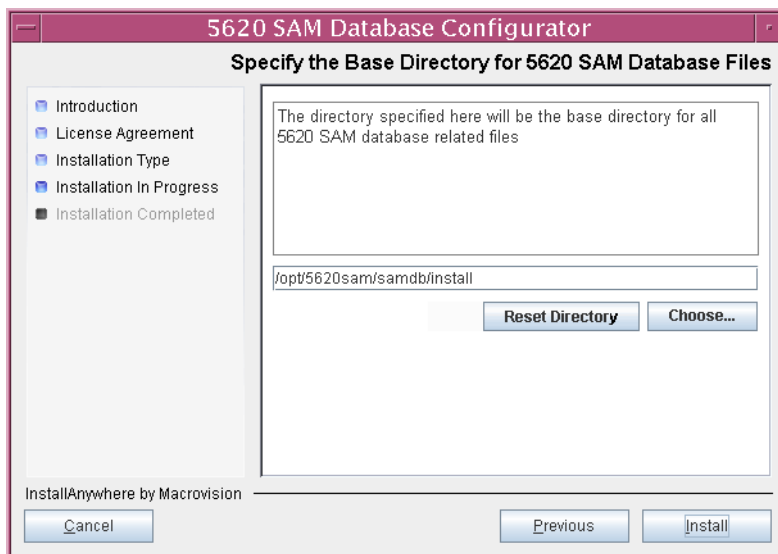
- 25 Select Install Oracle Software, as shown in Figure 2-63. Click on the Next button.

Figure 2-63 Install Oracle Software



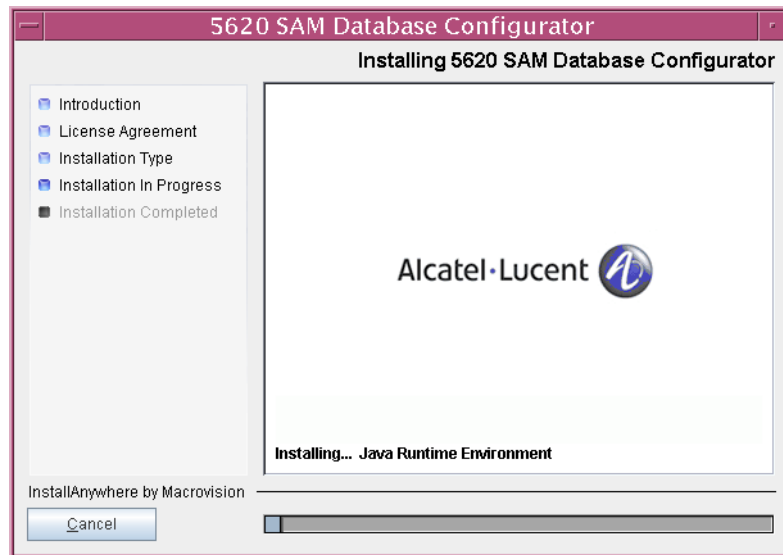
- 26 Specify a base directory in which to install the primary 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 2-64. Click on the Install button to begin the database software installation.

Figure 2-64 Specify the Base Directory for 5620 SAM Database Files



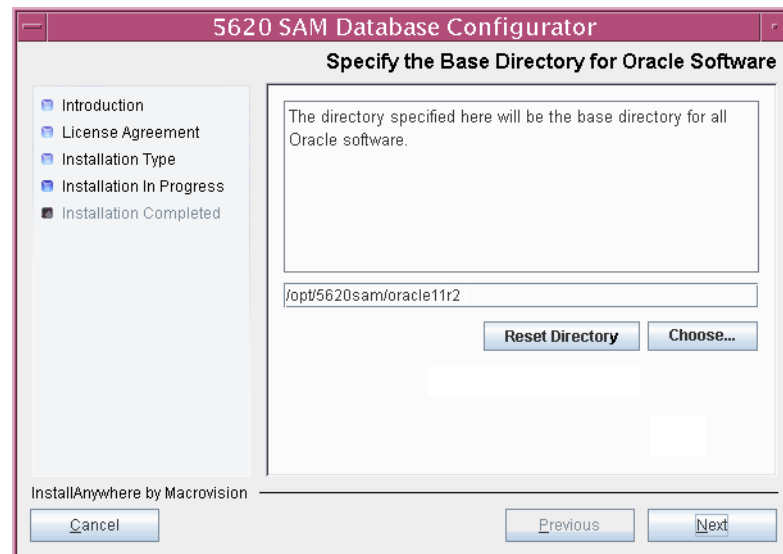
The installer prepares to install the database, as shown in Figure 2-65.

Figure 2-65 Installing 5620 SAM Database Configurator



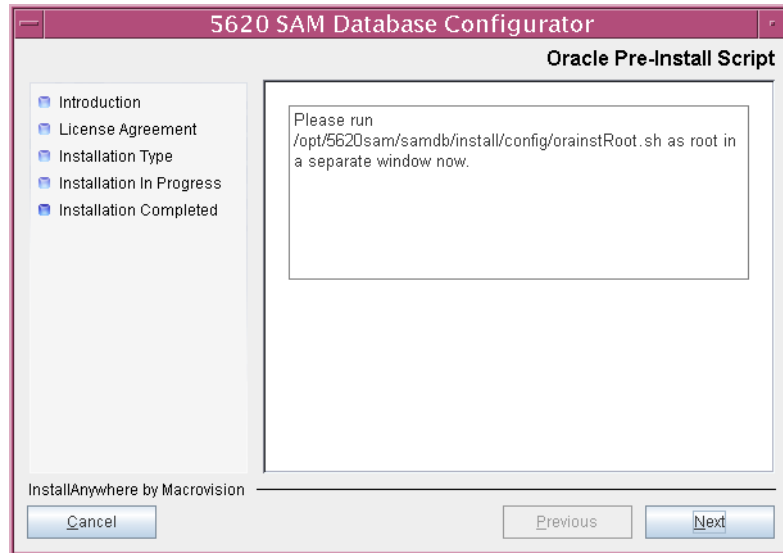
- 27 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle11r2), as shown in Figure 2-66. Click on the Next button.

Figure 2-66 Specify the Base Directory for Oracle Software



- 28 Perform the following steps when the panel in Figure 2-67 is displayed.

Figure 2-67 Oracle Pre-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle pre-install script:

```
# su -
```

```
# path/install/config/orainstRoot.sh .
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script generates messages like the following:

```
Creating the Oracle inventory pointer file
(/var/opt/oracle/oraInst.loc)
```

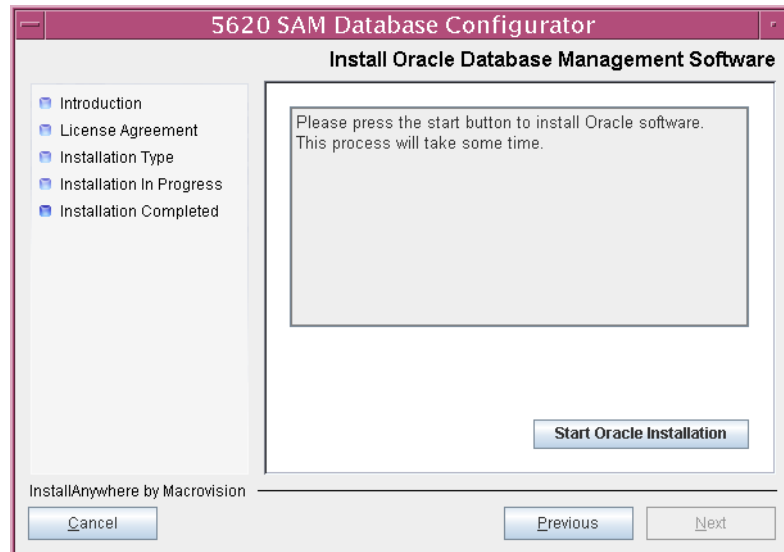
```
Creating the Oracle inventory directory
(/opt/5620sam/oracle11r2/oraInventory)
```

```
Changing groupname of /opt/5620sam/oracle11r2/oraInventory to
(dba) .
```

- iv When the script execution is complete, close the console window.
- v Click on the Next button.

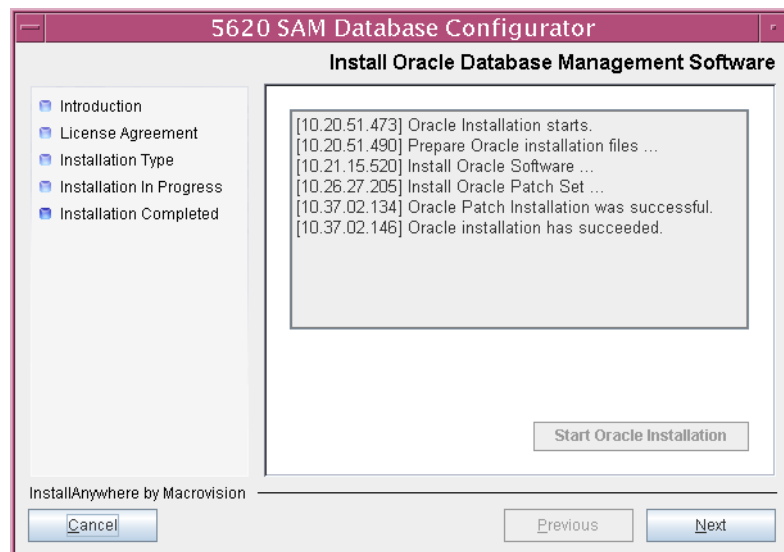
- 29 You are prompted to install Oracle software, as shown in Figure 2-68. This operation can take one hour or more. Click on the Start Oracle Installation button to begin the Oracle software installation.

Figure 2-68 Install Oracle Database Management Software



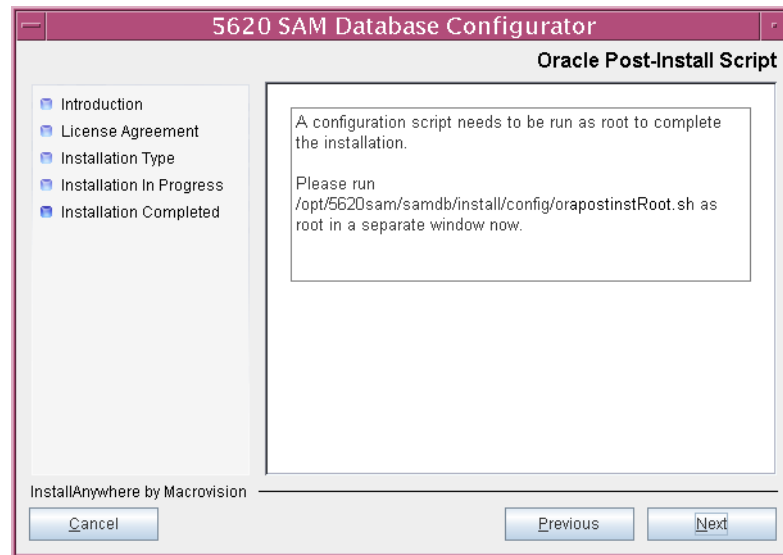
- 30 Oracle installation details are displayed as the installation progresses. When Oracle installation is complete, as shown in Figure 2-69, click on the Next button.

Figure 2-69 Install Oracle Database Management Software



- 31 Perform the following steps when the panel in Figure 2-70 is displayed.

Figure 2-70 Oracle Post-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle post-install script:

```
# su -
```

```
# path/install/config/orapostinstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script displays the following message:

```
Check path/username_hostname_timestamp.log for output
```

where

path is the directory that contains the script log file, typically
/opt/5620sam/oracle11r2/install

username is the Solaris account name of the current user, for example, root

hostname is the hostname of this station

timestamp is the script execution start time

- iv If the script generates a message that contains the word “error”, view the script log file named in the message for more information, and contact Alcatel-Lucent technical support for assistance, if required.
- v When the script execution is complete, close the console window.
- vi Click on the Next button.

32 Configure the following primary database installation parameters shown in Figure 2-71, then click on the Next button:

- NAT (network address translation) Used
- Public IP (accessible to servers)
- Private IP
- Database Name (typically samdb)
- Instance Name (typically samdb1)
- User Name (typically samuser)
- User Password



Note — The “Private IP” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

The “User Password” value that you specify must meet the following criteria:

- The password must be between 4 and 30 characters long.
- The password must contain at least three of the following:
 - lower-case alphabetic character
 - upper-case alphabetic character
 - numeric character
 - special character, which is one of the following:
\$ _
- The password must not contain four or more of the same character type in sequence.
- The password must not be the same as the user name or its reverse.
- The password must not contain a space character.

Figure 2-71 Primary Database Configuration Info

5620 SAM Database Configurator

Primary Database Configuration Info

Enter the IP address of the network interface the primary database requires to communicate with the server(s). If NAT (network address translation) is to be used, specify both the primary database's private and public IP addresses.

☐ NAT (network address translation) Used

Public IP (accessible to servers) 192.168.200.133

Database Name samdb

Instance Name samdb1

User Name samuser

User Password *****

Confirm User Password *****

InstallAnywhere by Macrovision

Cancel Previous Next

- 33 Configure the following parameters shown in Figure 2-72, record the information for use later in the procedure, then click on the Next button.
- Database Listener Port (typically 1523)
 - Database Proxy Port (typically 9002)
 - Database File Server Port (typically 9003)

Figure 2-72 Primary Database Configuration Info (cont.)

5620 SAM Database Configurator

Primary Database Configuration Info (cont.)

Introduction
License Agreement
Installation Type
Installation In Progress
Installation Completed

Database Listener Port 1523

Database Proxy Port 9002

Database File Server Port 9003

InstallAnywhere by Macrovision

Cancel Previous Next

- 34 Configure the following parameters shown in Figure 2-73, then click on the Next button.

- SYS Password
- Confirm SYS Password

The password value that you specify must meet the following criteria:

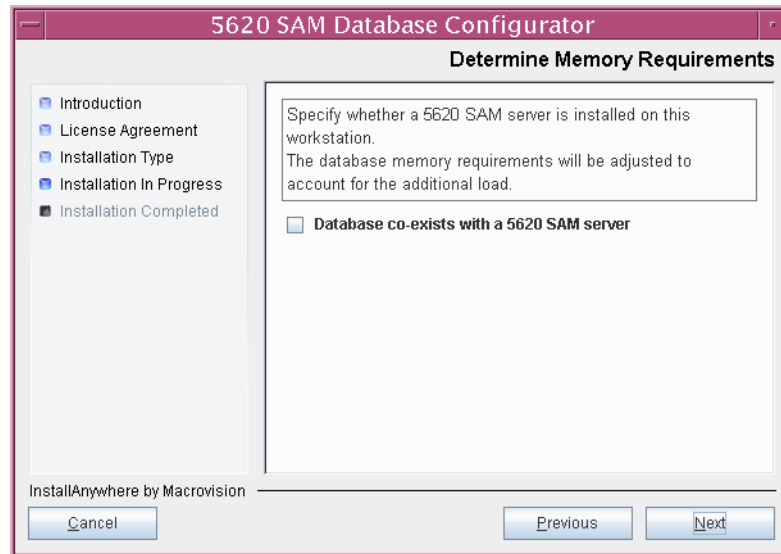
- The password must be between 4 and 30 characters long.
- The password must contain at least three of the following:
 - lower-case alphabetic character
 - upper-case alphabetic character
 - numeric character
 - special character, which is one of the following:
\$ _
- The password must not contain four or more of the same character type in sequence.
- The password must not be the same as the user name or its reverse.
- The password must not contain a space character.

Figure 2-73 Oracle SYS Password

The screenshot shows a window titled "5620 SAM Database Configurator" with a sub-header "Oracle SYS Password". On the left is a navigation pane with five items: "Introduction", "License Agreement", "Installation Type", "Installation In Progress", and "Installation Completed". The "Installation In Progress" item is selected. The main area contains a text box with the message: "IMPORTANT: the password needs to be known to the 5620 SAM administrator for future reference". Below this are two text input fields: "SYS Password" and "Confirm SYS Password", both containing masked characters (dots). At the bottom left, it says "InstallAnywhere by Macrovision" above a "Cancel" button. At the bottom right are "Previous" and "Next" buttons.

- 35 If the 5620 SAM server and database are to be installed on the same station, select the “Database co-exists with a 5620 SAM Server” parameter shown in Figure 2-74. Click on the Next button.

Figure 2-74 Determine Memory Requirements



- 36 Configure the following parameters shown in Figure 2-75, then click on the Next button.

If the “Enable SAM Server IP Validation” parameter is selected, only the servers at the specified IP addresses or hostnames can connect to the database.

- Enable SAM Server IP Validation
- Server One IP Address
- Server Two IP Address

Figure 2-75 Main Server IP Validation

The screenshot shows the '5620 SAM Database Configurator' window with the 'Main Server IP Validation' tab selected. On the left is a navigation pane with five items: 'Introduction', 'License Agreement', 'Installation Type', 'Installation In Progress', and 'Installation Completed'. The main area contains a text box explaining that if Network Address Translation is used, the user must enter the 5620 SAM Main Server(s) public address(es). Below this is a checkbox labeled 'Enable SAM Server IP Validation'. If checked, there are two text input fields: 'Server One IP Address' and 'Server Two IP Address'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 37 The panel in Figure 2-76 is displayed If the “Enable SAM Server IP Validation” parameter in step 36 is selected. Otherwise, go to step 39.

If the 5620 SAM system includes an auxiliary server, perform the following steps.

- i Click on the Add button shown in Figure 2-76. The form shown in Figure 2-77 opens.

Figure 2-76 Auxiliary Server IP Validation

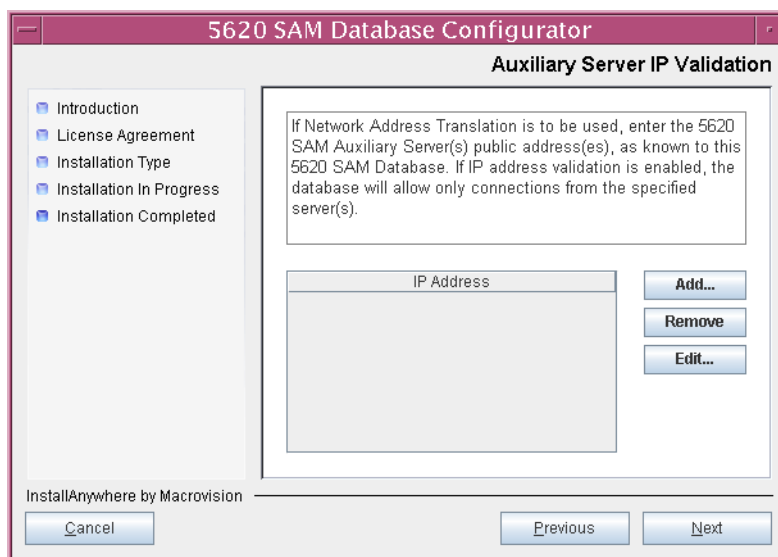
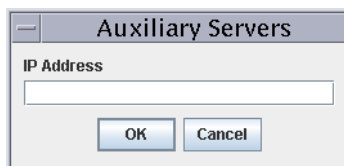


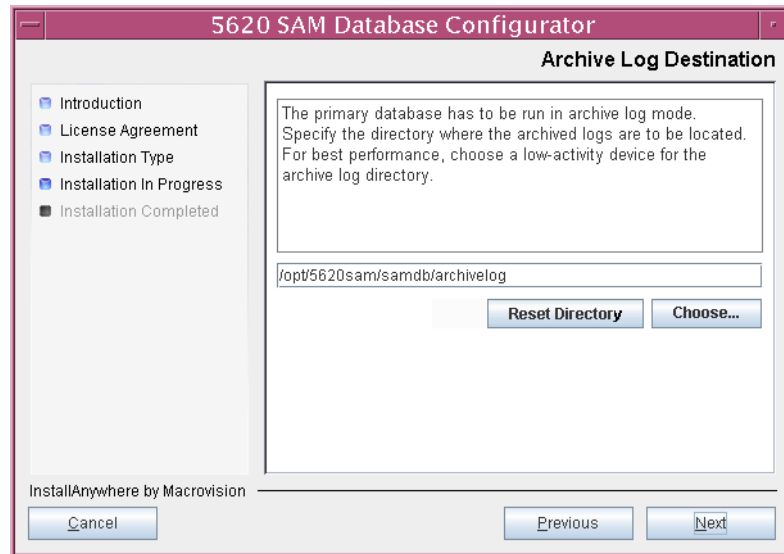
Figure 2-77 Auxiliary Servers



- ii Enter the IP address or hostname of the auxiliary server.
 - iii Click on the OK button to save the information and close the form.
 - iv Repeat steps 37 i to iii to specify an additional auxiliary server, if required.
- 38 Click on the Next button.

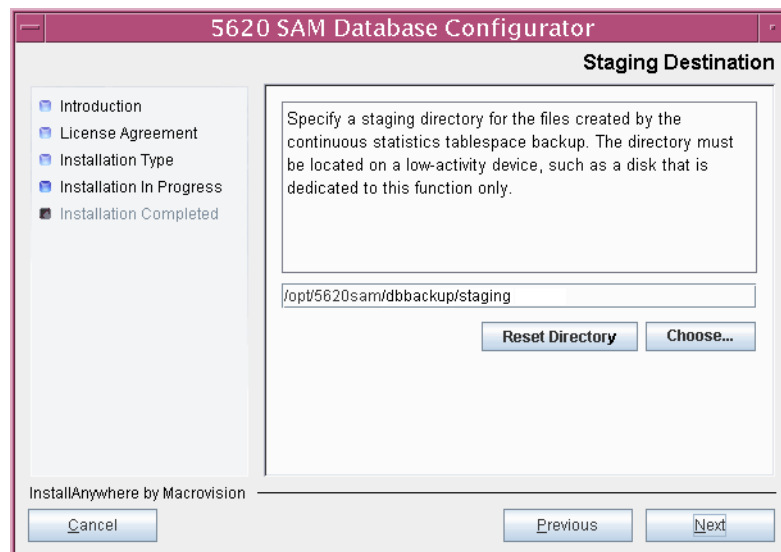
- 39 Specify an archive log destination (typically `/opt/5620sam/samdb/archivelog`) as shown in Figure 2-78. The archive log destination must be the same for the primary and standby databases. Click on the Next button.

Figure 2-78 Archive Log Destination



- 40 Specify a directory for the continuous statistics tablespace backup, as shown in Figure 2-79. Click on the Next button.

Figure 2-79 Staging Destination



- 41 Specify a directory for the Redo logs (typically /opt/5620sam/samdb/redolog), as shown in Figure 2-80. Click on the Next button.



Note — In a one-disk configuration, the redo log directory must be the same directory that you specify as the tablespace directory later in the procedure.

Figure 2-80 Choose the Redo Log Directory

The screenshot shows the '5620 SAM Database Configurator' window. On the left is a navigation pane with five items: 'Introduction', 'License Agreement', 'Installation Type', 'Installation In Progress' (which is selected), and 'Installation Completed'. The main area is titled 'Choose the Redo Log Directory'. It contains a text box with the instruction: 'Specify the directory where the online redo logs are to be located. For best performance, choose a device for the redo logs that is separate from the 5620 SAM database tablespaces.' Below this is a text input field containing the path '/opt/5620sam/samdb/redolog'. To the right of the input field are two buttons: 'Reset Directory' and 'Choose...'. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The footer text reads 'InstallAnywhere by Macrovision'.

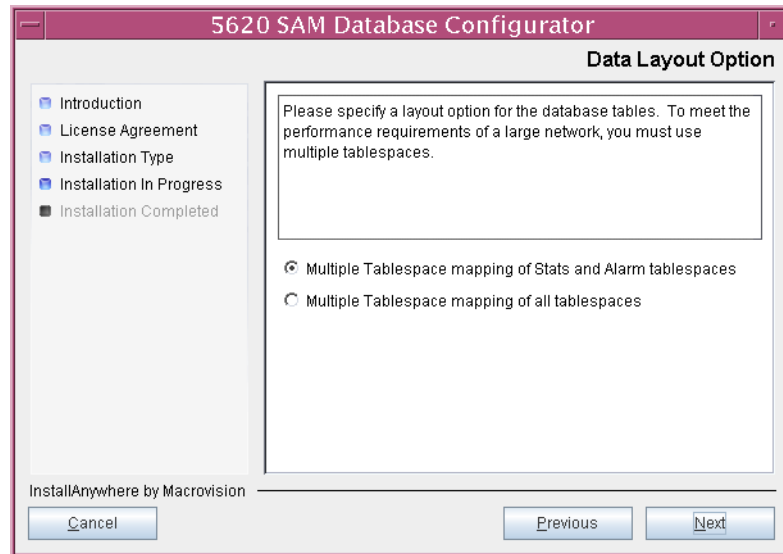
- 42 Configure the “Accounting Statistic Data Retention Period” parameter shown in Figure 2-81. Click on the Next button.

Figure 2-81 Accounting Statistics Database Retention Period

The screenshot shows the '5620 SAM Database Configurator' window. The navigation pane on the left is the same as in Figure 2-80. The main area is titled 'Accounting Statistics Database Retention Period'. It contains a text box with the instruction: 'Enter the accounting statistics retention period (in days). The retention period is the maximum number of days that records are kept in the database. Using a longer retention period will require more disk space.' Below this is a text input field labeled 'Accounting Statistic Data Retention Period' with the value '1' entered. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The footer text reads 'InstallAnywhere by Macrovision'.

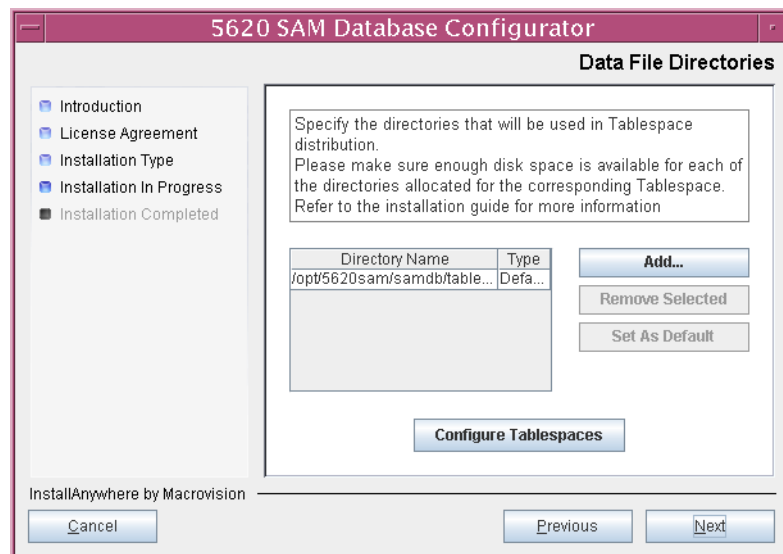
- 43 Choose one of the data layout options shown in Figure 2-82. Click on the Next button. Contact Alcatel-Lucent technical support for information about data layout options.

Figure 2-82 Data Layout Option



- 44 Choose the tablespace directories.

Figure 2-83 Data File Directories



- i Click on the Add button shown in Figure 2-83. A file browser form opens.
- ii Use the file browser form to choose a tablespace directory.
- iii Repeat steps 44 i and ii to specify an additional tablespace directory, if required.

- 45 Associate tablespaces with the directories specified in step 44.

Figure 2-84 Configure Tablespaces

- i Click on the Configure Tablespaces button. The tablespace configuration form shown in Figure 2-84 opens.



Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

- ii Follow the instructions at the top of the form to associate tablespaces with the directories, as required.
- iii Click on the OK button. The tablespace configuration form closes and the “Data File Directories” panel in Figure 2-83 reappears.

- 46 Click on the Next button.

- 47 Specify a directory for the accounting statistics tablespace files, as shown in Figure 2-85. Click on the Next button.

Figure 2-85 Accounting Statistics Data File Directory

The screenshot shows the '5620 SAM Database Configurator' window with the 'Accounting Statistics Data File Directory' tab selected. On the left, a navigation pane lists: Introduction, License Agreement, Installation Type, Installation In Progress, and Installation Completed. The main area contains instructions: 'Specify a directory for the accounting statistics tablespace files. For the best performance, locate the directory on a low-activity device, such as one that is dedicated to the accounting statistics tablespaces only.' Below this is a text input field containing '/opt/5620sam/samdb/tablespace/statstbs01'. To the right of the field are 'Reset Directory' and 'Choose...' buttons. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

- 48 Configure the following parameters shown in Figure 2-86, record the information for use later in the procedure, then click on the Next button:

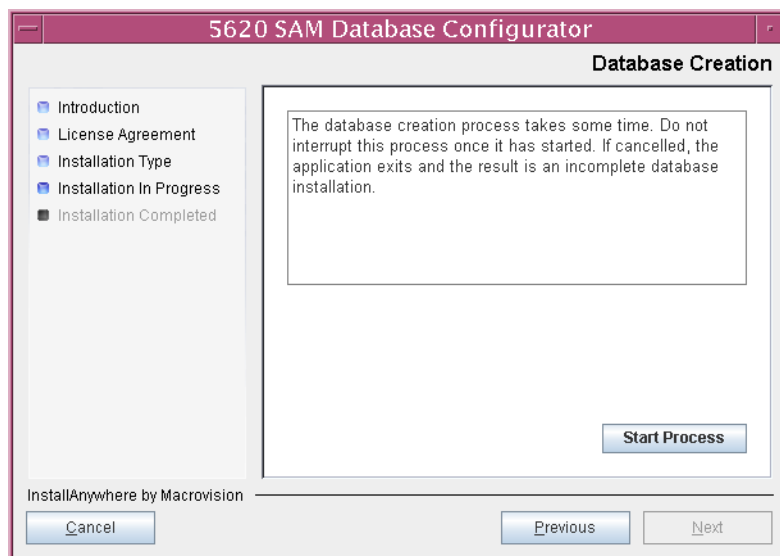
- Standby IP Address
- Standby Instance Name (typically samdb2)
- Standby Oracle Home (typically /opt/5620sam/oracle11r2)
- Standby Archive Log Destination (typically /opt/5620sam/samdb/archivelog)

Figure 2-86 Standby Database Info

The screenshot shows the '5620 SAM Database Configurator' window with the 'Standby Database Info' tab selected. The left navigation pane is the same as in Figure 2-85. The main area contains instructions: 'If NAT (network address translation) is to be used, enter the standby 5620 SAM database's public IP address, as known to the 5620 SAM server.' Below this are four labeled input fields: 'Standby IP Address' (empty), 'Standby Instance Name' (containing 'samdb2'), 'Standby Oracle Home' (containing '/opt/5620sam/oracle11r2'), and 'Standby Archive Log Destination' (containing '/opt/5620sam/samdb/archivelog'). At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

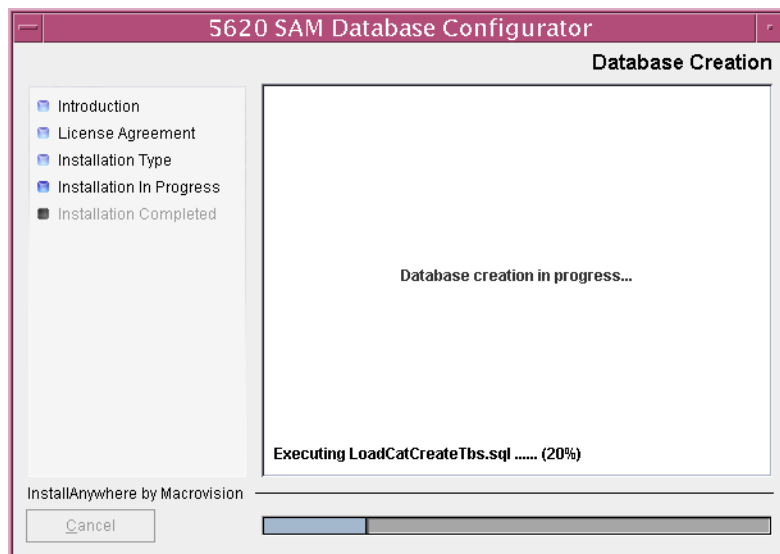
- 49 You are prompted to begin primary database creation, as shown in Figure 2-87. Database creation can take one hour or more, depending on the tablespace configuration. Click on the Start Process button to begin the database creation.

Figure 2-87 Database Creation



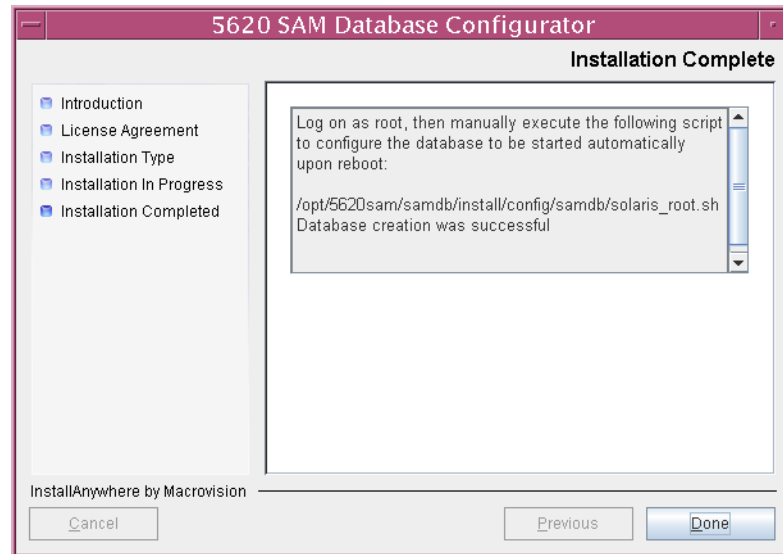
The next panel displays database creation progress, as shown in Figure 2-88.

Figure 2-88 Database Creation



- 50 When the panel in Figure 2-89 is displayed, the 5620 SAM database installation is complete, but as shown in the panel text, you must run a script to enable automatic database startup.

Figure 2-89 Installation Complete



Perform the following steps to run the script described in the panel.

- i Open a separate console window as the root user.
- ii Enter the following:

```
# path/solaris_root.sh
```

where *path* is the `solaris_root.sh` script location, typically
`/opt/5620sam/samdb/install/config/samdb`

The script returns messages similar to the following:

```
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
```

- iii When the script execution is complete, close the console window.

- 51 Click on the Done button to close the database installer.

The next section of the procedure describes the installation of the standby 5620 SAM database. The standby database must be installed on a station other than the one on which the primary database is installed. Database installation requires root user privileges.

Run Oracle pre-installation script for standby database

- 52 Before you perform a 5620 SAM database installation, you must run the OracleSw_PreInstall.sh script. This script creates and configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Log in to the station that is to be the standby database station as the root user.

- 53 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 54 Open a console window.
- 55 Navigate to the DVD-ROM drive.
- 56 Perform one of the following to change to the appropriate directory.

- a On a SPARC station, enter the following:

```
# cd Solaris ↵
```

- b On an x86-based station, enter the following:

```
# cd Solarisx86 ↵
```

- 57 Enter the following:

```
# ./OracleSw_PreInstall.sh ↵
```

The following prompt is displayed:

```
Please select between the following option:
```

```
1) NEW INSTALL OF 5620 SAM
```

```
2) UPGRADE OF 5620 SAM
```

- 58 Enter 1 ↵. The script generates INFO messages as it validates the OS requirements, and then prompts you for Oracle management user information.



Note 1 — To reduce the complexity of subsequent software upgrades and technical support activities, Alcatel-Lucent recommends that you press ↵ to accept the default for each parameter that has a default.

Note 2 — If you specify a value other than the default, you must record the value for use when the OracleSw_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

59 Provide the following information when you are prompted; the console may display status messages between prompts:

- user group name (default is dba)
- user name (default is oracle)
- user home directory (default is /opt/5620sam/oracle11r2)
- user password, if one of the following is true:
 - there is no password
 - there is a password, but you specify that you want to change it



Note — If the script generates a “failed to create group” message, ensure that NIS is disabled and re-run the pre-installation script. Contact Alcatel-Lucent technical support for more information.

The script updates the system configuration and exits.

60 When the script execution is complete, enter the following to reboot the standby database station:

```
# shutdown -y -i6 -g0 ↵
```

The standby database station reboots.

Before standby database installation can occur, the Oracle management user and group created by the pre-installation script require ownership of the directory that is to hold the database. The next section of the procedure describes how to configure the directory ownership.

Set directory ownership for database installation

61 After the standby database station reboots, log in to the standby database station as the root user.

62 Open a console window.

63 Enter the following to change the current directory to /opt:

```
# cd /opt ↵
```

64 Enter the following to specify the required user and group ownership of the 5620sam directory and subdirectories:

```
# chown -R user:group 5620sam ↵
```

where

user is the username from step 59, typically oracle

group_name is the group name from step 59, typically dba

65 Enter the following to change to the 5620sam directory below the /opt directory:

```
# cd 5620sam ↵
```

- 66** Enter the following to confirm that the Oracle management user home directory has the correct user and group ownerships:

```
# ls -l ↵
```

If the command output is not as shown below, repeat steps 63 to 66. Do not proceed unless the output is as shown.

```
drwx----- 2 user      group          512 Apr 11 11:15 directory
```

where

user is the username specified in step 59, typically oracle

group is the group name specified in step 59, typically dba

directory is the Oracle management user home directory name specified in step 59, typically /opt/5620sam/oracle11r2

Install standby database

- 67** Log in to the station that is to be the standby database station as the root user.

- 68** Open a console window.

- 69** Enter the following to switch to the Oracle management user created by the pre-installation script:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

- 70** Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.

- 71** Navigate to the DVD-ROM drive.

72 Perform one of the following to open the 5620 SAM database installer.

a On a SPARC station:

i Enter the following:

```
bash$ cd Solaris ↵
```

ii Enter the following:

```
bash$ ./DBConfig_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
bash$ cd Solarisx86 ↵
```

ii Enter the following:

```
bash$ ./DBConfig_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

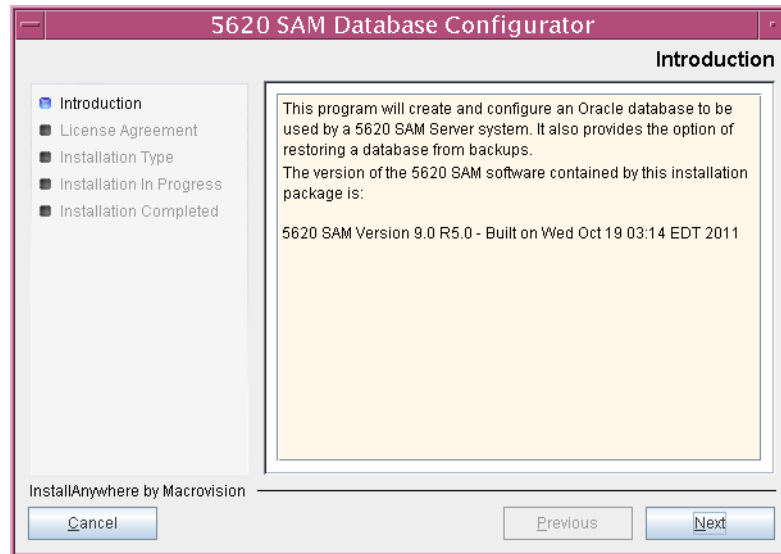
The splash screen shown in Figure 2-90 opens.

Figure 2-90 5620 SAM installer



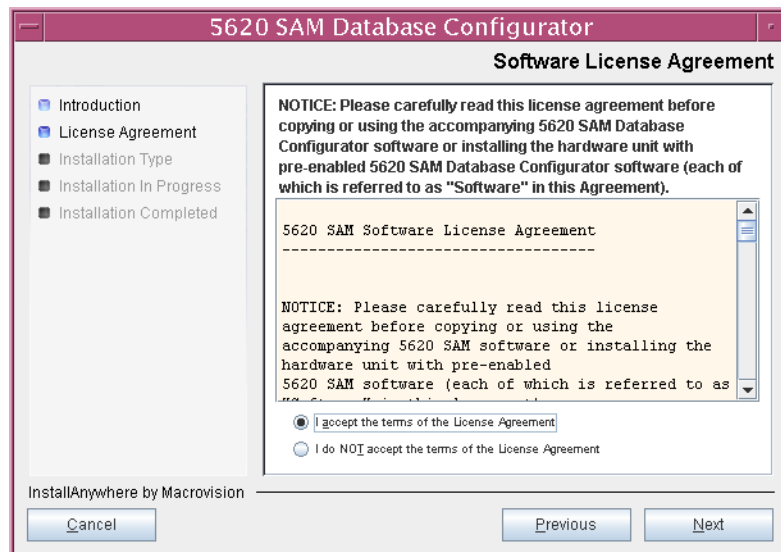
- 73 The 5620 SAM database installer opens, as shown in Figure 2-91. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-91 Introduction



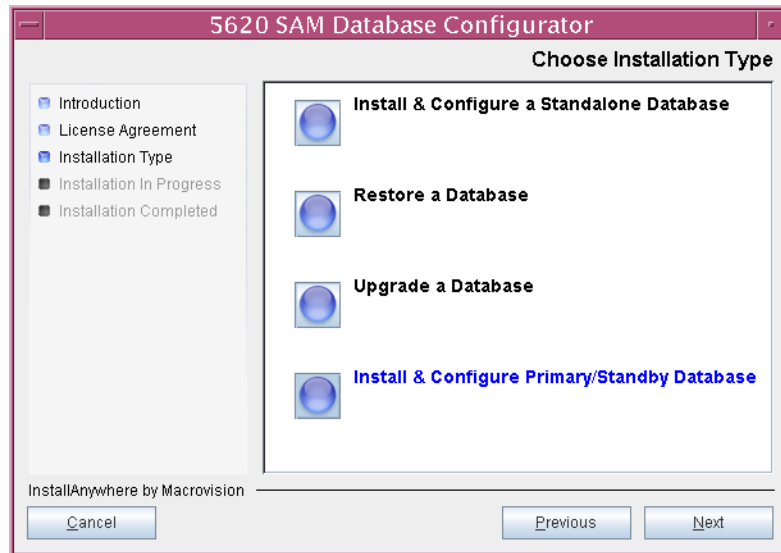
- 74 Review and accept the terms of the license agreement shown in Figure 2-92. Click on the Next button.

Figure 2-92 Software License Agreement



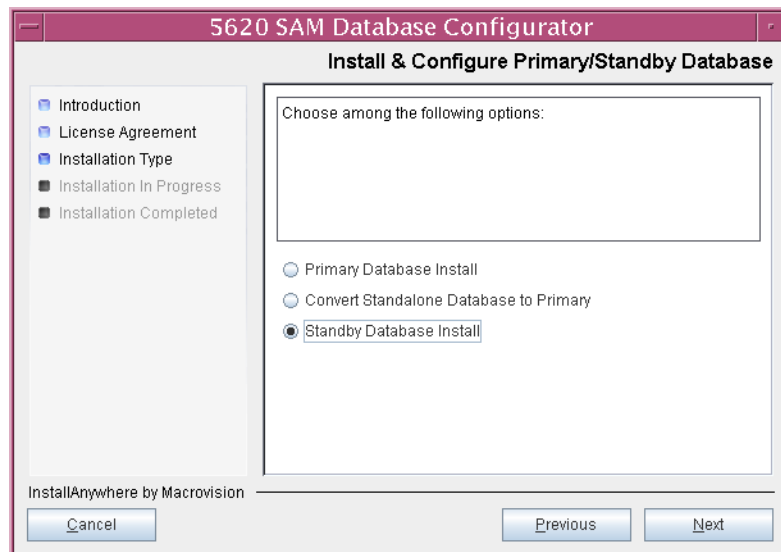
- 75 Select Install & Configure Primary/Standby Database, as shown in Figure 2-93. Click on the Next button.

Figure 2-93 Choose Installation Type



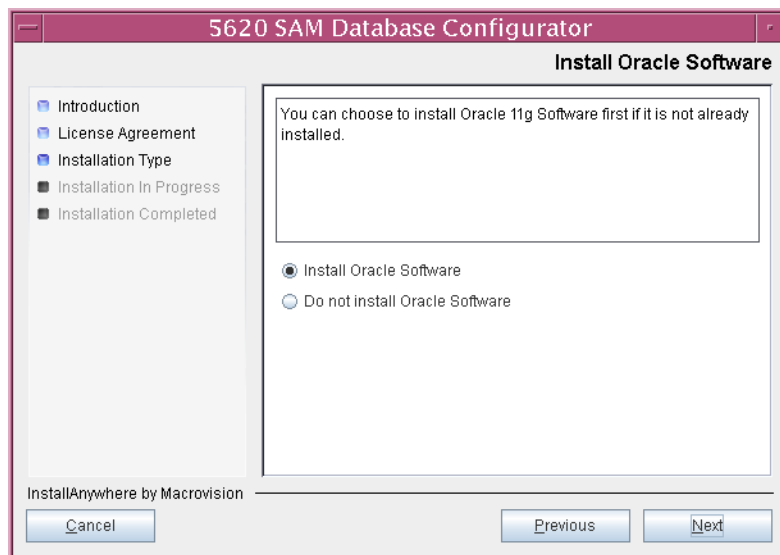
- 76 Select Standby Database Install, as shown in Figure 2-94. Click on the Next button.

Figure 2-94 Install & Configure Primary/Standby Database



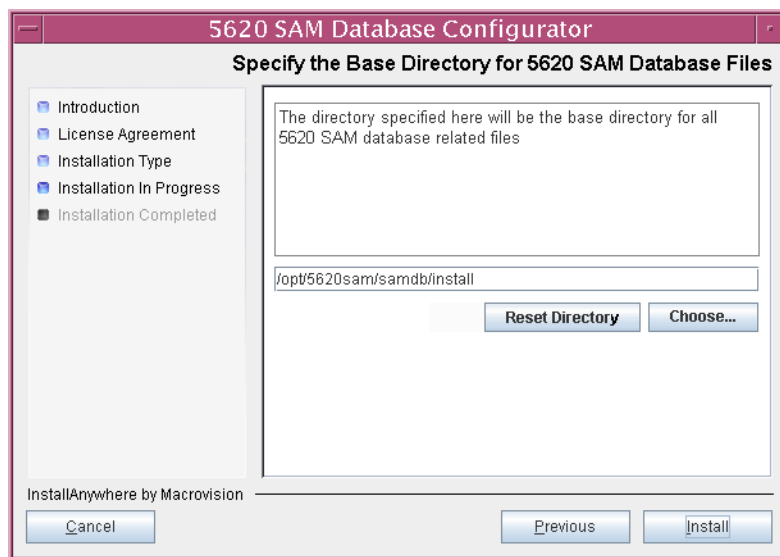
- 77 Select Install Oracle Software, as shown in Figure 2-95. Click on the Next button.

Figure 2-95 Install Oracle Software



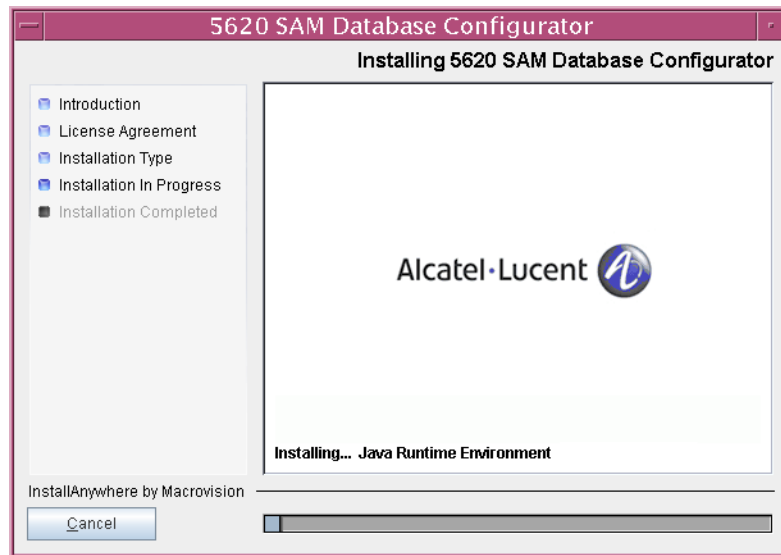
- 78 Specify a base directory in which to install the standby 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 2-96. Click on the Install button to begin the database software installation.

Figure 2-96 Specify the Base Directory for 5620 SAM Database Files



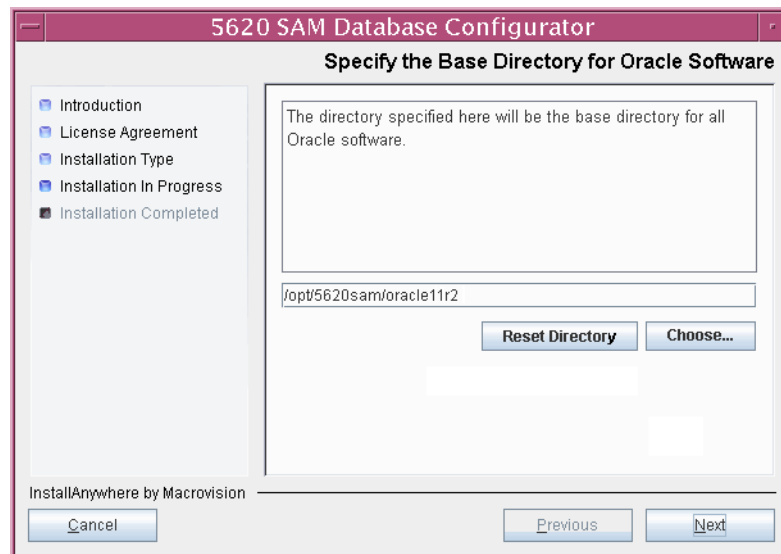
The installer prepares to install the database, as shown in Figure 2-97.

Figure 2-97 Installing 5620 SAM Database Configurator



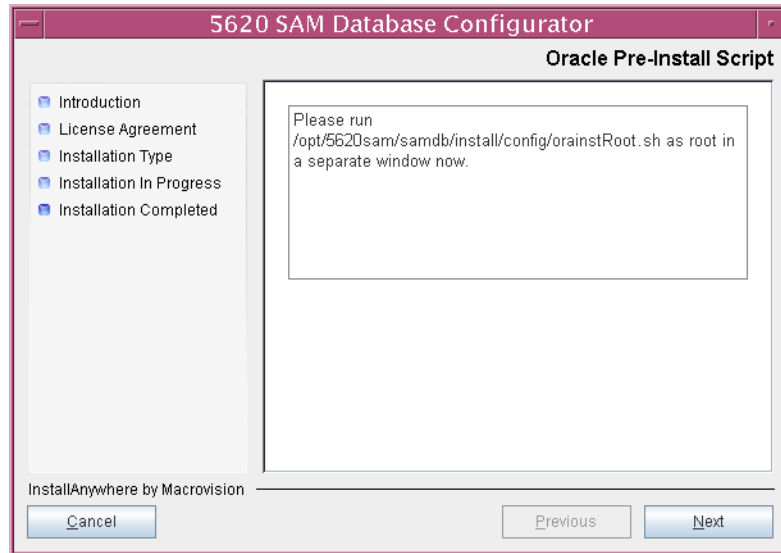
- 79 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle11r2), as shown in Figure 2-98. Click on the Next button.

Figure 2-98 Specify the Base Directory for Oracle Software



- 80 Perform the following steps when the panel in Figure 2-99 is displayed.

Figure 2-99 Oracle Pre-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle pre-install script:

```
# su -
```

```
# path/install/config/orainstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script generates messages like the following:

```
Creating the Oracle inventory pointer file
(/var/opt/oracle/oraInst.loc)
```

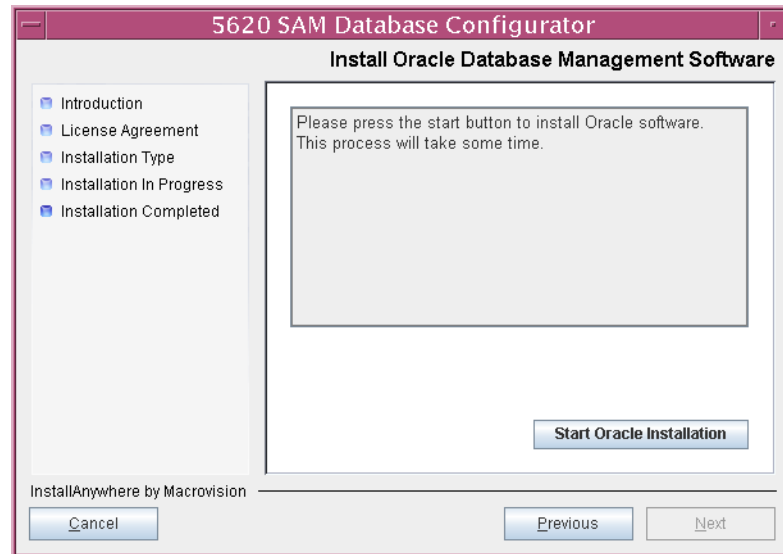
```
Creating the Oracle inventory directory
(/opt/5620sam/oracle11r2/oraInventory)
```

```
Changing groupname of /opt/5620sam/oracle11r2/oraInventory to
(dba).
```

- iv When the script execution is complete, close the console window.
- v Click on the Next button.

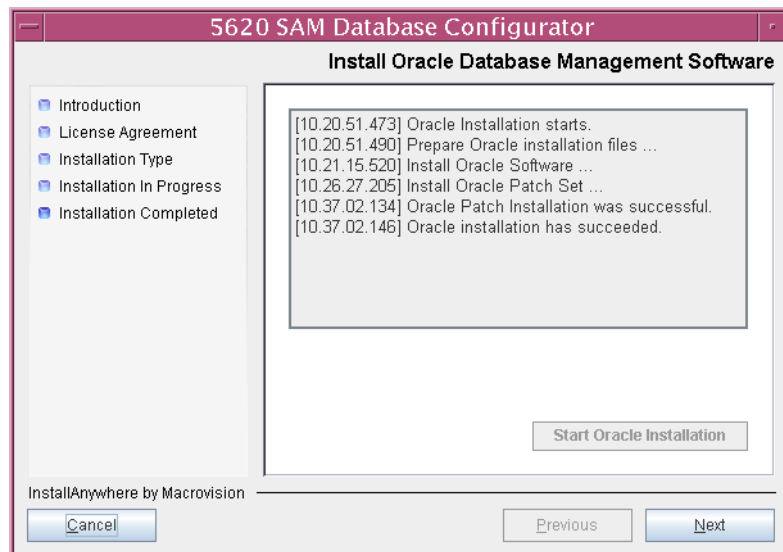
- 81 You are prompted to install Oracle software, as shown in Figure 2-100. This operation can take one hour or more. Click on the Start Oracle Installation button to begin the Oracle software installation.

Figure 2-100 Install Oracle Database Management Software



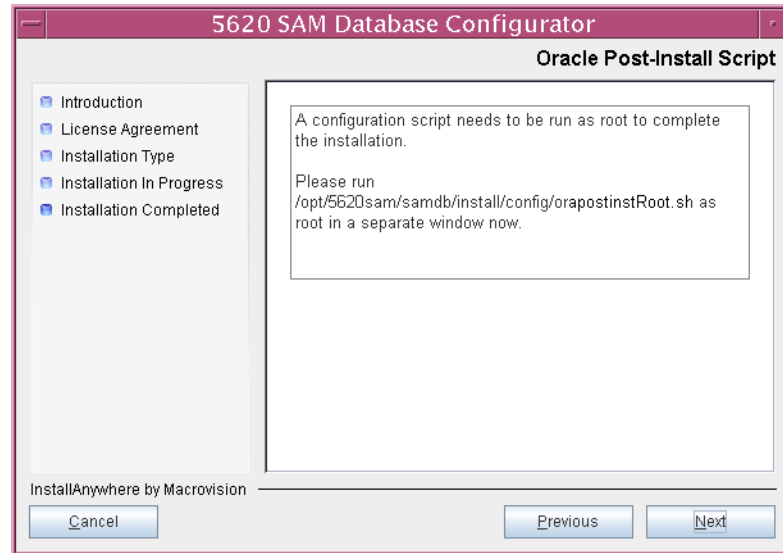
- 82 Oracle installation details are displayed as the installation progresses, as shown in Figure 2-101. When installation is complete, click on the Next button.

Figure 2-101 Install Oracle Database Management Software



- 83 Perform the following steps when the panel in Figure 2-102 is displayed.

Figure 2-102 Oracle Post-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle post-install script:

```
# su -
```

```
# path/install/config/orapostinstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script displays the following message:

```
Check path/username_hostname_timestamp.log for output
```

where

path is the directory that contains the script log file, typically
/opt/5620sam/oracle11r2/install

username is the Solaris account name of the current user, for example, root

hostname is the hostname of this station

timestamp is the script execution start time

- iv If the script generates a message that contains the word “error”, view the script log file named in the message for more information, and contact Alcatel-Lucent technical support for assistance, if required.
- v When the script execution is complete, close the console window.
- vi Click on the Next button.

84 Configure the parameters shown in Figure 2-103, then click on the Next button.

- NAT (network address translation) Used
- Public IP (accessible to servers)
- Private IP
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)



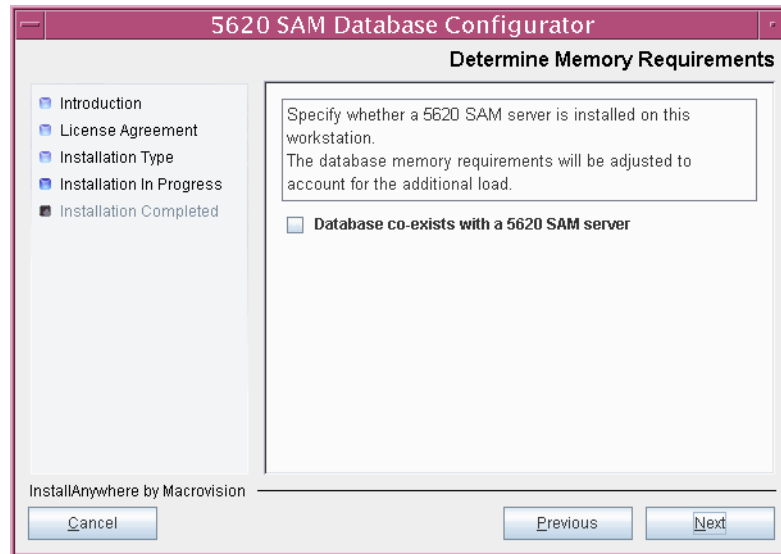
Note — The “Private IP” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-103 Standby Database Configuration Info

The screenshot shows the '5620 SAM Database Configurator' window. On the left is a navigation pane with the following items: Introduction, License Agreement, Installation Type, Installation In Progress (highlighted), and Installation Completed. The main area is titled 'Standby Database Configuration Info'. It contains a text box with instructions: 'Enter the IP address of the network interface the standby database requires to communicate with the server(s). If NAT (network address translation) is to be used, specify the standby database's private IP address.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox are three input fields: 'Public IP (accessible to servers)' with a dropdown menu showing '192.168.200.122', 'Database Proxy Port' with the value '9002', and 'Database File Server Port' with the value '9003'. At the bottom of the window, there is a status bar that says 'InstallAnywhere by Macrovision' and three buttons: 'Cancel', 'Previous', and 'Next'.

- 85 If the 5620 SAM server and database are to be installed on the same station, select the “Database co-exists with a 5620 SAM Server” parameter shown in Figure 2-104. Click on the Next button.

Figure 2-104 Determine Memory Requirements



- 86 Configure the following parameters shown in Figure 2-105, then click on the Next button.

If the “Enable SAM Server IP Validation” parameter is selected, only the servers at the specified IP addresses or hostnames can connect to the database.

- Enable SAM Server IP Validation
- Server One IP Address
This is the “Server One IP Address” value from step 36.
- Server Two IP Address
This is the “Server Two IP Address” value from step 36.

Figure 2-105 Main Server IP Validation

The screenshot shows the '5620 SAM Database Configurator' window with the 'Main Server IP Validation' tab selected. On the left is a navigation pane with five items: 'Introduction', 'License Agreement', 'Installation Type', 'Installation In Progress' (which is highlighted with a blue icon), and 'Installation Completed' (which has a black icon). The main area contains a text box with instructions: 'If Network Address Translation is to be used, enter the 5620 SAM Main Server(s) public address(es), as known to this 5620 SAM Database. If IP address validation is enabled, the database will allow only connections from the specified server(s)'. Below this is a checkbox labeled 'Enable SAM Server IP Validation'. Underneath the checkbox are two text input fields: 'Server One IP Address' and 'Server Two IP Address'. At the bottom of the window, there is a status bar that says 'InstallAnywhere by Macrovision' and three buttons: 'Cancel', 'Previous', and 'Next'.

- 87 The panel in Figure 2-106 is displayed If the “Enable SAM Server IP Validation” parameter in step 86 is selected. Otherwise, go to step 89.

If the 5620 SAM system includes an auxiliary server, perform the following steps.

- i Click on the Add button shown in Figure 2-106. The form shown in Figure 2-107 opens.

Figure 2-106 Auxiliary Server IP Validation

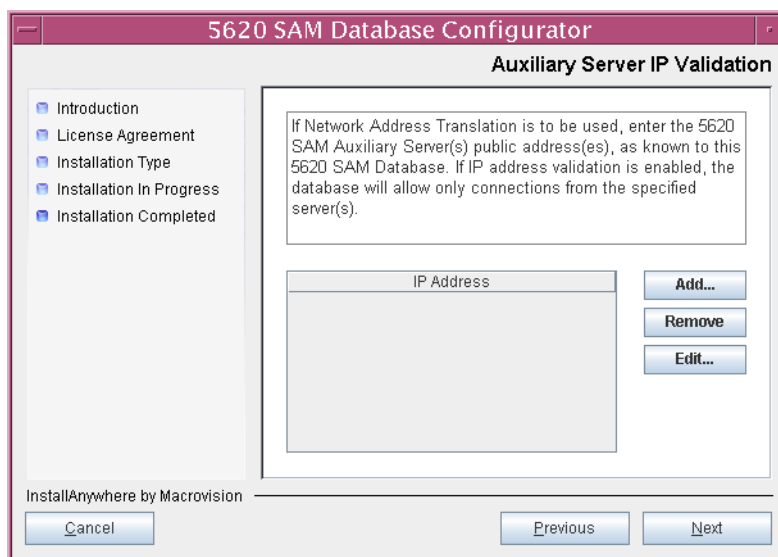
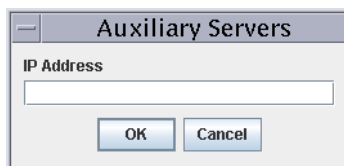


Figure 2-107 Auxiliary Servers



- ii Enter the IP address or hostname of the auxiliary server.
 - iii Click on the OK button to save the information and close the form.
 - iv Repeat steps 87 i to iii to specify an additional auxiliary server, if required.
- 88 Click on the Next button.

89 Configure the following parameters, shown in Figure 2-108, using the recorded values from the primary database installation. Click on the Next button.

- Primary IP Address
- Primary Instance Name (typically samdb1)
- Primary SYS Password
- Primary Database Listener Port (typically 1523)
- Primary Database Proxy Port (typically 9002)

Figure 2-108 Primary Database Info

The screenshot shows the '5620 SAM Database Configurator' window with the 'Primary Database Info' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Installation Type, Installation In Progress, and Installation Completed. The main area contains a text box with instructions: 'Enter the IP address of the network interface the primary database requires to communicate with the server(s). If NAT (network address translation) is to be used, specify the primary database's public IP address.' Below this are five input fields: 'Primary IP Address' (empty), 'Primary Instance Name' (filled with 'samdb1'), 'Primary SYS Password' (filled with '*****'), 'Primary Database Listener Port' (filled with '1523'), and 'Primary Database Proxy Port' (filled with '9002'). At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

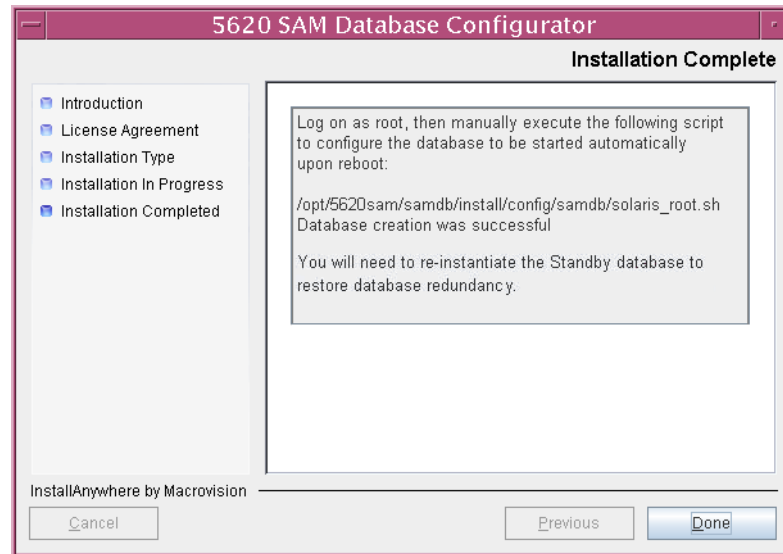
90 You are prompted to begin standby database creation, as shown in Figure 2-109. Click on the Start Process button to begin.

Figure 2-109 Standby Database Configuration

The screenshot shows the '5620 SAM Database Configurator' window with the 'Standby Database Configuration' tab selected. The left sidebar is the same as in Figure 2-108. The main area contains a text box with instructions: 'The database config process is short. Once the configuration files are in place, you can create the standby database later using Standby Re-instantiation.' At the bottom right of the main area is a 'Start Process' button. At the bottom of the window are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

- 91 When the panel in Figure 2-110 is displayed, the 5620 SAM database installation is complete, but as shown in the panel text, you must run a script to enable automatic database startup.

Figure 2-110 Installation Complete



Perform the following steps to run the script described in the panel.

- i Open a separate console window as the root user.
- ii Enter the following:

```
# path/solaris_root.sh
```

where *path* is the `solaris_root.sh` script location, typically
`/opt/5620sam/samdb/install/config/samdb`

The script returns messages similar to the following:

```
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
```

- iii When the script execution is complete, close the console window.

- 92 Click on the Done button to close the database installer.

The next section of the procedure describes the installation of the primary 5620 SAM server. You can install the primary server on the same station as the primary database or on another station. Server installation requires root user privileges.

Install primary server

93 Log in to the station that is to be the primary server station as the root user.

94 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.

95 Open a console window.

96 Navigate to the DVD-ROM drive.

97 Perform one of the following to open the 5620 SAM server installer.

a On a SPARC station:

i Enter the following:

```
# cd Solaris ↵
```

ii Enter the following:

```
# ./ServerInstall_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
# cd Solarisx86 ↵
```

ii Enter the following:

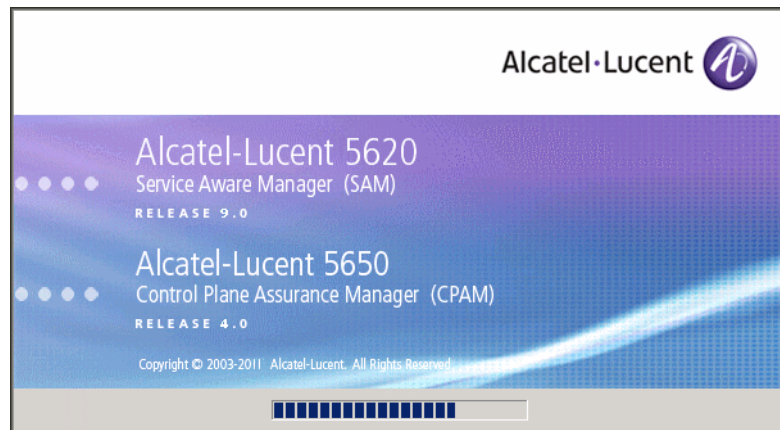
```
# ./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

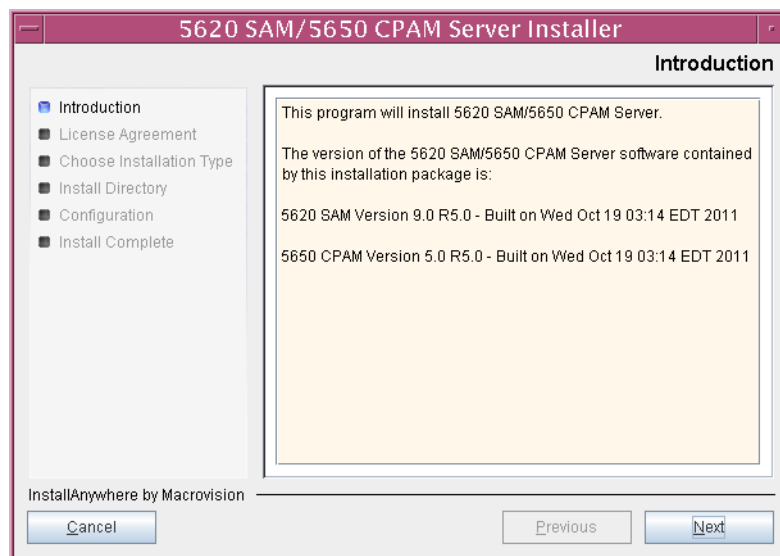
The splash screen shown in Figure 2-111 opens.

Figure 2-111 5620 SAM installer



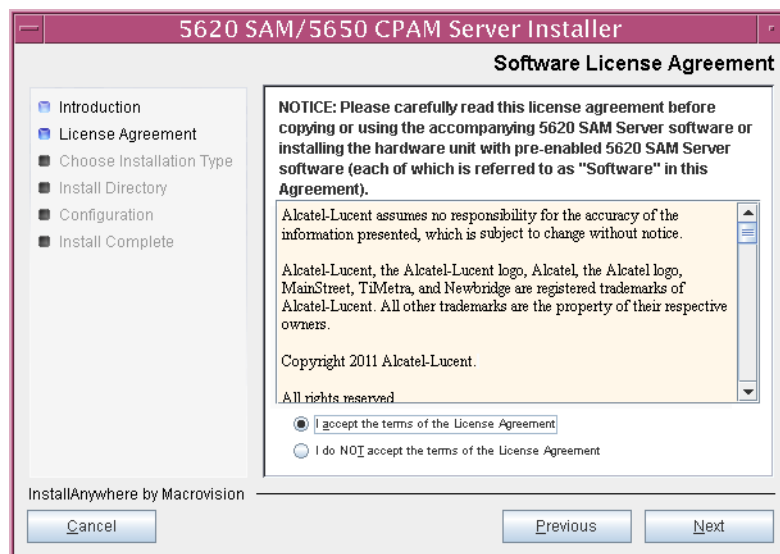
- 98 The 5620 SAM server installer opens, as shown in Figure 2-112. The left pane indicates the installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-112 Introduction



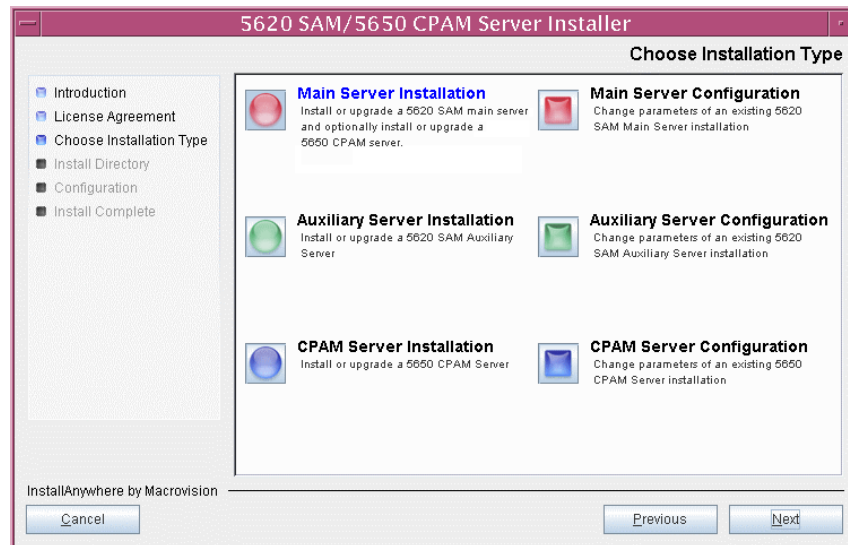
- 99 Review and accept the terms of the license agreement shown in Figure 2-113. Click on the Next button.

Figure 2-113 Software License Agreement



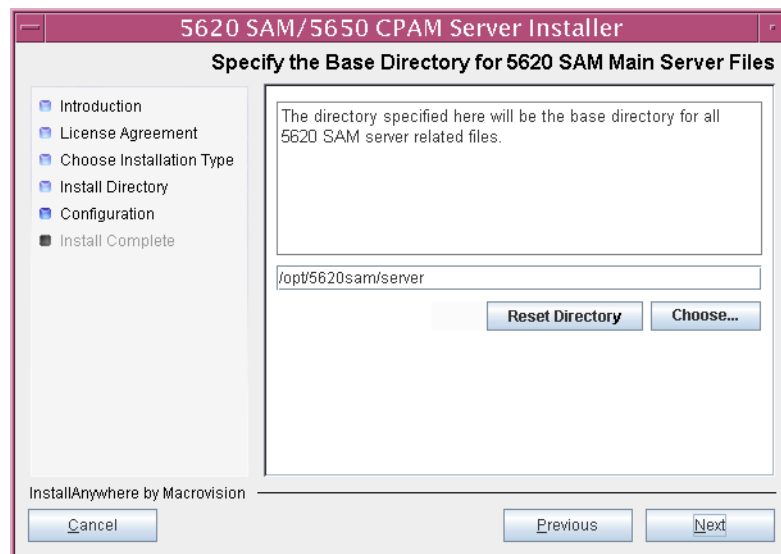
100 Select Main Server Installation, as shown in Figure 2-114. Click on the Next button.

Figure 2-114 Choose Installation Type



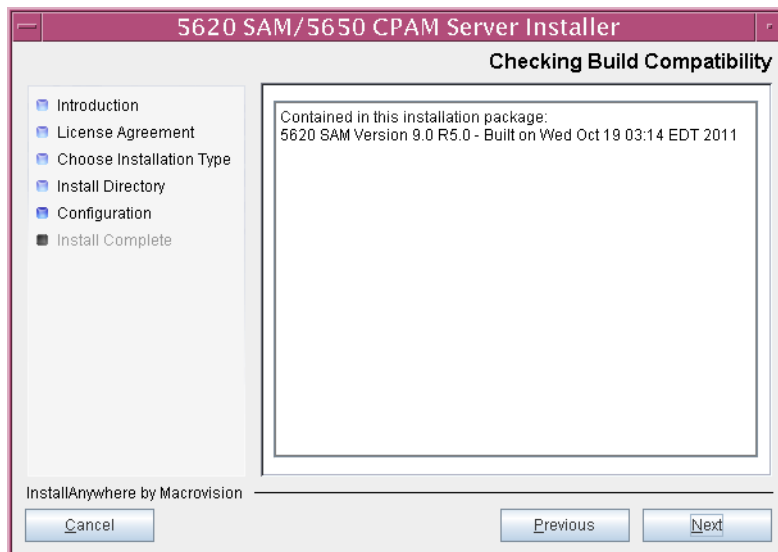
101 Specify a base directory in which to install the primary 5620 SAM main server software (typically /opt/5620sam/server), as shown in Figure 2-115. Click on the Next button.

Figure 2-115 Specify the Base Directory for 5620 SAM Main Server Files



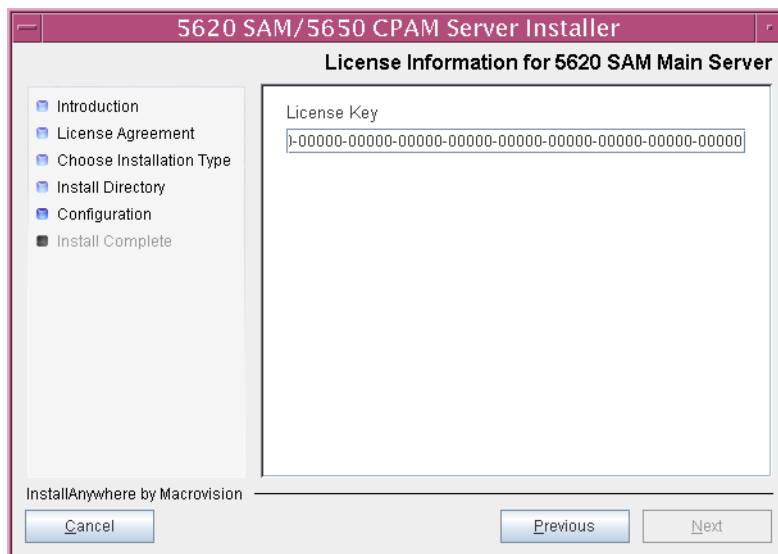
- 102 As shown in Figure 2-116, the installer indicates which release of 5620 SAM software is to be installed. Verify the information. Click on the Next button.

Figure 2-116 Checking Build Compatibility



- 103 Enter the license key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 2-117. Click on the Next button.

Figure 2-117 License information for 5620 SAM Main Server



104 Configure the following parameters shown in Figure 2-118, then click on the Next button.

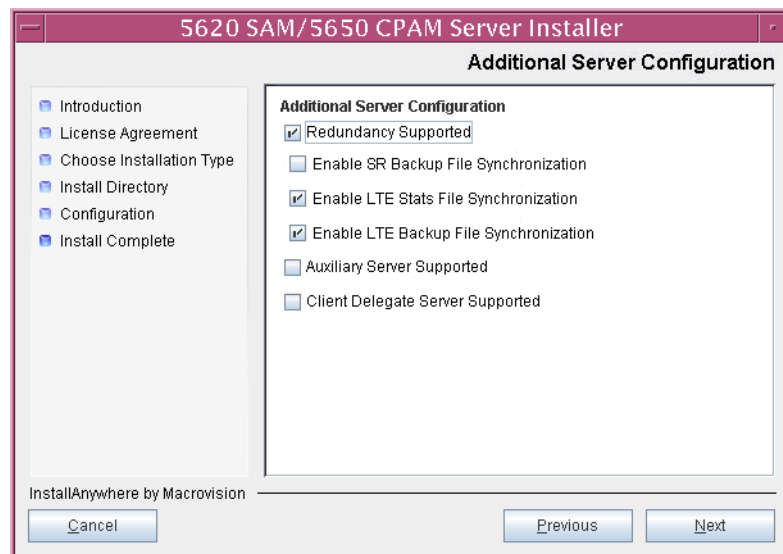
- Redundancy Supported
- Enable SR Backup File Synchronization
- Enable LTE Stats File Synchronization
- Enable LTE Backup File Synchronization
- Auxiliary Server Supported
- Client Delegate Server Supported



Note 1 — You must select the “Redundancy Supported” parameter.

Note 2 — The “Enable SR Backup File Synchronization”, “Enable LTE Stats File Synchronization”, and “Enable LTE Backup File Synchronization” parameters are displayed only when the “Redundancy Supported” parameter is enabled.

Figure 2-118 Additional Server Configuration



105 Configure the following parameters, shown in Figure 2-119, using the recorded values from the primary database installation. Click on the Next button.

- Primary Database Server IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

Figure 2-119 Primary Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Primary Database Configuration' tab selected. On the left is a navigation pane with links: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The main area contains a text box with NAT instructions, followed by input fields for: Primary Database Server IP Address, Primary Database Server Port (1523), Primary Database Instance Name (samdb1), Database User Name (samuser), Database User Password (masked with asterisks), and Primary Database Proxy Port (9002). At the bottom are 'Cancel', 'Previous', and 'Next' buttons, and the text 'InstallAnywhere by Macrovision'.

106 Configure the following database backup parameters shown in Figure 2-120, then click on the Next button:

- Online Backup Interval (Hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number Of Backup Sets (typically 3)



Note — The “Online Backup Destination” value is a path on the file system of the database station specified in step 105.

Figure 2-120 Online Database Backup

5620 SAM/5650 CPAM Server Installer

Online Database Backup

Introduction
License Agreement
Choose Installation Type
Install Directory
Configuration
Install Complete

The database backup directory resides on the database workstation.
Please ensure that the specified directory exists on the database workstation and it is writable.

Online Backup Interval (Hours) 24

Online Backup Destination /opt/5620sam/dbbackup

Number Of Backup Sets 3

Cancel Previous Next

InstallAnywhere by Macrovision

107 Configure the following parameters shown in Figure 2-121 using the recorded values from the standby database installation, then click on the Next button:

- Database Server IP Address
- Database Instance Name (typically samdb2)
- Database Proxy Port (typically 9002)
- Enable Database Backup File Synchronization

Figure 2-121 Standby Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Standby Database Configuration' tab selected. On the left, a navigation pane lists the installation steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions about NAT, followed by input fields for 'Database Server IP Address' (highlighted in yellow), 'Database Instance Name' (containing 'samdb2'), and 'Database Proxy Port' (containing '9002'). There is an unchecked checkbox for 'Enable Database Backup File Synchronization'. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

- 108 The panel in Figure 2-122 is displayed if you select the “Auxiliary Server Supported” parameter in step 104. Otherwise, go to step 110.

Perform the following steps to specify an auxiliary server, if required.

- i Configure the following parameters shown in Figure 2-122:
 - NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main and auxiliary servers.
 - Private IP (accessible only by this server)
 - Public IP (accessible to auxiliary)
 - Server Port (typically 12800)
 - Enable Stats Collection on Auxiliary Servers
 - Enable Call Trace Collection on Auxiliary Servers



Note 1 — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

Note 2 — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-122 Main Server Configuration for Auxiliary Servers

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Auxiliary Servers' panel active. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main panel contains the following configuration options:

- A text box with the instruction: "Enter the the network interface information that this 5620 SAM main server requires to communicate with the 5620 SAM auxiliary servers. At least one service type checkbox must be selected."
 - ☒ NAT (network address translation) Used
 - Private IP (accessible only by this server): 192.168.200.111
 - Public IP (accessible to auxiliary): (empty yellow box)
 - Server Port: 12800
 - ☐ Enable Stats Collection on Auxiliary Servers
 - ☒ Enable Call Trace Collection on Auxiliary Servers

At the bottom, there is a footer with 'InstallAnywhere by Macrovision' and three buttons: 'Cancel', 'Previous', and 'Next'.

- ii Click on the Next button.

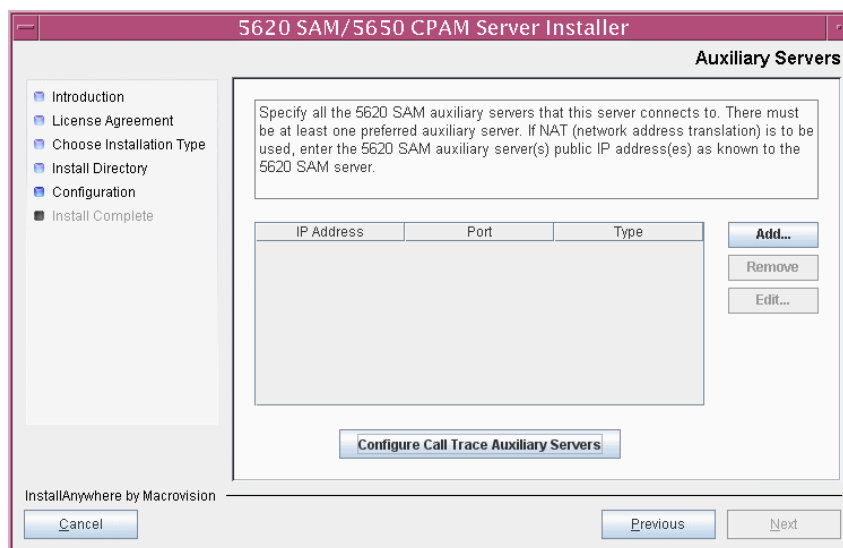
- iii Click on the Add button shown in Figure 2-123. The form shown in Figure 2-124 opens.



Note 1 — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

Note 2 — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

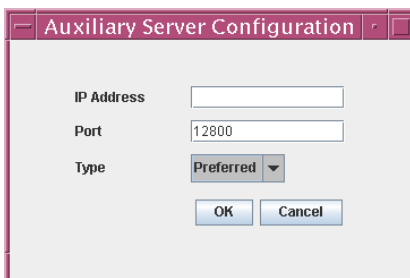
Figure 2-123 Auxiliary Servers



Note 1 — The Preferred auxiliary server of the primary main server must be the Reserved auxiliary server of the standby main server. Conversely, the Reserved auxiliary server of the primary main server must be the Preferred auxiliary server of the standby main server.

Note 2 — To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

Figure 2-124 Auxiliary Server Configuration



- iv Configure the following parameters shown in Figure 2-124:
 - IP Address
 - Port (typically 12800)
 - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 108 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 108 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 2-123. Otherwise, go to step 109.
- viii The form shown in Figure 2-125 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 2-125 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

Preferred Auxiliary Servers	
IP Address	Port
10.1.1.1	12800
10.1.1.2	12800
10.1.1.3	12800

Reserved Auxiliary Servers	
IP Address	Port
10.2.2.1	12800
10.2.2.2	12801
10.2.2.3	12800

Server Pairs	
Preferred Server IP	Reserved Server IP

Make Pair from Selected Remove Selected Pair OK Cancel

- ix Repeat step 108 viii to configure another call-trace auxiliary server pair, if required.

109 Click on the Next button.

110 If you select the “Enable Database Alignment” parameter shown in Figure 2-126, you must specify the preferred database of this main server, then click on the Next button.

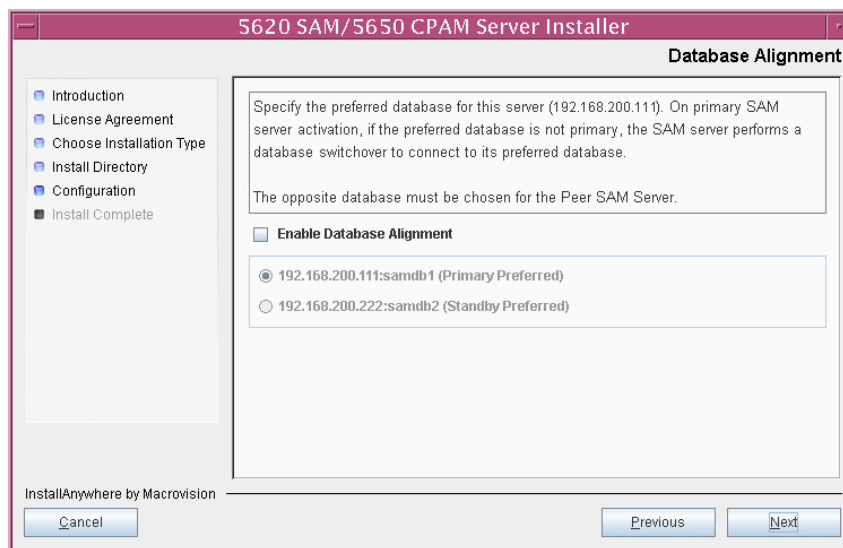
Database alignment associates each main server with the database to which it is most directly connected in terms of network latency. This database is the preferred database of the main server. For example, in a 5620 SAM complex that is geographically dispersed, the preferred database of a main server is the database in the same physical facility; typically, the primary main server and database are in one facility, and the standby server and database are in another.

When a primary server starts, it verifies that the database to which it connects is the preferred database. If this database is not the preferred database, the server performs a database switchover to reverse the primary and standby database roles. If the switchover is successful, the main servers and databases in the 5620 SAM complex are aligned. If the switchover fails, each database reverts to the former role, and the main server raises an alarm about the failed switchover.

When database alignment is enabled and you perform a database switchover, the primary server does not attempt database realignment, because a switchover is a manual operation that is considered to be a purposeful act.

When database alignment is enabled and you perform a server activity switch, the primary main server performs an automatic database switchover to maintain alignment with the preferred database.

Figure 2-126 Database Alignment



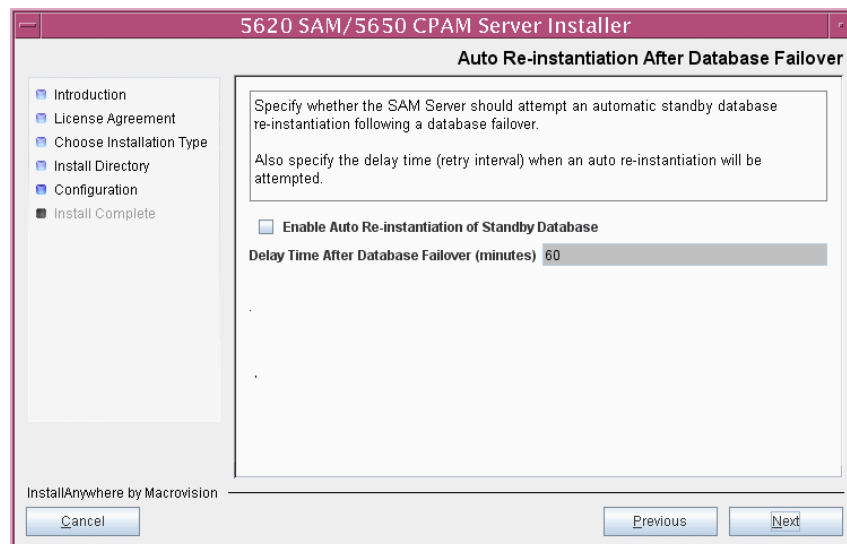
111 Configure the following parameters shown in Figure 2-127, then click on the Next button:

- **Enable Auto Re-Instantiation of Standby Database**
If this parameter is selected, the 5620 SAM main server automatically reinstantiates the standby database after a database failover.
- **Delay Time After Database Failover (minutes)**
This parameter specifies how long, in m, the main server waits after database failover completion before it initiates a standby database reinstantiation.



Note — The “Delay Time After Database Failover (minutes)” parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.

Figure 2-127 Auto Re-Instantiation After Database Failover



112 Perform the following steps.

- i Configure the following parameters shown in Figure 2-128:
 - Server Domain Name (typically 5620sam)
This parameter uniquely identifies the 5620 SAM server cluster to which the main server belongs.
 - Use Hostname for Communication
Select this parameter if the main server is to use multiple interfaces for GUI and OSS client communication.

Figure 2-128 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar shows a navigation menu with options: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main configuration area contains the following fields and options:

- Text box: Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server.
- Text box: If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.
- Text field: Server Domain Name (value: 5620sam)
- Checkbox: Use Hostname for Communication (recommended if NAT is used) (unchecked)
- Checkbox: NAT (network address translation) Used (checked)
- Text field: Private IP (accessible only by this server) (value: 192.168.200.111)
- Text field: Public IP (accessible to clients) (empty)
- Text field: EJB JNDI Server port (value: 1099)
- Text field: EJB JMS Server port (value: 8093)
- Checkbox: Enable 5670 RAM (unchecked)
- Checkbox: Enable 3GPP OSS Interface (unchecked)

At the bottom, there is a footer with 'InstallAnywhere by Macrovision' and three buttons: 'Cancel', 'Previous', and 'Next'.

- ii If you select the “Use Hostname for Communication” parameter, go to step 112 vi.
- iii Configure the following parameters:
 - NAT (network address translation) Used
 - Private IP (accessible only by this server)
 - Public IP (accessible to clients)
 - EJB JNDI Server port (typically 1099)
 - EJB JMS Server port (typically 8093)
 - Enable 5670 RAM
 - Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 113.
- vi Configure the following parameters shown in Figure 2-129:
 - NAT (network address translation) Used
 - Private IP (accessible only by this server)
 - Public Hostname
 - EJB JNDI Server port (typically 1099)
 - EJB JMS Server port (typically 8093)
 - Enable 5670 RAM
 - Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-129 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main configuration area contains the following fields and options:

- Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server.
- If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.
- Server Domain Name: 5620sam
- ☒ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server): 192.168.200.111
- Public Hostname: (empty field)
- EJB JNDI Server port: 1099
- EJB JMS Server port: 8093
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there is a 'Cancel' button and 'Previous' and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- vii Click on the Next button.

113 Configure the following parameters shown in Figure 2-130, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

Figure 2-130 Main Server Configuration for Clients (cont.)

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple with the text '5620 SAM/5650 CPAM Server Installer'. The main window has a light gray background. On the left, there is a vertical list of steps: 'Introduction', 'License Agreement', 'Choose Installation Type', 'Install Directory', 'Configuration', and 'Install Complete'. The 'Configuration' step is currently selected and highlighted. The main area of the window is titled 'Main Server Configuration for Clients (cont.)'. It contains two text input fields: 'RMI Port' with the value '1098' and 'RMI Object Port' with the value '4444'. At the bottom left, there is a small text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right, there are 'Previous' and 'Next' buttons.

- 114 The panel in Figure 2-131 is displayed if you do not select the “Auxiliary Server Supported” parameter in step 104. Otherwise, go to step 115.

Configure the parameters shown in Figure 2-131:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the OSS clients.
- Public IP (accessible to OSS clients)

Figure 2-131 Server Configuration for OSS Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple. The main window has a light gray background. On the left, there is a vertical list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The 'Configuration' step is currently selected. The main area is titled 'Server Configuration for OSS Clients'. It contains a text box with the instruction: 'Enter the network interface information that the OSS clients require to retrieve statistic data from this 5620 SAM server.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox is a label 'Public IP (accessible to OSS clients)' followed by a dropdown menu showing the value '192.168.200.111'. At the bottom left, it says 'InstallAnywhere by Macrovision'. At the bottom right, there are three buttons: 'Cancel', 'Previous', and 'Install'.

115 Configure the following parameters shown in Figure 2-132:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between this 5620 SAM server and the peer 5620 SAM server.
- Private IP (accessible only by this server)
- Public IP (accessible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-132 Main Server Configuration for Peer Server

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar reads '5620 SAM/5650 CPAM Server Installer'. The main window title is 'Main Server Configuration for Peer Server'. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'Enter the network interface information that this 5620 SAM main server requires to communicate with the peer server.' Below this are several configuration fields:

- A checked checkbox labeled 'NAT (network address translation) Used'.
- A dropdown menu for 'Private IP (accessible only by this server)' showing the value '192.168.200.222'.
- A yellow-highlighted text box for 'Public IP (accessible to peer server)'.
- A text box for 'High Available JNDI Port' with the value '1100'.
- A text box for 'TCP Port Cluster Number' with the value '11800'.

 At the bottom left, it says 'InstallAnywhere by Macrovision' above a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

116 Configure the following parameters shown in Figure 2-133, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer server)
- Peer Public IP (accessible to this server)



Note — The “Public IP (accessible to peer server)” and “Peer Public IP (accessible to this server)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

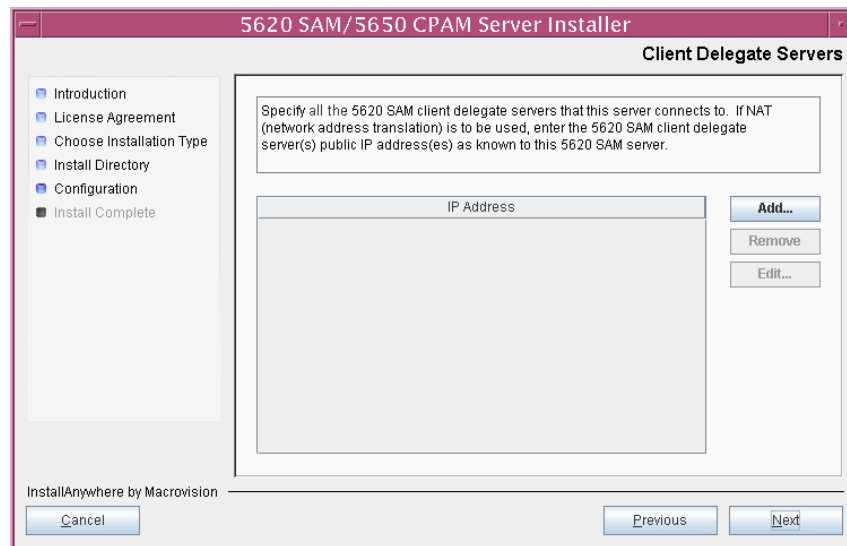
Figure 2-133 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM main servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath are two input fields: 'Public IP (accessible to peer server)' and 'Peer Public IP (accessible to this server)'. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The footer of the window reads 'InstallAnywhere by Macrovision'.

- 117 The panel in Figure 2-134 is displayed if you select the “Client Delegate Server Supported” parameter in step 104. Otherwise, go to step 118.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5620 SAM server and client delegate servers, specify the public IP address. Click on the Next button.

Figure 2-134 Client Delegate Servers



- 118 Perform the following steps to enable communication security between the main server and clients, and between the main and auxiliary servers. Otherwise, click on the Next button.



Note — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 2-135.

Figure 2-135 SSL Configuration

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password

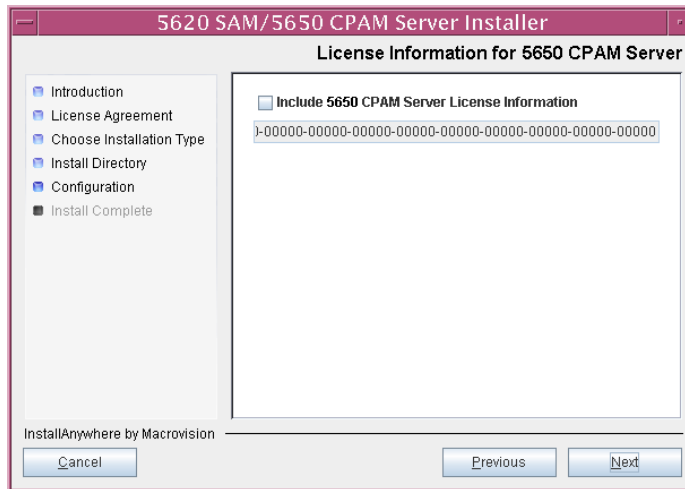


Note — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The main server copies the files, imports them into the main server configuration, and transfers the keystore file to each client and auxiliary server.

- 119 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 2-136. If it does, enter the 5650 CPAM license key provided by Alcatel-Lucent. Include the dashes in the key. Click on the Next button.

Figure 2-136 License Information for 5650 CPAM Server



120 Configure the following parameters shown in Figure 2-137, then click on the Next button:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



Note — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 2-137.

Figure 2-137 SNMP Configuration

5620 SAM/5650 CPAM Server Installer

SNMP Configuration

Introduction
License Agreement
Choose Installation Type
Install Directory
Configuration
Install Complete

If NAT (network address translation) is to be used, enter the 5620 SAM main server's public IP address as known to the devices within the managed network.

☐ NAT (network address translation) Used

☒ IPv6 Address Used

SNMP Trap Receiving IPv4 Address: 192.168.200.122

SNMP Trap Receiving IPv6 Address:

SNMP Trap Receiving Port: 162

Trap Log Id: 98

InstallAnywhere by Macrovision

Cancel Previous Next

121 Configure the following parameters shown in Figure 2-138, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IPv4 Address
- Peer Server SNMP Trap Receiving IPv6 Address
- Peer Server SNMP Port Number (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)



Note — The “Peer Server SNMP Trap Receiving IPv6 Address” parameter is configurable only if you select the “IPv6 Address Used” parameter in step 120.

Figure 2-138 Peer Main Server Configurations

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is '5620 SAM/5650 CPAM Server Installer'. The main window has a tab titled 'Peer Main Server Configurations'. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the following text: 'If NAT (network address translation) is to be used, enter the 5620 SAM peer server's public IP address as known to the 5620 SAM server. Also enter the 5620 SAM peer server's public IP address as known to the devices within the managed network.' Below this text box are six input fields: 'Peer Server IP Address' (empty), 'Peer Server Trap Log Id' (98), 'Peer Server SNMP Trap Receiving IPv4 Address' (empty), 'Peer Server SNMP Trap Receiving IPv6 Address' (empty), 'Peer Server SNMP Trap Receiving Port' (162), and 'Peer Server TCP Port Cluster Number' (11800). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

122 If the “Use Hostname for Communication” parameter in step 112 is selected, go to step 125.

123 Configure the following parameters shown in Figure 2-139, then click on the Next button:

- Peer Server IP Address
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

Figure 2-139 Peer Main Server Configurations (cont.)

5620 SAM/5650 CPAM Server Installer

Peer Main Server Configurations (cont.)

Introduction
License Agreement
Choose Installation Type
Install Directory
Configuration
Install Complete

Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5620 SAM clients.

If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field.

Peer Server IP Address

JNDI High Available Peer Server Port 1100

JNDI Peer Server Port 1099

InstallAnywhere by Macrovision

Cancel Previous Next

124 Go to step 126.

125 Configure the following parameters shown in Figure 2-140, then click on the Next button:

- Peer Server Hostname
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

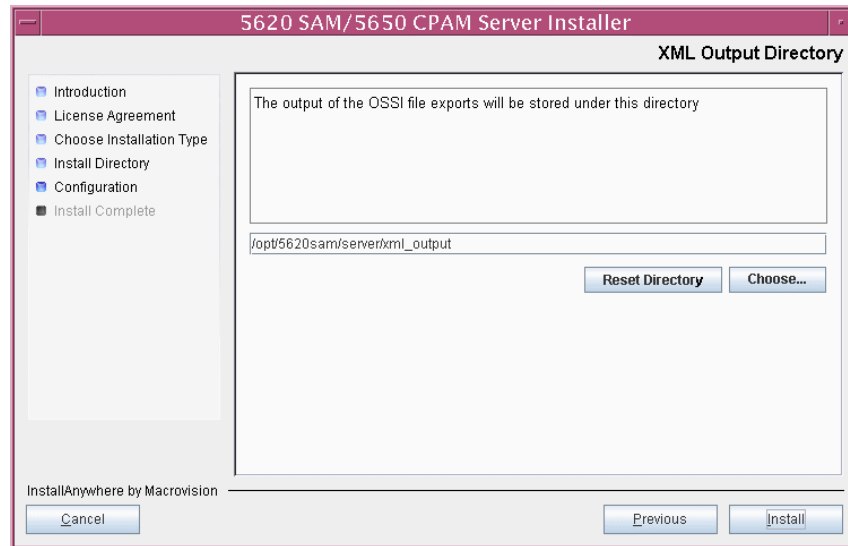
Figure 2-140 Peer Main Server Configurations (cont.)

126 If you require 5620 SAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 2-141 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button.

Figure 2-141 Navigation from External Systems

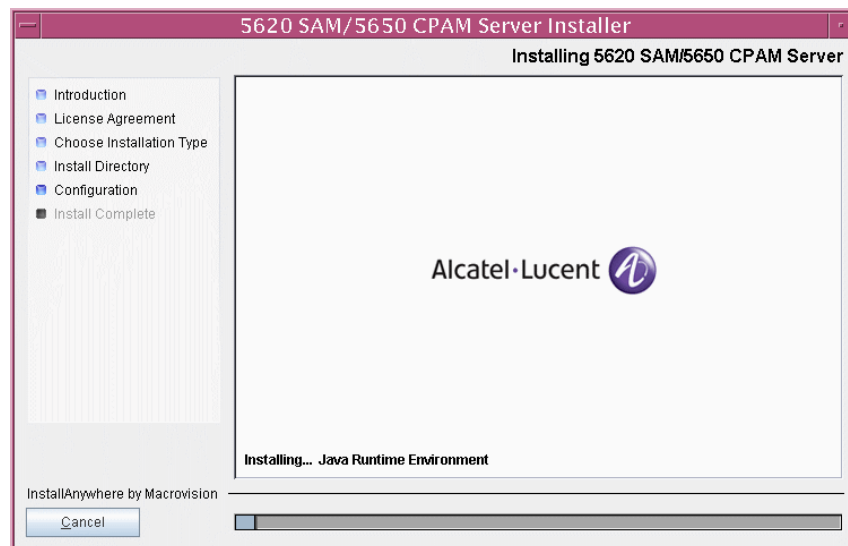
- 127 Specify an OSS XML output location (typically /opt/5620sam/server/xml_output), as shown in Figure 2-142. Click on the Install button to begin the server installation.

Figure 2-142 XML Output Directory



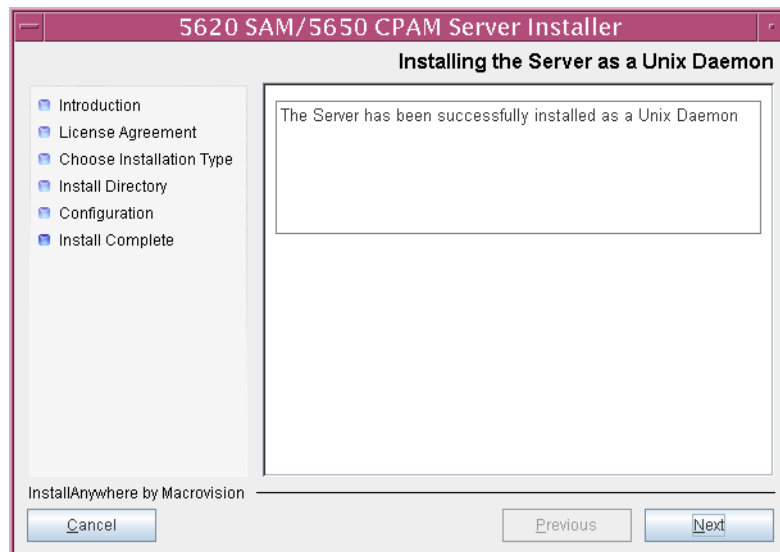
The next panel displays installation progress, as shown in Figure 2-143.

Figure 2-143 Installing 5620 SAM/5650 CPAM Server



- 128 As shown in Figure 2-144, the 5620 SAM server is installed as a UNIX daemon. Click on the Next button.

Figure 2-144 Installing the Server as a Unix Daemon

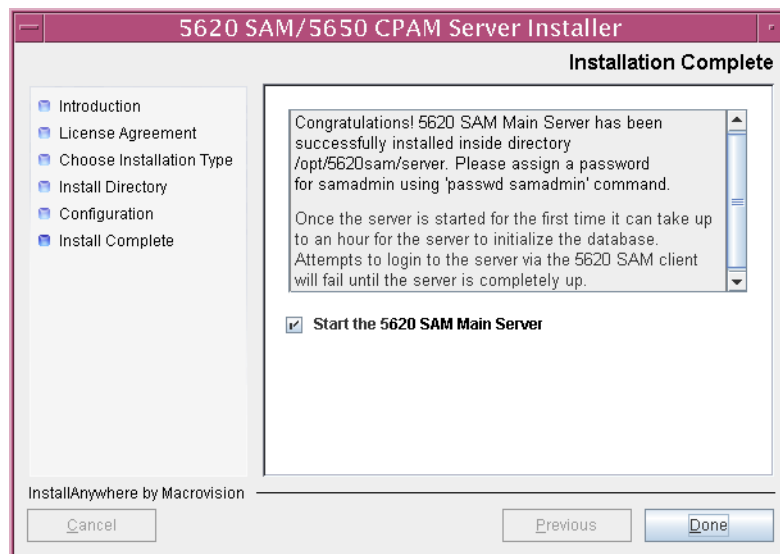


- 129 When the main server installation is complete, as shown in Figure 2-145, configure the “Start the 5620 SAM Main Server” parameter to specify whether you want the server to start immediately after the installation.



Caution — If the 3GPP OSS interface is enabled in step 112, ensure that the “Start the 5620 SAM Main Server” parameter is not selected.

Figure 2-145 Installation Complete



- 130** View the panel text to see whether it states that you must assign a password to samadmin, as shown in Figure 2-145. This information is required in step 132.
- 131** Click on the Done button to close the server installer. If you specified that the main server is to start after installation, the server starts. Initial server startup can take twenty minutes or more.
- 132** If this is the first 5620 SAM server installation on the station, the installer creates a user account called samadmin for 5620 SAM system administration.
- If you must assign a password to samadmin, as determined in step 130, perform the following steps.



Note — The samadmin password must not contain the @ symbol, or eNodeB device management may be compromised.

- i** Enter the following:
- ```
passwd samadmin
```
- The following prompt is displayed:
- ```
New Password:
```
- ii** Enter the new password and press ↵.
- The following prompt is displayed:
- ```
Confirm New Password:
```
- iii** Enter the new password again and press ↵. The password is changed.
- iv** Record the new password and store it in a secure location.
- 133** If the 3GPP OSS interface is enabled in step 112, perform the following steps.
- i** Open the *path*/nms/cnbi/home/config/cnbi.properties file using a plain-text editor
- where *path* is the 5620 SAM main server installation location, typically *opt/5620sam/server*
- ii** Locate the following line:
- ```
CNBI.SAMO.USER=
```
- iii** Edit the line to read:
- ```
CNBI.SAMO.USER=3GPP_OSS_user_name
```
- where *3GPP\_OSS\_user\_name* is the user name that OSS applications must send in requests to the interface
- iv** Locate the following line:
- ```
CNBI.SAMO.PASSWORD=
```


- v Edit the line to read:

```
CNBI.SAMO.PASSWORD=3GPP_OSS_password
```

where *3GPP_OSS_password* is the MD5-encrypted user password that OSS applications must send in requests to the interface

- vi Save and close the file.

- vii Go to step 135.

134 If you specified that the main server is to start after installation, perform the following steps to verify that the server is started.

- i Enter the following to switch to the samadmin user:

```
# su - samadmin ↵
```

- ii Enter the following:

```
bash$ path/nms/bin/nmserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- Primary Server is UP
```

- iii If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

135 If you specified not to start the main server immediately after the installation, perform the following steps to start the server manually.

- i Log in to the main server station as the samadmin user.

- ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to start the 5620 SAM server software:

```
bash$ ./nmserver.bash start ↵
```

- v Enter the following:

```
bash$ path/nms/bin/nmserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- Primary Server is UP
```

- vi If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

136 Close the console window.

Install client

137 Perform one of the following to install a 5620 SAM client.

- a Perform Procedure 2-3 or 2-4 to install a single-user client on Solaris.
- b Perform Procedure 2-5 or 2-6 to install a single-user client on Windows.
- c Perform Procedure 2-7 to install a client delegate server.

138 If the 3GPP OSS interface is enabled in step 112, perform the following steps.

- i Log in to a 5620 SAM GUI client as the admin user.
- ii Create a user account for 3GPP OSS interface access. Observe the following when you create the account:
 - The user name must be the user name specified in step 133.
 - The password must be the password specified in step 133.
 - The user account requires full permissions on the fm and oss packages.

See the *5620 SAM User Guide* for information about creating 5620 SAM user accounts.

The next section of the procedure describes the reinstantiation of the database on the standby database station.

Reinstantiate database on standby station

139 Log in to a 5620 SAM client as the admin user.

140 Choose Administration→System Information from the 5620 SAM main menu. The System Information form opens with the General tab displayed.

141 Click on the Re-Instantiate Standby button. A dialog box appears.

- 142 Click on the Yes button. The database reinstantiation begins. You can view the reinstantiation status on the client GUI status bar or on the System Information form. The Standby Re-instantiation State changes from In Progress to Success when reinstantiation is complete. The start time of the reinstantiation is shown by the Last Attempted Standby Re-instantiation Time indicator.



Note — Database reinstantiation can take a long time when there is a large amount of statistics information to transfer.

- 143 When the reinstantiation is complete, close the System Information form.

The next section of the procedure describes the installation of the standby 5620 SAM server. You can install the standby server on the same station that contains the standby database, or on another station. Server installation requires root user privileges.

Install standby server

- 144 Log in to the station that is to be the standby server station as the root user.

- 145 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.

- 146 Open a console window.

- 147 Navigate to the DVD-ROM drive.

- 148 Perform one of the following to open the 5620 SAM server installer.

- a On a SPARC station:

- i Enter the following:

```
# cd Solaris ↵
```

- ii Enter the following:

```
# ./ServerInstall_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

- b On an x86-based station:

- i Enter the following:

```
# cd Solarisx86 ↵
```

- ii Enter the following:

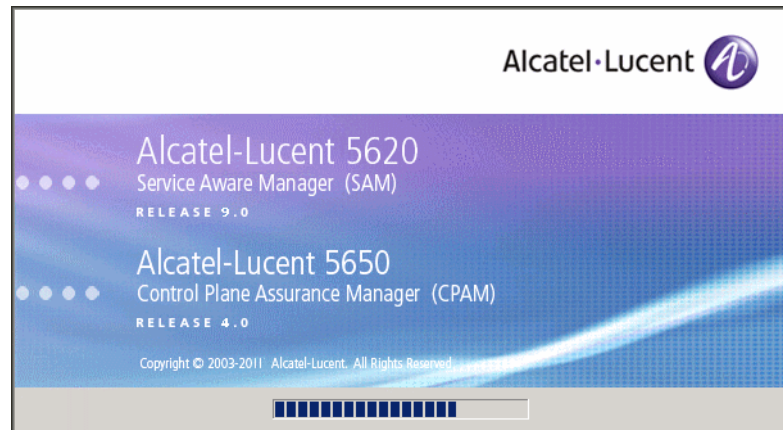
```
# ./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

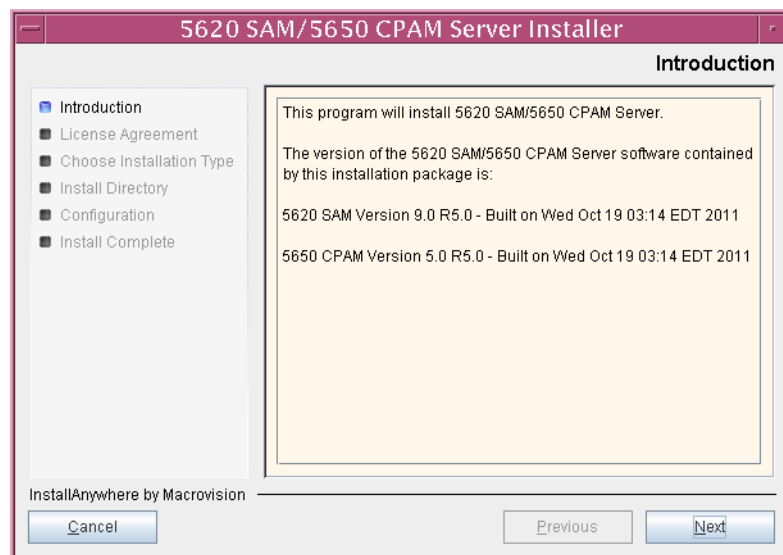
The splash screen shown in Figure 2-146 opens.

Figure 2-146 5620 SAM installer



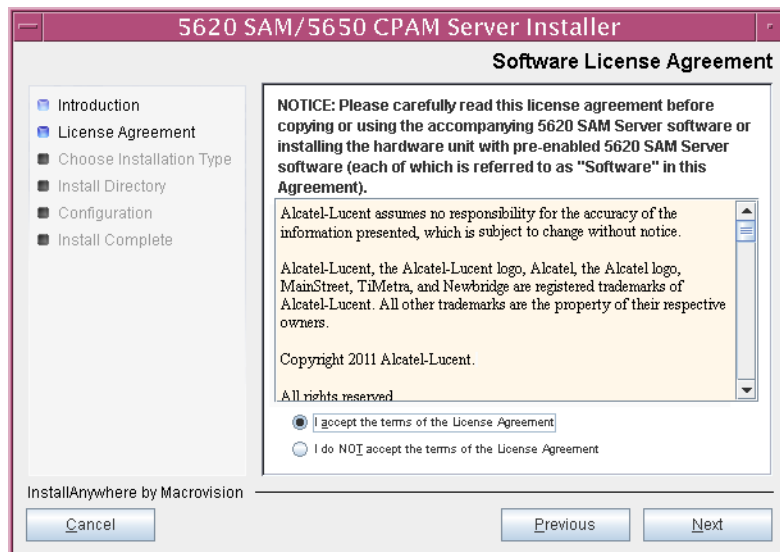
- 149 The 5620 SAM server installer opens, as shown in Figure 2-147. The left pane indicates the installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-147 Introduction



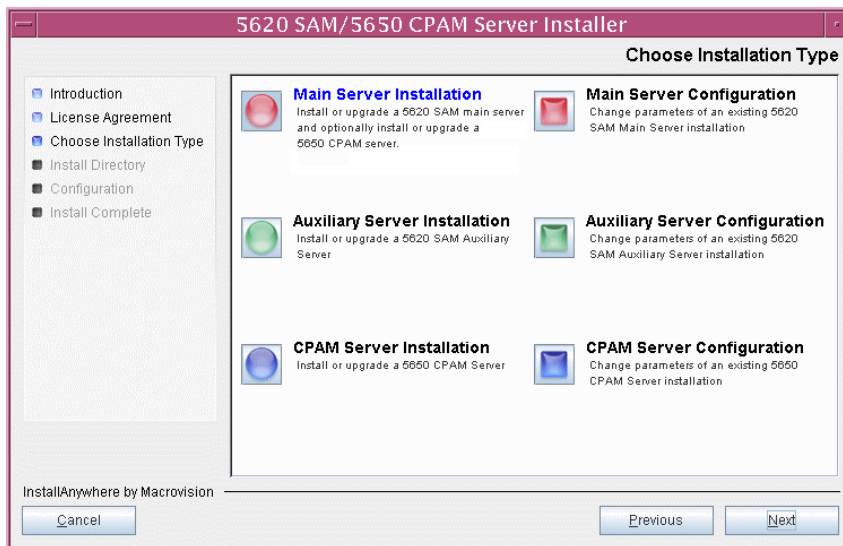
- 150 Review and accept the terms of the license agreement shown in Figure 2-148. Click on the Next button.

Figure 2-148 Software License Agreement



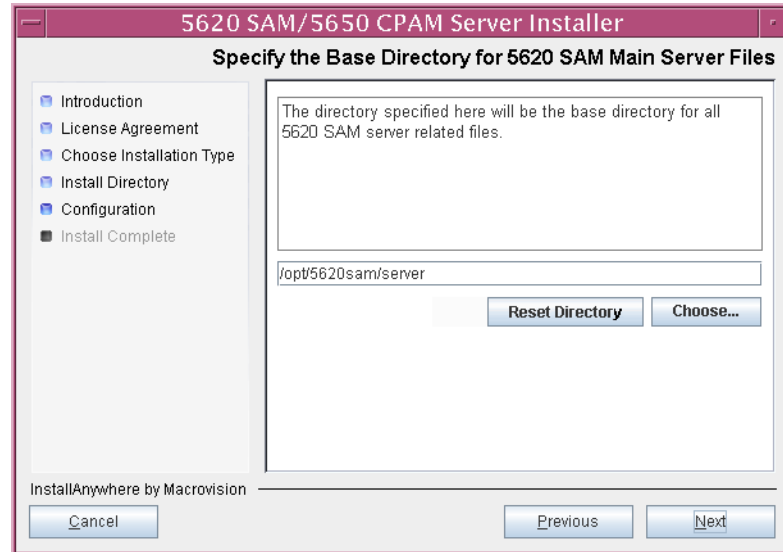
- 151 Select Main Server Installation, as shown in Figure 2-149. Click on the Next button.

Figure 2-149 Choose Installation Type



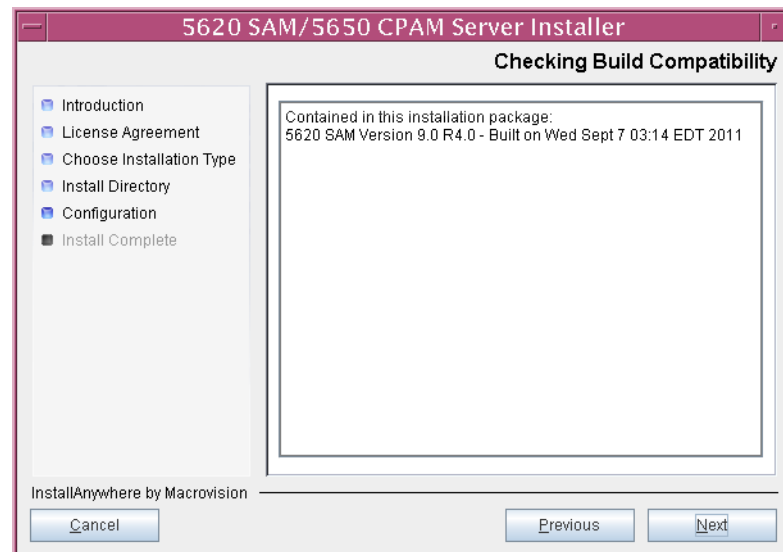
- 152 Specify a base directory in which to install the standby 5620 SAM main server software (typically /opt/5620sam/server), as shown in Figure 2-150. Click on the Next button.

Figure 2-150 Specify the Base Directory for 5620 SAM Main Server Files



- 153 As shown in Figure 2-151, the installer indicates which release of 5620 SAM software is to be installed. Verify the information. Click on the Next button.

Figure 2-151 Checking Build Compatibility



- 154 Enter the license key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 2-152. Click on the Next button.

Figure 2-152 License Information for 5620 SAM Main Server

The screenshot shows a Windows-style installer window titled "5620 SAM/5650 CPAM Server Installer". The window has a sidebar on the left with a list of steps: "Introduction", "License Agreement", "Choose Installation Type", "Install Directory", "Configuration", and "Install Complete". The "License Agreement" step is currently selected. The main area of the window is titled "License Information for 5620 SAM Main Server" and contains a text box labeled "License Key". The text box contains the following license key: "j-00000-00000-00000-00000-00000-00000-00000-00000". At the bottom of the window, there are three buttons: "Cancel", "Previous", and "Next". The "Next" button is highlighted, indicating it is the next step in the installation process.

155 Configure the following parameters shown in Figure 2-153, then click on the Next button.

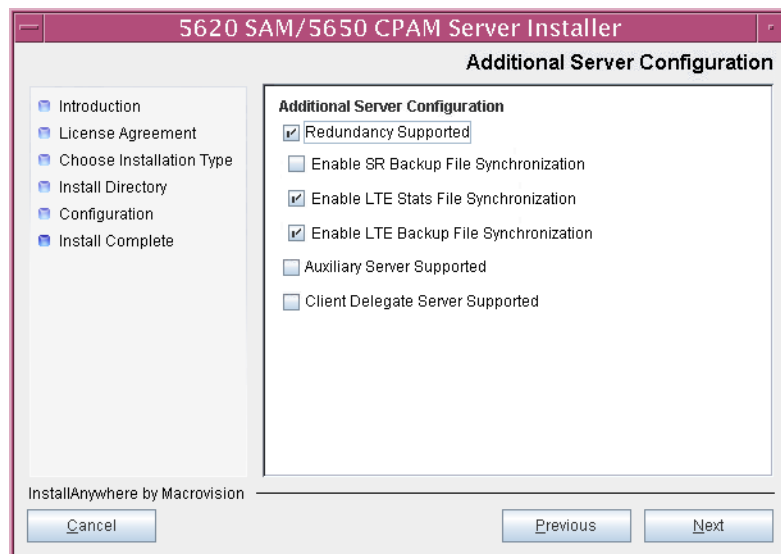
- Redundancy Supported
- Enable SR Backup File Synchronization
- Enable LTE Stats File Synchronization
- Enable LTE Backup File Synchronization
- Auxiliary Server Supported
- Client Delegate Server Supported



Note 1 — You must select the “Redundancy Supported” parameter.

Note 2 — The “Enable SR Backup File Synchronization”, “Enable LTE Stats File Synchronization”, and “Enable LTE Backup File Synchronization” parameters are displayed only when the “Redundancy Supported” parameter is enabled.

Figure 2-153 Additional Server Configuration



156 Configure the following parameters, shown in Figure 2-154 using the recorded values from the primary database installation. Click on the Next button.

- Primary Database Server IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

Figure 2-154 Primary Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Primary Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (which is highlighted), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the primary 5620 SAM database's public IP address, as known to the 5620 SAM server.' Below this are six input fields: 'Primary Database Server IP Address' (empty), 'Primary Database Server Port' (1523), 'Primary Database Instance Name' (samdb1), 'Database User Name' (samuser), 'Database User Password' (masked with asterisks), and 'Primary Database Proxy Port' (9002). At the bottom, there is a 'Cancel' button on the left and 'Previous' and 'Next' buttons on the right. The footer of the window reads 'InstallAnywhere by Macrovision'.

157 Configure the following parameters shown in Figure 2-155 using the recorded values from the standby database installation, then click on the Next button:

- Database Server IP Address
- Database Instance Name (typically samdb2)
- Database Proxy Port (typically 9002)
- Enable Database Backup File Synchronization

Figure 2-155 Standby Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Standby Database Configuration' tab selected. On the left, a navigation pane lists the installation steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the standby 5620 SAM database's public IP address as known to the 5620 SAM server.' Below this are three input fields: 'Database Server IP Address' (highlighted in yellow), 'Database Instance Name' (containing 'samdb2'), and 'Database Proxy Port' (containing '9002'). There is an unchecked checkbox for 'Enable Database Backup File Synchronization'. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

158 The panel in Figure 2-156 is displayed if you select the “Auxiliary Server Supported” parameter in step 155. Otherwise, go to step 160.

Perform the following steps to specify an auxiliary server, if required.

- i Configure the following parameters shown in Figure 2-156:
 - NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main and auxiliary servers.
 - Private IP (accessible only by this server)
 - Public IP (accessible to auxiliary)
 - Server Port (typically 12800)
 - Enable Stats Collection on Auxiliary Servers
 - Enable Call Trace Collection on Auxiliary Servers



Note 1 — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

Note 2 — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-156 Main Server Configuration for Auxiliary Servers

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Auxiliary Servers' panel active. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main panel contains the following configuration options:

- A text box with instructions: "Enter the the network interface information that this 5620 SAM main server requires to communicate with the 5620 SAM auxiliary servers. At least one service type checkbox must be selected."
 - ☒ NAT (network address translation) Used
 - Private IP (accessible only by this server): 192.168.200.111
 - Public IP (accessible to auxiliary): (empty yellow box)
 - Server Port: 12800
 - ☐ Enable Stats Collection on Auxiliary Servers
 - ☒ Enable Call Trace Collection on Auxiliary Servers

At the bottom, there is a 'Cancel' button and 'Previous' and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

- ii Click on the Next button.

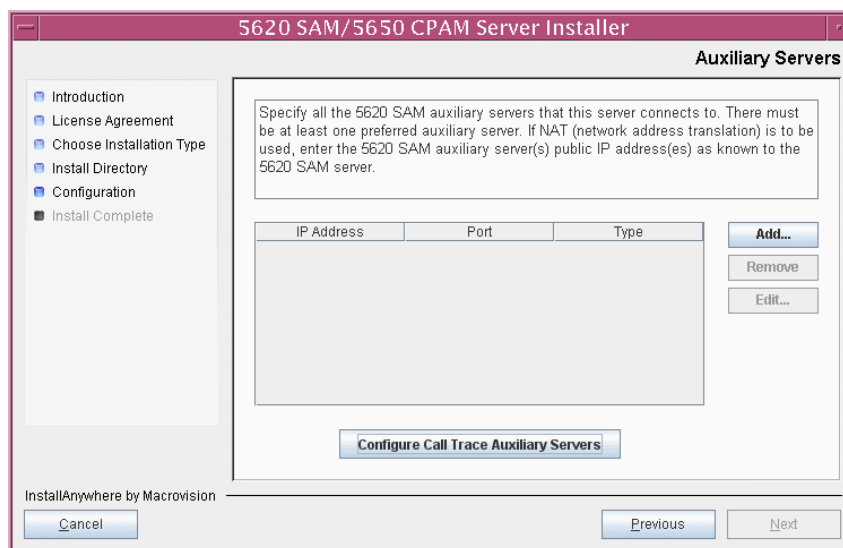
- iii Click on the Add button shown in Figure 2-157 to specify an auxiliary server. The form shown in Figure 2-158 opens.



Note 1 — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

Note 2 — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

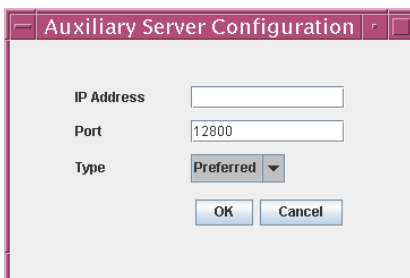
Figure 2-157 Auxiliary Servers



Note 1 — The Preferred auxiliary server of the primary main server must be the Reserved auxiliary server of the standby main server. Conversely, the Reserved auxiliary server of the primary main server must be the Preferred auxiliary server of the standby main server.

Note 2 — To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

Figure 2-158 Auxiliary Server Configuration



- iv Configure the following parameters shown in Figure 2-158:
 - IP Address
 - Port (typically 12800)
 - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 158 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 158 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 2-157. Otherwise, go to step 159.
- viii The form shown in Figure 2-159 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 2-159 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

Preferred Auxiliary Servers	
IP Address	Port
10.1.1.1	12800
10.1.1.2	12800
10.1.1.3	12800

Reserved Auxiliary Servers	
IP Address	Port
10.2.2.1	12800
10.2.2.2	12801
10.2.2.3	12800

Server Pairs	
Preferred Server IP	Reserved Server IP

Make Pair from Selected Remove Selected Pair OK Cancel

- ix Repeat step 158 viii to configure another call-trace auxiliary server pair, if required.

159 Click on the Next button.

160 If you select the “Enable Database Alignment” parameter shown in Figure 2-160, you must specify the preferred database of this main server, then click on the Next button.

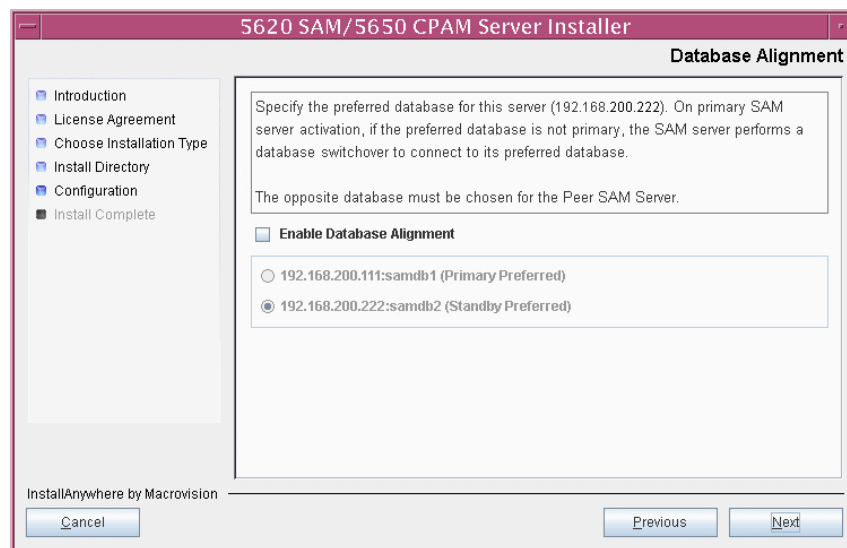
Database alignment associates each main server with the database to which it is most directly connected in terms of network latency. This database is the preferred database of the main server. For example, in a 5620 SAM complex that is geographically dispersed, the preferred database of a main server is the database in the same physical facility; typically, the primary main server and database are in one facility, and the standby server and database are in another.

When a primary server starts, it verifies that the database to which it connects is the preferred database. If this database is not the preferred database, the server performs a database switchover to reverse the primary and standby database roles. If the switchover is successful, the main servers and databases in the 5620 SAM complex are aligned. If the switchover fails, each database reverts to the former role, and the main server raises an alarm about the failed switchover.

When database alignment is enabled and you perform a database switchover, the primary server does not attempt database realignment, because a switchover is a manual operation that is considered to be a purposeful act.

When database alignment is enabled and you perform a server activity switch, the primary main server performs an automatic database switchover to maintain alignment with the preferred database.

Figure 2-160 Database Alignment



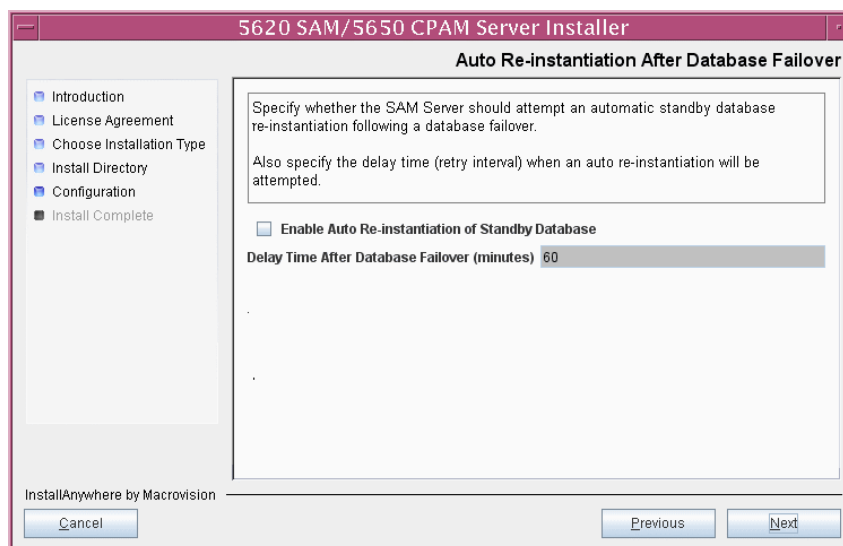
161 Configure the following parameters shown in Figure 2-161, then click on the Next button:

- **Enable Auto Re-Instantiation of Standby Database**
If this parameter is selected, the 5620 SAM main server automatically reinstantiates the standby database after a database failover.
- **Delay Time After Database Failover (minutes)**
This parameter specifies how long, in m, the main server waits after database failover completion before it initiates a standby database reinstantiation.



Note — The “Delay Time After Database Failover (minutes)” parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.

Figure 2-161 Auto Re-Instantiation After Database Failover



162 Perform the following steps.

- i Configure the following parameters shown in Figure 2-162:
 - Server Domain Name (typically 5620sam)
This parameter uniquely identifies the 5620 SAM server cluster to which the main server belongs.
 - Use Hostname for Communication
Select this parameter if the main server is to use multiple interfaces for GUI and OSS client communication.

Figure 2-162 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar shows a navigation tree with 'Configuration' highlighted. The main area contains the following fields and options:

- Server Domain Name:** 5620sam
- ☐ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server):** 192.168.200.222
- Public IP (accessible to clients):** (empty field)
- EJB JNDI Server port:** 1099
- EJB JMS Server port:** 8093
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

- ii If you select the “Use Hostname for Communication” parameter, go to step 162 vi.
- iii Configure the following parameters:
 - NAT (network address translation) Used
 - Private IP (accessible only by this server)
 - Public IP (accessible to clients)
 - EJB JNDI Server port (typically 1099)
 - EJB JMS Server port (typically 8093)
 - Enable 5670 RAM
 - Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 163.
- vi Configure the following parameters shown in Figure 2-163:
 - NAT (network address translation) Used
 - Private IP (accessible only by this server)
 - Public Hostname
 - EJB JNDI Server port (typically 1099)
 - EJB JMS Server port (typically 8093)
 - Enable 5670 RAM
 - Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-163 Main Server Configuration for Clients

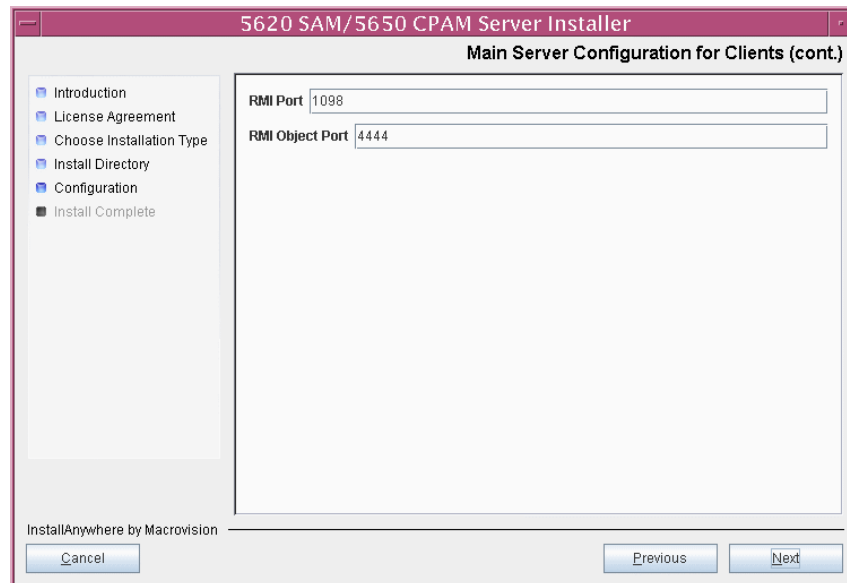
The screenshot shows the 'Main Server Configuration for Clients' window of the 5620 SAM/5650 CPAM Server Installer. The window has a sidebar on the left with a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains instructions and configuration fields. The instructions state: 'Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server. If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.' The configuration fields include: Server Domain Name (5620sam), Use Hostname for Communication (recommended if NAT is used) (checked), NAT (network address translation) Used (checked), Private IP (accessible only by this server) (192.168.200.222), Public Hostname (empty), EJB JNDI Server port (1099), EJB JMS Server port (8093), Enable 5670 RAM (unchecked), and Enable 3GPP OSS Interface (unchecked). At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer of the window reads 'InstallAnywhere by Macrovision'.

- vii Click on the Next button.

163 Configure the following parameters shown in Figure 2-164, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

Figure 2-164 Main Server Configuration for Clients (cont.)



- 164 The panel in Figure 2-165 is displayed if you do not select the “Auxiliary Server Supported” parameter in step 155. Otherwise, go to step 165.

Configure the parameters shown in Figure 2-165:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the OSS clients.
- Public IP (accessible to OSS clients)

Figure 2-165 Server Configuration for OSS Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The 'Server Configuration for OSS Clients' panel is active. On the left, a navigation pane lists steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'Enter the network interface information that the OSS clients require to retrieve statistic data from this 5620 SAM server.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox is a label 'Public IP (accessible to OSS clients)' followed by a dropdown menu showing the value '192.168.200.222'. At the bottom left, it says 'InstallAnywhere by Macrovision'. At the bottom right, there are 'Cancel', 'Previous', and 'Install' buttons.

165 Configure the following parameters shown in Figure 2-166:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between this 5620 SAM server and the peer 5620 SAM server.
- Private IP (accessible only by this server)
- Public IP (accessible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-166 Main Server Configuration for Peer Server

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple with the text '5620 SAM/5650 CPAM Server Installer'. The main window has a purple header bar with the text 'Main Server Configuration for Peer Server'. On the left side, there is a vertical list of steps: 'Introduction', 'License Agreement', 'Choose Installation Type', 'Install Directory', 'Configuration', and 'Install Complete'. The 'Configuration' step is currently selected. The main area of the window contains a text box with the instruction: 'Enter the network interface information that this 5620 SAM main server requires to communicate with the peer server.' Below this text box, there are several configuration options: a checkbox labeled 'NAT (network address translation) Used' which is checked; a dropdown menu for 'Private IP (accessible only by this server)' showing '192.168.200.111'; a text box for 'Public IP (accessible to peer server)' which is empty; a text box for 'High Available JNDI Port' showing '1100'; and a text box for 'TCP Port Cluster Number' showing '11800'. At the bottom of the window, there is a footer that says 'InstallAnywhere by Macrovision'. Below the footer, there are three buttons: 'Cancel', 'Previous', and 'Next'.

166 Configure the following parameters shown in Figure 2-167, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer server)
- Peer Public IP (accessible to this server)



Note — The “Public IP (accessible to peer server)” and “Peer Public IP (accessible to this server)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

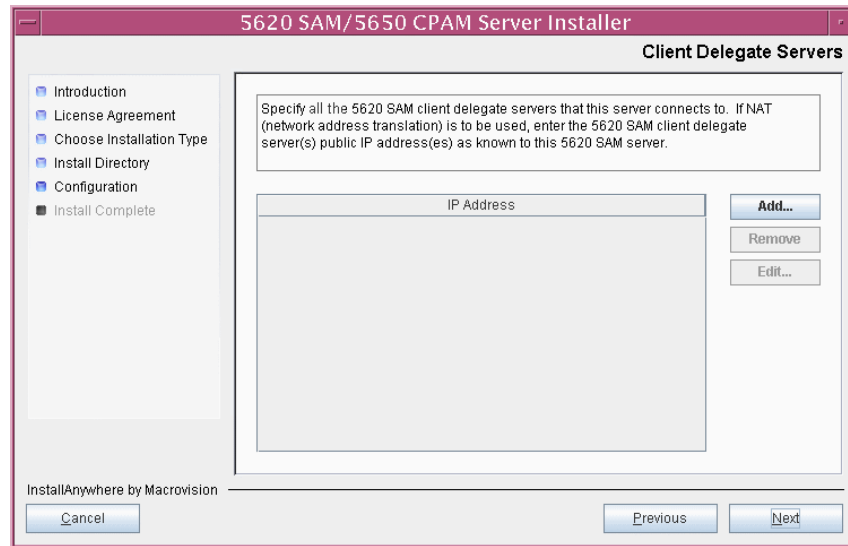
Figure 2-167 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM main servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath the checkbox are two input fields: 'Public IP (accessible to peer server)' and 'Peer Public IP (accessible to this server)'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 167 The panel in Figure 2-168 is displayed if you select the “Client Delegate Server Supported” parameter in step 155. Otherwise, go to step 168.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5620 SAM server and client delegate servers, specify the public IP address. Click on the Next button.

Figure 2-168 Client Delegate Servers



- 168 Perform the following steps to enable communication security between the main server and clients, and between the main and auxiliary servers. Otherwise, click on the Next button.



Note — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 2-169.

Figure 2-169 SSL Configuration

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password



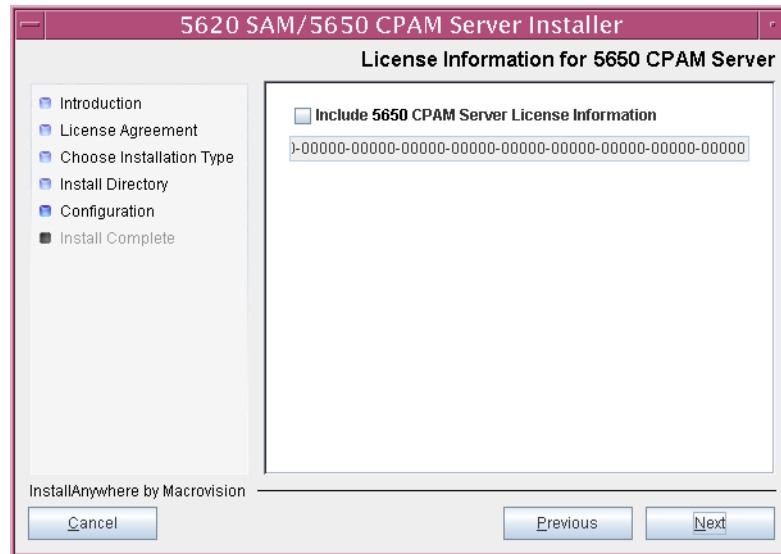
Note 1 — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

Note 2 — The parameter values must match the values specified during the primary main server installation.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The main server copies the files, imports them into the main server configuration, and transfers the keystore file to each client and auxiliary server.

- 169 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 2-170. If it does, enter the 5650 CPAM license key provided by Alcatel-Lucent. Include the dashes in the key. Click on the Next button.

Figure 2-170 License Information for 5650 CPAM Server



170 Configure the following parameters shown in Figure 2-171, then click on the Next button:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



Note — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 2-171.

Figure 2-171 SNMP Configuration

171 Configure the following parameters shown in Figure 2-172, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IPv4 Address
- Peer Server SNMP Trap Receiving IPv6 Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)



Note — The “Peer Server SNMP Trap Receiving IPv6 Address” parameter is configurable only if you select the “IPv6 Address Used” parameter in step 170.

Figure 2-172 Peer Main Server Configurations

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple. The main window has a left sidebar with a tree view containing: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area is titled 'Peer Main Server Configurations'. It contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the 5620 SAM peer server's public IP address as known to the 5620 SAM server. Also enter the 5620 SAM peer server's public IP address as known to the devices within the managed network.' Below this are six input fields: 'Peer Server IP Address' (empty), 'Peer Server Trap Log Id' (98), 'Peer Server SNMP Trap Receiving IPv4 Address' (empty), 'Peer Server SNMP Trap Receiving IPv6 Address' (empty), 'Peer Server SNMP Trap Receiving Port' (162), and 'Peer Server TCP Port Cluster Number' (11800). At the bottom, there is a 'Cancel' button, a 'Previous' button, and a 'Next' button. The footer text reads 'InstallAnywhere by Macrovision'.

172 If the “Use Hostname for Communication” parameter in step 162 is selected, go to step 175.

173 Configure the following parameters shown in Figure 2-173, then click on the Next button:

- Peer Server IP Address
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

Figure 2-173 Peer Main Server Configurations (cont.)

5620 SAM/5650 CPAM Server Installer

Peer Main Server Configurations (cont.)

Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5620 SAM clients.

If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field.

Peer Server IP Address

JNDI High Available Peer Server Port

JNDI Peer Server Port

InstallAnywhere by Macrovision

Cancel Previous Next

174 Go to step 176.

175 Configure the following parameters shown in Figure 2-174, then click on the Next button:

- Peer Server Hostname
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

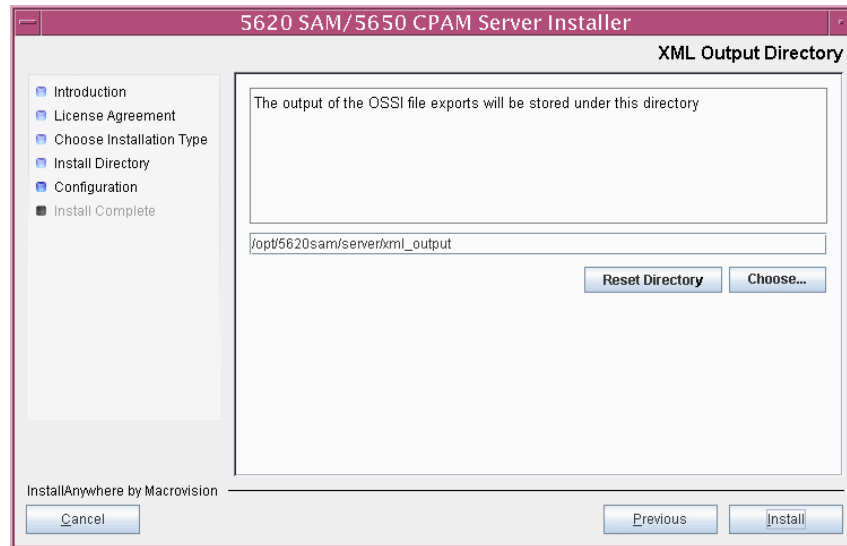
Figure 2-174 Peer Main Server Configurations (cont.)

176 If you require 5620 SAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 2-175 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button.

Figure 2-175 Navigation from External Systems

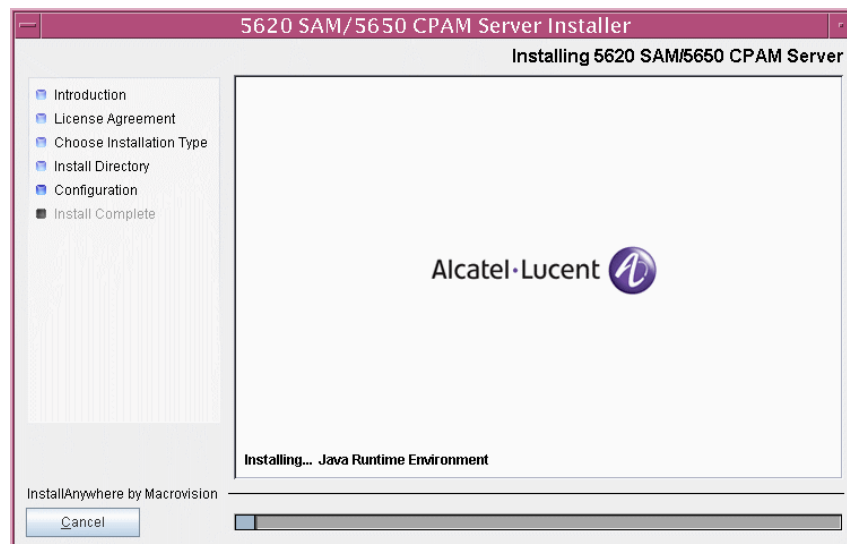
- 177 Specify an OSS XML output location (typically /opt/5620sam/server/xml_output), as shown in Figure 2-176. Click on the Install button to begin the server installation.

Figure 2-176 XML Output Directory



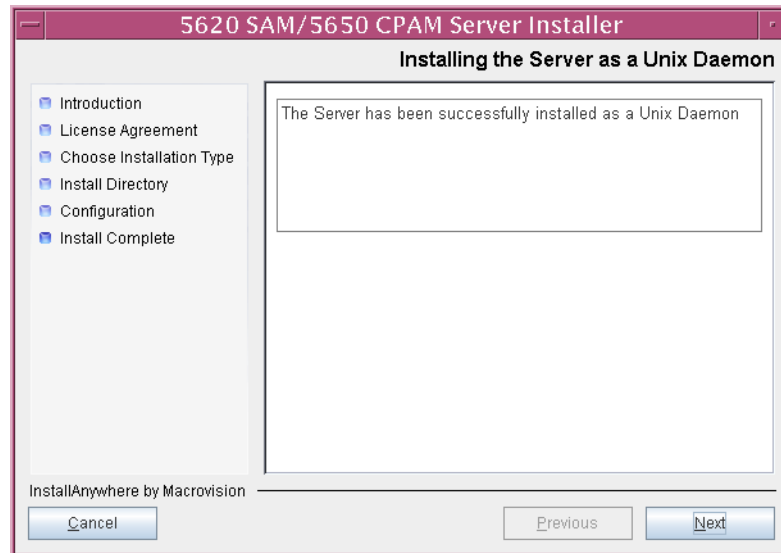
The next panel displays installation progress, as shown in Figure 2-177.

Figure 2-177 Installing 5620 SAM/5650 CPAM Server



- 178 As shown in Figure 2-178, the 5620 SAM server is installed as a UNIX daemon. Click on the Next button.

Figure 2-178 Installing the Server as a Unix Daemon

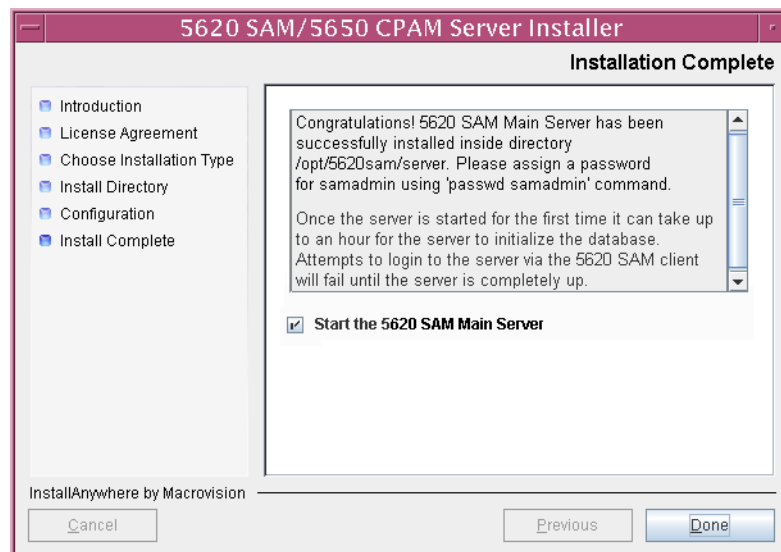


- 179 When the main server installation is complete, as shown in Figure 2-179, configure the “Start the 5620 SAM Main Server” parameter to specify whether you want the server to start immediately after the installation.



Caution — If the 3GPP OSS interface is enabled in step 162, ensure that the “Start the 5620 SAM Main Server” parameter is not selected.

Figure 2-179 Installation Complete



- 180** View the panel text to see whether it states that you must assign a password to samadmin, as shown in Figure 2-179. This information is required in step 182.
- 181** Click on the Done button to close the server installer. If you specified that the main server is to start after installation, the server starts. Initial server startup can take twenty minutes or more.
- 182** If this is the first 5620 SAM server installation on the station, the installer creates a user account called samadmin for 5620 SAM system administration.
- If you must assign a password to samadmin, as determined in step 180, perform the following steps.



Note — The samadmin password must not contain the @ symbol, or eNodeB device management may be compromised.

- i Enter the following:

```
# passwd samadmin
```

The following prompt is displayed:

```
New Password:
```

- ii Enter the new password and press ↵.

The following prompt is displayed:

```
Confirm New Password:
```

- iii Enter the new password again and press ↵. The password is changed.
- iv Record the new password and store it in a secure location.

- 183** If the 3GPP OSS interface is enabled in step 162, perform the following steps.

- i Open the *path*/nms/cnbi/home/config/cnbi.properties file using a plain-text editor

where *path* is the 5620 SAM main server installation location, typically *opt/5620sam/server*

- ii Locate the following line:

```
CNBI.SAMO.USER=
```

- iii Edit the line to read:

```
CNBI.SAMO.USER=3GPP_OSS_user_name
```

where *3GPP_OSS_user_name* is the user name that OSS applications must send in requests to the interface

- iv Locate the following line:

```
CNBI.SAMO.PASSWORD=
```

- v Edit the line to read:

```
CNBI.SAMO.PASSWORD=3GPP_OSS_password
```

where *3GPP_OSS_password* is the MD5-encrypted user password that OSS applications must send in requests to the interface



Note — The user name and password must be the same user name and password specified during the primary server configuration in step 133.

- vi Save and close the file.

- vii Go to step 185.

184 If you specified that the main server is to start immediately after installation, perform the following steps to verify that the server is started.

- i Enter the following to switch to the samadmin user:

```
# su - samadmin ↵
```

- ii Enter the following:

```
bash$ path/nms/bin/nmserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- Standby Server is UP
```

- iii If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

185 If you specified not to start the main server immediately after the installation, perform the following steps to start the server manually.

- i Log in to the main server station as the samadmin user.

- ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to start the 5620 SAM server software:

```
bash$ ./nmserver.bash start ↵
```


- v Enter the following:

```
bash$ path/nms/bin/nmserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- Standby Server is UP
```

- vi If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

186 Close the console window.

Install additional client

187 Perform one of the following to install an additional 5620 SAM client, if required.

- a Perform Procedure 2-4 or 2-4 to install a single-user client on Solaris.
- b Perform Procedure 2-5 or 2-6 to install a single-user client on Windows.
- c Perform Procedure 2-7 to install a client delegate server.

2.7 5620 SAM client and client delegate server installation

This section describes how to install a 5620 SAM client or client delegate server component for a standalone or redundant 5620 SAM system. Procedures 2-3 and 2-4 describe how to install the 5620 SAM client software on a Solaris station. Procedures 2-5 and 2-6 describe how to install the 5620 SAM client software on a Windows station. Procedure 2-7 describes how to install a 5620 SAM client delegate server. Procedure 2-8 describes how to add a 5620 SAM client delegate server to an existing 5620 SAM system.



Note — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

Procedure 2-3 To install a 5620 SAM single-user client on Solaris using a web browser

Perform this procedure to install the 5620 SAM single-user client software on a Solaris station using a web browser. You require local user privileges on the client station to perform this procedure.



Note — The 5620 SAM main server to which the single-user client connects must be running before you perform this procedure.

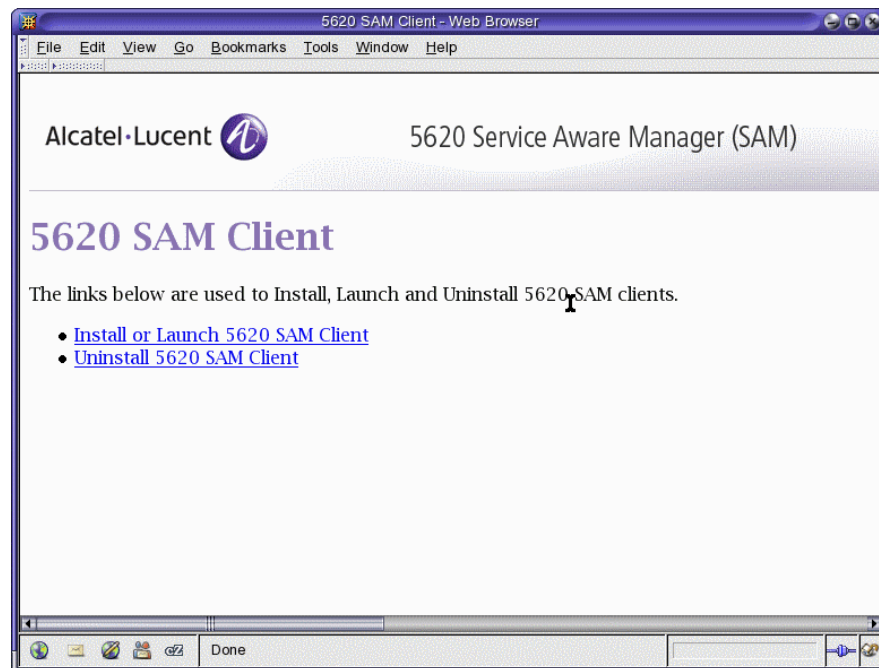
- 1 Log in to the station that is to be the single-user client station as a user with local privileges.
- 2 The client installer requires Java version 6.0 or later. Perform one of the following to ensure that the correct Java version is installed.
 - a If an earlier version of Java is installed on the client station, ensure that the client station has Internet access so that the installer can download and install the later version.
 - b If Java is not installed on the client station, visit <http://java.com> to download and install Java.
- 3 Use a web browser on the client station to open the following page on the 5620 SAM main server:

<http://server:8085/client>

where *server* is the IP address or hostname of the 5620 SAM main server

The page shown in Figure 2-180 is displayed.

Figure 2-180 5620 SAM client page



- 4 Click on the “Install or Launch 5620 SAM Client” link. The form shown in Figure 2-181 is displayed.

Figure 2-181 Opening samclientdesktop.jnlp



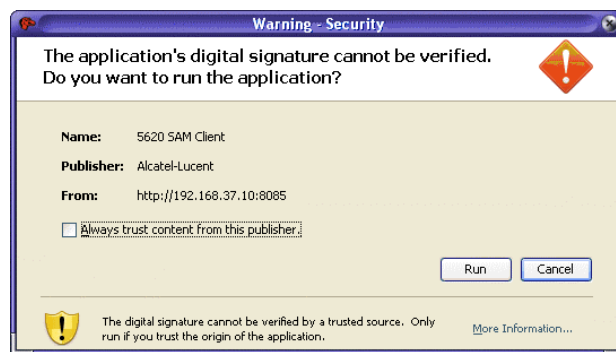
- 5 Ensure that “Open it with the default application” is selected, then click on the OK button. A Java installer opens, as shown in Figure 2-182, and begins to download components.

Figure 2-182 Java Web Start



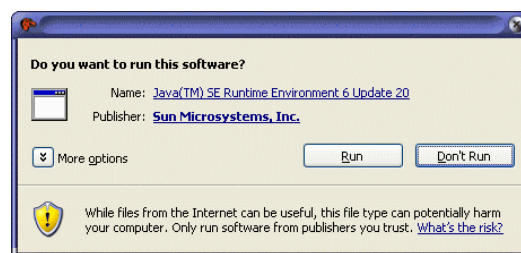
- 6 If a security warning like the one shown in Figure 2-183 is displayed, click on the Run button.

Figure 2-183 Warning - Security



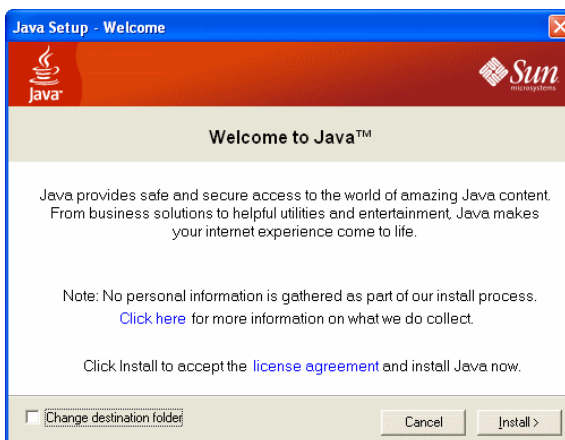
- 7 If a security warning like the one shown in Figure 2-184 is displayed, click on the Run button.

Figure 2-184 Java - Security Warning



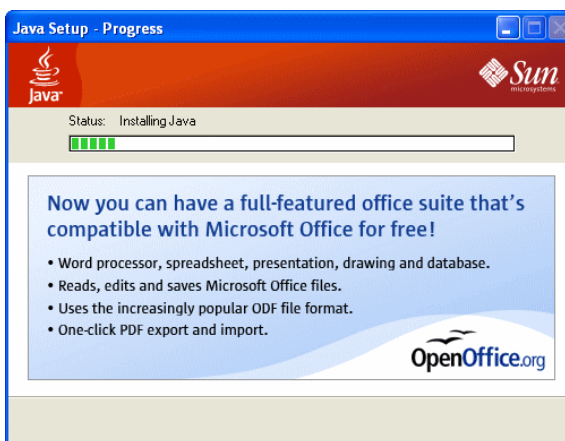
- 8 If the Java setup utility shown in Figure 2-185 opens, the installed Java version requires an update. Click on the Install button. Otherwise, go to step 10.

Figure 2-185 Java Setup - Welcome



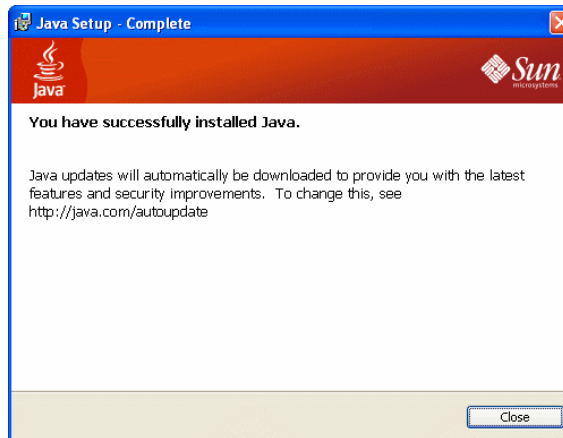
The setup utility displays installation progress, as shown in Figure 2-186.

Figure 2-186 Java Setup Progress



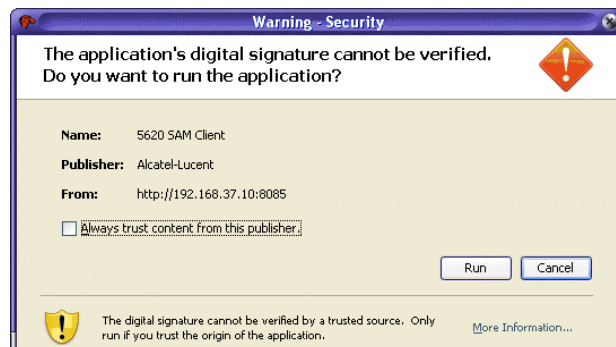
- 9 When the panel shown in Figure 2-187 is displayed, the Java setup is complete. Click on the Close button.

Figure 2-187 Java Setup - Complete



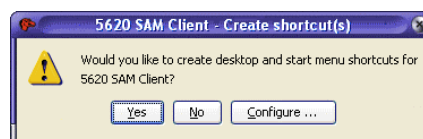
- 10 If a security warning like the one shown in Figure 2-188 is displayed, click on the Run button.

Figure 2-188 Warning - Security



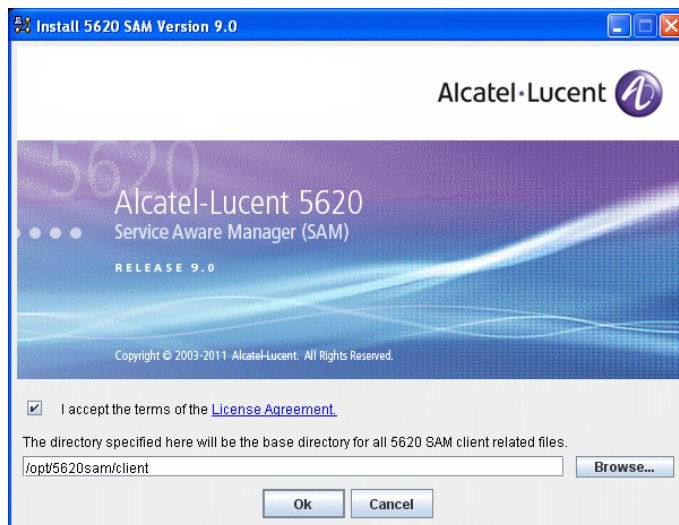
- 11 The 5620 SAM client installer opens, as shown in Figure 2-189. Click on the Yes or No button, as required, to indicate whether you want the installer to create shortcuts for the 5620 SAM client application.

Figure 2-189 5620 SAM Client - Create shortcut(s)



- 12 Perform the following steps when the panel shown in Figure 2-190 is displayed.

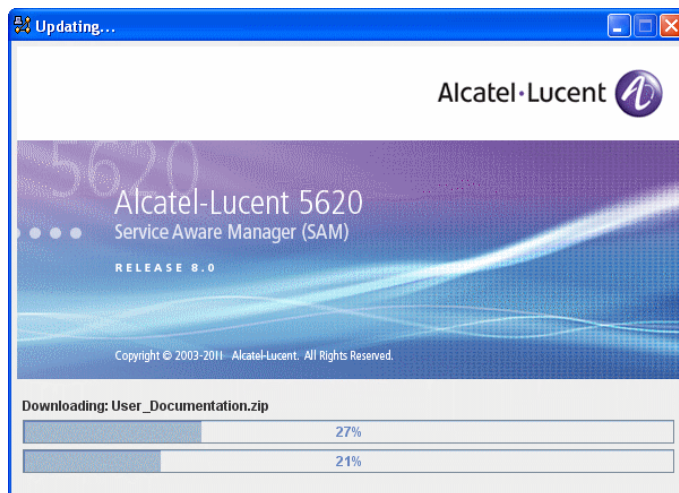
Figure 2-190 Install 5620 SAM Version 9.0



- i Select the check box to accept the terms of the license agreement.
- ii If required, specify a client installation location other than the default by typing the path or by using the Browse button.
- iii Click on the OK button. The 5620 SAM client installation begins.

The panel shown in Figure 2-191 is displayed. The panel shows installation progress using separate bars to indicate the overall and current task progress.

Figure 2-191 Installation progress



When the installation is complete, the client installer closes and the newly installed 5620 SAM client GUI opens.

13 Log in to the 5620 SAM client GUI.



Note — The default 5620 SAM client login credentials are the following:

- Login Name—admin
 - Password—5620Sam!
-

Procedure 2-4 To install a 5620 SAM single-user client on Solaris using the software DVD-ROM

Perform this procedure to install the 5620 SAM client software on a Solaris station from the 5620 SAM software DVD-ROM for local access by one user at a time. You require local user privileges on the client station to perform this procedure.



Note 1 — The 5620 SAM main server to which the single-user client connects must be running before you perform this procedure.

Note 2 — If you are this procedure from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

Install auto-client update utility

- 1** Log in to the station that is to be the single-user client station as a user with local privileges.
- 2** Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 3** Open a console window.
- 4** Navigate to the DVD-ROM drive.

- 5 Perform one of the following to open the 5620 SAM client installer.
 - a On a SPARC station:
 - i Enter the following:

```
bash$ cd Solaris ↵
```
 - ii Enter the following:

```
bash$ ./ClientInstall_SAM_9_0_revision.bin ↵
```

where
revision is the revision identifier, such as R1, R3, or another descriptor
 - b On an x86-based station:
 - i Enter the following:

```
bash$ cd Solarisx86 ↵
```
 - ii Enter the following:

```
bash$ ./ClientInstall_x86_SAM_9_0_revision.bin ↵
```

where
revision is the revision identifier, such as R1, R3, or another descriptor

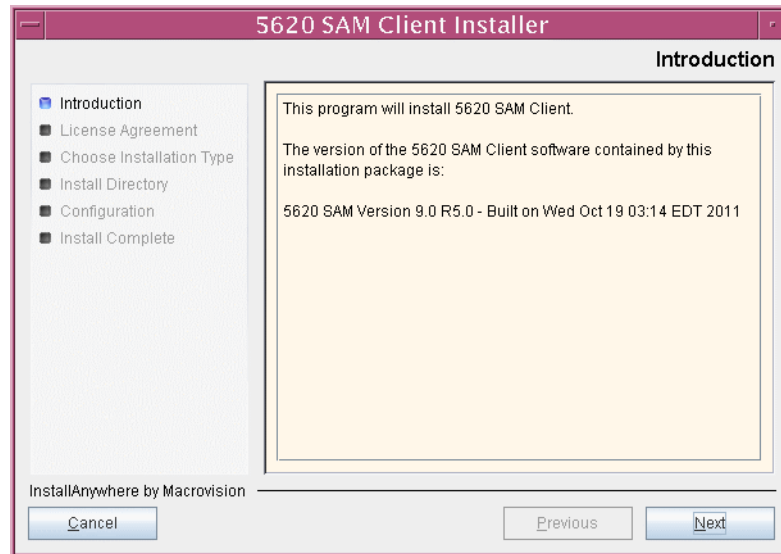
The splash screen shown in Figure 2-192 opens.

Figure 2-192 5620 SAM installer



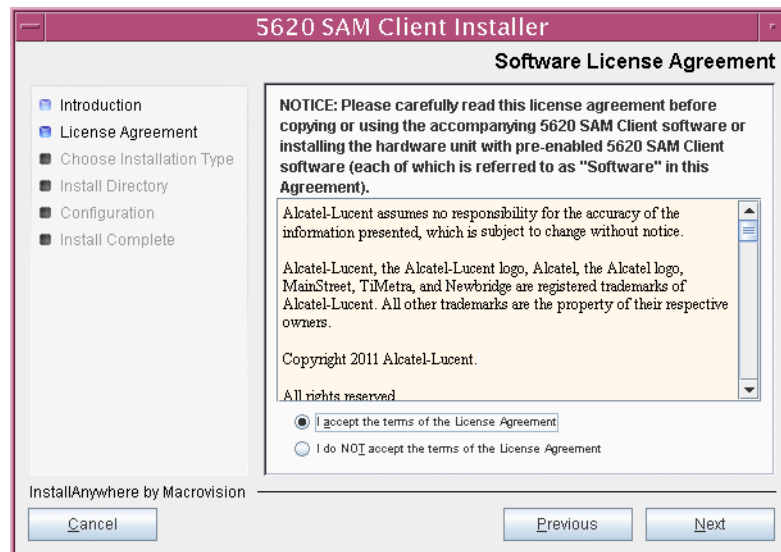
- 6 The 5620 SAM client installer opens, as shown in Figure 2-193. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-193 Introduction



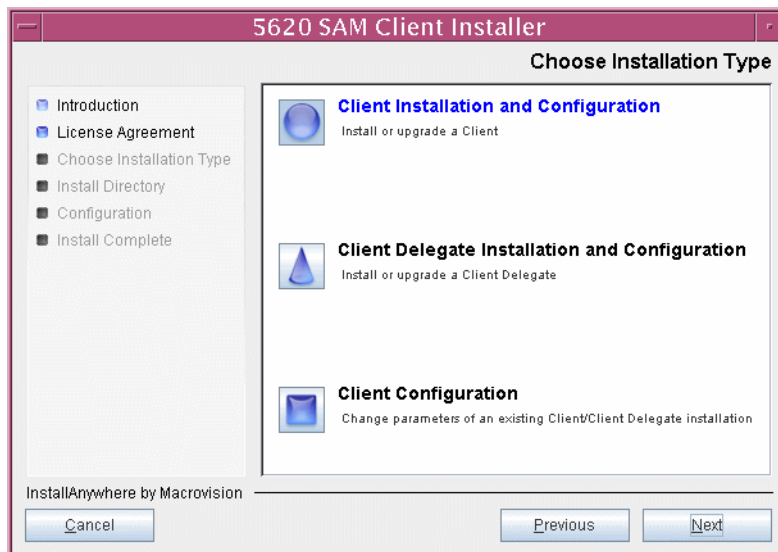
- 7 Review and accept the terms of the license agreement shown in Figure 2-194. Click on the Next button.

Figure 2-194 Software License Agreement



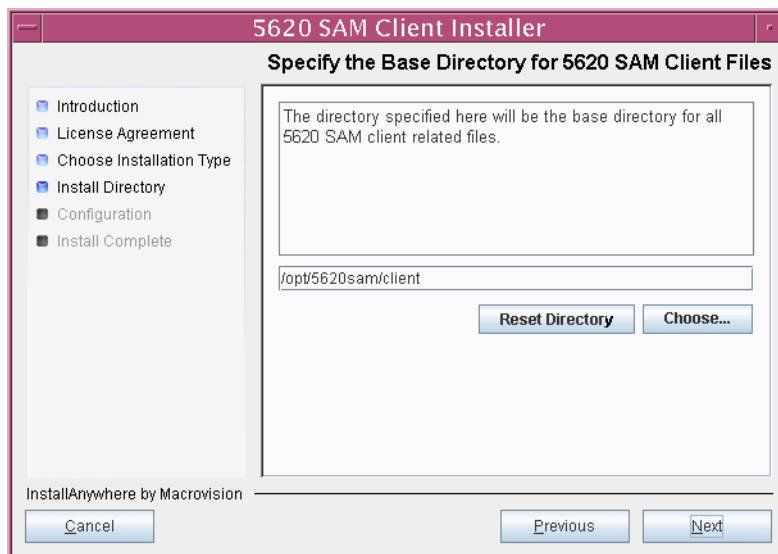
- 8 Select Client Installation and Configuration, as shown in Figure 2-195. Click on the Next button.

Figure 2-195 Choose Installation Type



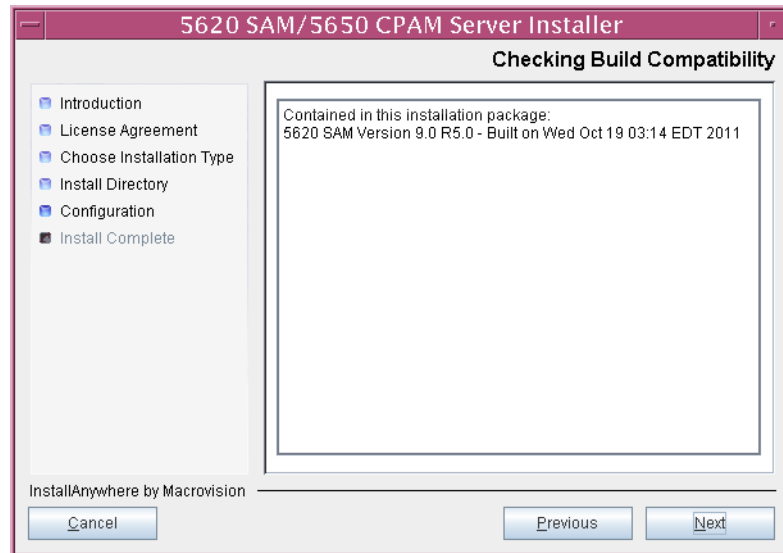
- 9 Specify a base directory in which to install the 5620 SAM client software (typically /opt/5620sam/client) as shown in Figure 2-196. Click on the Next button.

Figure 2-196 Specify the Base Directory for 5620 SAM Client Files



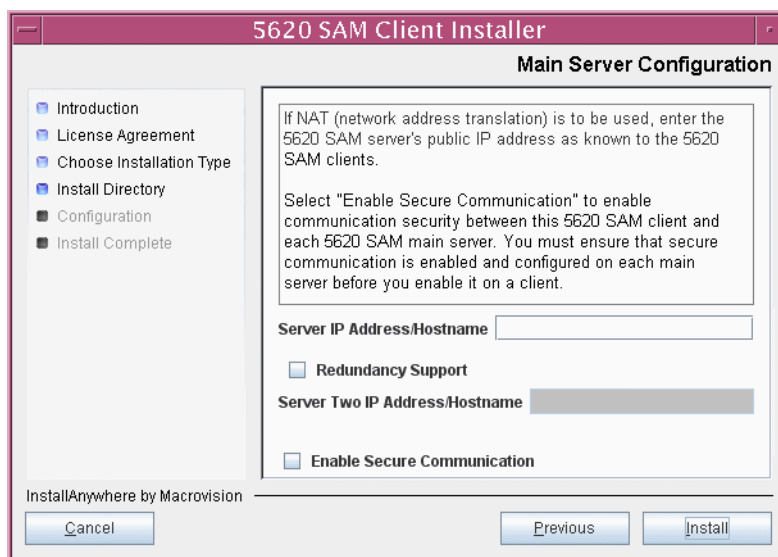
- 10 As shown in Figure 2-197, the installer indicates which release of 5620 SAM software is to be installed. Verify the information. Click on the Next button.

Figure 2-197 Checking Build Compatibility



- 11 Perform one of the following.
 - a Configure the 5620 SAM client for use with a standalone 5620 SAM server and database.
 - i Ensure that the “Redundancy Support” parameter is disabled, as shown in Figure 2-198.

Figure 2-198 Main Server Configuration

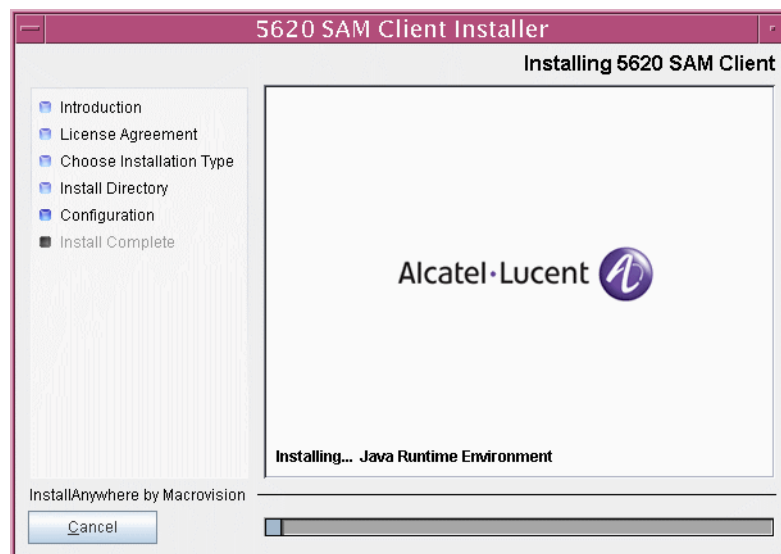


- ii Configure the “Server IP Address/Hostname” parameter using the IP address that the client must use to reach the 5620 SAM server.
- iii Select the “Enable Secure Communication” parameter if secure communication is configured on the 5620 SAM main servers to which the client connects.
- iv Click on the Install button to begin the auto-client update utility installation.

- b Configure the 5620 SAM client for use with a redundant 5620 SAM server and database.
 - i Select the “Redundancy Support” parameter shown in Figure 2-198.
 - ii Configure the “Server IP Address/Hostname” parameter using the IP address that the client must use to reach the primary 5620 SAM server.
 - iii Configure the “Server Two IP Address/Hostname” parameter using the IP address that the client must use to reach the standby 5620 SAM server.
 - iv Select the “Enable Secure Communication” parameter if secure communication is configured on the 5620 SAM main servers to which the client connects.
 - v Click on the Install button to begin the auto-client update utility installation.

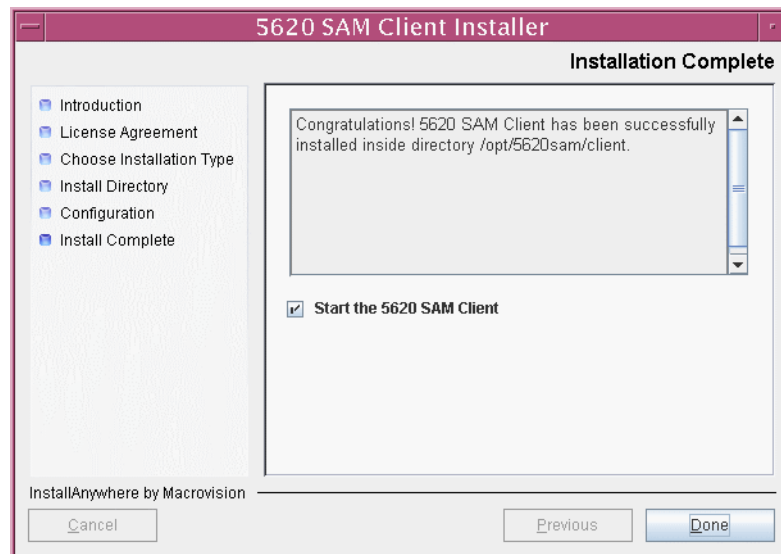
The next panel displays installation progress, as shown in Figure 2-199.

Figure 2-199 Installing 5620 SAM Client



- 12 When the auto-client update utility installation is complete, as shown in Figure 2-200, configure the “Start the 5620 SAM Client” parameter to specify whether you want the auto-client update utility to start immediately after the installation.

Figure 2-200 Installation Complete

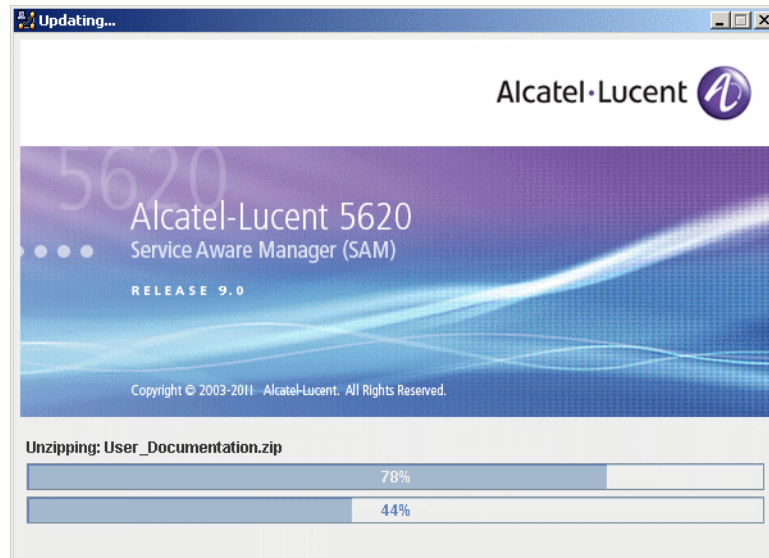


Install 5620 SAM client software using auto-client update utility

- 13 Click on the Done button to close the client installer.

If you specified that the auto-client update utility is to start after installation, the utility starts, detects the available client software on the 5620 SAM server, begins downloading files, and displays the panel shown in Figure 2-201. The panel uses separate bars to indicate the overall and current task progress.

Figure 2-201 Installation progress



When the installation is complete, the auto-client update utility closes and the 5620 SAM client login form opens.

- 14 If you specified not to start the auto-client update utility immediately after the installation, start the 5620 SAM auto-client update utility manually later by entering the following at a CLI prompt:



Note — You must be logged in as the same user that installed the auto-client update utility.

```
# path/nms/bin/nmsclient.bash .
```

where *path* is the 5620 SAM client installation location, typically /opt/5620sam/client

The utility detects the available client software on the 5620 SAM server, begins downloading files, and displays the panel shown in Figure 2-201. The panel uses separate bars to indicate the overall and current task progress.

When the installation is complete, the auto-client update utility closes and the 5620 SAM client login form opens.

- 15 Log in to the 5620 SAM client GUI to ensure that the client and server are communicating properly.



Note — The default 5620 SAM client login credentials are the following:

- Login Name—admin
 - Password—5620Sam!
-

Procedure 2-5 To install a 5620 SAM single-user client on Windows using a web browser

Perform this procedure to install the 5620 SAM single-user client software on a Windows station using a web browser. You require local user privileges on the client station to perform this procedure.



Note — The 5620 SAM main server to which the single-user client connects must be running before you perform this procedure.

- 1 The client installer requires Java version 6.0 or later. Perform one of the following to ensure that the correct Java version is installed.
 - a If an earlier version of Java is installed on the client station, ensure that the client station has Internet access so that the installer can download and install the later version.
 - b If Java is not installed on the client station, visit <http://java.com> to download and install Java.

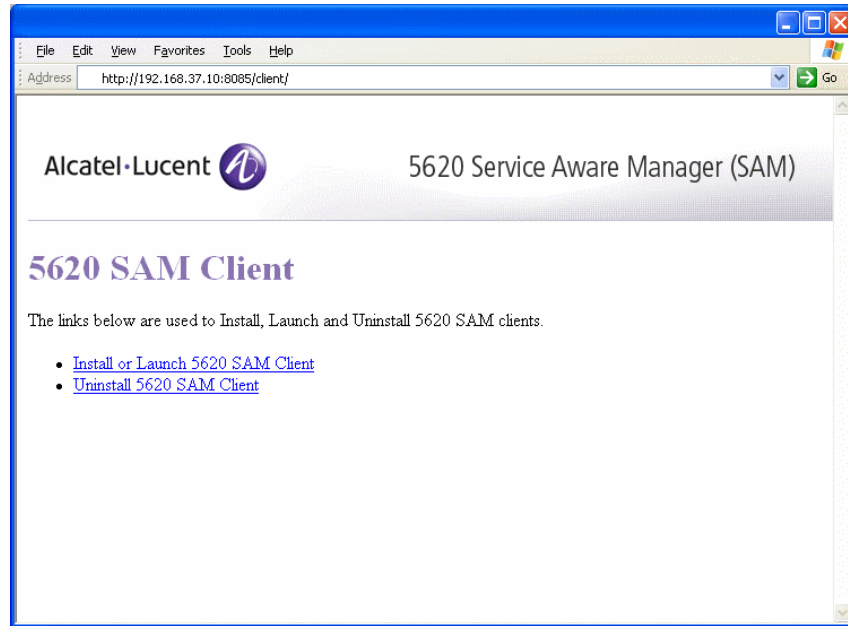
- 2 Use a web browser on the client station to open the following page on the 5620 SAM main server:

<http://server:8085/client>

where *server* is the IP address or hostname of the 5620 SAM main server

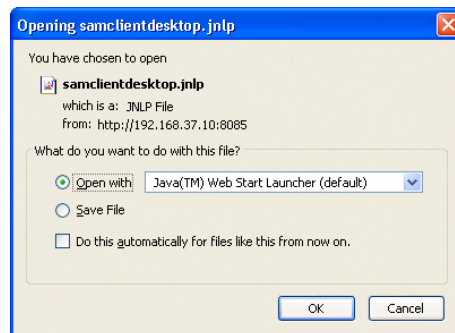
The page shown in Figure 2-180 is displayed.

Figure 2-202 5620 SAM client page



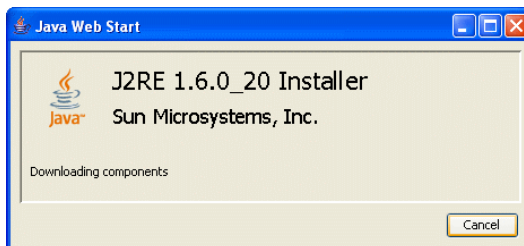
- 3 Click on the “Install or Launch 5620 SAM Client” link. The form shown in Figure 2-181 is displayed.

Figure 2-203 Opening samclientdesktop.jnlp



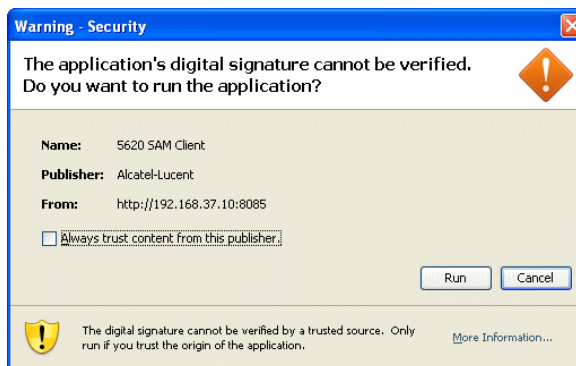
- 4 Ensure that “Open with” is selected, then click on the OK button. A Java installer opens, as shown in Figure 2-182, and begins to download components.

Figure 2-204 Java Web Start



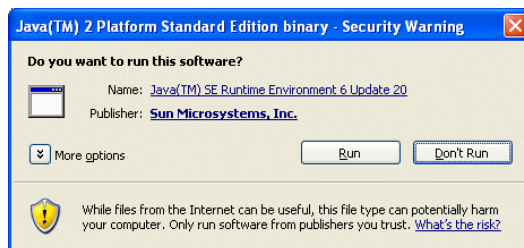
- 5 If a security warning like the one shown in Figure 2-183 is displayed, click on the Run button.

Figure 2-205 Warning - Security



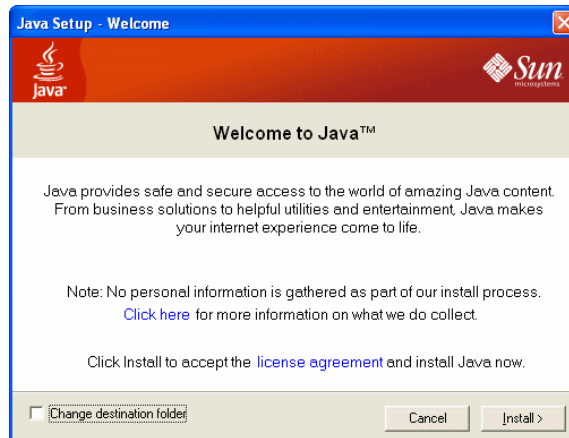
- 6 If a security warning like the one shown in Figure 2-184 is displayed, click on the Run button.

Figure 2-206 Java - Security Warning



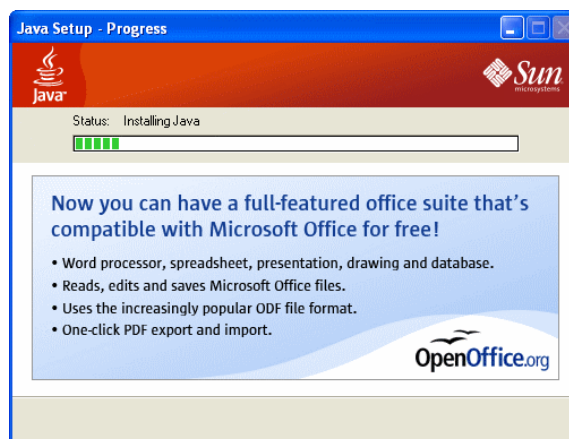
- 7 If the Java setup utility shown in Figure 2-185 opens, the installed Java version requires an update. Click on the Install button. Otherwise, go to step 10.

Figure 2-207 Java Setup - Welcome



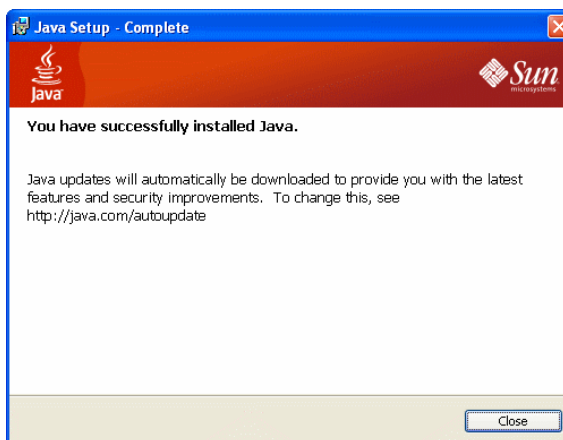
The setup utility displays installation progress, as shown in Figure 2-186.

Figure 2-208 Java Setup Progress



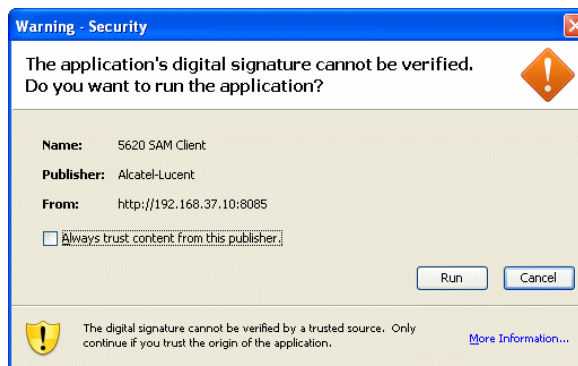
- 8 When the panel shown in Figure 2-186 is displayed, the Java setup is complete. Click on the Close button.

Figure 2-209 Java Setup - Complete



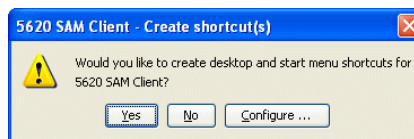
- 9 If a security warning like the one shown in Figure 2-188 is displayed, click on the Run button.

Figure 2-210 Warning - Security



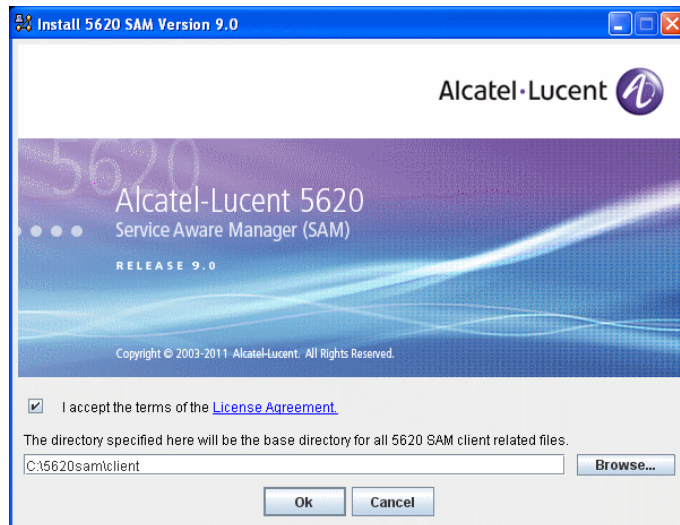
- 10 The 5620 SAM client installer opens, as shown in Figure 2-189. Click on the Yes or No button, as required, to indicate whether you want the installer to create shortcuts for the 5620 SAM client application.

Figure 2-211 5620 SAM Client - Create shortcut(s)



- 11 Perform the following steps when the panel shown in Figure 2-190 is displayed.

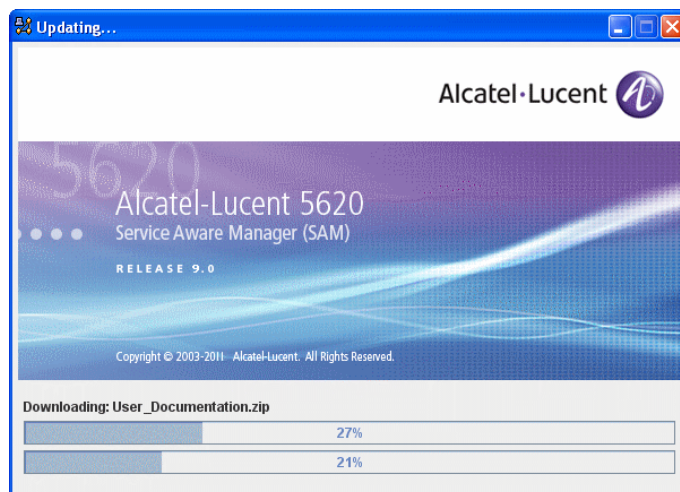
Figure 2-212 Install 5620 SAM Version 9.0



- i Select the check box to accept the terms of the license agreement.
- ii If required, specify a client installation location other than the default by typing the path or by using the Browse button.
- iii Click on the OK button. The 5620 SAM client installation begins.

The panel shown in Figure 2-201 is displayed. The panel shows installation progress using separate bars to indicate the overall and current task progress.

Figure 2-213 Installation progress



When the installation is complete, the client installer closes and the newly installed 5620 SAM client GUI opens.

12 Log in to the 5620 SAM client GUI.



Note — The default 5620 SAM client login credentials are the following:

- Login Name—admin
- Password—5620Sam!

Procedure 2-6 To install a 5620 SAM single-user client on Windows using the software DVD-ROM

Perform this procedure to install the 5620 SAM single-user client software on a Windows station from the 5620 SAM software DVD-ROM. You require local user privileges on the client station to perform this procedure. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



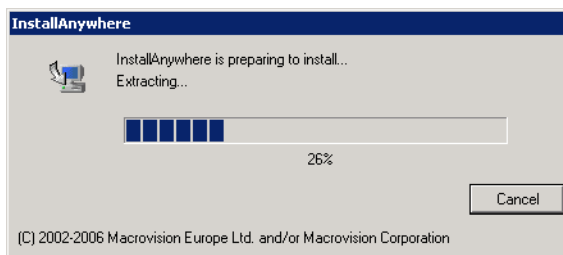
Note — The 5620 SAM main server to which the single-user client connects must be running before you perform this procedure.

Install auto-client update utility

- 1 Navigate to the Windows directory on the 5620 SAM software DVD-ROM.
- 2 Double-click on the ClientInstall_SAM_9_0_revision.exe file
where *revision* is the revision identifier, such as R1, R3, or another descriptor

The installer prepares by extracting files, as shown in Figure 2-214.

Figure 2-214 Installer preparation



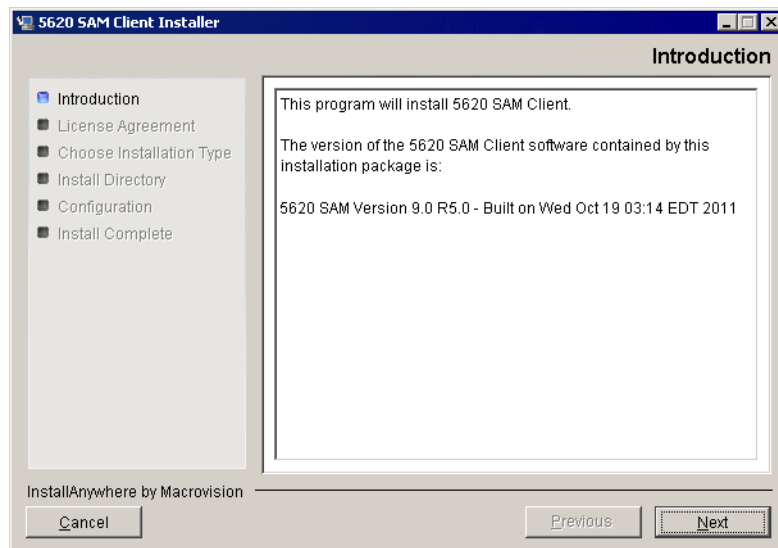
When the counter reaches 100%, the splash screen shown in Figure 2-215 opens.

Figure 2-215 5620 SAM installer



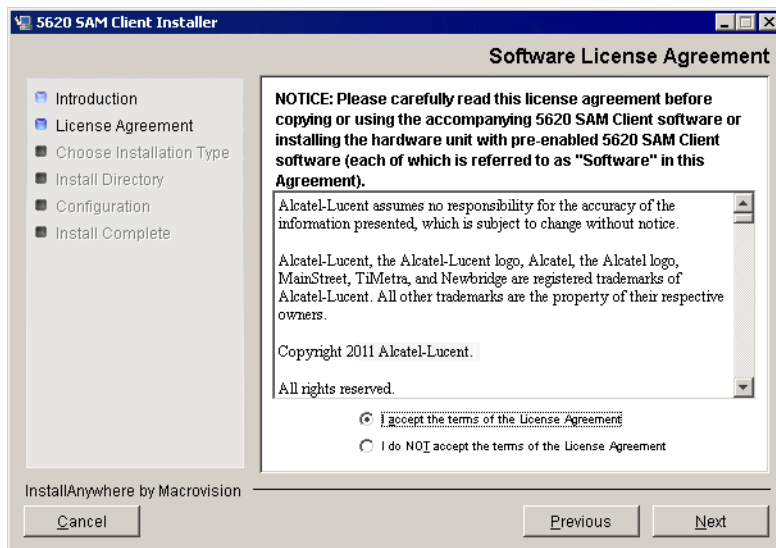
- 3 The 5620 SAM client installer opens, as shown in Figure 2-216. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-216 Introduction



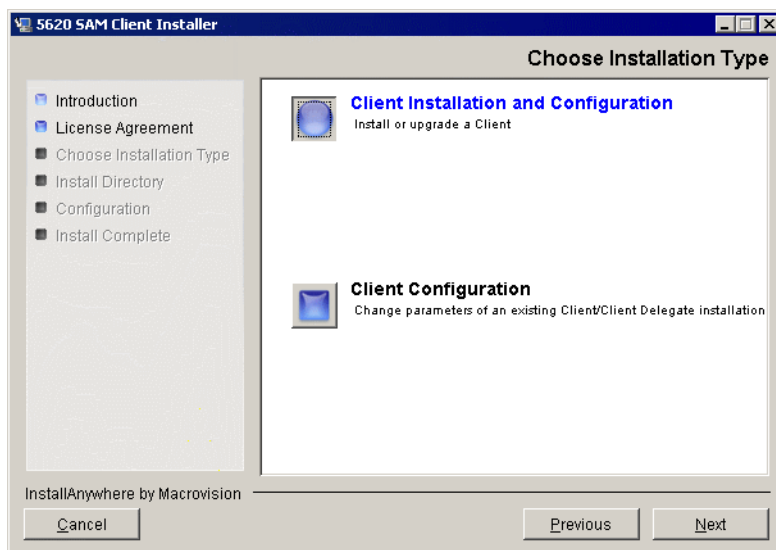
- 4 Review and accept the terms of the license agreement shown in Figure 2-217. Click on the Next button.

Figure 2-217 Software License Agreement



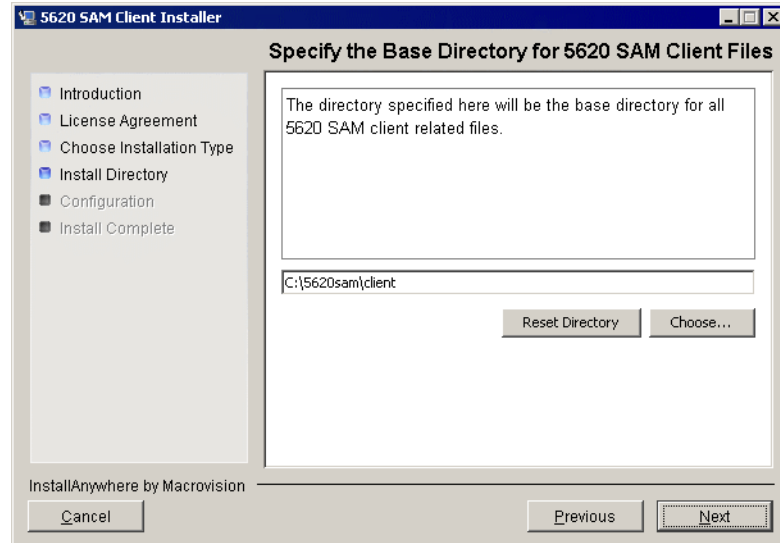
- 5 Select Client Installation and Configuration, as shown in Figure 2-218. Click on the Next button.

Figure 2-218 Choose Installation Type



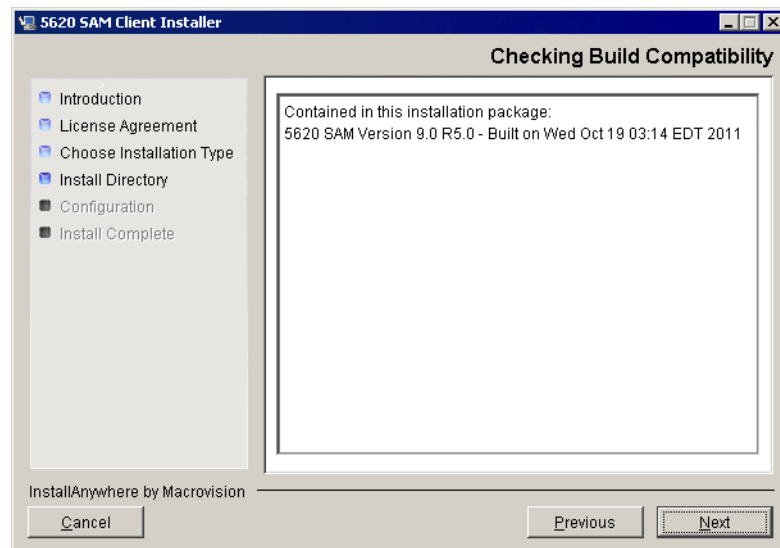
- 6 Specify a base directory in which to install the 5620 SAM client software (typically C:\5620sam\client) as shown in Figure 2-219. Click on the Next button.

Figure 2-219 Specify the Base Directory for 5620 SAM Client Files



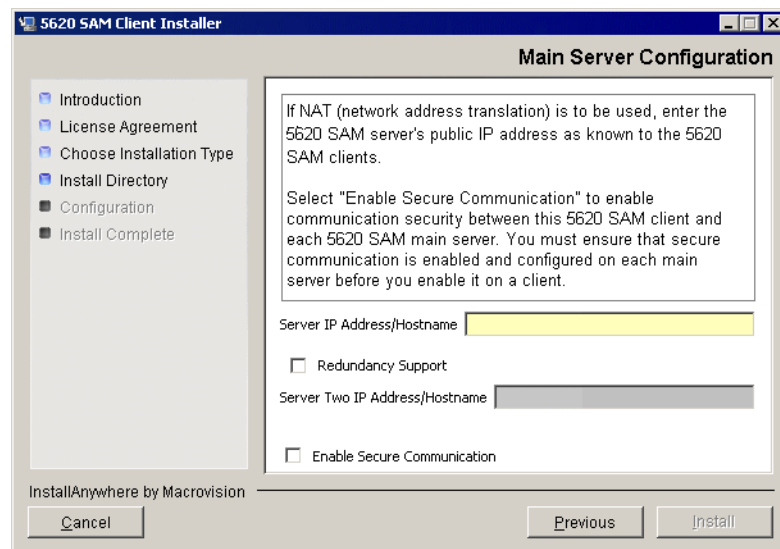
- 7 As shown in Figure 2-220, the installer indicates which release of 5620 SAM software is to be installed. Verify the information. Click on the Next button.

Figure 2-220 Checking Build Compatibility



- 8 Perform one of the following:
 - a Configure the 5620 SAM client for use with a standalone 5620 SAM main server and database.
 - i Ensure that the “Redundancy Support” parameter is disabled, as shown in Figure 2-221.

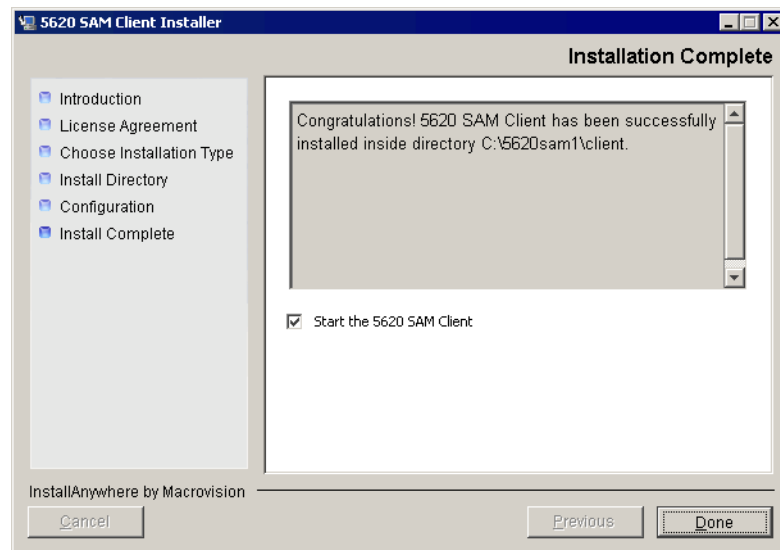
Figure 2-221 Main Server Configuration



- ii Configure the “Server IP Address/Hostname” parameter using the IP address that the client uses to address the 5620 SAM main server.
- iii Select the “Enable Secure Communication” parameter if secure communication is configured on the 5620 SAM main servers to which the client connects.
- iv Click on the Install button to begin the auto-client update utility installation.

- b Configure the 5620 SAM client for use with a redundant 5620 SAM main server and database.
 - i Select the “Redundancy Support” parameter shown in Figure 2-221.
 - ii Configure the “Server IP Address/Hostname” parameter using the IP address that the client uses to reach the primary 5620 SAM main server.
 - iii Configure the “Server Two IP Address/Hostname” parameter using the IP address that the client uses to reach the standby 5620 SAM main server, then click on the Install button to begin the auto-client update utility installation.
 - iv Select the “Enable Secure Communication” parameter if secure communication is configured on the 5620 SAM main servers to which the client connects.
 - v Click on the Install button to begin the auto-client update utility installation.
- 9 When the installation is complete, as shown in Figure 2-222, configure the “Start the 5620 SAM client” parameter to specify whether the client is to start immediately after the installer closes. Click on the Done button to close the client installer.

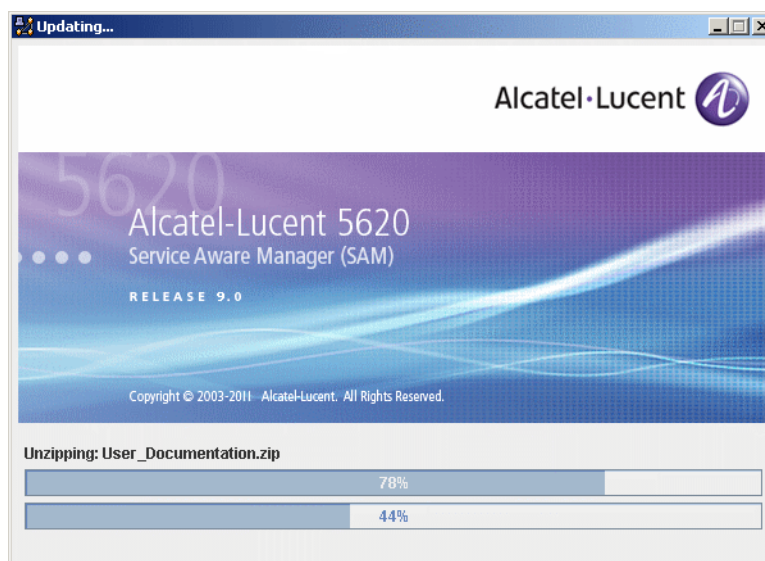
Figure 2-222 Installation Complete



Install 5620 SAM client software using auto-client update utility

- 10 If you did not select the “Start the 5620 SAM client” parameter in step 9, start the 5620 SAM auto-client update utility by double-clicking on the 5620 SAM Client App desktop icon. The utility opens, detects the available client software on the 5620 SAM main server, and displays the panel shown in Figure 2-201. The panel uses separate bars to indicate the overall and current task progress.

Figure 2-223 Installation progress



When the installation is complete, the auto-client update utility closes and the newly installed 5620 SAM client opens.

- 11 Log in to the 5620 SAM client GUI to ensure that the single-user client and main server are communicating properly.



Note — The default 5620 SAM client login credentials are the following:

- Login Name—admin
- Password—5620Sam!

Procedure 2-7 To install a 5620 SAM client delegate server

Perform this procedure to install a 5620 SAM client delegate server. You require root user privileges on the client delegate server station to perform this procedure.

A client delegate server supports multiple client GUI sessions using display redirection. Consider the following before you install a client delegate server.

- A separate terminal using X.11 or native X can display a 5620 SAM client GUI.
- You cannot use X window emulation software to display a 5620 SAM client GUI.



Note 1 — The 5620 SAM main server to which the client delegate server connects must be running before you perform this procedure.

Note 2 — If you are performing this procedure from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

Install auto-client update utility

- 1 Log in to the station that is to be the client delegate server station as the root user.
- 2 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 3 Open a console window.
- 4 Navigate to the DVD-ROM drive.
- 5 Perform one of the following to open the 5620 SAM client installer.

a On a SPARC station:

- i** Enter the following:

```
bash$ cd Solaris ↵
```

- ii** Enter the following:

```
bash$ ./ClientInstall_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

- i** Enter the following:

```
bash$ cd Solarisx86 ↵
```

- ii** Enter the following:

```
bash$ ./ClientInstall_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

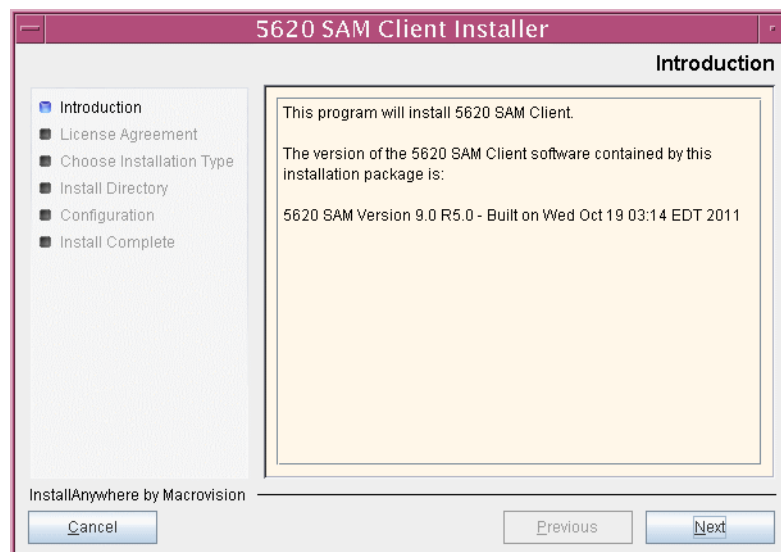
The splash screen shown in Figure 2-224 opens.

Figure 2-224 5620 SAM installer



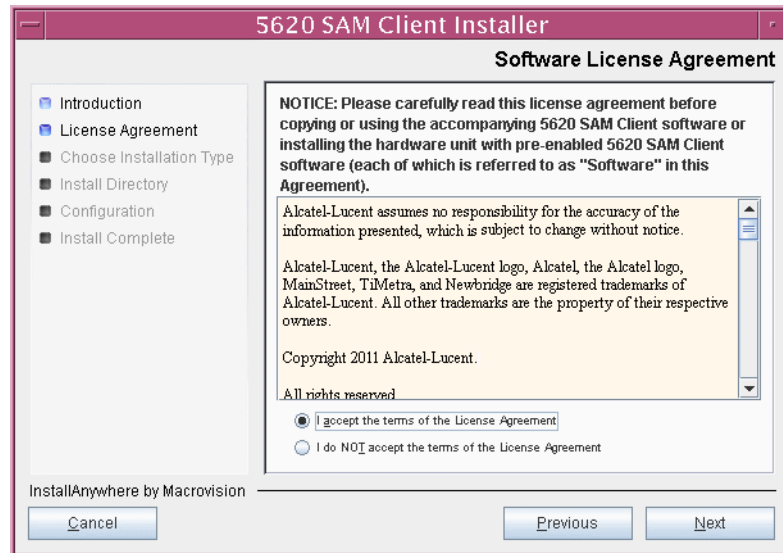
- 6 The 5620 SAM client installer opens, as shown in Figure 2-225. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-225 Introduction



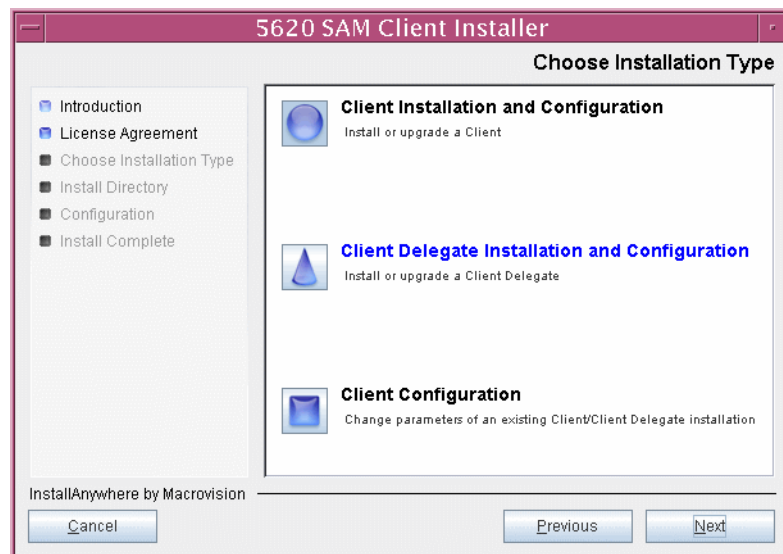
- 7 Review and accept the terms of the license agreement shown in Figure 2-226. Click on the Next button.

Figure 2-226 Software License Agreement



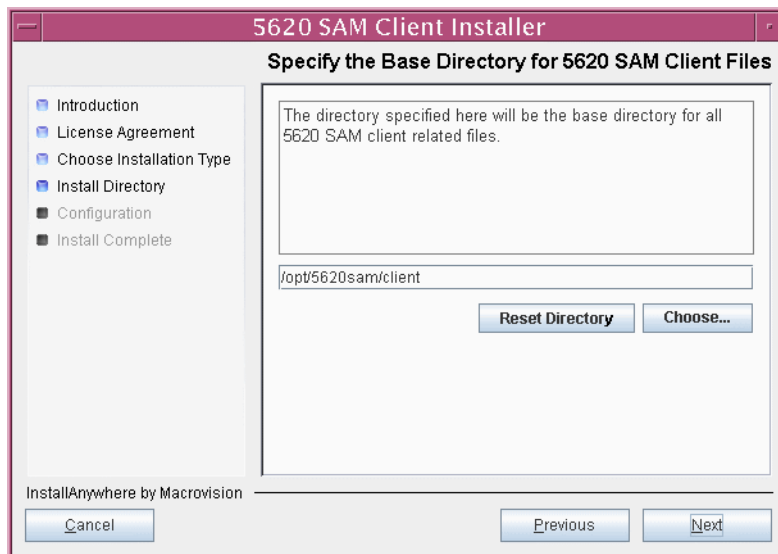
- 8 Select Client Delegate Installation and Configuration, as shown in Figure 2-227. Click on the Next button.

Figure 2-227 Choose Installation Type



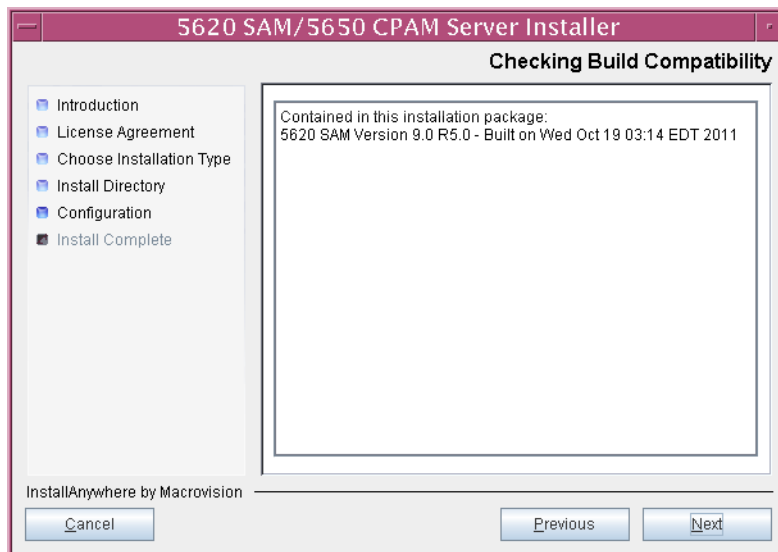
- 9 Specify a base directory in which to install the 5620 SAM client delegate software (typically /opt/5620sam/client) as shown in Figure 2-228. Click on the Next button.

Figure 2-228 Specify the Base Directory for 5620 SAM Client Files



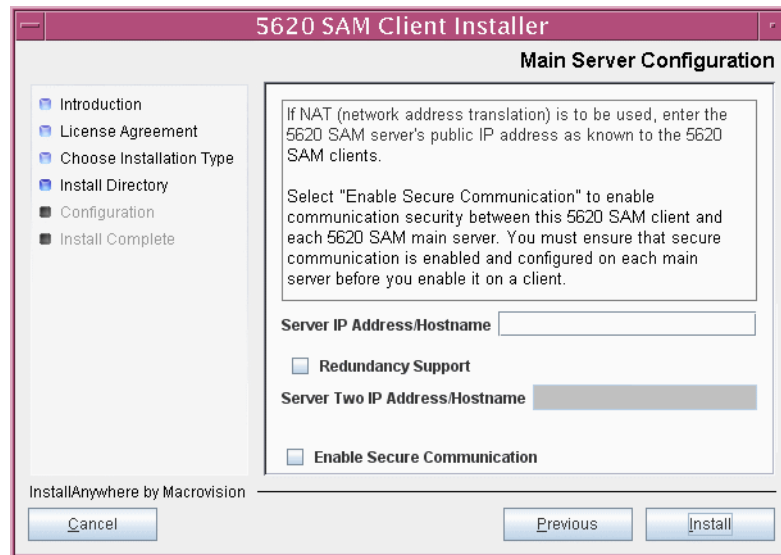
- 10 As shown in Figure 2-229, the installer indicates which release of 5620 SAM software is to be installed. Verify the information. Click on the Next button.

Figure 2-229 Checking Build Compatibility



- 11 Perform one of the following.
 - a Configure the 5620 SAM client delegate server for use with a standalone 5620 SAM server and database.
 - i Ensure that the “Redundancy Support” parameter is disabled, as shown in Figure 2-230.

Figure 2-230 Main Server Configuration

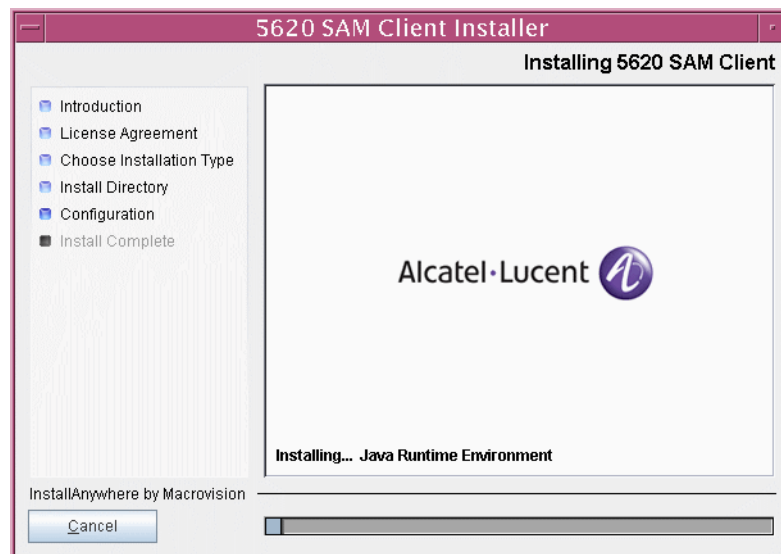


- ii Configure the “Server IP Address” parameter using the IP address that the client delegate must use to reach the 5620 SAM server.
 - iii Select the “Enable Secure Communication” parameter if secure communication is configured on the 5620 SAM main servers to which the client connects.
 - iv Click on the Install button to begin the auto-client update utility installation.

- b Configure the 5620 SAM client delegate server for use with a redundant 5620 SAM server and database.
 - i Select the “Redundancy Support” parameter shown in Figure 2-230.
 - ii Configure the “Server IP Address” parameter using the IP address that the client delegate server must use to reach the primary 5620 SAM server.
 - iii Configure the “Server Two IP Address” parameter using the IP address that the client delegate server must use to reach the standby 5620 SAM server.
 - iv Select the “Enable Secure Communication” parameter if secure communication is configured on the 5620 SAM main servers to which the client connects.
 - v Click on the Install button to begin the auto-client update utility installation.

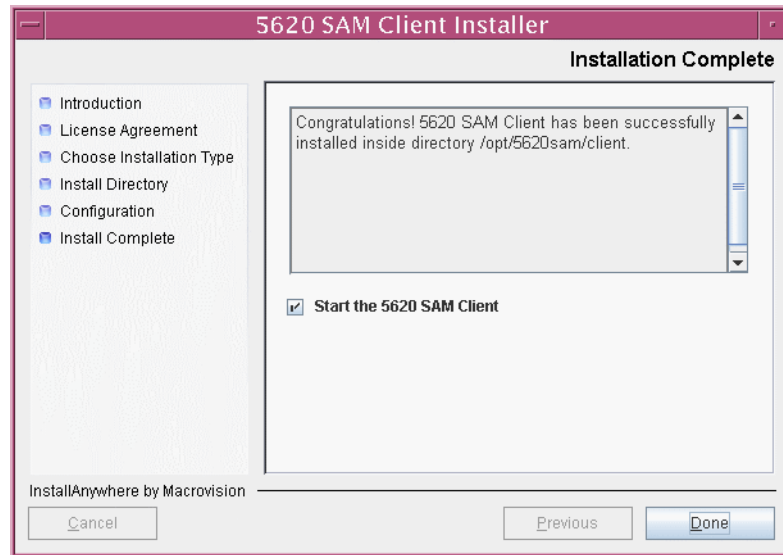
The next panel displays installation progress, as shown in Figure 2-231.

Figure 2-231 Installing 5620 SAM Client



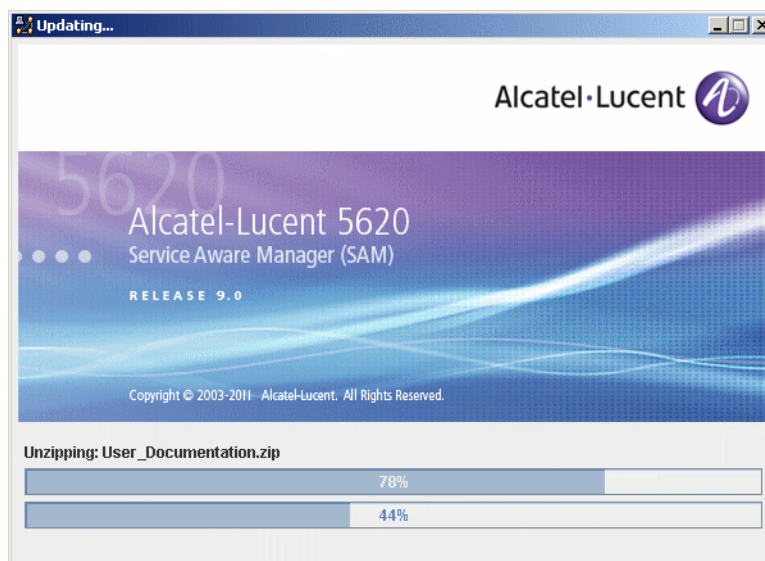
- 12 When the auto-client update utility installation is complete, as shown in Figure 2-232, ensure that the select the “Start the 5620 SAM Client” parameter is selected to specify that the auto-client update utility is to start immediately after the installation.

Figure 2-232 Installation Complete



Install 5620 SAM client delegate server software using auto-client update utility

- 13 Click on the Done button to close the client installer. The auto-client update utility detects the available client software on the 5620 SAM server, begins downloading files, and displays the panel shown in Figure 2-233. The panel uses separate bars to indicate the overall and current task progress.

Figure 2-233 Installation progress

When the installation is complete, the auto-client update utility closes and the 5620 SAM client login form opens.

- 14 Click on the Cancel button to close the 5620 SAM client login form.
- 15 If this is the first 5620 SAM server installation on the station, the installer creates a user account called samadmin for 5620 SAM system administration. You must assign a new password to this user account.

Perform the following steps to assign a new samadmin password.

- i Enter the following:

```
# passwd samadmin
```

The following prompt is displayed:

```
New Password:
```

- ii Enter the new password and press ↵.

The following prompt is displayed:

```
Confirm New Password:
```

- iii Enter the new password again and press ↵. The password is changed.
- iv Record the new password and store it in a secure location.

Transfer saved GUI preferences and table layouts to client delegate server

- 16 A client delegate server installation creates a UNIX user group named sam. A user that opens a 5620 SAM client session through the client delegate server must belong to this user group. Add each user that is to use the client delegate server to the user group named sam.
- 17 Perform the following steps to preserve the saved GUI preferences and table layouts for each Solaris single-user client user that is to migrate from a single-user 5620 SAM client to the client delegate server.
 - i Log in to the single-user client station as the user that installed the 5620 SAM single-user client or as a user that has read privileges on the client files and directories.
 - ii Copy the following files in the `home_dir/5620SAM/guiPreference/SAM_user_name` directory to the same directory on the client delegate server station:
 - `SAM_user_name.guiPreferences`
 - `SAM_user_name.tablePreferences`where
`home_dir` is the Solaris home directory of the user
`SAM_user_name` is the 5620 SAM login name of the user
- 18 Perform the following steps to preserve the saved GUI preferences and table layouts for each Windows single-user client user that is to migrate from a single-user 5620 SAM client to the client delegate server.
 - i Log in to the single-user client station as the user that installed the 5620 SAM single-user client, or as a user that has read privileges on the client files and directories.
 - ii Copy the following files in the `home_dir\5620SAM\guiPreference\SAM_user_name` directory to the same directory on the client delegate server station:
 - `SAM_user_name.guiPreferences`
 - `SAM_user_name.tablePreferences`where
`home_dir` is the UNIX home directory of the user
`SAM_user_name` is the 5620 SAM login name of the user
- 19 Perform the following steps on each station that is to open a client GUI session through the client delegate server.
 - i Open a remote login session on the client delegate server.
 - ii Configure display redirection from the client delegate server station to the current station.
 - iii Start the 5620 SAM client GUI by entering the following command:


```
# path/nms/bin/nmsclient.bash ↵
```

where `path` is the 5620 SAM client delegate server installation location, typically `/opt/5620sam/client`

The 5620 SAM client login form opens.

- iv Log in to the 5620 SAM client GUI to ensure that the display is properly redirected and the GUI preferences for the 5620 SAM account, such as table layouts, are preserved.
-

Procedure 2-8 To add a client delegate server to an existing 5620 SAM system

Perform this procedure to add a new 5620 SAM client delegate server to an existing 5620 SAM system. You must use the 5620 SAM server configuration utility to add the new client delegate server to each main server configuration. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.

You require the following user privileges to perform this procedure:

- on each main server station:
 - root
 - samadmin
- 1 Perform Procedure [2-7](#) to install the client delegate server software on the station that is to be the new client delegate server station.
 - 2 If the 5620 SAM is deployed in a standalone configuration, go to step [5](#).
 - 3 Perform steps [5](#) to [13](#) on the primary main server.
 - 4 Perform steps [5](#) to [13](#) on the standby main server.
 - 5 Log in to the main server station as the root user.
 - 6 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
 - 7 Open a console window.
 - 8 Navigate to the DVD-ROM drive.

9 Perform one of the following to open the 5620 SAM server configuration utility.

a On a SPARC station:

i Enter the following:

```
# cd Solaris ↵
```

ii Enter the following:

```
# ./ServerInstall_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
# cd Solarisx86 ↵
```

ii Enter the following:

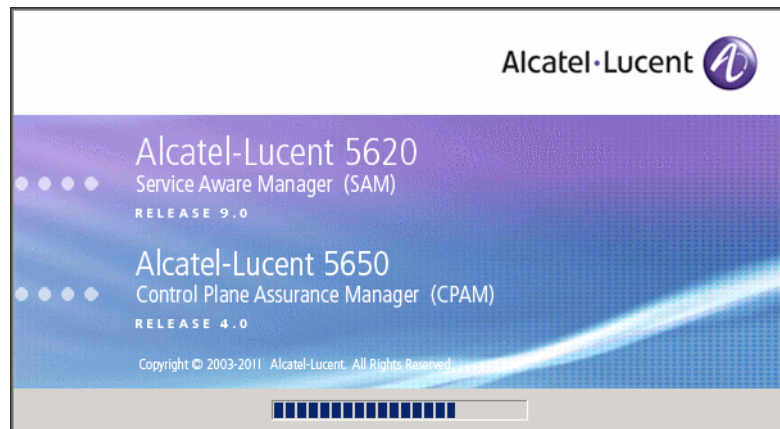
```
# ./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

The splash screen shown in Figure 2-234 opens.

Figure 2-234 5620 SAM server configuration utility



10 Perform the following steps to add the new client delegate server to the main server configuration.

i Click on the Next button in the “Introduction” panel.

ii Accept the terms of the license agreement in the “Software License Agreement” panel.

- iii Click on the Next button.
- iv Choose Main Server Configuration in the “Choose Installation Type” panel.
- v Click on the Next button.
- vi Click on the Next button on each successive panel until the “Additional Server Configuration” panel is displayed.
- vii Select the “Client Delegate Server Supported” parameter.
- viii Click on the Next button until the “Client Delegate Servers” panel is displayed.
- ix Click on the Add button.
- x Configure the “IP Address” parameter.



Note — If NAT is used between the 5620 SAM main and client delegate servers, you must specify the public IP address of the client delegate server.

- xi Click on the OK button to save the information and close the form.
 - xii Click on the Next button in each successive panel until the “Installation Complete” panel is displayed.
 - xiii Click on the Done button to close the main server configuration utility.
- 11 Enter the following to switch to the samadmin user:
- ```
su - samadmin ↵
```
- 12 Enter the following:
- ```
# path/nms/bin/nmserver.bash read_config ↵
```
- where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server
- The main server reads the updated configuration and accepts client sessions from the new client delegate server.
- 13 Close the console window.
-

2.8 5620 SAM auxiliary server installation

This section describes how to install a 5620 SAM auxiliary server component for a standalone or redundant 5620 SAM system. Procedure 2-9 describes how to install the 5620 SAM auxiliary server software. Procedure 2-10 describes how to add a new 5620 SAM auxiliary server to an existing 5620 SAM system.



Warning — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panel when you perform a procedure in this section:

- **5620 SAM/5650 CPAM Server Installer**
Auxiliary Server Address Configuration



Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

Note 2 — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

Procedure 2-9 To install a 5620 SAM auxiliary server

Perform this procedure to install the 5620 SAM auxiliary server software. You require root user privileges on the auxiliary server station to perform this procedure. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



Note 1 — An auxiliary server is dedicated to only one of the following functions:

- statistics collection
- call-trace data collection

Note 2 — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

Note 3 — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

Note 4 — The installer creates the samadmin user account on the auxiliary server station during this procedure.

- 1 Log in to the station that is to be the auxiliary server station as a user with root user privileges.
- 2 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 3 Open a console window.
- 4 Navigate to the DVD-ROM drive.
- 5 Perform one of the following to open the 5620 SAM server installer.
 - a On a SPARC station:
 - i Enter the following:


```
# cd Solaris ↵
```
 - ii Enter the following:


```
# ./ServerInstall_SAM_9_0_revision.bin ↵
```

where
revision is the revision identifier, such as R1, R3, or another descriptor
 - b On an x86-based station:
 - i Enter the following:

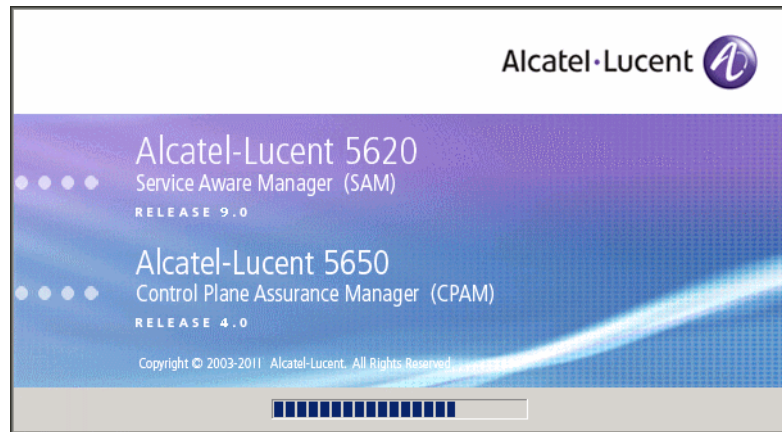

```
# cd Solarisx86 ↵
```
 - ii Enter the following:


```
# ./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where
revision is the revision identifier, such as R1, R3, or another descriptor

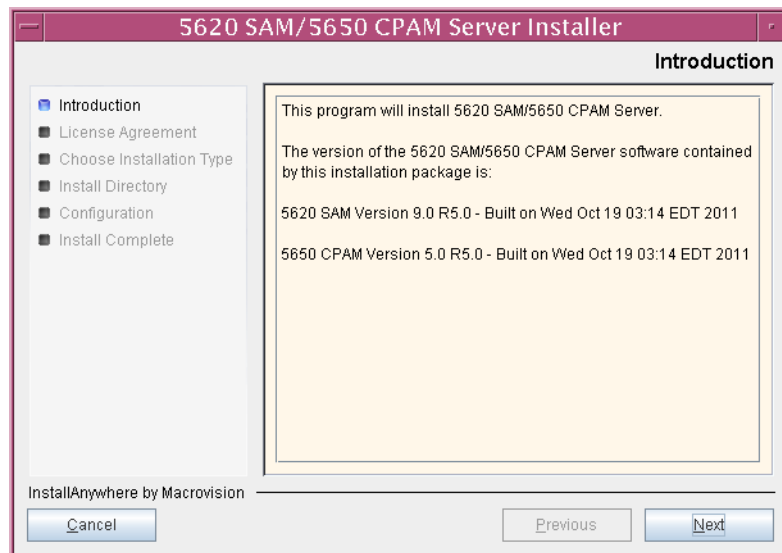
The splash screen shown in Figure 2-235 opens.

Figure 2-235 5620 SAM installer



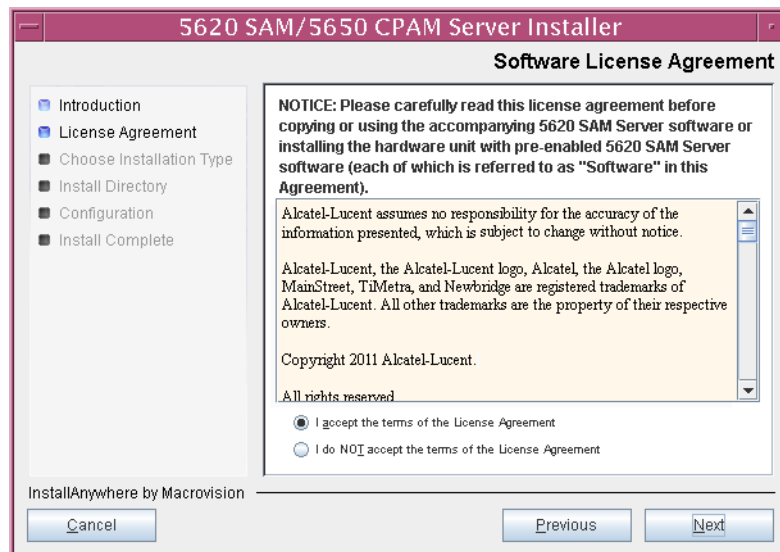
- 6 The 5620 SAM server installer opens, as shown in Figure 2-236. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 2-236 Introduction



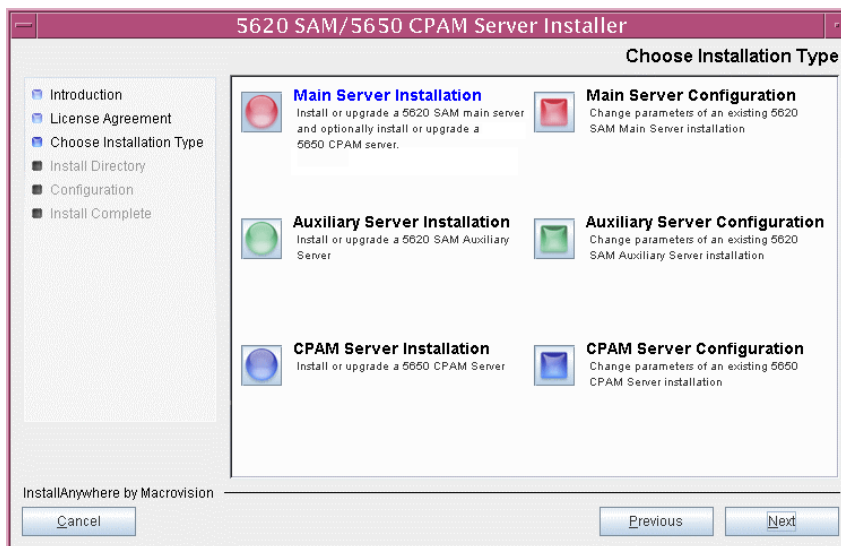
- 7 Review and accept the terms of the license agreement shown in Figure 2-237. Click on the Next button.

Figure 2-237 Software License Agreement



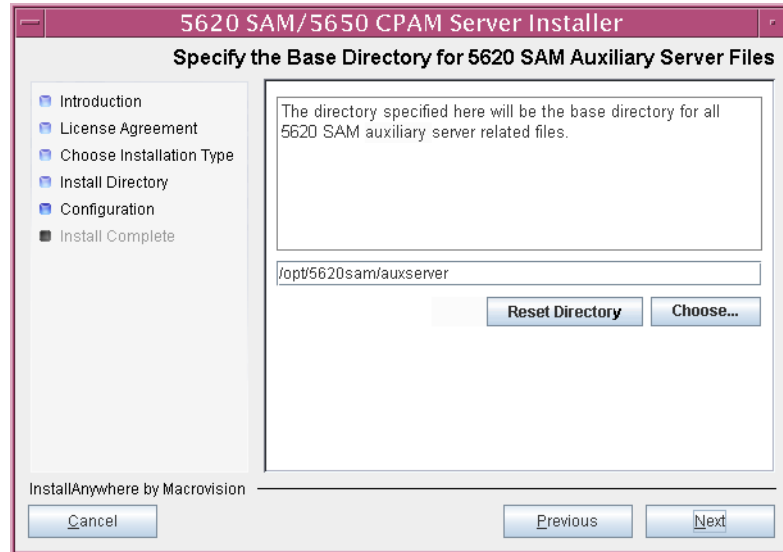
- 8 Select Auxiliary Server Installation, as shown in Figure 2-238. Click on the Next button.

Figure 2-238 Choose Installation Type



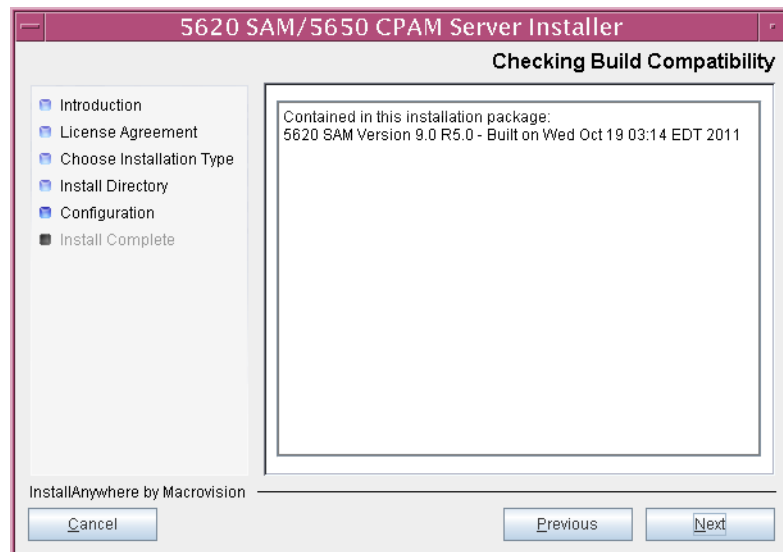
- 9 Specify a base directory in which to install the 5620 SAM auxiliary server software (typically /opt/5620sam/auxserver), as shown in Figure 2-239. Click on the Next button.

Figure 2-239 Specify the Base Directory for 5620 SAM Auxiliary Server Files



- 10 As shown in Figure 2-240, the installer indicates which release of 5620 SAM software is to be installed. Verify the information. Click on the Next button.

Figure 2-240 Checking Build Compatibility



11 Configure the parameters shown in Figure 2-241:

- **Server Domain Name** (typically 5620sam)
This parameter uniquely identifies the 5620 SAM server cluster to which the auxiliary server belongs.
- **NAT (network address translation) Used**
Select this parameter only if NAT is to be used between the 5620 SAM auxiliary server and the main servers.
- **Private IP** (accessible only by this server)
- **Public IP** (accessible to servers)
- **Server Port** (typically 12800)
- **Redundancy Supported On the 5620 SAM Main Server**
Select this parameter only if the 5620 SAM main servers are deployed in a redundant configuration.
- **Enable Stats Service**
Select this parameter if the 5620 SAM auxiliary server is to be used for statistics collection.
- **Enable Call Trace Service**
Select this parameter if the 5620 SAM auxiliary server is to be used for call-trace data collection.



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 2-241 Auxiliary Server Address Configuration

5620 SAM/5650 CPAM Server Installer

Auxiliary Server Address Configuration

Enter the network interface information for the 5620 SAM auxiliary server. The domain name must be the same as the 5620 SAM main server's domain name.

Server Domain Name: 5620sam

☒ NAT (network address translation) Used

Private IP (accessible only by this server): 192.168.200.234

Public IP (accessible to servers):

Server Port: 12800

☐ Redundancy Supported On the 5620 SAM Main Server

☐ Enable Stats Service

☒ Enable Call Trace Service

InstallAnywhere by Macrovision

Cancel Previous Install

12 Perform one of the following.

- a If the “Redundancy Supported On the 5620 SAM Main Server” parameter in step 11 is not selected, configure the parameters shown in Figure 2-242:
- Server IP Address
 - Server Port (typically 12800)

Figure 2-242 Main Server Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple with the text '5620 SAM/5650 CPAM Server Installer'. The main window has a light gray background. On the left, there is a vertical list of steps: 'Introduction', 'License Agreement', 'Choose Installation Type', 'Install Directory', 'Configuration', and 'Install Complete'. The 'Configuration' step is currently selected and highlighted. The main area of the window is titled 'Main Server Configuration'. It contains a text box with the instruction: 'Enter the public IP address of the network interface on the 5620 SAM Main server that this 5620 SAM auxiliary server requires.' Below this text box are two input fields: 'Server IP Address' (which is highlighted in yellow) and 'Server Port' (which contains the value '12800'). At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window.

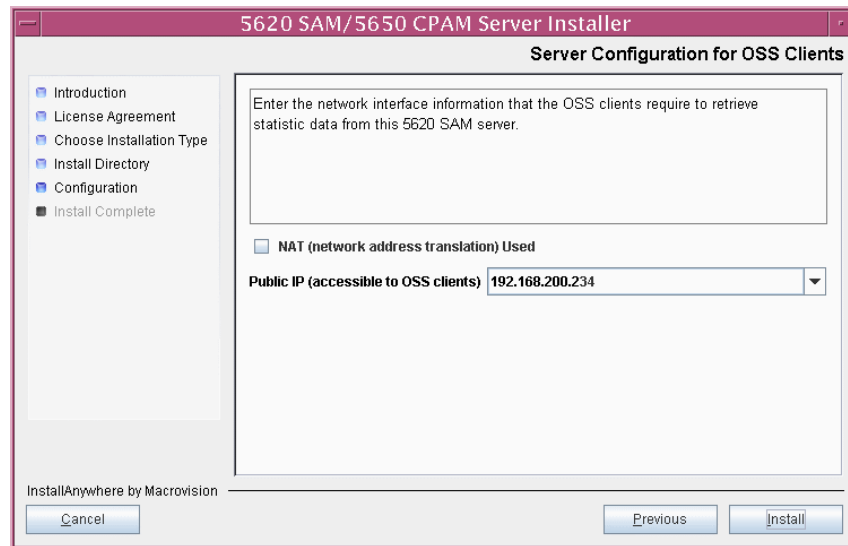
- b If the “Redundancy Supported On the 5620 SAM Main Server” parameter in step 11 is selected, configure the parameters shown in Figure 2-243:
- Server One IP Address
 - Server One Port (typically 12800)
 - Server Two IP Address
 - Server Two Port (typically 12800)

Figure 2-243 Main Server Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration' tab selected. The window has a sidebar with a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The 'Configuration' step is currently active. The main area contains a text box with instructions: 'Enter the public IP addresses of the network interfaces on the 5620 SAM main server that this 5620 SAM auxiliary server requires.' Below this are four input fields: 'Server One IP Address' (highlighted in yellow), 'Server One Port' (with '12800' entered), 'Server Two IP Address' (highlighted in yellow), and 'Server Two Port' (with '12800' entered). At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

13 Configure the parameters shown in Figure 2-244:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM auxiliary server and the OSS clients.
- Public IP (accessible to OSS clients)

Figure 2-244 Server Configuration for OSS Clients**14** If “Enable Call Trace Service” in step 11 is not selected, go to step 16.

- 15 The panel shown in Figure 2-245 is displayed if you select the “Enable Call Trace Service” parameter in step 11. Configure the following parameters, then click on the Next button:

- IPv6 Address Used
- Call Trace Receiving IPv4 Address
- Call Trace Receiving IPv6 Address
- Call Trace Receiving Directory (typically /opt/5620sam/calltrace)
- Debug Trace Receiving Directory (typically /opt/5620sam/debugtrace)



Note 1 — The “Call Trace Receiving IPv6 Address” parameter is displayed only when the “IPv6 Address Used” parameter is selected, as shown in Figure 2-245.

Note 2 — If NAT is to be used, each specified IP address must be a public IP address.

Figure 2-245 Auxiliary Server Call Trace Configuration

5620 SAM/5650 CPAM Server Installer

Auxiliary Server Call Trace Configuration

If NAT (network address translation) is to be used, enter the 5620 SAM auxiliary server's public IP address(es) as known to the devices within the managed network. The chosen local directories will be used to store call trace and debug trace data collected from the eNodeBs in the managed network.

☒ **IPv6 Address Used**

Call Trace Receiving IPv4 Address: 192.168.200.234

Call Trace Receiving IPv6 Address:

Call Trace Receiving Directory: /opt/5620sam/calltrace

Reset Directory Choose...

Debug Trace Receiving Directory: /opt/5620sam/debugtrace

Reset Directory Choose...

InstallAnywhere by Macrovision

Cancel Previous Next

16 Configure the following parameters shown in Figure 2-245, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer auxiliary)
- Peer Public IP (accessible to this auxiliary)



Note — The “Public IP (accessible to peer auxiliary)” and “Peer Public IP (accessible to this auxiliary)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

Figure 2-246 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both auxiliary servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath are two input fields: 'Public IP (accessible to peer auxiliary)' with the value '192.168.200.234' and a dropdown arrow, and 'Peer Public IP (accessible to this auxiliary)' which is empty. At the bottom left, it says 'InstallAnywhere by Macrovision' above a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

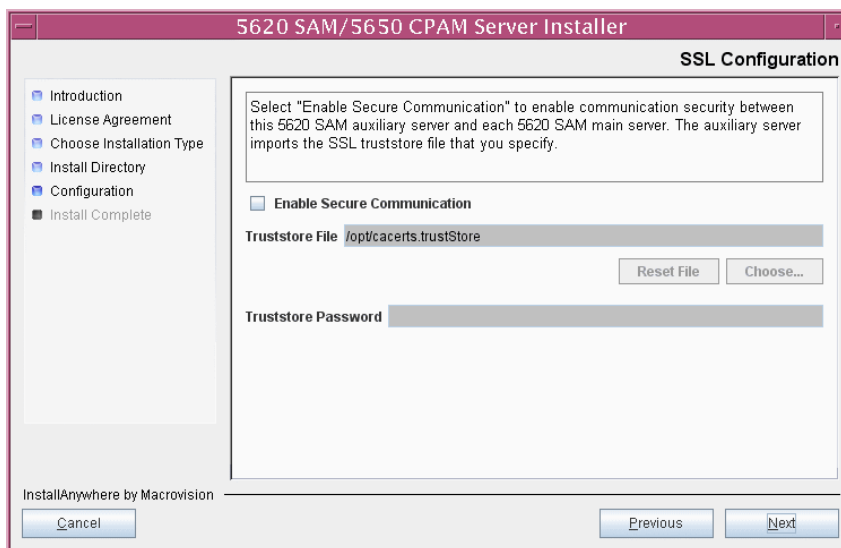
- 17 Perform the following steps to enable communication security between this auxiliary server and each main server. Otherwise, click on the Next button.



Note — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 2-247.

Figure 2-247 SSL Configuration



- ii Configure the following parameters:

- Truststore File
- Truststore Password

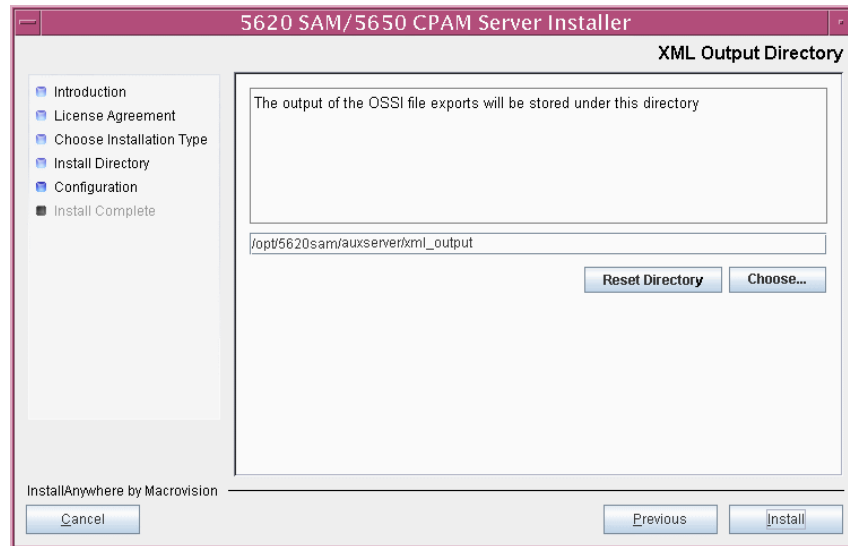


Note — The parameter values must match the values specified during the main server installation.

- iii Click on the Next button.

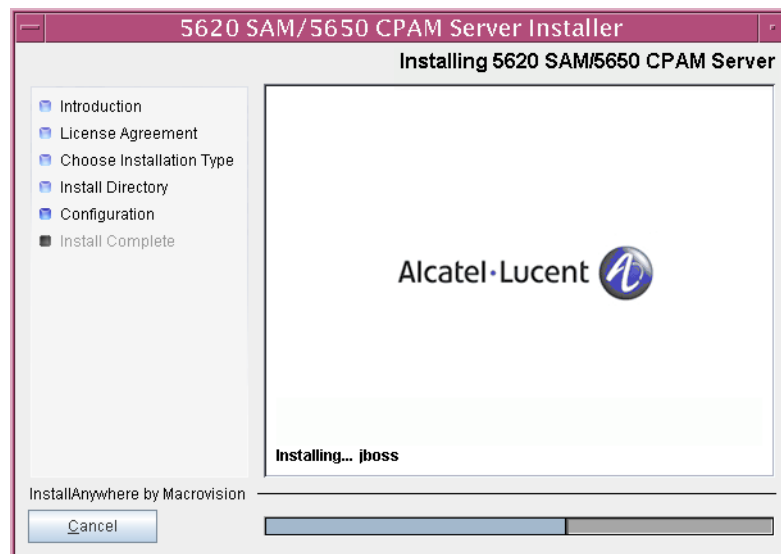
- 18 Specify an OSS XML output location (typically /opt/5620sam/auxserver/xml_output), as shown in Figure 2-248. Click on the Install button to begin the auxiliary server installation.

Figure 2-248 XML Output Directory



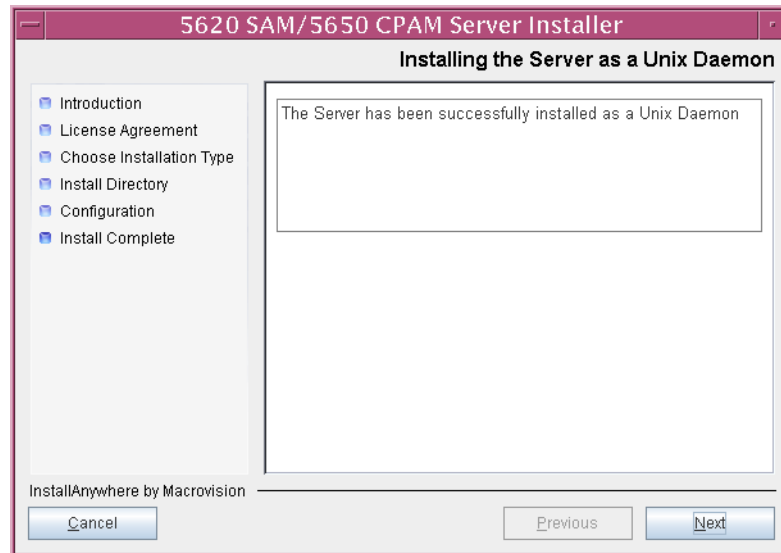
The next panel displays installation progress, as shown in Figure 2-249.

Figure 2-249 Installing 5620 SAM/5650 CPAM Server



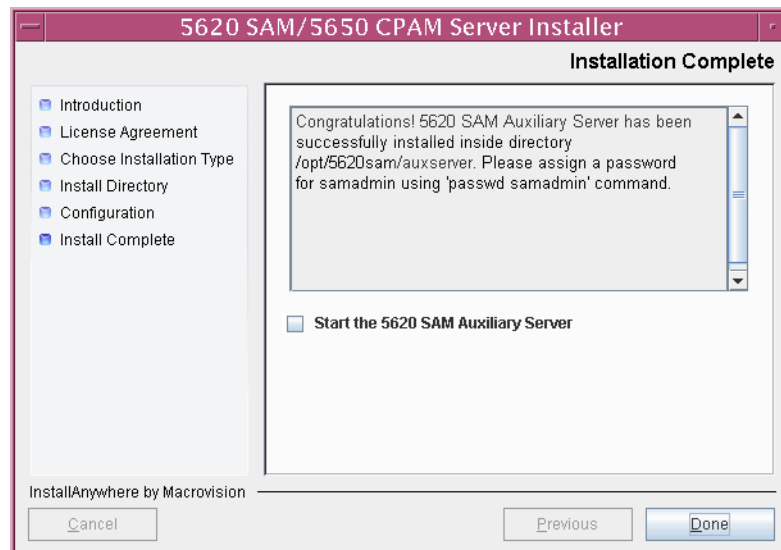
- 19 As shown in Figure 2-250, the 5620 SAM auxiliary server is installed as a UNIX daemon. Click on the Next button.

Figure 2-250 Installing the Server as a Unix Daemon



- 20 When the auxiliary server installation is complete, as shown in Figure 2-251, configure the “Start the 5620 SAM Auxiliary Server” parameter to specify whether you want the server to start immediately after the installation.

Figure 2-251 Installation Complete



- 21 View the panel text to see whether it states that you must assign a password to samadmin, as shown in Figure 2-251. This information is required in step 23.
- 22 Click on the Done button to close the server installer. If you specified that the auxiliary server is to start after installation, the server starts. Initial server startup can take twenty minutes or more.
- 23 If this is the first 5620 SAM server installation on the station, the installer creates a user account called samadmin for 5620 SAM system administration.

If you must assign a password to samadmin, as determined in step 21, perform the following steps.

- i Enter the following:

```
# passwd samadmin
```

The following prompt is displayed:

```
New Password:
```

- ii Enter the new password and press ↵.

The following prompt is displayed:

```
Confirm New Password:
```

- iii Enter the new password again and press ↵. The password is changed.
 - iv Record the new password and store it in a secure location.
- 24 If you specified not to start the auxiliary server immediately after the installation, you can start it later by performing the following steps.
 - i Log in to the auxiliary server station as the samadmin user.
 - ii Open a console window.
 - iii Enter the following to start the 5620 SAM server software:

```
bash$ path/nms/bin/auxnmserver.bash auxstart ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server starts. Initial server startup can take twenty minutes or more.



Note — The order in which a 5620 SAM auxiliary server and the primary 5620 SAM server initialize is unimportant. The primary 5620 SAM server synchronizes with an auxiliary server as soon as it is able to communicate with the auxiliary server.

Procedure 2-10 To add auxiliary servers to a 5620 SAM system

Perform this procedure to add one or more 5620 SAM auxiliary servers to a functioning 5620 SAM system. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.

You require the following user privileges to perform this procedure:

- on each main or auxiliary server station:
 - root
 - samadmin
- on each database station that has IP validation enabled:
 - Oracle management



Caution — This procedure requires that you add each new auxiliary server to each 5620 SAM main server configuration and restart each main server, which is service-affecting. Perform this procedure only during a scheduled maintenance period.



Note — In a redundant 5620 SAM deployment, you must reconfigure the primary main server before you reconfigure the standby main server.

- 1 If the 5620 SAM is deployed in a standalone configuration, go to step 5.
- 2 Perform steps 5 to 10 on the primary main server.



Note — After you stop the primary main server in step 5, a server activity switch occurs and the standby main server becomes the new primary main server.

- 3 Perform steps 5 to 10 on the former standby (new primary) main server.
- 4 Go to step 11.
- 5 Stop the 5620 SAM server application.

- i Log in to the main server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server binary directory:

```
cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to stop the 5620 SAM server software:

```
./nmserver.bash stop ↵
```

- v Enter the following to display the 5620 SAM server status:

```
./nmserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5620 SAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 5 v. Do not proceed to the next step until the server is stopped.

- 6 Enter the following to switch to the root user:

```
bash$ su - ↵
```

- 7 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.

- 8 Navigate to the DVD-ROM drive.

- 9 Perform one of the following to open the 5620 SAM server installer.

- a On a SPARC station:

- i Enter the following:

```
# cd Solaris ↵
```

- ii Enter the following:

```
# ./ServerInstall_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

- b On an x86-based station:

- i Enter the following:

```
# cd Solarisx86 ↵
```

- ii Enter the following:

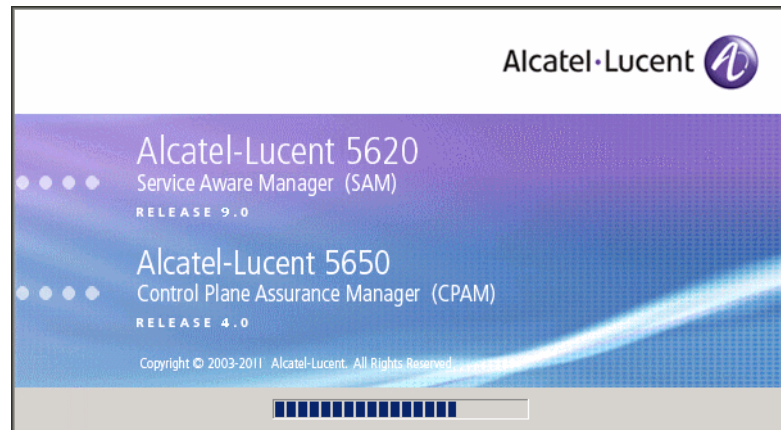
```
# ./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

The splash screen shown in Figure 2-252 opens.

Figure 2-252 5620 SAM installer



- 10 Perform the following steps to add an auxiliary server to the main server configuration.
 - i Accept the terms of the license agreement in the “Software License Agreement” panel.
 - ii Click on the Next button.
 - iii Choose Main Server Configuration in the “Choose Installation Type” panel.
 - iv Click on the Next button.
 - v Click on the Next button in each successive panel until the “Additional Server Configuration” panel is displayed.
 - vi Select the “Auxiliary Server Supported” parameter.
 - vii Click on the Next button in each successive panel until the “Main Server Configuration for Auxiliary Servers” panel is displayed.
 - viii Configure the following parameters:
 - Enable Stats Collection on Auxiliary Servers
 - Enable Call Trace Collection on Auxiliary Servers



Note — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

- ix Click on the Next button. The “Auxiliary Servers” panel is displayed.
- x Click on the Add button. The Auxiliary Server Configuration form opens.

xi Configure the following parameters:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)



Note 1 — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

Note 2 — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

xii Click on the OK button. The Auxiliary Server Configuration form closes.

xiii Repeat steps 10 x to xii to add another auxiliary server, if required.

xiv If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 10 viii, click on the “Configure Call Trace Auxiliary Servers” button to open the Configure Call Trace Auxiliary Servers form. Otherwise, go to step 10 xvii.

xv Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.



Note 1 — The Preferred auxiliary server of the primary main server must be the Reserved auxiliary server of the standby main server. Conversely, the Reserved auxiliary server of the primary main server must be the Preferred auxiliary server of the standby main server.

Note 2 — To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

xvi Repeat step 10 xv to configure another call-trace auxiliary server pair, if required.

xvii Click on the Next button.

xviii Click on the Next button in each successive panel until the “Installation Complete” panel is displayed.

xix Click on the Done button to close the server installer.

- 11 Perform the following steps on each 5620 SAM main server station to start the 5620 SAM server application.



Caution — In a redundant 5620 SAM deployment, you must start the former primary main server first, then the former standby main server. This ensures that the primary and standby designations are the same as at the start of the procedure.

- i Enter the following to change to the server binary directory:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- ii Enter the following to start the 5620 SAM server software:

```
# ./nmsserver.bash start ↵
```

- iii Enter the following:

```
bash$ path/nms/bin/nmsserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The primary 5620 SAM server is completely started when the command returns the following line of output:

```
-- Primary server is UP
```

The standby 5620 SAM server is completely started when the command returns the following line of output:

```
-- Standby server is UP
```

- iv If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.



Note — Do not proceed to the next step until the server is completely started.

- 12 If IP validation is enabled for database access, perform the following steps on each database station to enable validation of each auxiliary server.



Caution — In a redundant 5620 SAM deployment, you must perform this step on the primary database station first, then on the standby database station.

- i Log in to the database station as the Oracle management user.
- ii Open a console window.
- iii Enter the following to change to the Oracle network configuration directory:

```
bash$ cd path/network/admin ↵
```

where *path* is the Oracle base installation location, typically /opt/5620sam/oracle11r2

- iv Create a backup copy of the sqlnet.ora file.
- v Open the sqlnet.ora file with a plain-text editor, for example, vi.
- vi In the section labeled IP Validation, edit the TCP.VALIDNODE_CHECKING line to read:

```
TCP.VALIDNODE_CHECKING = yes
```

- vii In the same section, edit the TCP.INVITED_NODES line to read:

```
TCP.INVITED_NODES = (hostname_or_IP,hostname_or_IP,...)
```

where

hostname_or_IP is the hostname or IP address of an auxiliary server

- viii Save the file.
- ix Close the file.
- x Enter the following command to stop the Oracle database listener:

```
bash$ path/bin/lsnrctl stop ↵
```

where *path* is the Oracle base installation location, typically /opt/5620sam/oracle11r2

- xi Enter the following command to start the Oracle database listener:

```
bash$ path/bin/lsnrctl start ↵
```

where *path* is the Oracle base installation location, typically /opt/5620sam/oracle11r2

- xii Close the console window.

- 13 Perform Procedure 2-9 to install the 5620 SAM auxiliary server software on the station that is to be the new 5620 SAM auxiliary server station.
-

3 — 5620 SAM upgrade

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3.1 5620 SAM upgrade overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this guide.



Caution 1 — An upgrade of a 5620 SAM system in a network requires that you thoroughly understand the general and OS-specific requirements of the task. It is essential that the upgrade procedure be planned, documented and tested in advance on a lab system that is representative of the target live network.

Contact Alcatel-Lucent technical support to assess the upgrade requirements for your network implementation of the 5620 SAM. Alcatel-Lucent offers an upgrade service and strongly recommends that it be engaged for upgrades in larger or more complex networks.

Caution 2 — Alcatel-Lucent supports 5620 SAM software configuration only under the conditions described in chapter 1.

See Appendix B for detailed 5620 SAM upgrade parameter descriptions.

3.2 5620 SAM upgrade procedures list

Table 3-1 lists the 5620 SAM software upgrade procedures.

Table 3-1 5620 SAM upgrade procedures list

Procedure	Purpose
To perform the pre-upgrade tasks	Prepare a standalone or redundant 5620 SAM system for a software upgrade by ensuring the correct conditions are in place, gathering the required system information, and backing up the configuration files and database.
To upgrade a standalone 5620 SAM system	Upgrade the 5620 SAM database and server software in a standalone configuration on one or more Solaris stations.
To upgrade a redundant 5620 SAM system	Upgrade the 5620 SAM database and server software in a redundant deployment.
To upgrade a 5620 SAM single-user client on Solaris	Upgrade the 5620 SAM single-user client software on a Solaris station.
To upgrade a 5620 SAM single-user client on Windows	Upgrade the 5620 SAM single-user client software on a Windows station.
To upgrade a 5620 SAM client delegate server	Upgrade the 5620 SAM client delegate server software.
To upgrade a 5620 SAM auxiliary server	Upgrade the 5620 SAM auxiliary server software on a station that is part of a standalone or redundant 5620 SAM system.

3.3 5620 SAM system upgrade preparation

This section describes how to prepare for the upgrade of a standalone or redundant 5620 SAM system.

Before you attempt a 5620 SAM system upgrade, you must collect the required information and ensure that the proper upgrade conditions are in place. To do this, perform Procedure 3-1.



Note — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

Procedure 3-1 To perform the pre-upgrade tasks

Perform this procedure to prepare a standalone or redundant 5620 SAM system for a 5620 SAM software upgrade.

You require the following user privileges to perform this procedure:

- on each main server station
 - root
- on each database station:
 - root
 - Oracle management

Remove failed deployments

- 1 Remove all outstanding failed deployments. See the *5620 SAM User Guide* for information about deleting a failed deployment.

Back up database

- 2 Alcatel-Lucent strongly recommends that you perform a database backup using one of the following methods before you upgrade the 5620 SAM database.



Caution 1 — The path of the 5620 SAM database backup directory must not include the 5620 SAM database installation directory, typically /opt/5620sam/samdb, or data loss may occur.

Caution 2 — Before the 5620 SAM performs a database backup, it deletes the contents of the specified backup directory. Ensure that the backup directory that you specify in this step does not contain files that you want to retain.

Perform one of the following.

- a Use the 5620 SAM client GUI. See the *5620 SAM User Guide* for information about how to perform a database backup using the client GUI.
- b Use a CLI script. Perform the following steps.
 - i Log in to the appropriate station as the Oracle management user.
 - the standalone database station in a standalone 5620 SAM system
 - the primary database station in a redundant 5620 SAM system
 - ii Open a console window.
 - iii Enter the following to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh  
backup_directory ↵
```

where
path is the 5620 SAM database installation location, typically /opt/5620sam/samdb
backup_directory is the directory that is to contain the database backup

The 5620 SAM backs up the database.
 - iv Record the backup directory location.
 - v Copy the database backup files from the backup directory to a secure location, such as a non-5620 SAM station, for safekeeping.

Verify external-system compatibility

- 3 Ensure that the new 5620 SAM software is compatible with the software release level of each external system, such as the 5750 SSC, that connects to the 5620 SAM system. Contact Alcatel-Lucent technical support for information about 5620 SAM compatibility with an external system.

Verify managed-device and 5620 SAM policy compatibility

- 4 Confirm that the new 5620 SAM software release supports the software release of each 5620 SAM-managed device. Perform one of the following for each unsupported device before you attempt the upgrade, or a service disruption may occur. See the *5620 SAM Network Element Compatibility Guide* for information about managed-device release and 5620 SAM release compatibility.
 - a Upgrade the device to a software release that the new 5620 SAM software supports. See the appropriate device documentation for information about device software upgrades.
 - b Remove the device from the 5620 SAM managed network. See the *5620 SAM User Guide* for information about performing the following steps.
 - i Use a 5620 SAM client to unmanage the device.
 - ii When the device is unmanaged, use the 5620 SAM client to remove the device from the 5620 SAM network.



Note — If you have a 5620 SAM system that manages one or more OmniSwitch devices as generic NEs, you must unmanage and delete the OmniSwitch generic NEs before you upgrade the 5620 SAM software.

You can manage the devices directly, rather than as generic NEs, when the 5620 SAM upgrade is complete.

- 5 If you are upgrading from R4 or later of 5620 SAM Release 7.0, perform the following steps to ensure the compatibility of the ingress and egress queue group template policies.



Note — You do not need to perform this step if you are upgrading from Release 8.0 R1 or later.

- i Choose Policies→QoS→SROS QoS→Ingress Queue Group Template from the 5620 SAM main menu. The Manage Ingress Queue Group Template Policies form opens.
- ii Click on the Search button. A list of policies is displayed.
- iii If the list does not contain a policy with one of the following Displayed Name values, go to step 5 vi:
 - _tmnx_lns_esm_ing_q_grp
 - _tmnx_nat_ing_q_grp
- iv Perform the following steps for each policy in the list:
 - Copy the policy and save it using a different Displayed Name value.
 - Delete the original policy.
 - Distribute the new policy to devices, as required.

See the *5620 SAM User Guide* for information about copying, deleting, and distributing policies.

- v Close the Manage Ingress Queue Group Template Policies form.
- vi Choose Policies→QoS→SROS QoS→Egress Queue Group Template from the 5620 SAM main menu. The Manage Egress Queue Group Template Policies form opens.
- vii Click on the Search button. A list of policies is displayed.
- viii If the list does not contain a policy with one of the following Displayed Name values, go to step 5 x:
 - _tmnx_lns_esm_egr_q_grp
 - _tmnx_nat_egr_q_grp
 - policer-output-queues
- ix Perform the following steps for each policy identified in step 5 viii:
 - Copy the policy and save it using a different Displayed Name value.
 - Delete the original policy.
 - Distribute the new policy to devices, as required.

See the *5620 SAM User Guide* for information about copying, deleting, and distributing policies.
- x Close the Manage Egress Queue Group Template Policies form.

Close 5620 SAM LogViewer

- 6 Close the 5620 SAM LogViewer application, if it is open.

Open port for client/server communication

- 7 Confirm that the firewalls between the 5620 SAM main server and client allow traffic to the HTTP or HTTPS port used for performing automatic client updates. Otherwise, you cannot perform a client installation or upgrade. By default, the auto-update utility uses HTTP. See the *5620 SAM User Guide* for information about configuring 5620 SAM clients and servers to communicate using HTTP or HTTPS.

Back up configuration files

- 8 Make a backup copy of each file that you have created or customized in or under the *path/nms* and *path/jre* directories on each main server station

where *path* is the 5620 SAM main server installation location, typically */opt/5620sam/server*



Note — At the beginning of a 5620 SAM server upgrade, the 5620 SAM installation utility backs up specific configuration and log files to a timestamped directory under the installation directory. The utility then deletes directories under the main server installation directory. If you have created or customized a file under this directory, you risk losing the file unless you back up the file before the upgrade to a storage location that is unaffected by the upgrade.

Store the files in a secure location that is unaffected by 5620 SAM upgrade activity.

- 9 Make a copy of any custom XML configuration files in the *path/nms/jboss* directory on each server station

where *path* is the 5620 SAM server installation location, typically */opt/5620sam/server*

Store the files in a secure location that is unaffected by 5620 SAM upgrade activity.

Gather required information

- 10 Obtain the following information from each main server station in the 5620 SAM system and record it for use during the upgrade:
 - hostname, which is one of the following:
 - the hostname specified for the main server station during the previous 5620 SAM software installation or upgrade
 - the local hostname, if an IP address was specified for the main server station during the previous 5620 SAM software installation or upgrade
 - IP addresses
 - server IP addresses used by 5620 SAM databases to reach the server (public IP addresses, if NAT is used)
 - server IP address used by 5620 SAM GUI and OSS clients to reach the server (public IP address, if NAT is used)
 - server IP address used by 5620 SAM auxiliary servers to reach the server (public IP address, if NAT is used)
 - private server IP address (if NAT is used)
 - root user password
- 11 Perform the following steps to obtain the redundancy information for each server and database in the 5620 SAM system.
 - i Open a 5620 SAM client.
 - ii Choose Administration→System Information from the 5620 SAM main menu. The System Information window is displayed.

- iii Record the following information for use during the upgrade:
 - Domain Name
 - **In the Primary Server panel:**
 - IP Address
 - Host Name
 - Status
 - **In the Primary Database Server panel:**
 - Database Name
 - Instance Name
 - IP Address
 - Host Name
 - iv If the 5620 SAM system is deployed in a redundant configuration, record the following information for use during the upgrade:
 - **In the Standby Server panel:**
 - IP Address
 - Host Name
 - Status
 - **In the Standby Database Server panel:**
 - Database Name
 - Instance Name
 - IP Address
 - Host Name
- 12 If the 5620 SAM system includes one or more auxiliary servers, click on the Auxiliary Servers tab button. A list of auxiliary servers is displayed. Otherwise, go to step [14](#).
- 13 Perform the following steps for each auxiliary server listed on the form:
- i Select an auxiliary server in the list and click on the Properties button. The properties form for the auxiliary server opens.
 - ii Record the following information for use during the upgrade:
 - Host Name
 - Port Number
 - Auxiliary Server Type
 - Server Status
 - Public IP address
 - Private IP address, if displayed
 - iii Close the auxiliary server properties form.
- 14 If the 5620 SAM system includes one or more client delegate servers, click on the Client Delegate Servers tab button. Otherwise, go to step [16](#).

- 15 Perform the following steps for each client delegate server listed on the form:
 - i Select a client delegate server in the list and click on the Properties button. The properties form for the client delegate server opens.
 - ii Record the IP Address value for use during the upgrade.
 - iii Close the client delegate server properties form.
- 16 Close the System Information form, if it is open.
- 17 Obtain the following information from each database station in the 5620 SAM system and record it for use during the upgrade:
 - hostname
 - IP addresses
 - database IP addresses used by 5620 SAM servers to reach the database (public IP addresses, if NAT is used)
 - database IP address used by 5620 SAM auxiliary servers to reach the database (public IP address, if NAT is used)
 - private database IP address (if NAT is used)
 - root user password
 - Oracle management user information:
 - UNIX username (default value at installation is oracle)
 - UNIX group name (default value at installation is oracle)
 - UNIX home directory (default value at installation is /opt/5620sam/oracle11r2)
 - Oracle database user ID (default value at installation is samuser)
 - Oracle database user password
 - Oracle SYS password
 - Oracle base installation directory name (default 5620 SAM Release 7.0 or 8.0 value is /opt/5620sam/oracle10r2; default 5620 SAM Release 9.0 value is /opt/5620sam/oracle11r2)
 - 5620 SAM database installation directory name (default installation value is /opt/5620sam/samdb)

Close client sessions

- 18 Close all unrequired open 5620 SAM client sessions.
 - i Open a 5620 SAM client session using an account with security management privileges, such as admin.
 - ii Click on Administration→Security→5620 SAM User Security in the 5620 SAM main menu. The 5620 SAM User Security - Security Management (Edit) form opens with the General tab displayed.
 - iii Click on the Sessions tab button.
 - iv Click on the Search button. The form displays a list of the open 5620 SAM client sessions.
 - v Using the IP addresses in the Client IP column, identify the GUI and OSS clients that are currently logged in.

- vi Close the client sessions by selecting them and clicking on the Close Session button. A dialog box appears.
 - If you are performing a standalone upgrade, you must close all open 5620 SAM client sessions.
 - If you are performing a redundant upgrade, you must close all open 5620 SAM client sessions except for those required to monitor the network during the upgrade.



Note — One of the listed sessions is the session that you are using. Do not attempt to close this session.

- vii Click on the Yes button to confirm the action.
 - viii Click on the Search button to refresh the list of open client sessions.
- 19 If the 5620 SAM client that you are using is not required for network monitoring during the upgrade, close the 5620 SAM client by choosing Application→Exit from the 5620 SAM main menu.
-

3.4 Standalone 5620 SAM upgrade workflow

The following is the sequence of high-level actions required to upgrade a standalone 5620 SAM system. A section heading in quotation marks is a reference to a section in Procedure 3-2.

- 1 Perform the pre-upgrade tasks. See Procedure 3-1 for more information.
- 2 Back up the 5620 SAM database, if not done as a pre-upgrade task. See “[Back up database](#)” for more information.
- 3 Stop the 5620 SAM server application. See “[Stop server](#)” for more information.
- 4 Disable the 5620 SAM server startup daemon. See “[Disable server daemon](#)” for more information.
- 5 Prepare the 5620 SAM database for the upgrade. See “[Prepare database for upgrade](#)” for more information.
- 6 Disable the 5620 SAM database and Oracle proxy startup daemons. See “[Disable database daemons](#)” for more information.
- 7 Upgrade the database. See “[Upgrade database](#)” for more information.
- 8 Upgrade the server. See “[Upgrade server](#)” for more information.
- 9 Upgrade or install the 5620 SAM client software, as required. See “[Upgrade or install 5620 SAM client](#)” for more information.

3.5 Standalone 5620 SAM system upgrade

This section describes how to upgrade the software components of a standalone 5620 SAM system. Procedure 3-2 describes how to upgrade the 5620 SAM database and main server software.

Before you begin a 5620 SAM system upgrade, you must collect the required information and ensure that the proper conditions are in place, as described in Procedure 3-1.



Warning — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panels when you perform a procedure in this section:

- **5620 SAM Database Configurator**
Get Upgrade Database Info
- **5620 SAM/5650 CPAM Server Installer**
Main Server Configuration for Auxiliary Servers



Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

Note 2 — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

Procedure 3-2 To upgrade a standalone 5620 SAM system

Perform this procedure to upgrade the 5620 SAM database and main server software in a standalone deployment on one or more stations. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



Note — You require the following user privileges to perform this procedure:

on the main server station:

- root
- samadmin

on the database station:

- root
- Oracle management

- 1 Open at least one 5620 SAM client to monitor the network before the first server and database are upgraded.

Back up database

- 2 Alcatel-Lucent strongly recommends that you perform a database backup before you perform a 5620 SAM system upgrade. If you did not perform a database backup as part of the pre-upgrade preparation in Procedure 3-1, back up the database now using a CLI script.



Caution 1 — The path of the 5620 SAM database backup directory must not include the 5620 SAM database installation directory, typically /opt/5620sam/samdb, or data loss may occur.

Caution 2 — Before the 5620 SAM performs a database backup, it deletes the contents of the specified backup directory. Ensure that the backup directory that you specify in this step does not contain files that you want to retain.

Perform the following steps.

- i Log in to the database station as the Oracle management user.
- ii Open a console window.
- iii Enter the following to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh  
backup_directory ↵
```

where

path is the 5620 SAM database installation location, typically /opt/5620sam/samdb
backup_directory is the directory that is to contain the database backup

The 5620 SAM backs up the database.

- iv Record the backup directory location.
- v Copy the database backup files from the backup directory to a secure location, such as a non-5620 SAM station, for safekeeping.

Stop server

- 3 Stop the 5620 SAM main server application.

- i Log in to the main server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to stop the 5620 SAM main server software:

```
bash$ ./nmserver.bash stop ↵
```

- v Enter the following to display the 5620 SAM main server status:

```
bash$ ./nmserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5620 SAM main server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 3 v. Do not proceed to the next step until the server is stopped.

Disable server daemon

- 4 Disable the 5620 SAM main server startup daemon. This ensures that the 5620 SAM main server does not automatically start in the event of a power disruption during the upgrade.

- i Log in to the main server station as the root user.
- ii Open a console window.
- iii Enter the following to change to the /etc/rc3.d directory:

```
# cd /etc/rc3.d ↵
```

- iv Enter the following to disable the 5620 SAM server daemon by renaming it:

```
# mv S975620SAMServerWrapper  
inactive.S975620SAMServerWrapper ↵
```

Prepare database for upgrade

- 5 Log in to the database station as the root user.
- 6 Place the new 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 7 Open a console window.
- 8 You must run a pre-upgrade script that configures the UNIX account for the Oracle management user and adds configuration information to the `/etc/system` file.

Navigate to the DVD-ROM drive that contains the new 5620 SAM software DVD-ROM.



Caution — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database upgrade to fail.



Note — If you later back out of the database upgrade and want to re-install the previous database, you must do the following before you attempt to re-install the previous database:

- run the current version of the script and specify the `remove_project` command-line option
 - run the previous version of the script and choose option 1
 - reboot the station
- 9 Perform one of the following to change to the appropriate directory.
 - a On a SPARC station, enter the following:

```
# cd Solaris ↵
```
 - b On an x86-based station, enter the following:

```
# cd Solarisx86 ↵
```

- 10 Enter the following:

```
# ./OracleSw_PreInstall.sh ↵
```

The following prompt is displayed:

Please select between the following option:

1) NEW INSTALL OF 5620 SAM

2) UPGRADE OF 5620 SAM

- 11 Enter 2 ↵. The script generates INFO messages as it validates the OS requirements, and then prompts you for Oracle management user information.



Note — If you specify a value other than the default, you must record the value for use when the `OracleSw_PreInstall.sh` script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

- 12 Provide the following information when you are prompted; the console may display status messages between prompts:

- database installation directory (typically /opt/5620sam/samdb/install)



Note — To reduce the complexity of subsequent software upgrades and technical support activities, Alcatel-Lucent recommends that you accept the default for this parameter.

- user home directory



Note — Alcatel-Lucent recommends that you set the home directory to oracle11r2 to match the Oracle installation location.

- user password, if one of the following is true:
 - there is no password
 - there is a password, but you specify that you want to change it

The script updates the system configuration and exits.



Note — The script may generate the following messages; this is no cause for concern:

- WARNING: Group dba already exists locally.
- WARNING: Oracle user with the specified name already exists locally.
- projadd: Duplicate project name "Oracle11R2"

Disable database daemons

- 13 Disable the 5620 SAM Oracle proxy and database startup daemons. This ensures that the 5620 SAM database does not automatically start in the event of a power disruption during the upgrade.

- i Enter the following to change to the /etc/rc3.d directory:

```
# cd /etc/rc3.d ↵
```

- ii Enter the following to disable the 5620 SAM database startup daemon by renaming it:

```
# mv S95db5620sam inactive.S95db5620sam ↵
```

- iii Enter the following to disable the 5620 SAM Oracle proxy daemon by renaming it:

```
# mv S965620SAMOracleProxyWrapper
```

```
inactive.S965620SAMOracleProxyWrapper ↵
```

- 14 Enter the following to reboot the database station and put the system update into effect:

```
# shutdown -y -i6 -g0 ↵
```

The database station reboots.

Upgrade database

15 After the database station reboots, log in to the database station as the Oracle management user.

16 Open a console window.

17 Navigate to the DVD-ROM drive that contains the new 5620 SAM software DVD-ROM.

18 Perform one of the following to open the 5620 SAM database installer.

a On a SPARC station:

i Enter the following:

```
bash$ cd Solaris ↵
```

ii Enter the following:

```
bash$ ./DBConfig_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
bash$ cd Solarisx86 ↵
```

ii Enter the following:

```
bash$ ./DBConfig_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

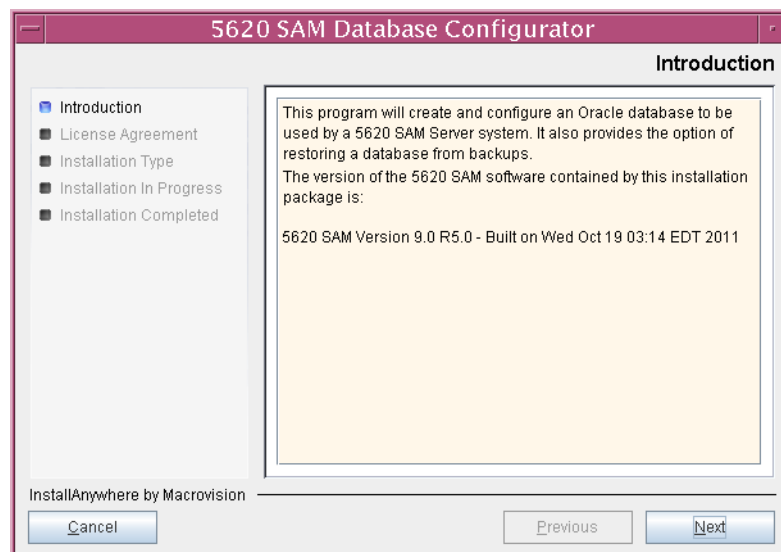
The splash screen shown in Figure 3-1 opens.

Figure 3-1 5620 SAM installer



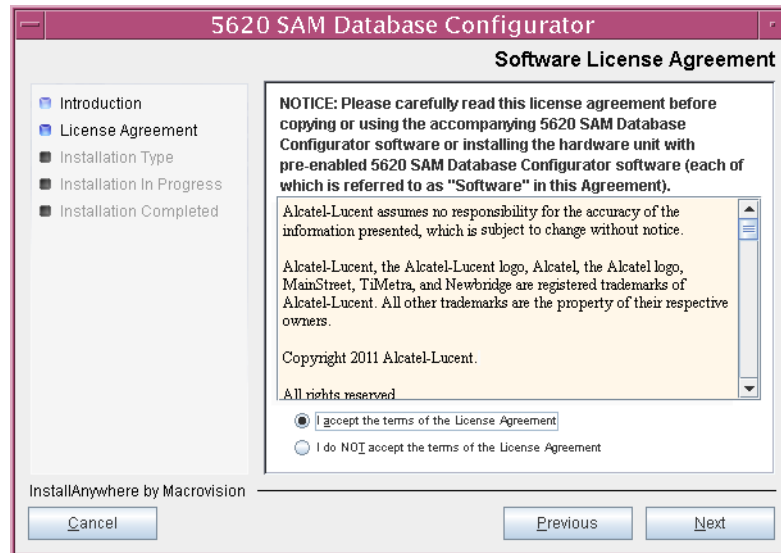
- 19 The 5620 SAM database installer opens, as shown in Figure 3-2. The left pane indicates upgrade progress. The right pane displays release information about the software. Click on the Next button.

Figure 3-2 Introduction



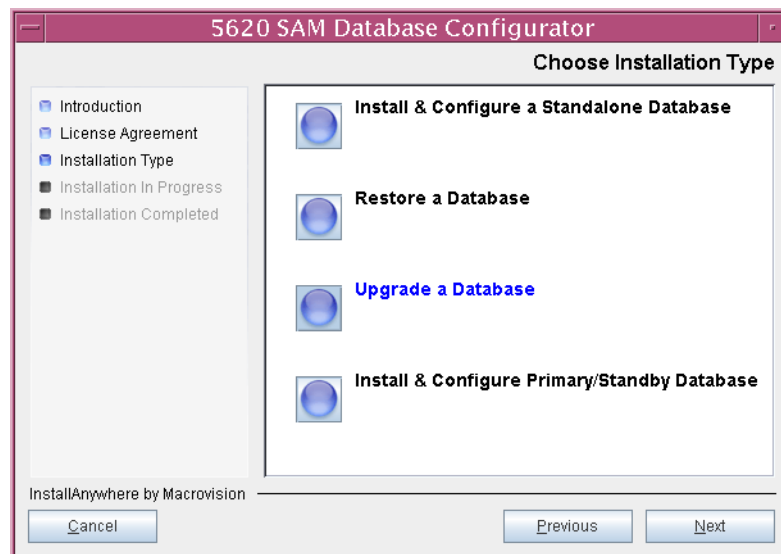
- 20 Review and accept the terms of the license agreement shown in Figure 3-3. Click on the Next button.

Figure 3-3 Software License Agreement



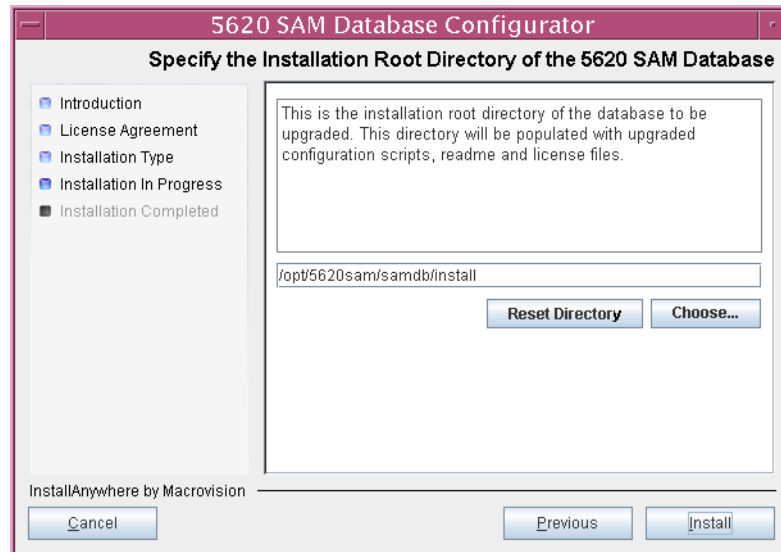
- 21 Select Upgrade a Database, as shown in Figure 3-4. Click on the Next button.

Figure 3-4 Choose Installation Type



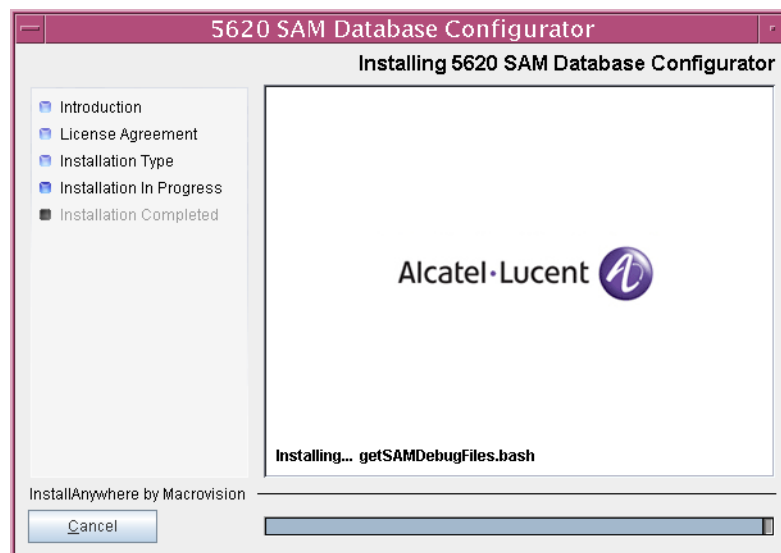
- 22 Specify the directory in which the 5620 SAM database files are installed (typically /opt/5620sam/samdb/install), as shown in Figure 3-5. Click on the Install button to begin the installer configuration.

Figure 3-5 Specify the Installation Root Directory of the 5620 SAM Database



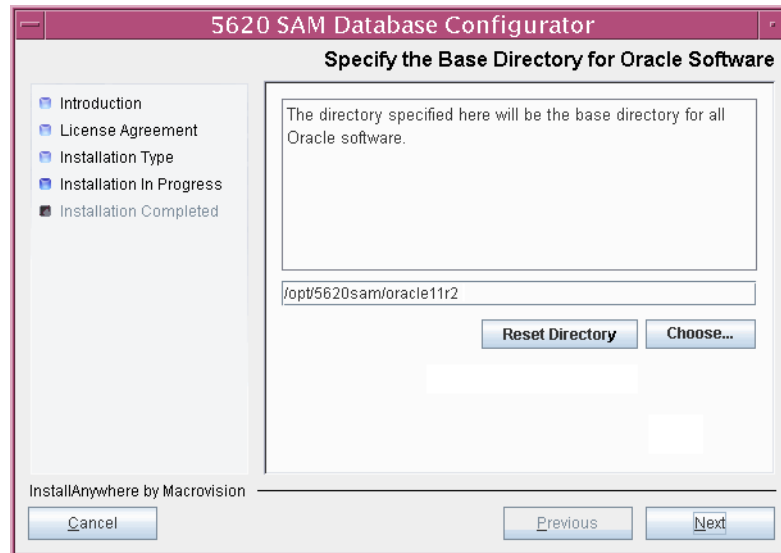
The installer prepares to upgrade the database, as shown in Figure 3-6.

Figure 3-6 Installing 5620 SAM Database Configurator



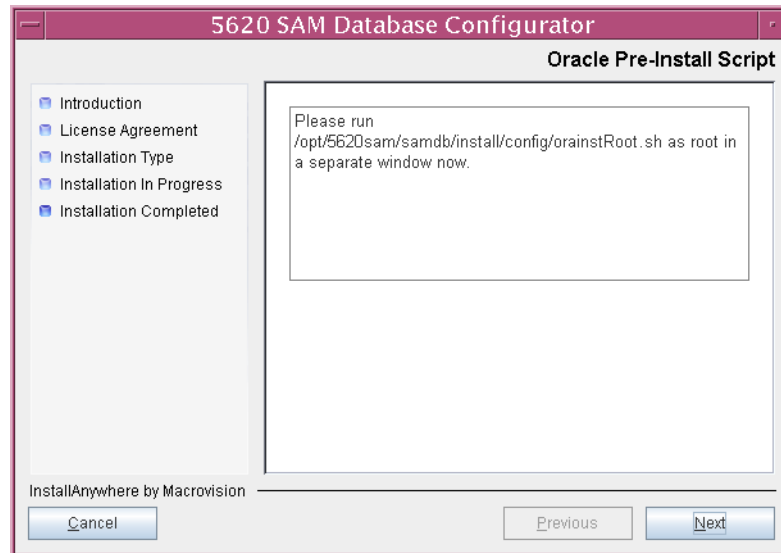
- 23 The panel shown in Figure 3-7 displays the Oracle software installation directory, which cannot be changed. Click on the Next button.

Figure 3-7 Specify the Base Directory for Oracle Software



- 24 If the panel in Figure 3-8 is displayed, perform the following steps. Otherwise, go to step 28.

Figure 3-8 Oracle Pre-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle pre-install script:

```
# su -
```

```
# path/install/config/orainstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script generates messages like the following:

```
Creating the Oracle inventory pointer file
(/var/opt/oracle/oraInst.loc)
```

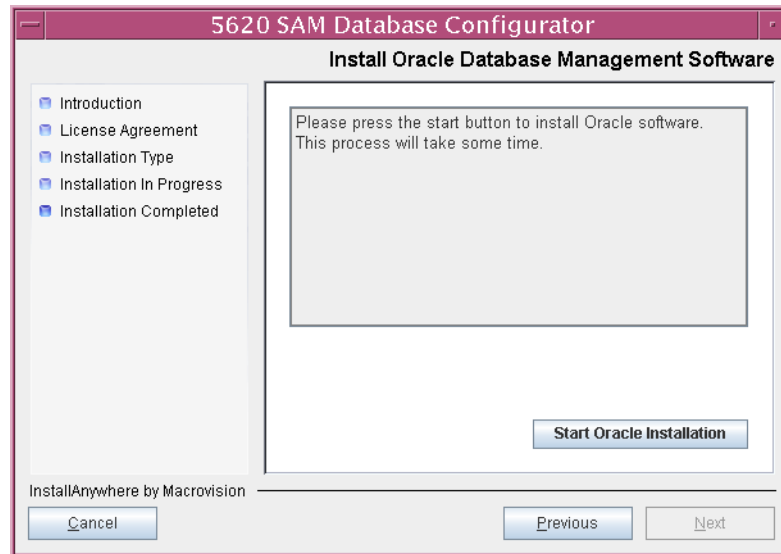
```
Creating the Oracle inventory directory
(/opt/5620sam/oracle11r2/oraInventory)
```

```
Changing groupname of /opt/5620sam/oracle11r2/oraInventory to
(dba) .
```

- iv When the script execution is complete, close the console window.
- v Click on the Next button.

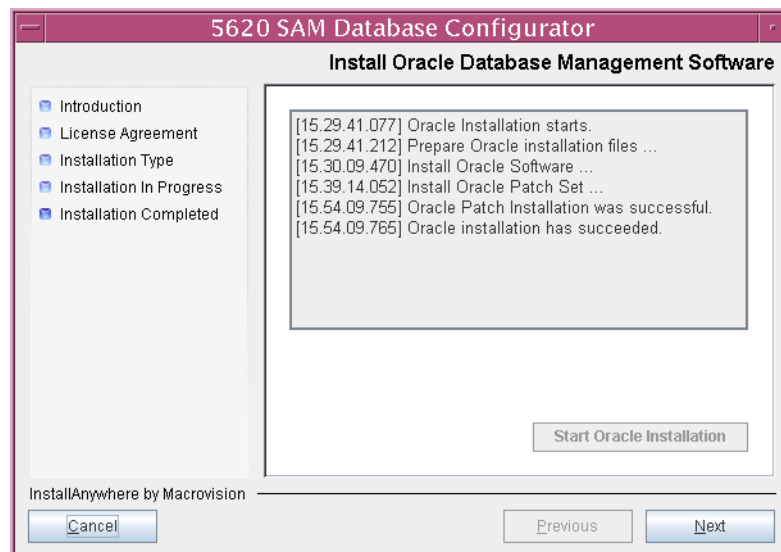
- 25 You are prompted to install Oracle software, as shown in Figure 3-9. This operation can take one hour or more. Click on the Start Oracle Installation button to begin the Oracle software installation.

Figure 3-9 Install Oracle Database Management Software



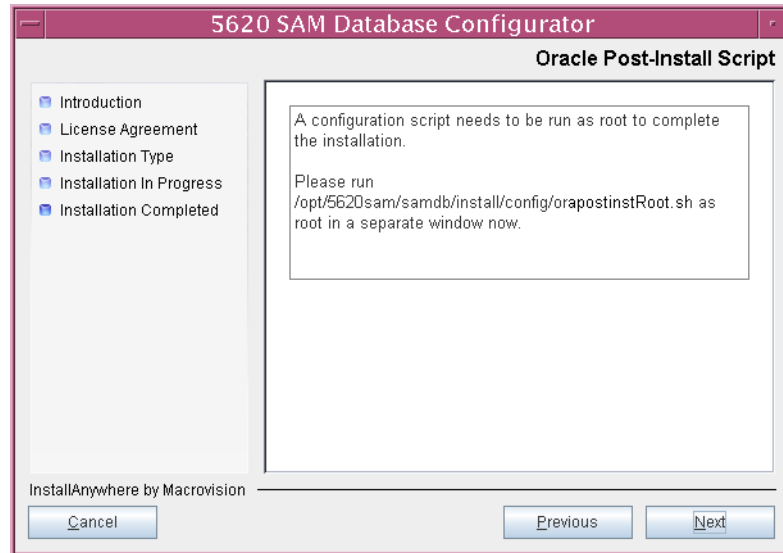
- 26 As shown in Figure 3-10, Oracle installation details are displayed as the installation progresses. When the installation is complete, click on the Next button.

Figure 3-10 Install Oracle Database Management Software



- 27 When the panel in Figure 3-11 is displayed, perform the following steps.

Figure 3-11 Oracle Post-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle post-install script:

```
# su -
```

```
# path/install/config/orapostinstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script displays the following message:

```
Check path/username_hostname_timestamp.log for output
```

where

path is the directory that contains the script log file, typically
/opt/5620sam/oracle11r2/install

username is the Solaris account name of the current user, for example, root

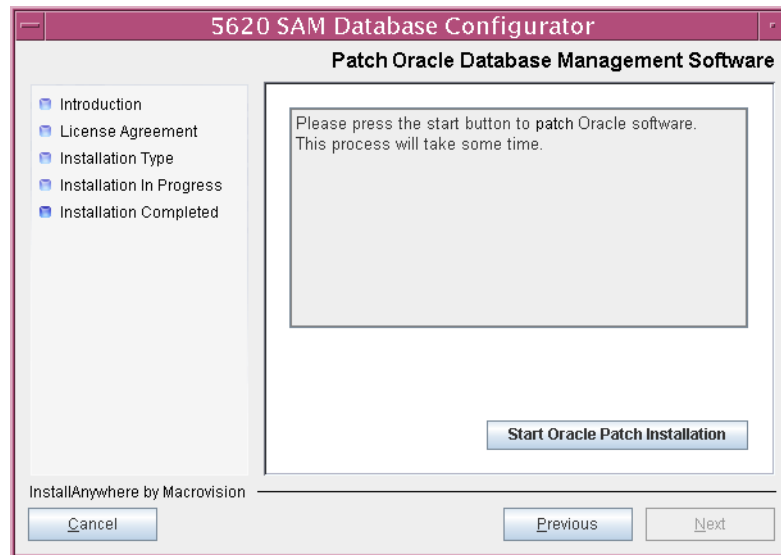
hostname is the hostname of this station

timestamp is the script execution start time

- iv If the script generates a message that contains the word “error”, view the script log file named in the message for more information, and contact Alcatel-Lucent technical support for assistance, if required.
- v When the script execution is complete, close the console window.
- vi Click on the Next button.

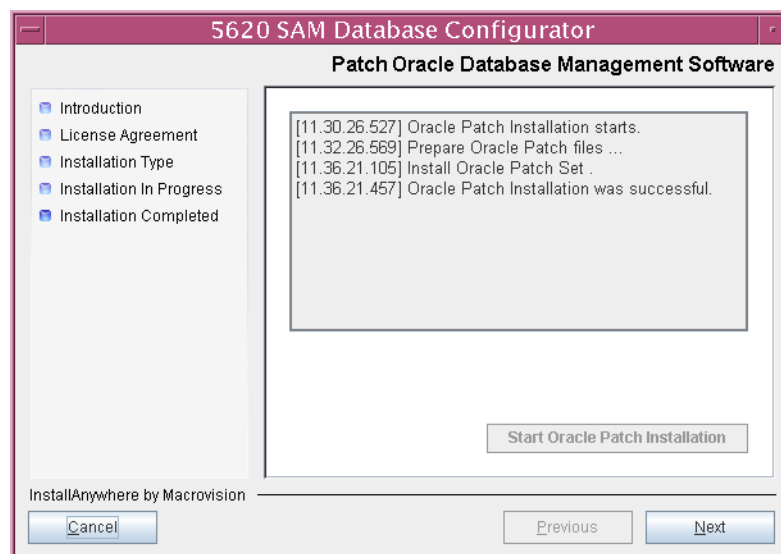
- 28 If the panel in Figure 3-12 is displayed, perform the following steps.

Figure 3-12 Patch Oracle Database Management Software



- i Click on the “Start Oracle Patch Installation” button to begin installing the Oracle patch. Oracle patch installation can take an hour or more to complete.
- ii Oracle patch installation details are displayed as the patch installation progresses. When the patch installation is complete, as shown in Figure 3-13, click on the Next button.

Figure 3-13 Patch Oracle Database Management Software

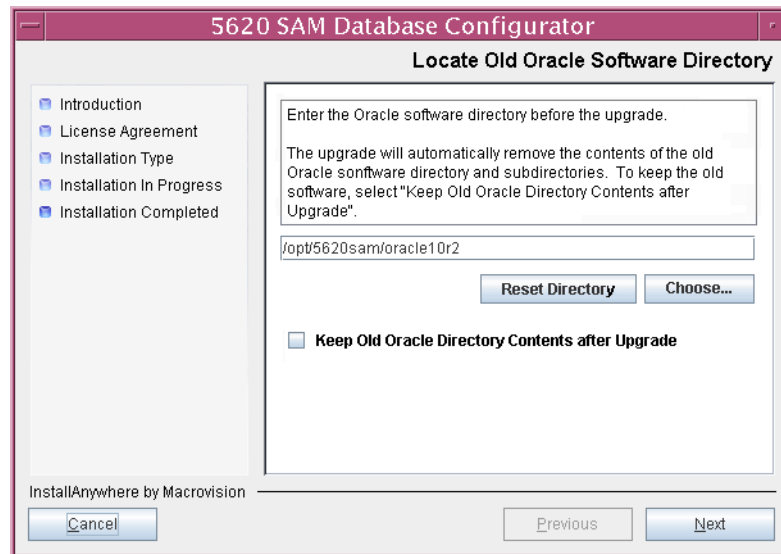


- 29 If the panel in Figure 3-14 is displayed, specify the location of the currently installed Oracle software, configure the “Keep Old Oracle Directory Contents after Upgrade” parameter, then click on the Next button.



Note — If the “Keep Old Oracle Directory Contents after Upgrade” parameter is not selected, the 5620 SAM database installer deletes the files and subdirectories in the specified directory. The installer deletes the directory itself only if the directory is not specified as the Oracle management user home directory in step 12.

Figure 3-14 Locate Old Oracle Software Directory



30 Configure the following parameters shown in Figure 3-15 using information from the existing 5620 SAM installation, then click on the Next button:

- NAT (network address translation) Used
- Public IP (accessible to servers)
- Private IP
- Database Name (typically samdb)
- Instance Name (typically samdb)
- User Name (typically samuser)
- User Password



Note — The “Private IP” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

If you modify the “User Password” parameter, the value that you specify must meet the following criteria:

- The password must be between 4 and 30 characters long.
- The password must contain at least three of the following:
 - lower-case alphabetic character
 - upper-case alphabetic character
 - numeric character
 - special character, which is one of the following:
\$ _
- The password must not contain four or more of the same character type in sequence.
- The password must not be the same as the user name or its reverse.
- The password must not contain a space character.

Figure 3-15 Get Upgrade Database Info

5620 SAM Database Configurator

Get Upgrade Database Info

Enter the network interface information that the database requires to communicate with the servers. If NAT (network address translation) is to be used, specify both the database's private and public IP addresses.

☒ NAT (network address translation) Used

Public IP (accessible to servers) 192.168.200.133

Database Name samdb

Instance Name samdb

User Name samuser

User Password

InstallAnywhere by Macrovision

Cancel Previous Next

- 31 Configure the following parameters shown in Figure 3-16 using information from the existing 5620 SAM installation, then click on the Next button:

- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)

Figure 3-16 Get Upgrade Database Info (cont.)

The screenshot shows the '5620 SAM Database Configurator' window. On the left is a navigation pane with a tree view containing: Introduction (selected), License Agreement, Installation Type, Installation In Progress, and Installation Completed. The main area is titled 'Get Upgrade Database Info (cont.)' and contains two text input fields: 'Database Listener Port' with the value '1523' and 'Database Proxy Port' with the value '9002'. At the bottom, there are three buttons: 'Cancel', 'Previous', and 'Next'. The footer text reads 'InstallAnywhere by Macrovision'.

- 32 If the 5620 SAM server and database are installed on the same station, select the “Database co-exists with a 5620 SAM Server” parameter shown in Figure 3-17. Click on the Next button.

Figure 3-17 Determine Memory Requirements

The screenshot shows the '5620 SAM Database Configurator' window. On the left is a navigation pane with a tree view containing: Introduction (selected), License Agreement, Installation Type, Installation In Progress, and Installation Completed. The main area is titled 'Determine Memory Requirements' and contains a text box with the following text: 'Specify whether a 5620 SAM Server is installed on this workstation. The database memory requirements will be adjusted to account for the additional load.' Below this text box is a checkbox labeled 'Database co-exists with a 5620 SAM Server', which is currently unchecked. At the bottom, there are three buttons: 'Cancel', 'Previous', and 'Next'. The footer text reads 'InstallAnywhere by Macrovision'.

- 33 Configure the following parameters shown in Figure 3-18, then click on the Next button.

If the “Enable SAM Server IP Validation” parameter is selected, only the server at the specified IP address or hostname can connect to the database.

- Enable SAM Server IP Validation
- SAM Server IP Address

Figure 3-18 Main Server IP Validation

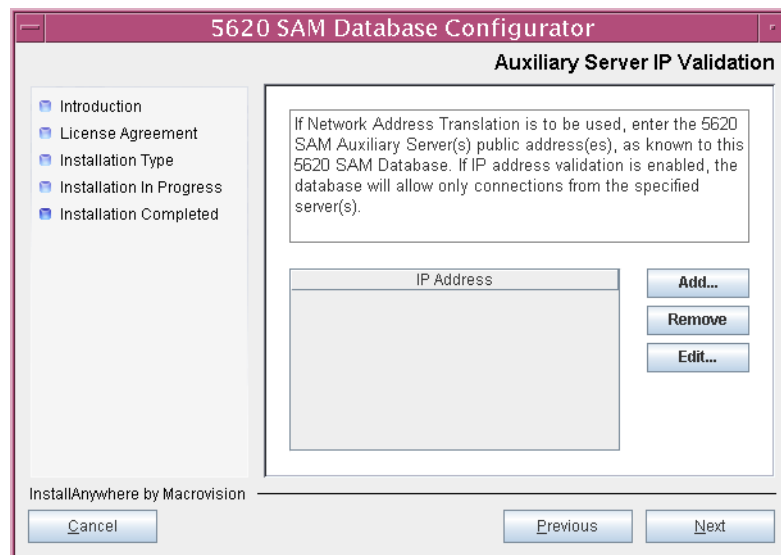
The screenshot shows a window titled "5620 SAM Database Configurator" with a sub-header "Main Server IP Validation". On the left is a navigation pane with five items: "Introduction", "License Agreement", "Installation Type", "Installation In Progress", and "Installation Completed". The "Installation In Progress" item is selected. The main area contains a text box with the following text: "If NAT (network address translation) is to be used, enter the 5620 SAM main server public IP address as known to this 5620 SAM database. If IP address validation is enabled, the database will allow only connections from the specified server." Below this text box is a checkbox labeled "Enable SAM Server IP Validation". Underneath the checkbox is a text field labeled "SAM Server IP Address". At the bottom of the window, there are three buttons: "Cancel", "Previous", and "Next". The text "InstallAnywhere by Macrovision" is visible in the bottom left corner of the window frame.

- 34 The panel in Figure 3-19 is displayed if the “Enable SAM Server IP Validation” parameter in step 33 is selected. Otherwise, go to step 36.

If the 5620 SAM system includes an auxiliary server, perform the following steps.

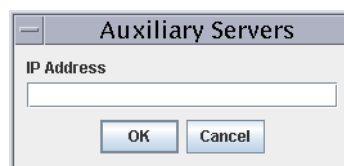
- i Click on the Add button shown in Figure 3-19. The Auxiliary Server Configuration form shown in Figure 3-20 opens.

Figure 3-19 Auxiliary Server IP Validation



- ii Enter the IP address or hostname of the auxiliary server.

Figure 3-20 Auxiliary Servers



- iii Click on the OK button to save the information and close the form.
 - iv Repeat steps 34 i to iii to specify an additional auxiliary server, if required.
- 35 Click on the Next button.

- 36 If the panel in Figure 3-21 is displayed, specify a directory for the continuous statistics tablespace backup. Click on the Next button.

Figure 3-21 Staging Destination

The screenshot shows the "5620 SAM Database Configurator" window. On the left is a navigation pane with five items: "Introduction", "License Agreement", "Installation Type", "Installation In Progress", and "Installation Completed". The "Installation In Progress" item is selected. The main area is titled "Staging Destination" and contains the following text: "Specify a staging directory for the files created by the continuous statistics tablespace backup. The directory must be located on a low-activity device, such as a disk that is dedicated to this function only." Below this text is a text input field containing the path "/opt/5620sam/dbbackup/staging". To the right of the input field are two buttons: "Reset Directory" and "Choose...". At the bottom of the window, there are three buttons: "Cancel", "Previous", and "Next". The text "InstallAnywhere by Macrovision" is visible in the bottom left corner.

- 37 Configure the "Accounting Statistic Data Retention Period" parameter shown in Figure 3-22. Click on the Next button.

Figure 3-22 Accounting Statistics Database Retention Period

The screenshot shows the "5620 SAM Database Configurator" window. On the left is a navigation pane with five items: "Introduction", "License Agreement", "Installation Type", "Installation In Progress", and "Installation Completed". The "Installation In Progress" item is selected. The main area is titled "Accounting Statistics Database Retention Period" and contains the following text: "Enter the accounting statistics retention period (in days). The retention period is the maximum number of days that records are kept in the database. Using a longer retention period will require more disk space." Below this text is a text input field labeled "Accounting Statistic Data Retention Period" with the value "1" entered. At the bottom of the window, there are three buttons: "Cancel", "Previous", and "Next". The text "InstallAnywhere by Macrovision" is visible in the bottom left corner.

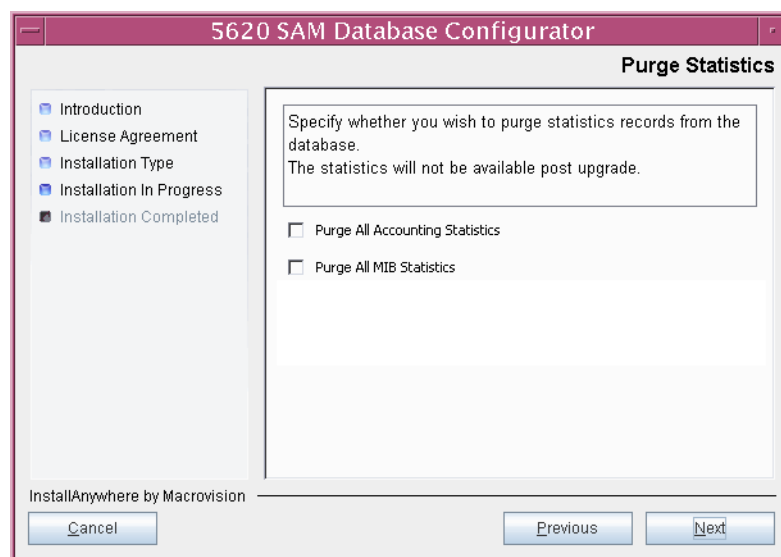
- 38 To reduce the time required for the database upgrade, you can purge the current 5620 SAM statistics data. Configure the following parameters shown in Figure 3-23, then click on the Next button:

- Purge All Accounting Statistics
- Purge All MIB Statistics



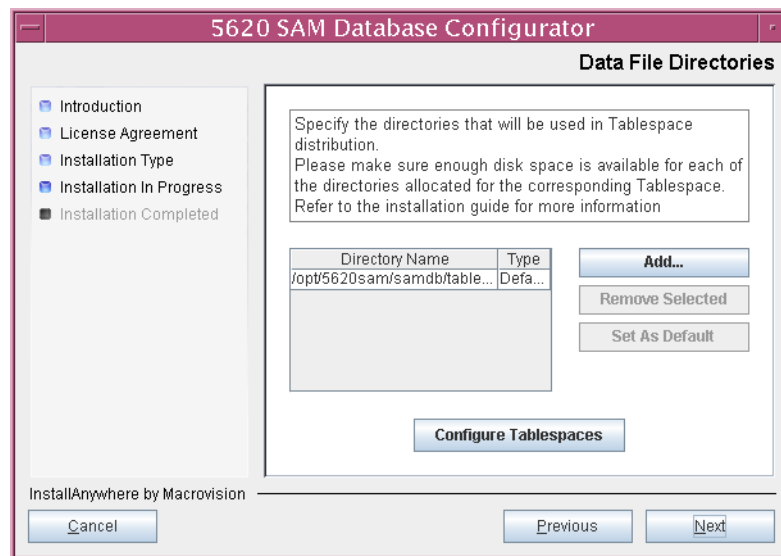
Note — The statistics data for the specified statistics types are permanently deleted from the 5620 SAM database.

Figure 3-23 Purge Statistics



- 39 If the panel in Figure 3-24 is displayed, the new database contains at least one tablespace that is not defined in the previous database and you must perform the following steps to specify the tablespace directories. Otherwise, go to step 42.
- i Click on the Add button shown in Figure 3-24. A file browser form opens.
 - ii Use the file browser form to choose a tablespace directory.
 - iii Repeat steps 39 i and ii to specify an additional tablespace directory, if required.

Figure 3-24 Data File Directories



40 Associate tablespaces with the directories specified in step 39.

- i Click on the Configure Tablespaces button. The tablespace configuration form opens, as shown in Figure 3-25.



Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

- ii Follow the instructions at the top of the form to associate tablespaces with the directories, as required.
- iii Click on the OK button. The tablespace configuration form closes and the “Data File Directories” panel in Figure 3-24 reappears.

Figure 3-25 Configure Tablespaces

Select one drive and one or more Tablespaces from the left side. Add those associations to the right side using the 'Add associations from the left' button.
You can select at the same time on both TS tables at the left: Oracle Tablespaces and 5620 SAM Tablespaces

Directory Name	Type
/opt/5620sam/samdb/tables	Default

Oracle Tablespaces

Tablespace Name

5620 SAM Tablespaces

Tablespace Name

- CURRENT_DATA_STRUCT_1
- CURRENT_DATA_STRUCT_2
- CURRENT_DATA_STRUCT_3
- CURRENT_DATA_STRUCT_4
- SAM_RELATIONS_1
- SAM_RELATIONS_2
- SAM_SYSTEM_1
- SAM_SYSTEM_2
- SAM_SYSTEM_3
- SAM_SYSTEM_4
- STATS_CURRENT
- STATS_HISTORY
- STATS_POLICY
- SYSAUX
- SYSTEM
- TEMP
- TMS_SYSTEM
- TMS_SYS_INDX
- UNDOTBS1
- USERS

Name	Drive
ALARMS	/opt/5620sam/samdb/tables
ALARM_HISTORY	/opt/5620sam/samdb/tables
CURRENT_DATA_STRUCT_1	/opt/5620sam/samdb/tables
CURRENT_DATA_STRUCT_2	/opt/5620sam/samdb/tables
CURRENT_DATA_STRUCT_3	/opt/5620sam/samdb/tables
CURRENT_DATA_STRUCT_4	/opt/5620sam/samdb/tables
INDX	/opt/5620sam/samdb/tables
SAM_RELATIONS_1	/opt/5620sam/samdb/tables
SAM_RELATIONS_2	/opt/5620sam/samdb/tables
SAM_SYSTEM_1	/opt/5620sam/samdb/tables
SAM_SYSTEM_2	/opt/5620sam/samdb/tables
SAM_SYSTEM_3	/opt/5620sam/samdb/tables
SAM_SYSTEM_4	/opt/5620sam/samdb/tables
STATS_CURRENT	/opt/5620sam/samdb/tables
STATS_HISTORY	/opt/5620sam/samdb/tables
STATS_POLICY	/opt/5620sam/samdb/tables
SYSAUX	/opt/5620sam/samdb/tables
SYSTEM	/opt/5620sam/samdb/tables
TEMP	/opt/5620sam/samdb/tables
TMS_SYSTEM	/opt/5620sam/samdb/tables
TMS_SYS_INDX	/opt/5620sam/samdb/tables
UNDOTBS1	/opt/5620sam/samdb/tables
USERS	/opt/5620sam/samdb/tables

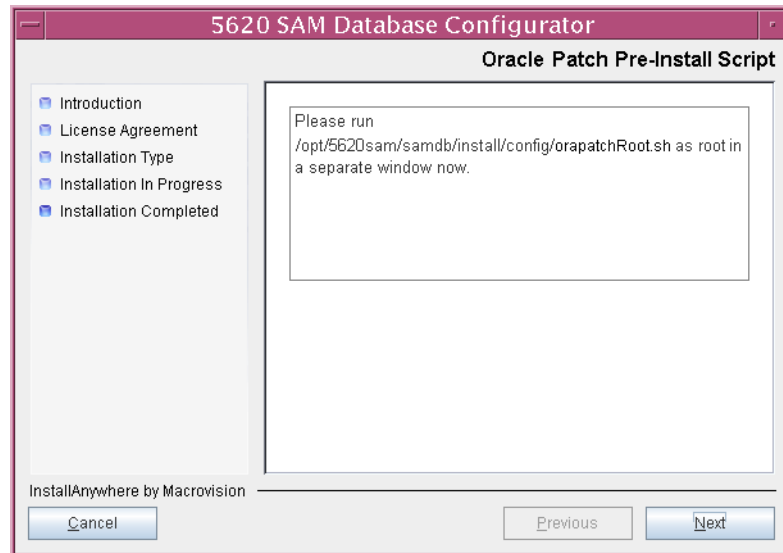
Add associations from the left
Remove Selected Associations
Set Default Associations
Select All

OK Cancel

41 Click on the Next button.

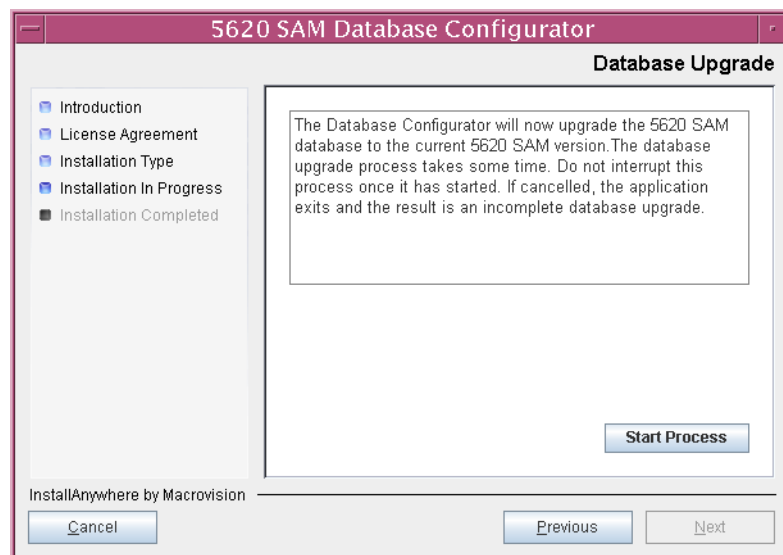
- 42 If you are prompted to run an Oracle patch pre-installation script, as shown in Figure 3-26, run the script in a separate console window as the root user.

Figure 3-26 Oracle Patch Pre-Install Script



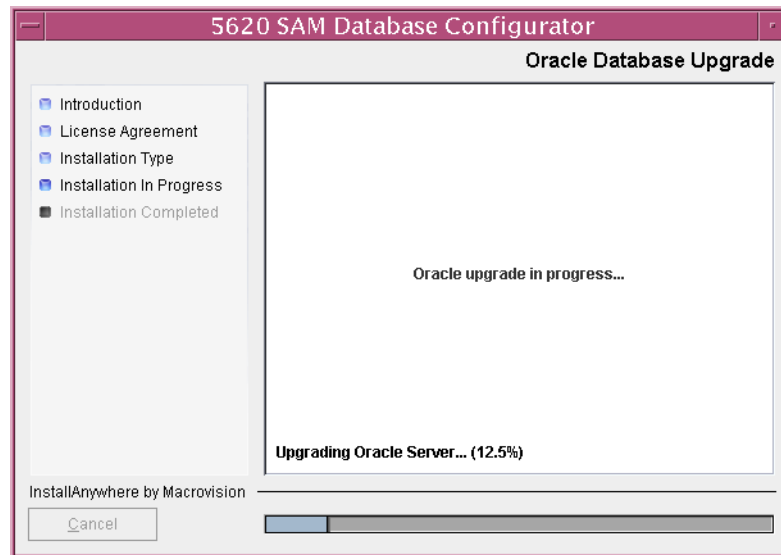
- 43 When the script execution is complete, click on the Next button.
- 44 You are prompted to begin the database upgrade, as shown in Figure 3-27. A database upgrade can take one hour or more, depending on the tablespace configuration. Click on the Start Process button to begin the database upgrade.

Figure 3-27 Database Upgrade



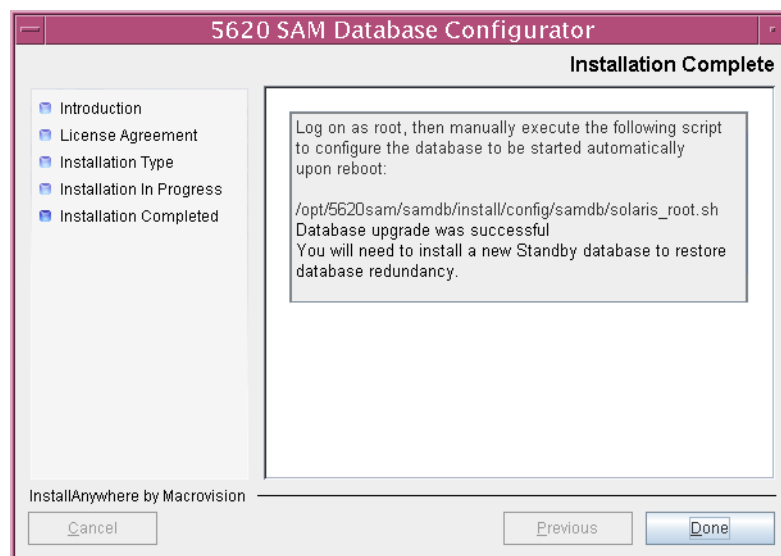
The next panel displays upgrade progress, as shown in Figure 3-28.

Figure 3-28 Oracle Database Upgrade



- 45 When the panel in Figure 3-29 is displayed, the 5620 SAM database upgrade is complete, but as shown in the panel text, you must run a script to enable automatic database startup.

Figure 3-29 Installation Complete



Perform the following steps to run the script described in the panel.

- i Open a separate console window as the root user.
- ii Enter the following:

```
# path/solaris_root.sh
```

where *path* is the `solaris_root.sh` script location, typically
`/opt/5620sam/samdb/install/config/samdb`

The script returns messages similar to the following:

```
Sun Microsystems Inc.   SunOS 5.10      Generic January 2005
Sun Microsystems Inc.   SunOS 5.10      Generic January 2005
Sun Microsystems Inc.   SunOS 5.10      Generic January 2005
Sun Microsystems Inc.   SunOS 5.10      Generic January 2005
```

- iii When the script execution is complete, close the console window.

- 46 Click on the Done button to close the database installer.

The next section of the procedure describes the upgrade of the standalone 5620 SAM main server. A server upgrade requires root user privileges.

Upgrade server

- 47 Log into the server station as the root user.
- 48 Open a console window.
- 49 Perform the following steps to ensure that no-one is logged in to the station as the samadmin user.

- i Enter the following:

```
# who ↵
```

The active user sessions are listed.

- ii If the samadmin user is listed, close each samadmin user session. See the Solaris documentation for more information.

- 50 Place the new 5620 SAM software DVD-ROM in a DVD-ROM drive.

- 51 Navigate to the DVD-ROM drive.

52 Perform one of the following to open the 5620 SAM server installer.

a On a SPARC station:

i Enter the following:

```
# cd Solaris ↵
```

ii Enter the following:

```
# ./ServerInstall_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
# cd Solarisx86 ↵
```

ii Enter the following:

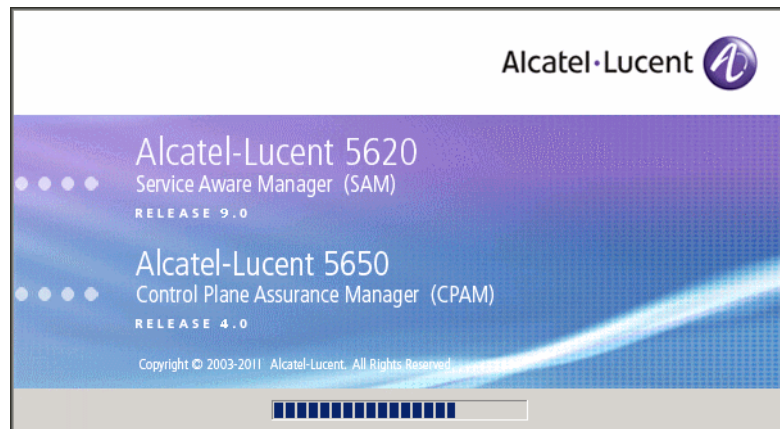
```
# ./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

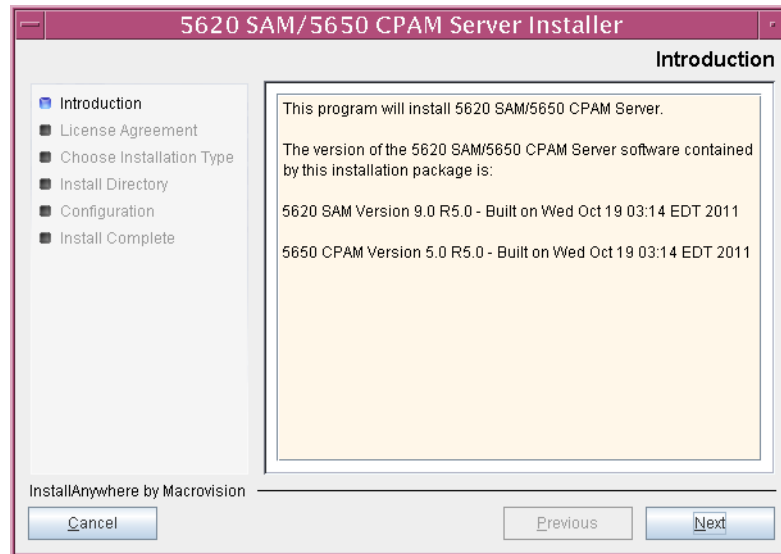
The splash screen shown in Figure 3-30 opens.

Figure 3-30 5620 SAM installer



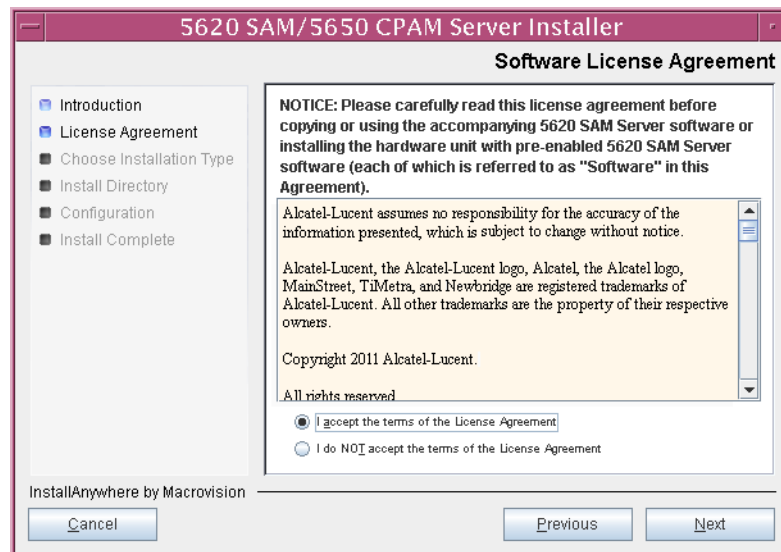
- 53 The 5620 SAM server installer opens, as shown in Figure 3-31. The left pane indicates upgrade progress. The right pane displays release information about the software. Click on the Next button.

Figure 3-31 Introduction



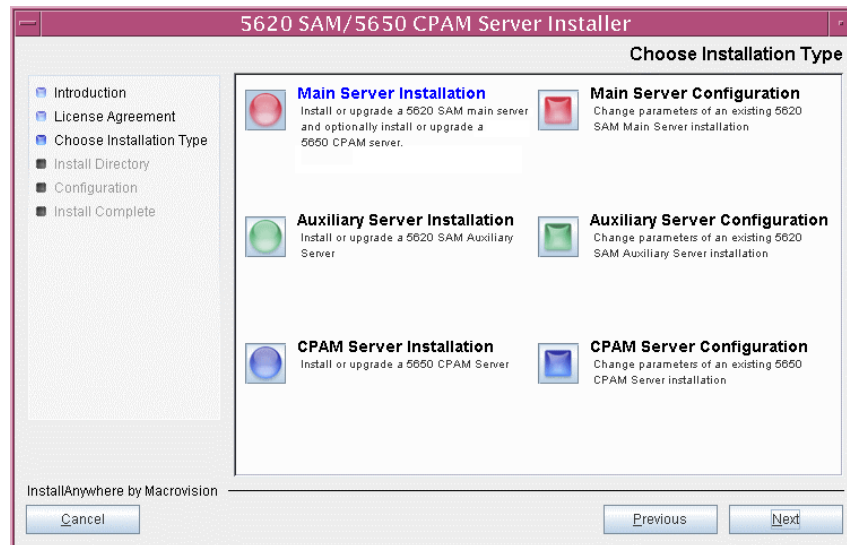
- 54 Review and accept the terms of the license agreement shown in Figure 3-32. Click on the Next button.

Figure 3-32 Software License Agreement



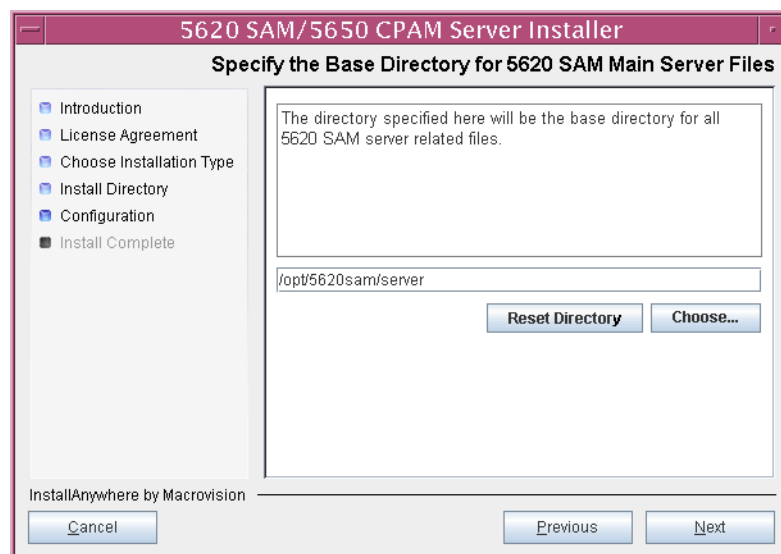
- 55 Select Main Server Installation, as shown in Figure 3-33. Click on the Next button.

Figure 3-33 Choose Installation Type



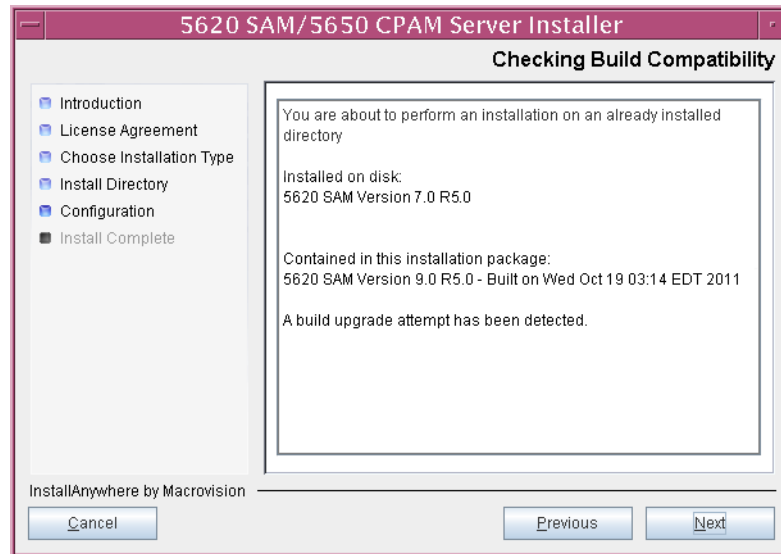
- 56 Specify the base directory in which the existing 5620 SAM main server software is installed (typically /opt/5620sam/server), as shown in Figure 3-34. Click on the Next button.

Figure 3-34 Specify the Base Directory for 5620 SAM Main Server Files



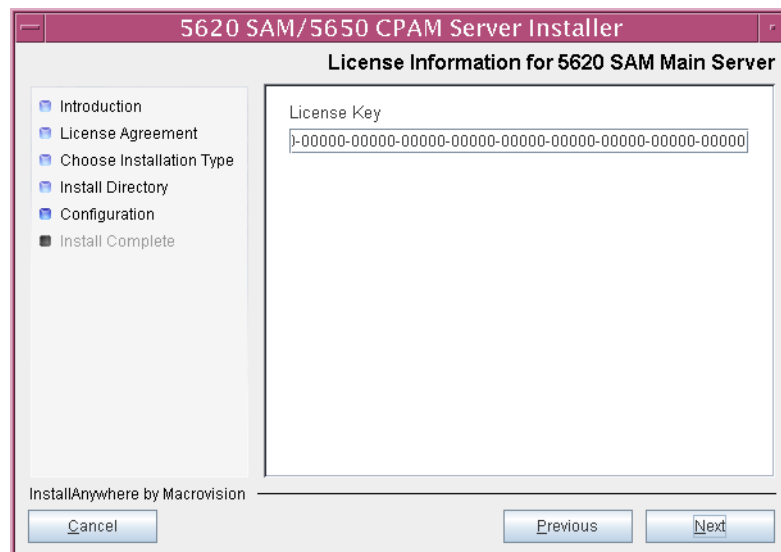
- 57 As shown in Figure 3-35, the installer indicates which release of 5620 SAM software is currently installed and the release to which it is to be upgraded. Verify the information. Click on the Next button.

Figure 3-35 Checking Build Compatibility



- 58 The 5620 SAM installer displays the existing license key. Enter the license key for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 3-36. Click on the Next button.

Figure 3-36 License Information for 5620 SAM Main Server



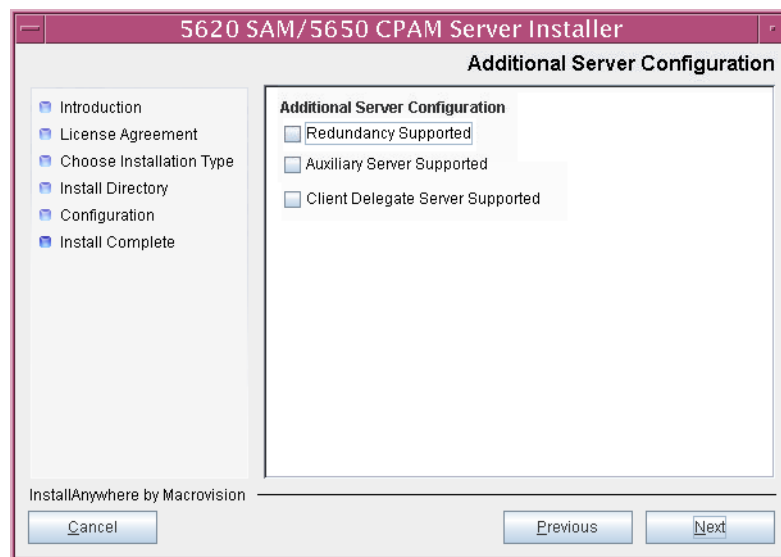
59 Configure the following parameters shown in Figure 3-37, then click on the Next button.

- Redundancy Supported
- Auxiliary Server Supported
- Client Delegate Server Supported



Note — You must leave the “Redundancy Supported” parameter unselected.

Figure 3-37 Additional Server Configuration



60 Configure the following parameters, shown in Figure 3-38, using the recorded values from the database upgrade, then click on the Next button.

- Database Server IP address
- Database Server Port (typically 1523)
- Database Instance Name (typically samdb)
- Database User Name (typically samuser)
- Database User Password
- Database Proxy Port (typically 9002)

Figure 3-38 Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'If NAT (network address translation) is to be used, enter the 5620 SAM database's public IP address as known to the 5620 SAM server.' Below this are six input fields: 'Database Server IP Address' (empty), 'Database Server Port' (1523), 'Database Instance Name' (samdb), 'Database User Name' (samuser), 'Database User Password' (masked with asterisks), and 'Database Proxy Port' (9002). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

61 Depending on the existing configuration, the panel in Figure 3-39 is displayed. Configure the following parameters, if required, then click on the Next button:

- Online Backup Interval (Hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number Of Backup Sets (typically 3)



Note — The “Online Backup Destination” value is a path on the file system of the database station specified in step 60.

Figure 3-39 Online Database Backup

5620 SAM/5650 CPAM Server Installer

Online Database Backup

Introduction
License Agreement
Choose Installation Type
Install Directory
Configuration
Install Complete

The database backup directory resides on the database workstation.
Please ensure that the specified directory exists on the database workstation and it is writable.

Online Backup Interval (Hours) 24

Online Backup Destination /opt/5620sam/dbbackup

Number Of Backup Sets 3

Cancel Previous Next

InstallAnywhere by Macrovision

- 62 The panel in Figure 3-40 is displayed if you select the “Auxiliary Server Supported” parameter in step 59. Otherwise, go to step 64.

Perform the following steps to specify an auxiliary server, if required.

- i Configure the following parameters shown in Figure 3-40:
 - NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main and auxiliary servers.
 - Private IP (accessible only by this server)
 - Public IP (accessible to auxiliary)
 - Server Port (typically 12800)
 - Enable Stats Collection on Auxiliary Servers
 - Enable Call Trace Collection on Auxiliary Servers



Note 1 — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

Note 2 — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 3-40 Main Server Configuration for Auxiliary Servers

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Auxiliary Servers' panel active. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main panel contains the following configuration options:

- A text box with the instruction: "Enter the the network interface information that this 5620 SAM main server requires to communicate with the 5620 SAM auxiliary servers. At least one service type checkbox must be selected." Below this is a checkbox labeled "NAT (network address translation) Used" which is checked.
- A dropdown menu for "Private IP (accessible only by this server)" showing the value "192.168.200.111".
- A text box for "Public IP (accessible to auxiliary)" which is currently empty and highlighted in yellow.
- A text box for "Server Port" showing the value "12800".
- Two checkboxes at the bottom: "Enable Stats Collection on Auxiliary Servers" (unchecked) and "Enable Call Trace Collection on Auxiliary Servers" (checked).

At the bottom of the window, there is a status bar that says "InstallAnywhere by Macrovision" and three buttons: "Cancel", "Previous", and "Next".

- ii Click on the Next button.

- iii Click on the Add button shown in Figure 3-41 to specify an auxiliary server. The form shown in Figure 3-42 opens.



Note 1 — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

Note 2 — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

Figure 3-41 Auxiliary Servers

5620 SAM/5650 CPAM Server Installer

Auxiliary Servers

Specify all the 5620 SAM auxiliary servers that this server connects to. There must be at least one preferred auxiliary server. If NAT (network address translation) is to be used, enter the 5620 SAM auxiliary server(s) public IP address(es) as known to the 5620 SAM server.

IP Address	Port	Type

Add... Remove Edit...

Configure Call Trace Auxiliary Servers

InstallAnywhere by Macrovision

Cancel Previous Next



Note — To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

Figure 3-42 Auxiliary Server Configuration

Auxiliary Server Configuration

IP Address

Port 12800

Type Preferred

OK Cancel

- iv Configure the following parameters:
 - IP Address
 - Port (typically 12800)
 - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 62 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 62 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 3-41. Otherwise, go to step 63.
- viii The form shown in Figure 3-43 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 3-43 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

Preferred Auxiliary Servers	
IP Address	Port
10.1.1.1	12800
10.1.1.2	12800
10.1.1.3	12800

Reserved Auxiliary Servers	
IP Address	Port
10.2.2.1	12800
10.2.2.2	12801
10.2.2.3	12800

Server Pairs	
Preferred Server IP	Reserved Server IP

Make Pair from Selected Remove Selected Pair OK Cancel

- ix Repeat step 62 viii to configure another call-trace auxiliary server pair, if required.

- 63 Click on the Next button.
- 64 Perform the following steps.
- i Configure the following parameters shown in Figure 3-44:
 - **Server Domain Name** (typically 5620sam)
This parameter uniquely identifies the 5620 SAM server cluster to which the main server belongs.
 - **Use Hostname for Communication**
Select this parameter if the main server is to use multiple interfaces for GUI and OSS client communication.

Figure 3-44 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains the following configuration options:

- Server Domain Name:** 5620sam
- ☐ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server):** 192.168.200.111
- Public IP (accessible to clients):** (empty field)
- EJB JNDI Server port:** 1099
- EJB JMS Server port:** 8093
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there is a 'Cancel' button and 'Previous' and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- ii If you select the “Use Hostname for Communication” parameter, go to step 64 vi.

iii Configure the following parameters:

- NAT (network address translation) Used
- Private IP (accessible only by this server)
- Public IP (accessible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)
- Enable 5670 RAM
- Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

iv Click on the Next button.

v Go to step [65](#).

vi Configure the following parameters shown in Figure 3-45:

- NAT (network address translation) Used
- Private IP (accessible only by this server)
- Public Hostname
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)
- Enable 5670 RAM
- Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 3-45 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains the following configuration options:

- Server Domain Name:** 5620sam
- ☒ **Use Hostname for Communication (recommended if NAT is used)**
- ☒ **NAT (network address translation) Used**
- Private IP (accessible only by this server):** 192.168.200.111
- Public Hostname:** (empty field)
- EJB JNDI Server port:** 1099
- EJB JMS Server port:** 8093
- ☐ **Enable 5670 RAM**
- ☐ **Enable 3GPP OSS Interface**

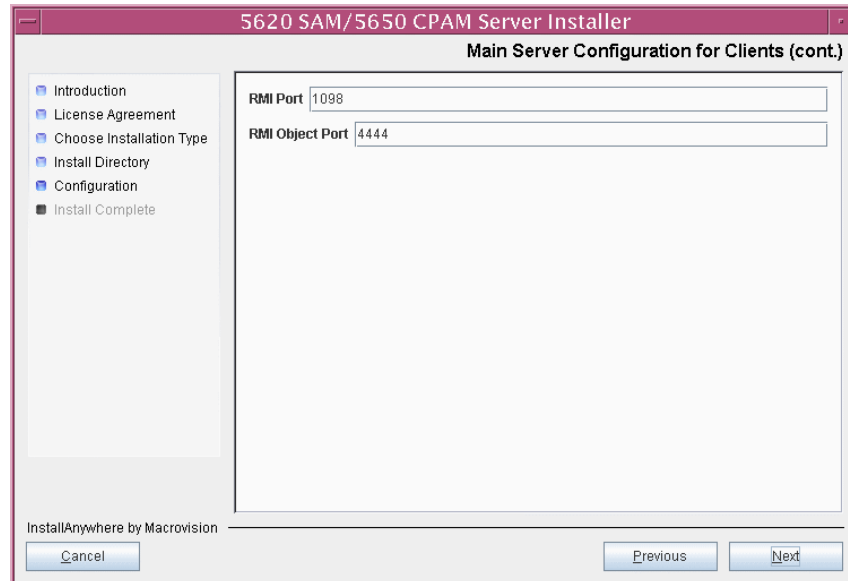
At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

vii Click on the Next button.

65 Configure the following parameters shown in Figure 3-46, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

Figure 3-46 Main Server Configuration for Clients (cont.)



- 66 The panel in Figure 3-47 is displayed if you do not select the “Auxiliary Server Supported” parameter in step 59. Otherwise, go to step 67.

Configure the parameters shown in Figure 3-47:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the OSS clients.
- Public IP (accessible to OSS clients)

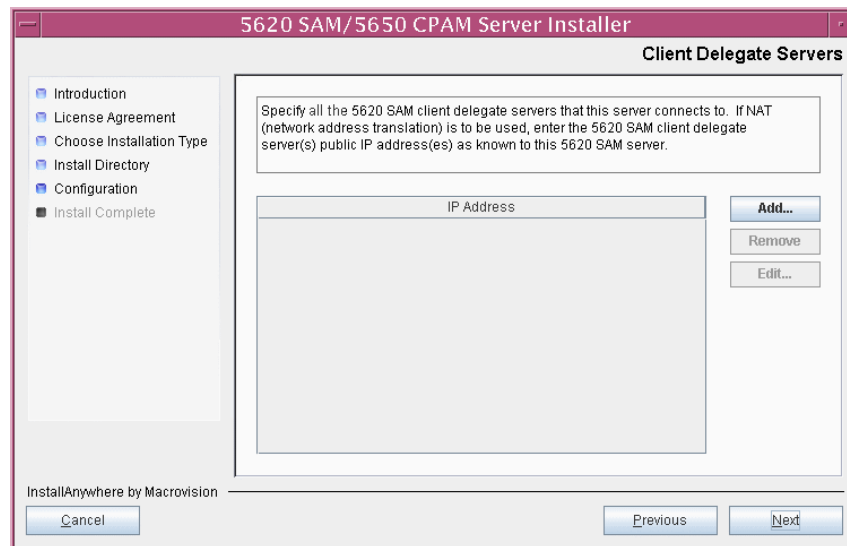
Figure 3-47 Server Configuration for OSS Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area is titled 'Server Configuration for OSS Clients'. It contains a text box with the instruction: 'Enter the network interface information that the OSS clients require to retrieve statistic data from this 5620 SAM server.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox is a label 'Public IP (accessible to OSS clients)' followed by a dropdown menu showing the value '192.168.200.111'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Install'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- 67 The panel in Figure 3-48 is displayed if you select the “Client Delegate Server Supported” parameter in step 59. Otherwise, go to step 68.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5620 SAM server and client delegate servers, specify the public IP address. Click on the Next button.

Figure 3-48 Client Delegate Servers



- 68 Perform the following steps to enable communication security between the main server and clients, and between the main and auxiliary servers. Otherwise, click on the Next button.



Note — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 3-49.

Figure 3-49 SSL Configuration

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password

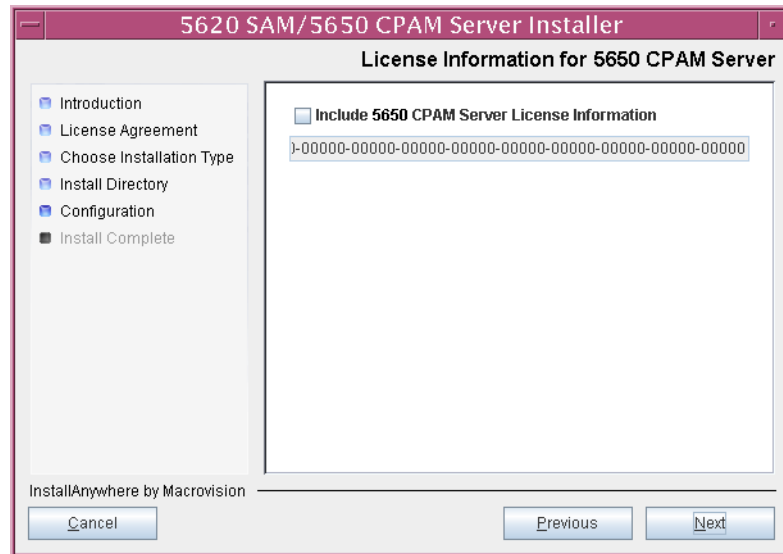


Note — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The main server copies the files, imports them into the main server configuration, and transfers the keystore file to each client and auxiliary server.

- 69 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 3-50. If it does, enter the 5650 CPAM license key provided by Alcatel-Lucent. Include the dashes in the key. Click on the Next button.

Figure 3-50 License Information for 5650 CPAM Server



70 Configure the following parameters shown in Figure 3-51, then click on the Next button:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

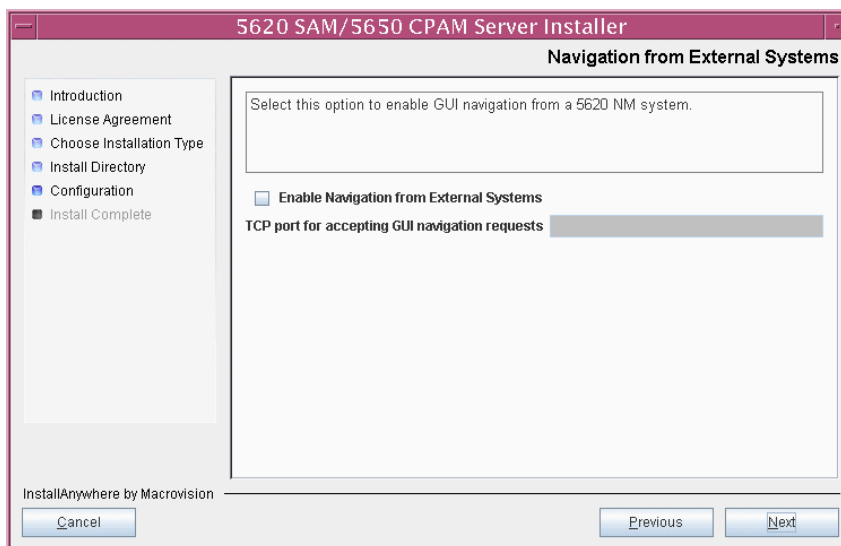


Note — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 3-51.

Figure 3-51 SNMP Configuration

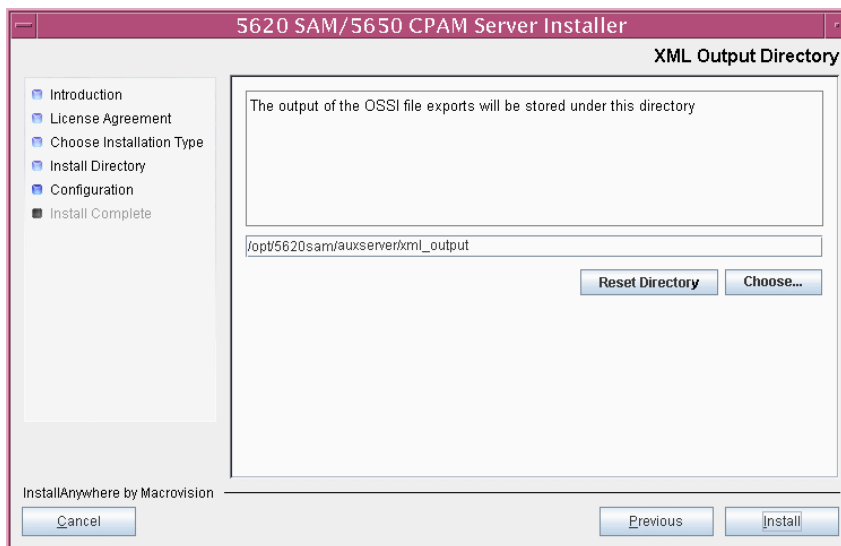
- 71 If you require 5620 SAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 3-52 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button.

Figure 3-52 Navigation from External Systems



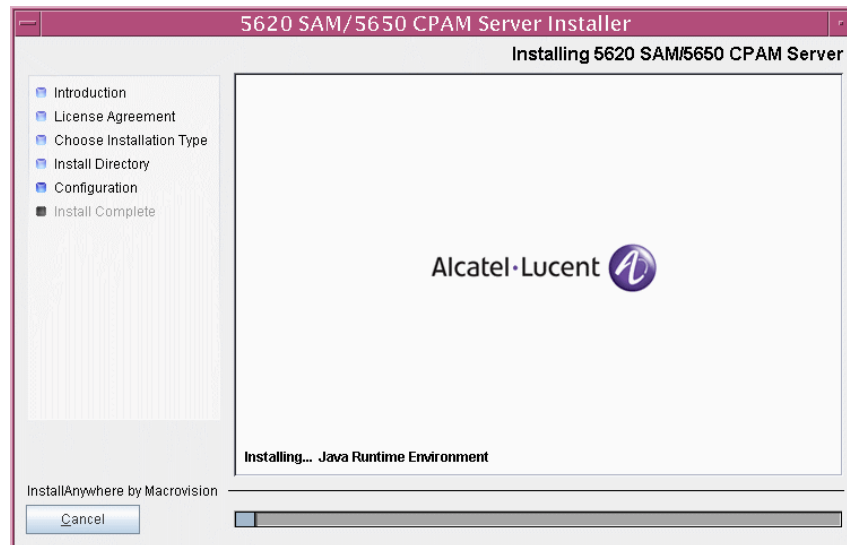
- 72 Specify an OSS XML output location (typically /opt/5620sam/server/xml_output), as shown in Figure 3-53. Click on the Install button to begin the server upgrade.

Figure 3-53 XML Output Directory



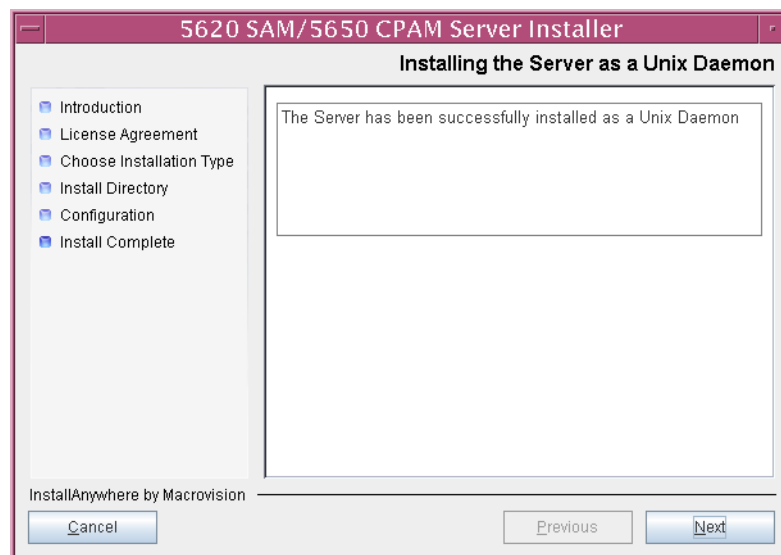
The next panel displays upgrade progress, as shown in Figure 3-54.

Figure 3-54 Installing 5620 SAM/5650 CPAM Server



- 73 The 5620 SAM server is installed as a UNIX daemon, as shown in Figure 3-55. Click on the Next button.

Figure 3-55 Installing the Server as a Unix Daemon



- 74 When the main server upgrade is complete, as shown in Figure 3-56, configure the “Start the 5620 SAM Main Server” parameter to specify whether you want the server to start immediately after the upgrade.



Caution — If the 3GPP OSS interface is enabled in step 64, and you did not enable the interface on this station during a previous installation or upgrade, ensure that the “Start the 5620 SAM Main Server” parameter is not selected.

Figure 3-56 Installation Complete



- 75 Click on the Done button to close the server installer. If you specified that the main server is to start after the upgrade, the server starts. Initial server startup can take twenty minutes or more.
- 76 If the 3GPP OSS interface is not enabled in step 64, go to step 78.
- 77 If the 3GPP OSS interface has not been configured during a previous 5620 SAM main server installation or upgrade, perform the following steps.
- i Open the *path/nms/cnbi/home/config/cnbi.properties* file using a plain-text editor
 where *path* is the 5620 SAM main server installation location, typically *opt/5620sam/server*
 - ii Locate the following line:

```
CNBI . SAMO . USER=
```
 - iii Edit the line to read:


```
CNBI.SAMO.USER=3GPP_OSS_user_name
```

where *3GPP_OSS_user_name* is the user name that OSS applications must send in requests to the interface

- iv Locate the following line:

```
CNBI.SAMO.PASSWORD=
```

- v Edit the line to read:

```
CNBI.SAMO.PASSWORD=3GPP_OSS_password
```

where *3GPP_OSS_password* is the MD5-encrypted user password that OSS applications must send in requests to the interface

- vi Save and close the file.

- vii Go to step 79.

- 78 If you specified that the main server is to start immediately after the upgrade, perform the following steps to verify that the server is started.

- i Enter the following to switch to the samadmin user:

```
# su - samadmin ↵
```

- ii Enter the following:

```
bash$ path/nms/bin/nmserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- SAM Server is UP
```

- iii If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

- 79 If you specified not to start the main server immediately after the upgrade, perform the following steps to start the server manually.

- i Log in to the main server station as the samadmin user.

- ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to start the 5620 SAM server software:

```
bash$ ./nmserver.bash start ↵
```

- v Enter the following:

```
bash$ path/nms/bin/nmserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- SAM Server is UP
```

- vi If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

- 80 Close the console window.

Upgrade or install 5620 SAM client

- 81 If you modify the SSL configuration during a main server upgrade, you cannot upgrade a client that connects to the main server; you must uninstall the client software and re-install it. Perform the appropriate procedure in chapter 6 to uninstall the client or client delegate server software, as required.
- 82 Perform one of the following to upgrade or install the 5620 SAM client software on a Solaris station, if required.



Note — Each procedures listed in this step includes a step that starts the 5620 SAM client. Do not perform the step that starts the 5620 SAM client; the 5620 SAM client is not to be started at this time.

- a Perform Procedure 2-3 or 2-4 to install a single-user client.
- b Perform Procedure 2-7 to install a client delegate server.
- c Perform Procedure 3-4 to upgrade a single-user client, if you did not modify the SSL configuration on the main server during the upgrade.
- d Perform Procedure 3-6 to upgrade a client delegate server, if you did not modify the SSL configuration on the main server during the upgrade.

- 83 Perform one of the following to upgrade or install the 5620 SAM client software on a Windows station, if required.



Note — Each procedures listed in this step includes a step that starts the 5620 SAM client. Do not perform the step that starts the 5620 SAM client; the 5620 SAM client is not to be started at this time.

- a Perform Procedure [2-5](#) or [2-6](#) to install a single-user client.
 - b Perform Procedure [3-5](#) to upgrade a single-user client, if you did not modify the SSL configuration on the main server during the upgrade.
- 84 If the 3GPP OSS interface is enabled in step [64](#), and has not been configured during a previous 5620 SAM main server installation or upgrade, perform the following steps.
- i Log in to a 5620 SAM GUI client as the admin user.
 - ii Create a user account for 3GPP OSS interface access. Observe the following when you create the account:
 - The user name must be the user name specified in step [77](#).
 - The password must be the password specified in step [77](#).
 - The user account requires full permissions on the fm and oss packages.

See the *5620 SAM User Guide* for information about creating 5620 SAM user accounts.

3.6 Redundant 5620 SAM upgrade workflow

The following is the serial sequence of high-level actions required to upgrade a redundant 5620 SAM system. A section heading in quotation marks is a reference to a section in Procedure 3-3. To reduce the time that a redundant upgrade requires, some steps can be performed concurrently by multiple operators, as described in Table 3-2.



Caution 1 — A redundant 5620 SAM system upgrade involves a network-management outage, and must be performed only during a scheduled maintenance period of sufficient duration for the upgrade.

Caution 2 — The following conditions must be in place before you begin a redundant 5620 SAM upgrade:

- The four 5620 SAM application components (primary server, standby server, primary database, and standby database) are functional.
- Each database station is to be associated with the same database instance name after the upgrade as before the upgrade.
- No 5620 SAM-related hardware modifications occur during the upgrade.

If you are unable to meet these conditions when the upgrade is to be performed, contact Alcatel-Lucent technical support for assistance.

- 1 Perform the pre-upgrade tasks. See Procedure 3-1 for more information.
- 2 Open at least one 5620 SAM client to monitor the network until the first server and database are upgraded.
- 3 Align the primary and standby 5620 SAM database designations with the original 5620 SAM main server configuration, if automatic database realignment is not in effect. See “Align database roles with 5620 SAM configuration” for more information.
- 4 Back up the primary database. See “Back up primary database” for more information.
- 5 Stop the standby main server. See “Stop standby main server” for more information.
- 6 Disable the standby 5620 SAM main server startup daemon. See “Disable standby server daemon” for more information.
- 7 If the 5620 SAM deployment contains auxiliary servers, stop the preferred and reserved auxiliary servers of the standby main server. See “Stop standby auxiliary servers” for more information.
- 8 Disable database redundancy functionality on the primary 5620 SAM main server. See “Disable redundancy on primary main server” for more information.
- 9 Upgrade the original standby database. This database becomes the new primary database. See “Upgrade standby database” for more information.
- 10 Upgrade the original standby main server to become the new primary server. See “Upgrade original standby main server” for more information.

- 11 If the 5620 SAM deployment contains auxiliary servers, upgrade the preferred and reserved auxiliary servers of the original standby main server. See [Procedure 3-7](#) for more information.
- 12 Stop the original primary 5620 SAM main server. See [“Stop original primary main server”](#) for more information.



Note — This is the beginning of the network-management outage.

- 13 Disable the original primary 5620 SAM server startup daemon. See [“Disable original primary server daemon”](#) for more information.
- 14 Stop the original primary database. See [“Stop original primary database”](#) for more information.
- 15 Disable the original primary 5620 SAM database startup daemons. See [“Disable original primary database daemons”](#) for more information.
- 16 If the 5620 SAM deployment contains auxiliary servers, stop the preferred and reserved auxiliary servers of the original primary main server. See [“Stop original primary auxiliary servers”](#) for more information.
- 17 Start the new primary (original standby) 5620 SAM main server. See [“Start new primary main server”](#) for more information.
- 18 If the 5620 SAM deployment contains auxiliary servers, start the preferred and reserved auxiliary servers of the new primary main server. See [“Start new primary auxiliary servers”](#) for more information.
- 19 Upgrade or install 5620 SAM single-user clients or client delegate servers, as required. A 5620 SAM client is required for network monitoring and sanity testing of the first upgraded server and database. Sanity testing at this point facilitates backing out of the upgrade if it is necessary.

See [“Upgrade or install 5620 SAM client”](#) for more information.



Note — This is the end of the network-management outage.

- 20 Perform sanity testing on the upgraded server and database using a newly installed or upgraded 5620 SAM client. See [“Test 5620 SAM system using new client”](#) for more information.
- 21 Uninstall the original primary database. See [“Uninstall original primary database”](#) for more information.
- 22 Install the new standby database. See [“Install new standby database”](#) for more information.
- 23 Reinstantiate the database on the new standby database station. See [“Reinstantiate database on new standby station”](#) for more information.

- 24 Upgrade the original primary main server to become the new standby main server. See [“Upgrade original primary main server”](#) for more information.
- 25 If the 5620 SAM deployment contains auxiliary servers, upgrade the preferred and reserved auxiliary servers of the new standby main server. See Procedure 3-7 for more information.
- 26 If the 5620 SAM deployment contains auxiliary servers, start the preferred and reserved auxiliary servers of the new standby main server. See [“Start new standby auxiliary servers”](#) for more information.
- 27 Upgrade or install additional 5620 SAM single-user clients or client delegate servers, if required. See [“Upgrade or install additional clients for redundant system”](#) for more information.

Table 3-2 lists the redundant 5620 SAM upgrade tasks in a format that involves two operators, A and B, who perform some tasks concurrently. Each task consists of a workflow step link and a link to the appropriate procedure or procedure section.

Table 3-2 Workflow for concurrent task execution during redundant upgrade

5620 SAM system state	Operator A workflow steps	Operator B workflow steps
D U P L E X	1—pre-upgrade tasks described in Procedure 3-1	
	2—open GUI client to monitor network 3—check database alignment, correct if required	Begin download 5620 SAM software, if not using 5620 SAM software DVD-ROM for upgrade
	4— “Back up primary database”	—
	5— “Stop standby main server”	6— “Disable standby server daemon”
S I M P L E X	7— “Stop standby auxiliary servers”	8— “Disable redundancy on primary main server”
	9— “Upgrade standby database” procedure steps, up to and including starting database activation	—
	During database activation: 10— “Upgrade original standby main server” 11— “Upgrade original standby auxiliary servers”	
	When database activation is complete, subsequent “Upgrade standby database” procedure steps, up to and including starting database upgrade	—
	During database upgrade: 10— “Upgrade original standby main server” , if not complete 11— “Upgrade original standby auxiliary servers” , if not complete	
	12— “Stop original primary main server”	13— “Disable original primary server daemon”
O U T A G E	14— “Stop original primary database”	15— “Disable original primary database daemons”
	16— “Stop original primary auxiliary servers”	
	17— “Start new primary main server” Network management outage persists until new primary server started and device discovery complete	18— “Start new primary auxiliary servers”

(1 of 2)

5620 SAM system state	Operator A workflow steps	Operator B workflow steps
S I M P L E X	19– “Upgrade or install 5620 SAM client”	—
	—	20– “Test 5620 SAM system using new client”
	21– “Uninstall original primary database”	—
	22– “Install new standby database”	24– “Upgrade original primary main server”
	23– “Reinstantiate database on new standby station”	—
D U P L E X	25– “Upgrade new standby auxiliary servers”	
	26– “Start new standby auxiliary servers”	
	27– “Upgrade or install additional clients for redundant system”	

(2 of 2)

3.7 Redundant 5620 SAM system upgrade

This section describes how to upgrade the software components of a redundant 5620 SAM system. Procedure 3-3 describes how to upgrade the 5620 SAM database and main server software.



Warning — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panels when you perform a procedure in this section:

- **5620 SAM Database Configurator**
Get Upgrade Database Info
Standby Database Configuration Info
- **5620 SAM/5650 CPAM Server Installer**
Main Server Configuration for Auxiliary Servers
Main Server Configuration for Peer Server

Before you begin a 5620 SAM system upgrade, you must collect the required information and ensure that the proper conditions are in place, as described in Procedure 3-1.



Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

Note 2 — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

Procedure 3-3 To upgrade a redundant 5620 SAM system

Perform this procedure to upgrade the 5620 SAM database and main server software in a redundant 5620 SAM deployment. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.

You require the following user privileges to perform this procedure:

on each main server station:

- root
- samadmin

on each database station:

- root
- Oracle management

- 1 Open an existing 5620 SAM client GUI for network monitoring purposes until the second 5620 SAM server and database are disabled in this procedure.

Align database roles with 5620 SAM configuration

- 2 Before you can perform a redundant upgrade, the database that is designated the primary database in the primary main server configuration must currently be operating as the primary database.

If automatic database realignment is enabled, go to step 4. Otherwise, perform the following steps to ensure that the correct database is currently the primary database.



Note — In a collocated redundant 5620 SAM system, the primary main server and the primary database must be on the same station.

i Log in to the primary server station as the samadmin user.

ii Open the following file for viewing:

path/nms/config/nms-server.xml

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iii Search for the section that begins with the following XML tag:

```
<db
```

iv Locate the line in this section that reads as follows:

```
host="nnn.nnn.nnn.nnn"
```

where *nnn.nnn.nnn.nnn* is the IP address of a station in the 5620 SAM cluster

This IP address on this line is the original primary database IP address.

v If the IP address on the host= line belongs to the current standby database station, you must perform a database switchover so that the standby database becomes the primary database. See the *5620 SAM User Guide* for information about performing a database switchover.



Caution — Do not attempt to modify the nms-server.xml file. You cannot change the 5620 SAM primary and standby database designations by changing a parameter value.

vi Close the nms-server.xml file.

Back up primary database

3 If you did not perform a database backup as part of the pre-upgrade preparation in Procedure 3-1, you must back up the database now.



Caution 1 — The path of the 5620 SAM database backup directory must not include the 5620 SAM database installation directory, typically /opt/5620sam/samdb, or data loss may occur.

Caution 2 — Before the 5620 SAM performs a database backup, it deletes the contents of the specified backup directory. Ensure that the backup directory that you specify in this step does not contain files that you want to retain.

Perform one of the following.

- a Use the 5620 SAM client GUI. See the *5620 SAM User Guide* for information about performing database backups.
- b Use a CLI script.
 - i Log in to the primary database station as the Oracle management user.
 - ii Open a console window.
 - iii Enter the following to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh  
backup_directory ↵
```

where
path is the 5620 SAM database installation location, typically /opt/5620sam/samdb
backup_directory is the directory that is to contain the database backup
The 5620 SAM backs up the database.
 - iv Record the backup directory location.
 - v Copy the database backup files from the backup directory to a secure location, such as a non-5620 SAM station, for safekeeping.

Stop standby main server

- 4 Stop the standby 5620 SAM main server application.
 - i Log in to the standby server station as the samadmin user.
 - ii Open a console window.
 - iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server
 - iv Enter the following to stop the 5620 SAM server software:

```
bash$ ./nmsserver.bash stop ↵
```
 - v Enter the following to display the 5620 SAM server status:

```
bash$ ./nmsserver.bash appserver_status ↵
```

The command displays a status message.
 - vi The 5620 SAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 4 v. Do not proceed to the next step until the server is stopped.

Disable standby server daemon

- 5 Perform the following steps to disable the 5620 SAM server startup daemon on the standby server station. This ensures that the standby 5620 SAM server does not automatically start in the event of an electrical or network disruption during the upgrade.

- i If you are currently logged in as the samadmin user on the standby server station, enter the following on the standby server station to switch to the root user:

```
bash$ su - ↵
```

- ii Enter the following to change to the rc3.d directory:

```
# cd /etc/rc3.d ↵
```

- iii Enter the following to disable the 5620 SAM server startup daemon by renaming it:

```
# mv S975620SAMServerWrapper  
inactive.S975620SAMServerWrapper ↵
```

Stop standby auxiliary servers

- 6 If the 5620 SAM deployment contains auxiliary servers, perform the following steps to stop the auxiliary server software on each preferred and reserved auxiliary server station of the standby main server.

- i Log in to the auxiliary server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to stop the 5620 SAM server software:

```
bash$ path/nms/bin/auxnmsserver.bash auxstop ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server stops.

Disable redundancy on primary main server

- 7 Disable the 5620 SAM failover and switchover functionality on the primary server.

- i Log in to the primary main server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server configuration directory:

```
bash$ cd path/nms/config ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to make a backup copy of the server configuration file:

```
bash$ cp nms-server.xml nms-server.xml.backup ↵
```

- v Open the nms-server.xml file with a plain-text editor, for example, vi.
- vi Search for the <db tag.
- vii Edit the line below the tag that reads:

```
redundancyEnabled="true"
```

to read:

```
redundancyEnabled="false"
```

- viii Save the nms-server.xml file.
- ix Close the nms-server.xml file.
- x Enter the following to put the nms-server.xml change into effect:

```
bash$ path/nms/bin/nmsserver.bash read_config .
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The primary 5620 SAM server application is reconfigured with database redundancy disabled.

Upgrade standby database

- 8 You must run a pre-upgrade script that configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Log in to the standby database station as the root user.



Caution — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database upgrade to fail.



Note — If you later back out of the database upgrade and want to re-install the previous database, you must do the following before you attempt to re-install the previous database:

- run the current version of the script and specify the *remove_project* command-line option
 - run the previous version of the script and choose option 1
 - reboot the station
- 9 Place the new 5620 SAM software DVD-ROM in a DVD-ROM drive.
 - 10 Open a console window.
 - 11 Navigate to the DVD-ROM drive.

12 Perform one of the following to change to the appropriate directory.

a On a SPARC station, enter the following:

```
# cd Solaris ↵
```

b On an x86-based station, enter the following:

```
# cd Solarisx86 ↵
```

13 Enter the following:

```
# ./OracleSw_PreInstall.sh ↵
```

The following prompt is displayed:

```
Please select between the following option:
```

```
1) NEW INSTALL OF 5620 SAM
```

```
2) UPGRADE OF 5620 SAM
```

14 Enter 2 ↵. The script generates INFO messages as it validates the OS requirements, and then prompts you for Oracle management user information.



Note — If you specify a value other than the default, you must record the value for use when the OracleSw_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

15 Provide the following information when you are prompted; the console may display status messages between prompts:

- database installation directory (typically /opt/5620sam/samdb/install)



Note — To reduce the complexity of subsequent software upgrades and technical support activities, Alcatel-Lucent recommends that you accept the default for this parameter.

- user home directory



Note — Alcatel-Lucent recommends that you set the home directory to oracle11r2 to match the Oracle installation location.

- user password, if one of the following is true:
 - there is no password
 - there is a password, but you specify that you want to change it

The script updates the system configuration and exits.



Note — The script may generate the following messages; this is no cause for concern:

- WARNING: Group dba already exists locally.
- WARNING: Oracle user with the specified name already exists locally.
- projadd: Duplicate project name "Oracle11R2"

16 When the script execution is complete, disable the 5620 SAM Oracle proxy daemon to ensure that the daemon does not conflict with the database installer.

i Enter the following to change to the /etc/rc3.d directory:

```
# cd /etc/rc3.d ↵
```

ii Enter the following to disable the 5620 SAM Oracle proxy daemon by renaming it:

```
# mv S965620SAMOracleProxyWrapper  
inactive.S965620SAMOracleProxyWrapper ↵
```

17 Enter the following to reboot the standby database station and put the system update into effect:

```
# shutdown -y -i6 -g0 ↵
```

The standby database station reboots.

18 Log in to the standby database station as the Oracle management user.

19 Place the new 5620 SAM software DVD-ROM in a DVD-ROM drive.

20 Open a console window.

21 Navigate to the DVD-ROM drive.

22 Perform one of the following to open the 5620 SAM database installer.

a On a SPARC station:

i Enter the following:

```
bash$ cd Solaris ↵
```

ii Enter the following:

```
bash$ ./DBConfig_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
bash$ cd Solarisx86 ↵
```

ii Enter the following:

```
bash$ ./DBConfig_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

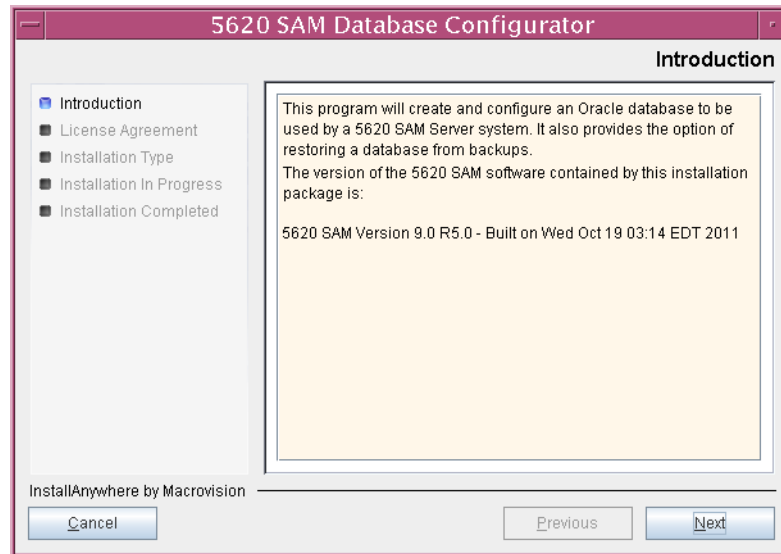
The splash screen shown in Figure 3-57 opens.

Figure 3-57 5620 SAM installer



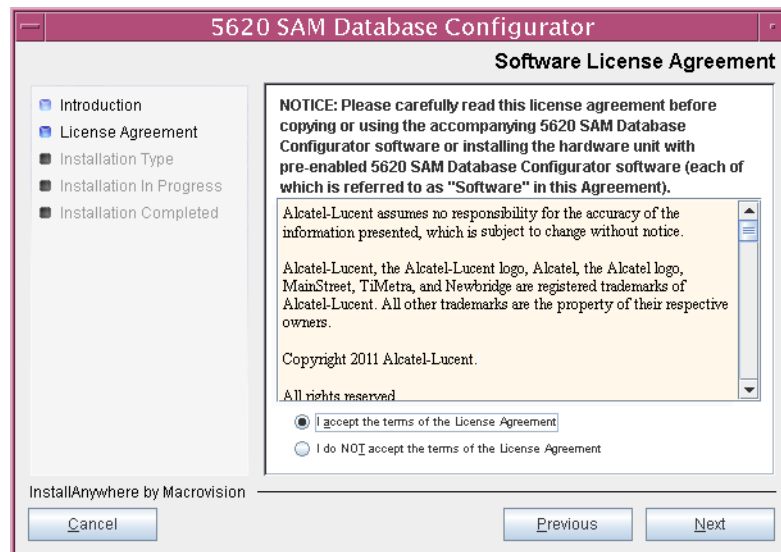
- 23 The 5620 SAM database installer opens, as shown in Figure 3-58. The left pane indicates upgrade progress. The right pane displays release information about the software. Click on the Next button.

Figure 3-58 Introduction



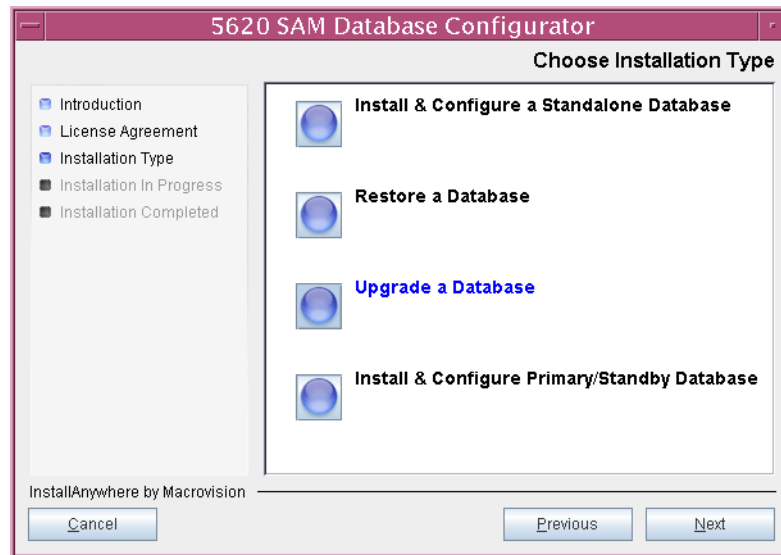
- 24 Review and accept the terms of the license agreement shown in Figure 3-59. Click on the Next button.

Figure 3-59 Software License Agreement



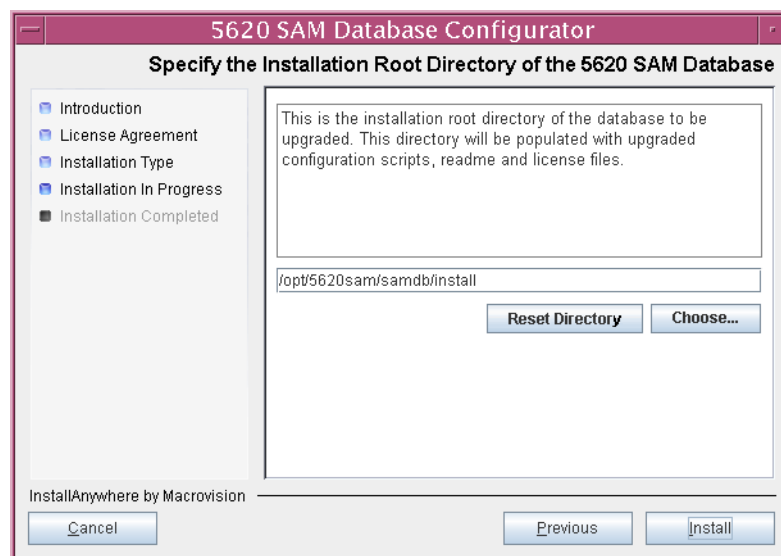
- 25 Select Upgrade a Database, as shown in Figure 3-60. Click on the Next button.

Figure 3-60 Choose Installation Type



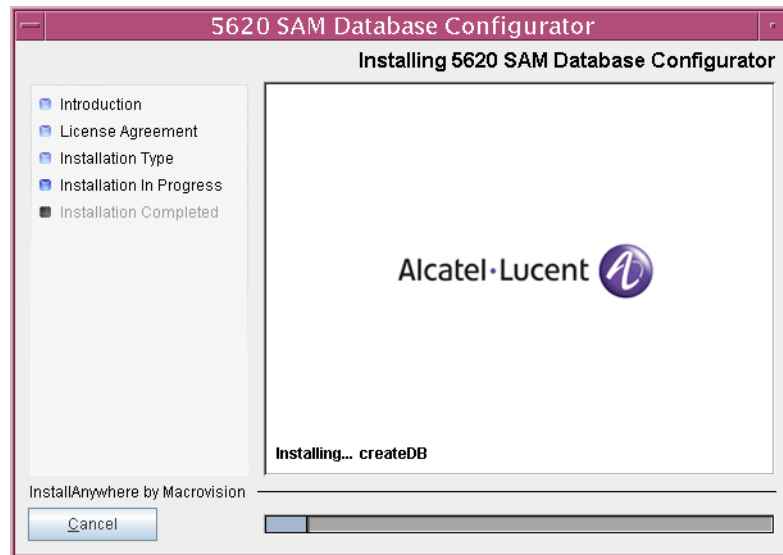
- 26 Specify the base directory in which the existing 5620 SAM database software is installed (typically /opt/5620sam/samdb/install), as shown in Figure 3-61. Click on the Install button to begin the database software upgrade.

Figure 3-61 Specify the Installation Root Directory of the 5620 SAM Database



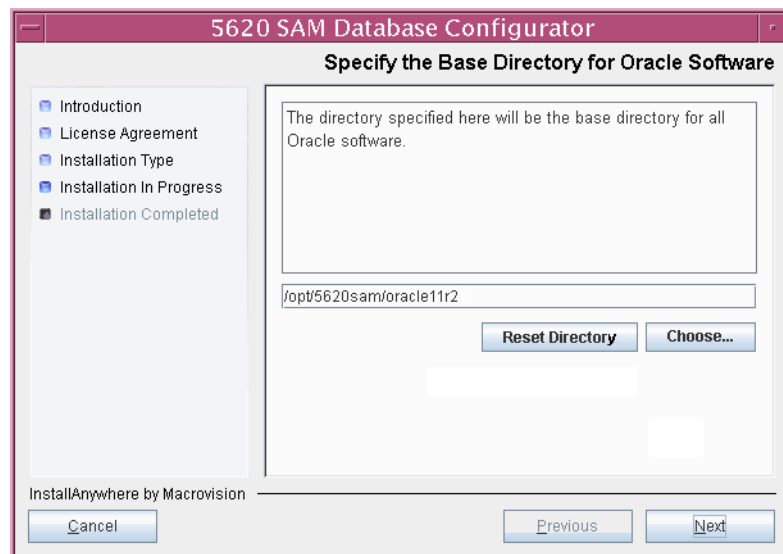
The 5620 SAM installer prepares to upgrade the database, as shown in Figure 3-62.

Figure 3-62 Installing 5620 SAM Database Configurator



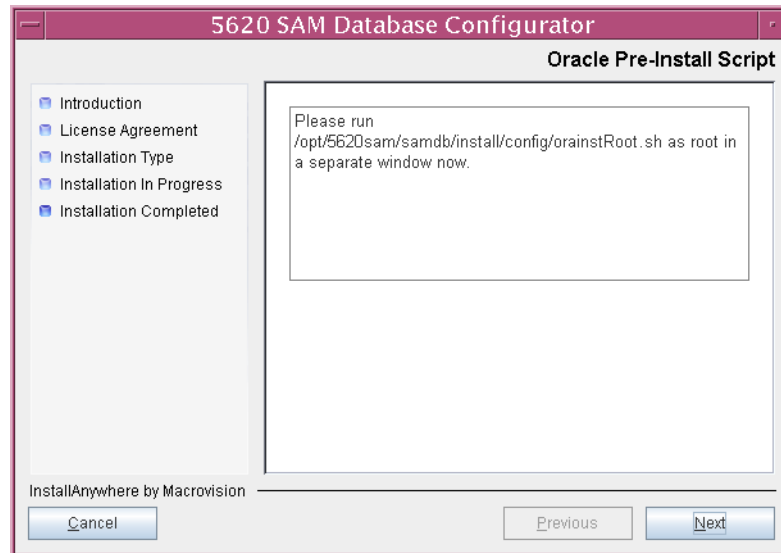
- 27 The panel shown in Figure 3-63 displays the Oracle software installation directory, which cannot be changed. Click on the Next button.

Figure 3-63 Specify the Base Directory for Oracle Software



- 28 If the panel in Figure 3-64 is displayed, perform the following steps. Otherwise, go to step 32.

Figure 3-64 Oracle Pre-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle pre-install script:

```
# su -
```

```
# path/install/config/orainstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script generates messages like the following:

```
Creating the Oracle inventory pointer file
(/var/opt/oracle/oraInst.loc)
```

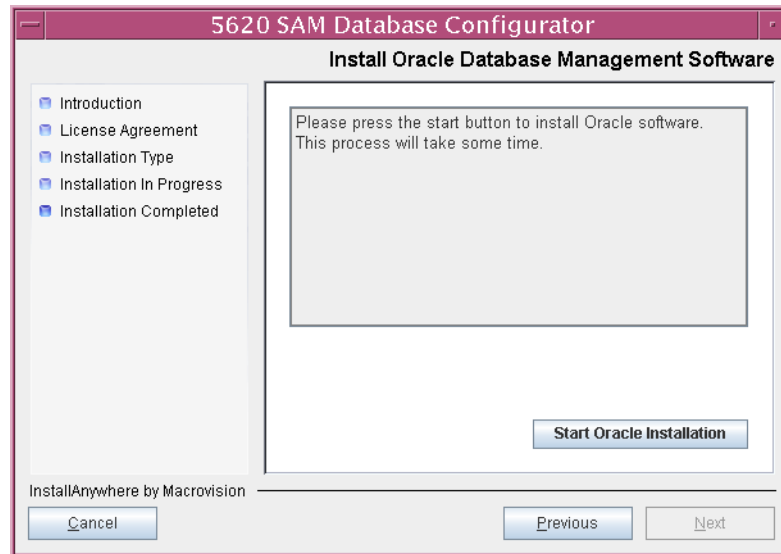
```
Creating the Oracle inventory directory
(/opt/5620sam/oracle11r2/oraInventory)
```

```
Changing groupname of /opt/5620sam/oracle11r2/oraInventory to
(dba).
```

- iv When the script execution is complete, close the console window.
- v Click on the Next button.

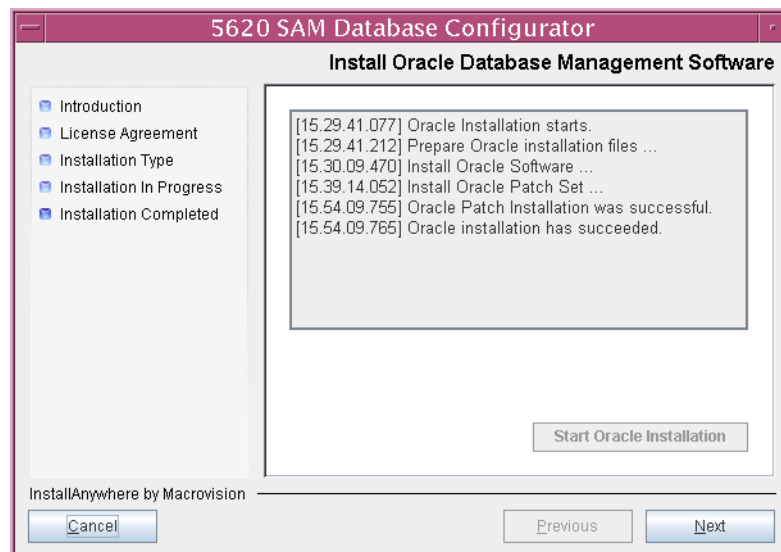
- 29 You are prompted to install Oracle software, as shown in Figure 3-65. This operation can take one hour or more. Click on the Start Oracle Installation button to begin the Oracle software installation.

Figure 3-65 Install Oracle Database Management Software



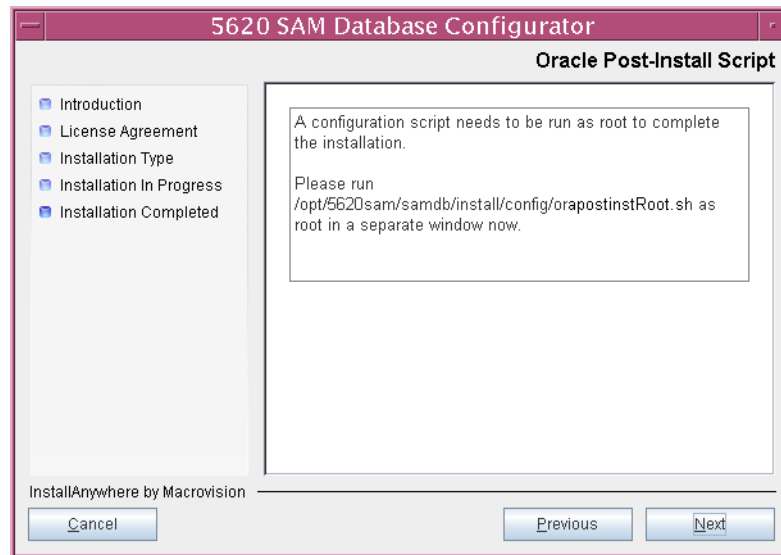
- 30 As shown in Figure 3-66, Oracle installation details are displayed as the installation progresses. When the installation is complete, click on the Next button.

Figure 3-66 Install Oracle Database Management Software



- 31 When the panel in Figure 3-67 is displayed, perform the following steps.

Figure 3-67 Oracle Post-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle post-install script:

```
# su -
```

```
# path/install/config/orapostinstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script displays the following message:

```
Check path/username_hostname_timestamp.log for output
```

where

path is the directory that contains the script log file, typically
/opt/5620sam/oracle11r2/install

username is the Solaris account name of the current user, for example, root

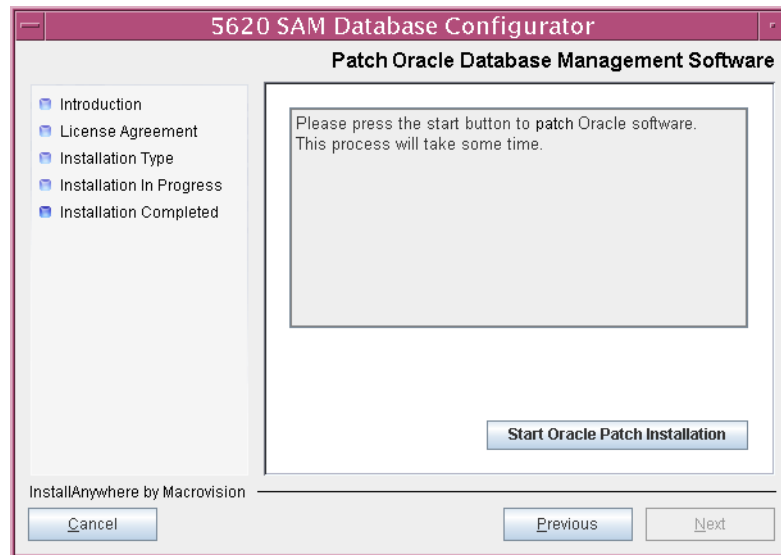
hostname is the hostname of this station

timestamp is the script execution start time

- iv If the script generates a message that contains the word “error”, view the script log file named in the message for more information, and contact Alcatel-Lucent technical support for assistance, if required.
- v When the script execution is complete, close the console window.
- vi Click on the Next button.

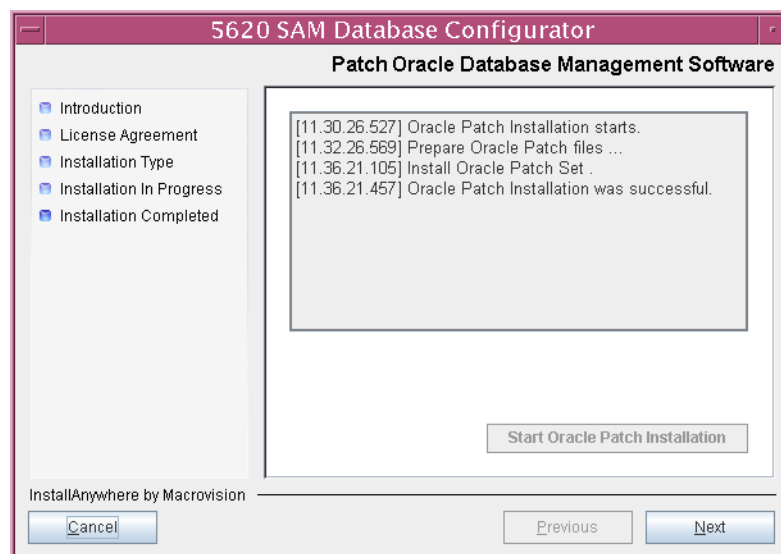
- 32 If the panel in Figure 3-68 is displayed, perform the following steps.

Figure 3-68 Patch Oracle Database Management Software



- i Click on the “Start Oracle Patch Installation” button to begin installing the Oracle patch. Oracle patch installation can take an hour or more to complete.
- ii Oracle patch installation details are displayed as the patch installation progresses. When the patch installation is complete, as shown in Figure 3-69, click on the Next button.

Figure 3-69 Patch Oracle Database Management Software

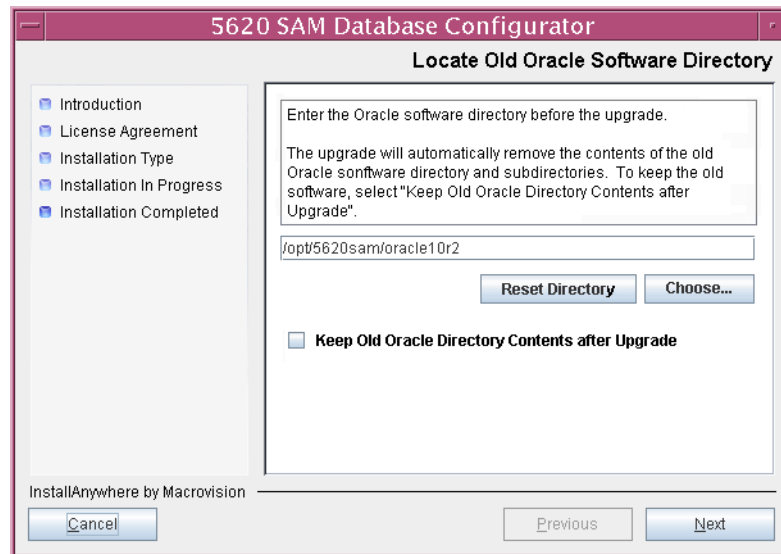


- 33 If the panel in Figure 3-70 is displayed, specify the location of the currently installed Oracle software, configure the “Keep Old Oracle Directory Contents after Upgrade” parameter, then click on the Next button.



Note — If the “Keep Old Oracle Directory Contents after Upgrade” parameter is not selected, the 5620 SAM database installer deletes the files and subdirectories in the specified directory. The installer deletes the directory itself only if the directory is not specified as the Oracle management user home directory in step 15.

Figure 3-70 Locate Old Oracle Software Directory



34 Configure the following parameters shown in Figure 3-71 using information from the existing standby database installation, then click on the Next button:

- NAT (network address translation) Used
- Public IP (accessible to servers)
- Private IP
- Database Name (typically samdb)
- Instance Name (typically samdb2)
- User Name (typically samuser)
- User Password



Note — The “Private IP” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

If you modify the “User Password” parameter, the value that you specify must meet the following criteria:

- The password must be between 4 and 30 characters long.
- The password must contain at least three of the following:
 - lower-case alphabetic character
 - upper-case alphabetic character
 - numeric character
 - special character, which is one of the following:
\$ _
- The password must not contain four or more of the same character type in sequence.
- The password must not be the same as the user name or its reverse.
- The password must not contain a space character.

Figure 3-71 Get Upgrade Database Info

5620 SAM Database Configurator

Get Upgrade Database Info

Enter the network interface information that the database requires to communicate with the servers. If NAT (network address translation) is to be used, specify both the database's private and public IP addresses.

☒ NAT (network address translation) Used

Public IP (accessible to servers) 192.168.200.133

Database Name samdb

Instance Name samdb2

User Name samuser

User Password *****

InstallAnywhere by Macrovision

Cancel Previous Next

- 35 Configure the following parameters shown in Figure 3-72 using information from the existing 5620 SAM installation, then click on the Next button:
- Database Listener Port (typically 1523)
 - Database Proxy Port (typically 9002)
 - Database File Server Port (typically 9003)

Figure 3-72 Get Upgrade Database Info (cont.)

5620 SAM Database Configurator

Get Upgrade Database Info (cont.)

Database Listener Port 1523

Database Proxy Port 9002

Database File Server Port 9003

InstallAnywhere by Macrovision

Cancel Previous Next

The installer prepares for the next configuration phase, as shown in Figure 3-73.

Figure 3-73 Please Wait

5620 SAM Database Configurator

Please Wait

Please wait, 5620 SAM Database Configurator is being configured for your system. This may take a moment...

InstallAnywhere by Macrovision

Cancel Previous Next

36 Configure the following parameters, shown in Figure 3-74, using the existing primary database values. Click on the Next button.

- Primary IP Address
- Primary Instance Name (typically samdb1)

Figure 3-74 Primary Database Info

The screenshot shows the '5620 SAM Database Configurator' window. On the left is a navigation pane with five items: 'Introduction' (selected), 'License Agreement', 'Installation Type', 'Installation In Progress', and 'Installation Completed'. The main area is titled 'Primary Database Info' and contains a text box with instructions: 'Enter the IP address of the network interface the primary database requires to communicate with the server(s). If NAT (network address translation) is to be used, specify the primary database's public IP address.' Below this are two input fields: 'Primary IP Address' (empty) and 'Primary Instance Name' (containing 'samdb1'). At the bottom are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

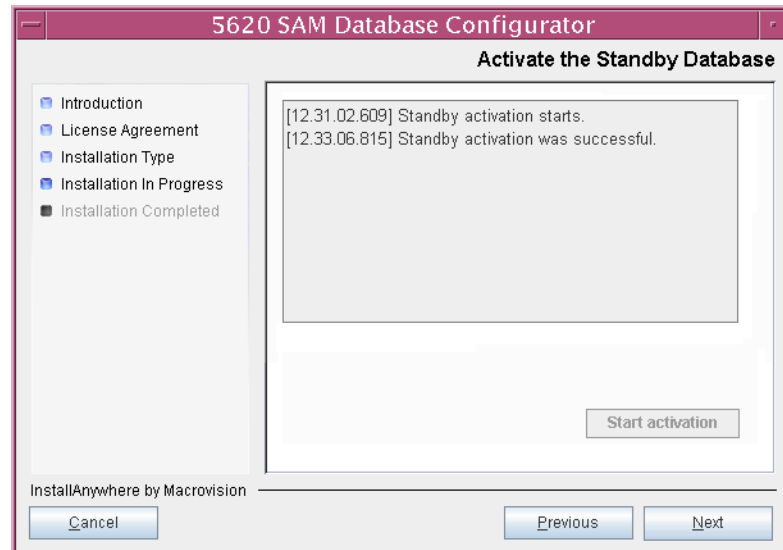
37 You are prompted to activate the standby database, as shown in Figure 3-75. Click on the Start activation button to proceed with the activation.

Figure 3-75 Activate the Standby Database

The screenshot shows the '5620 SAM Database Configurator' window. The navigation pane on the left is the same as in Figure 3-74. The main area is titled 'Activate the Standby Database' and contains a text box with instructions: 'We will activate this standby database to make it a writable primary database before it can be upgraded. This process will take a few minutes. Please press the start button.' Below the text box is a large 'Start activation' button. At the bottom are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

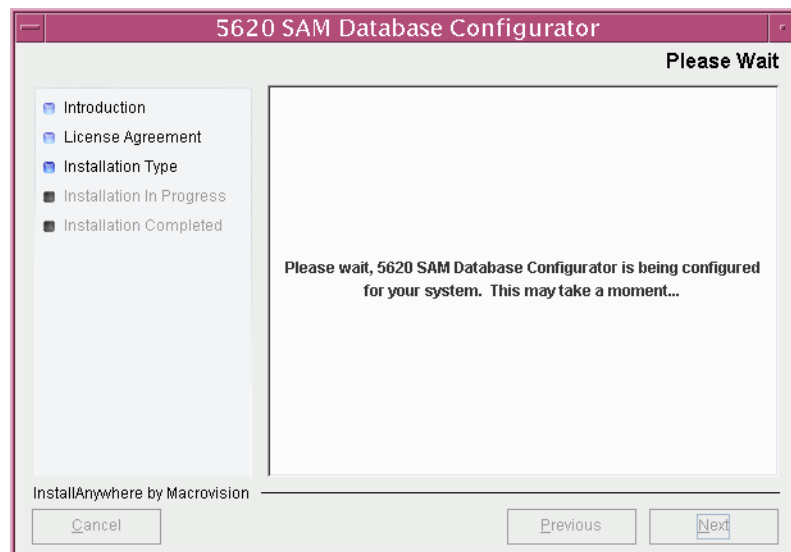
- 38 Database activation details are displayed as the activation progresses. When the activation is complete, as shown in Figure 3-76, click on the Next button.

Figure 3-76 Activate the Standby Database



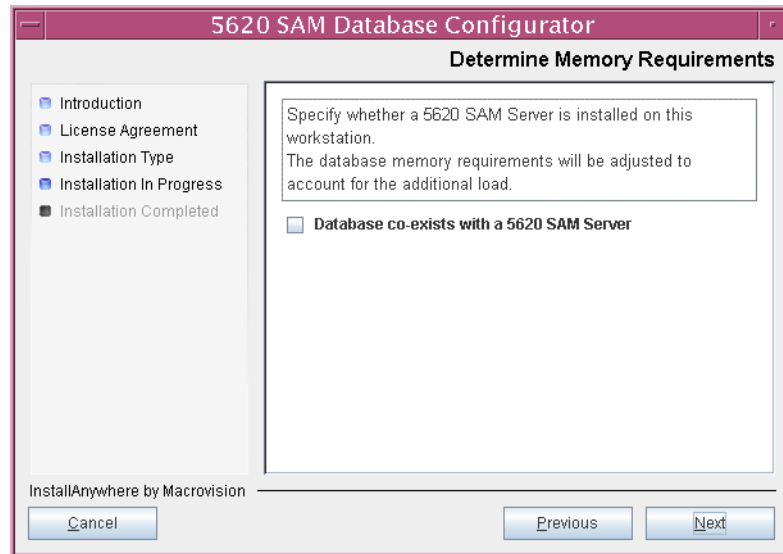
The installer prepares for the next configuration phase, as shown in Figure 3-77.

Figure 3-77 Please Wait



- 39 If the 5620 SAM server and database are installed on the same station, select the “Database co-exists with a 5620 SAM Server” parameter shown in Figure 3-78. Click on the Next button.

Figure 3-78 Determine Memory Requirements



- 40 Configure the following parameters shown in Figure 3-79, then click on the Next button.

If the “Enable SAM Server IP Validation” parameter is selected, only the servers at the specified IP addresses or hostnames can connect to the database.

- Enable SAM Server IP Validation
- Server One IP Address
- Server Two IP Address

Figure 3-79 Main Server IP Validation

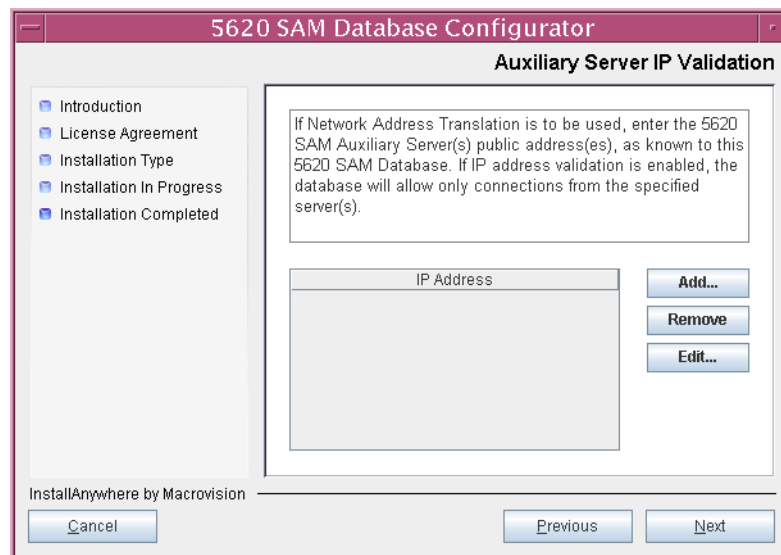
The screenshot shows the '5620 SAM Database Configurator' window with the 'Main Server IP Validation' tab selected. On the left is a navigation pane with five items: 'Introduction', 'License Agreement', 'Installation Type', 'Installation In Progress', and 'Installation Completed'. The 'Installation In Progress' item is currently selected. The main area of the window contains a text box with the following text: 'If Network Address Translation is to be used, enter the 5620 SAM Main Server(s) public address(es), as known to this 5620 SAM Database. If IP address validation is enabled, the database will allow only connections from the specified server(s)'. Below this text box is a checkbox labeled 'Enable SAM Server IP Validation'. Underneath the checkbox are two text input fields: 'Server One IP Address' and 'Server Two IP Address'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The 'Next' button is highlighted. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window.

- 41 The panel in Figure 3-80 is displayed if the “Enable SAM Server IP Validation” parameter in step 40 is selected. Otherwise, go to step 43.

If the 5620 SAM system includes an auxiliary server, perform the following steps.

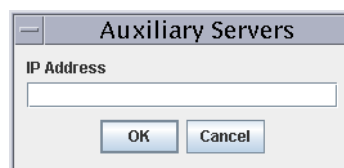
- i Click on the Add button shown in Figure 3-80. The Auxiliary Server Configuration form shown in Figure 3-81 opens.

Figure 3-80 Auxiliary Server IP Validation



- ii Enter the IP address and hostname of the auxiliary server.

Figure 3-81 Auxiliary Servers



- iii Click on the OK button to save the information and close the form.
- iv Repeat steps 41 i to iii to specify an additional auxiliary server, if required.
- 42 Click on the Next button.

- 43 If the panel in Figure 3-82 is displayed, specify a directory for the continuous statistics tablespace backup. Click on the Next button.

Figure 3-82 Staging Destination

The screenshot shows the "5620 SAM Database Configurator" window. On the left is a navigation pane with five items: "Introduction", "License Agreement", "Installation Type", "Installation In Progress", and "Installation Completed". The "Installation Completed" item is selected and highlighted. The main area is titled "Staging Destination" and contains the following text: "Specify a staging directory for the files created by the continuous statistics tablespace backup. The directory must be located on a low-activity device, such as a disk that is dedicated to this function only." Below this text is a text input field containing the path "/opt/5620sam/dbbackup/staging". To the right of the input field are two buttons: "Reset Directory" and "Choose...". At the bottom of the window, there is a status bar that says "InstallAnywhere by Macrovision" and three buttons: "Cancel", "Previous", and "Next".

- 44 Configure the "Accounting Statistic Data Retention Period" parameter shown in Figure 3-83. Click on the Next button.

Figure 3-83 Accounting Statistics Database Retention Period

The screenshot shows the "5620 SAM Database Configurator" window. On the left is a navigation pane with five items: "Introduction", "License Agreement", "Installation Type", "Installation In Progress", and "Installation Completed". The "Installation Completed" item is selected and highlighted. The main area is titled "Accounting Statistics Database Retention Period" and contains the following text: "Enter the accounting statistics retention period (in days). The retention period is the maximum number of days that records are kept in the database. Using a longer retention period will require more disk space." Below this text is a text input field labeled "Accounting Statistic Data Retention Period" with the value "1" entered. At the bottom of the window, there is a status bar that says "InstallAnywhere by Macrovision" and three buttons: "Cancel", "Previous", and "Next".

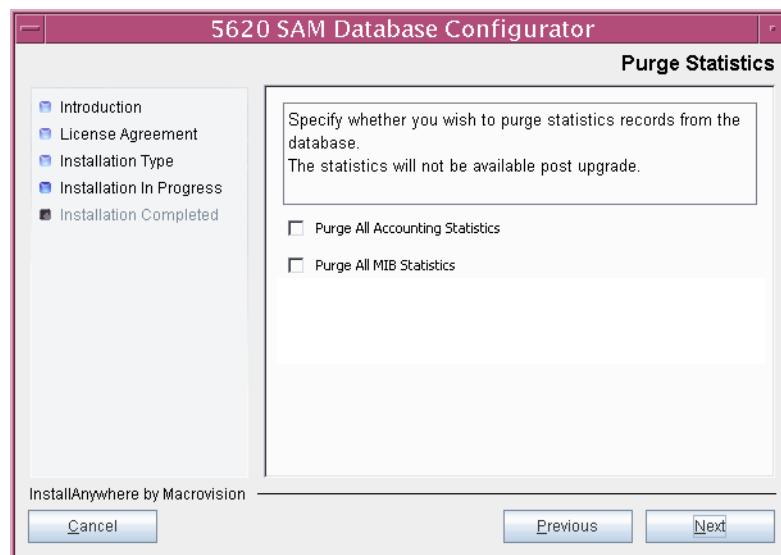
- 45 To reduce the time required for the database upgrade, you can purge the current 5620 SAM statistics data. Configure the following parameters shown in Figure 3-84, then click on the Next button:

- Purge All Accounting Statistics
- Purge All MIB Statistics



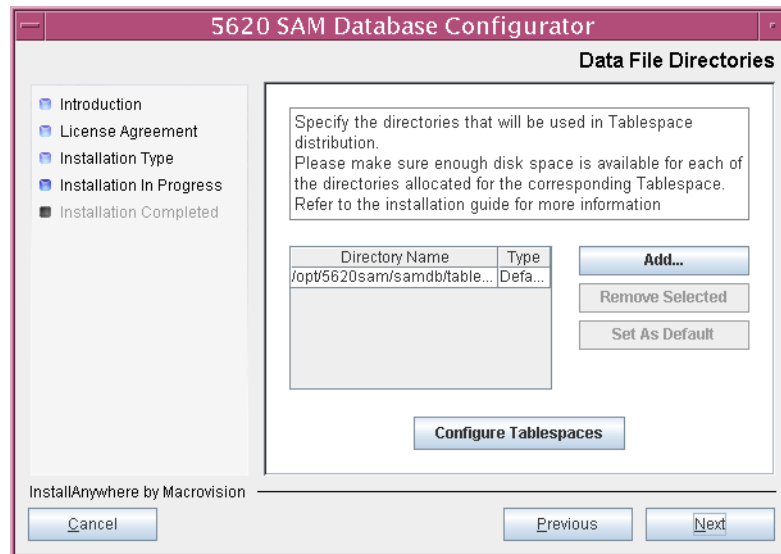
Note — The statistics data for the specified statistics types are permanently deleted from the 5620 SAM database.

Figure 3-84 Purge Statistics



- 46 If the panel in Figure 3-85 is displayed, the new database contains at least one tablespace that is not defined in the previous database and you must perform the following steps to specify the tablespace directories. Otherwise, go to step 49.
- i Click on the Add button. A file browser form opens.
 - ii Use the file browser form to choose a tablespace directory.
 - iii Repeat steps 46 i and ii to specify an additional tablespace directory, if required.

Figure 3-85 Data File Directories



- 47 Associate the new tablespaces with the directories specified in step 46.
- i Click on the Configure Tablespaces button. The tablespace configuration form opens, as shown in Figure 3-86.



Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

- ii Follow the instructions at the top of the form to associate tablespaces with directories, as required.
- iii Click on the OK button. The tablespace configuration form closes and the “Data File Directories” panel in Figure 3-85 reappears.

Figure 3-86 Configure Tablespaces

Select one drive and one or more Tablespaces from the left side. Add those associations to the right side using the 'Add associations from the left' button.
You can select at the same time on both TS tables at the left: Oracle Tablespaces and 5620 SAM Tablespaces

Directory Name	Type
/opt/5620sam/samdb/tables	Default

Oracle Tablespaces

Tablespace Name

5620 SAM Tablespaces

Tablespace Name

- CURRENT_DATA_STRUCT_1
- CURRENT_DATA_STRUCT_2
- CURRENT_DATA_STRUCT_3
- CURRENT_DATA_STRUCT_4
- SAM_RELATIONS_1
- SAM_RELATIONS_2
- SAM_SYSTEM_1
- SAM_SYSTEM_2
- SAM_SYSTEM_3
- SAM_SYSTEM_4
- STATS_CURRENT
- STATS_HISTORY
- STATS_POLICY
- SYSAUX
- SYSTEM
- TEMP
- TMS_SYSTEM
- TMS_SYS_INDX
- UNDOTBS1
- USERS

Name	Drive
ALARMS	/opt/5620sam/samdb/tables
ALARM_HISTORY	/opt/5620sam/samdb/tables
CURRENT_DATA_STRUCT_1	/opt/5620sam/samdb/tables
CURRENT_DATA_STRUCT_2	/opt/5620sam/samdb/tables
CURRENT_DATA_STRUCT_3	/opt/5620sam/samdb/tables
CURRENT_DATA_STRUCT_4	/opt/5620sam/samdb/tables
INDX	/opt/5620sam/samdb/tables
SAM_RELATIONS_1	/opt/5620sam/samdb/tables
SAM_RELATIONS_2	/opt/5620sam/samdb/tables
SAM_SYSTEM_1	/opt/5620sam/samdb/tables
SAM_SYSTEM_2	/opt/5620sam/samdb/tables
SAM_SYSTEM_3	/opt/5620sam/samdb/tables
SAM_SYSTEM_4	/opt/5620sam/samdb/tables
STATS_CURRENT	/opt/5620sam/samdb/tables
STATS_HISTORY	/opt/5620sam/samdb/tables
STATS_POLICY	/opt/5620sam/samdb/tables
SYSAUX	/opt/5620sam/samdb/tables
SYSTEM	/opt/5620sam/samdb/tables
TEMP	/opt/5620sam/samdb/tables
TMS_SYSTEM	/opt/5620sam/samdb/tables
TMS_SYS_INDX	/opt/5620sam/samdb/tables
UNDOTBS1	/opt/5620sam/samdb/tables
USERS	/opt/5620sam/samdb/tables

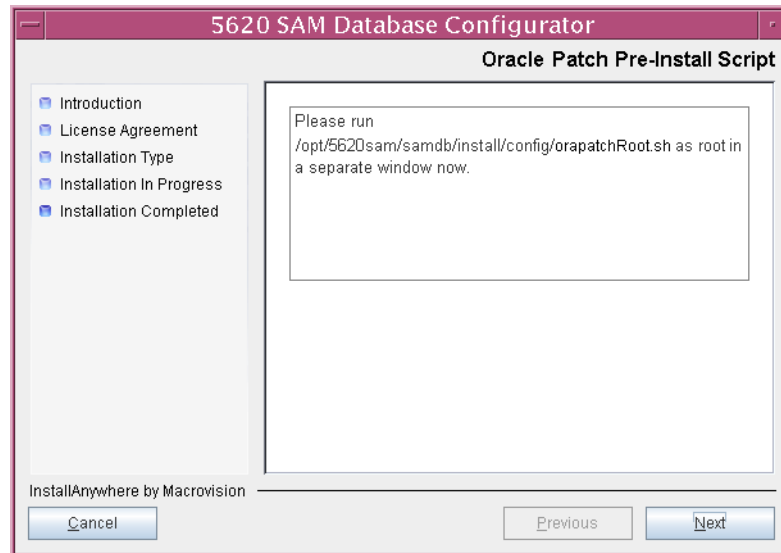
Add associations from the left
Remove Selected Associations
Set Default Associations
Select All

OK Cancel

- 48 Click on the Next button.

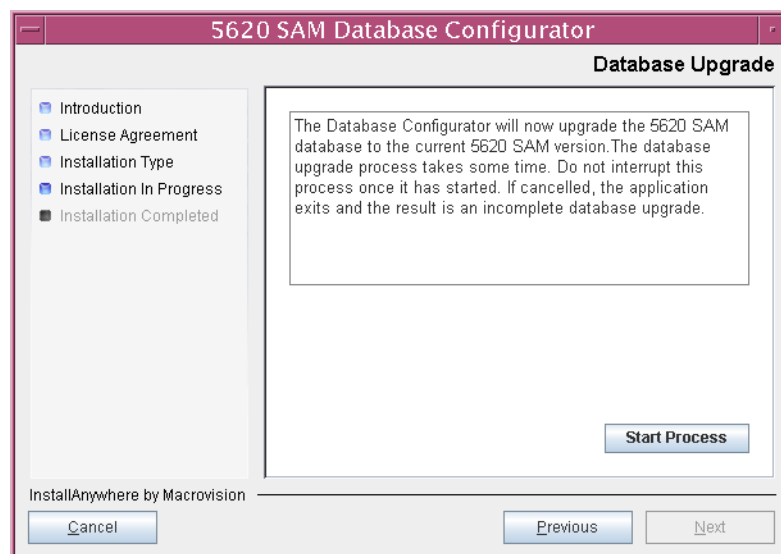
- 49 If you are prompted to run an Oracle patch pre-installation script, as shown in Figure 3-87, run the script in a separate console window as the root user.

Figure 3-87 Oracle Patch Pre-install Script



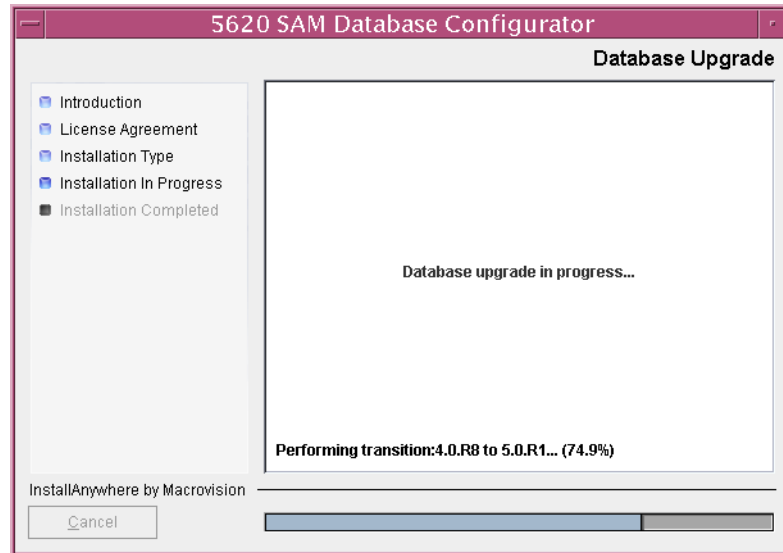
- 50 When the script execution is complete, click on the Next button.
- 51 You are prompted to begin the database upgrade, as shown in Figure 3-88. A database upgrade can take two hours or more, depending on the database release and number of database records. Click on the Start Process button to begin the database upgrade.

Figure 3-88 Database Upgrade



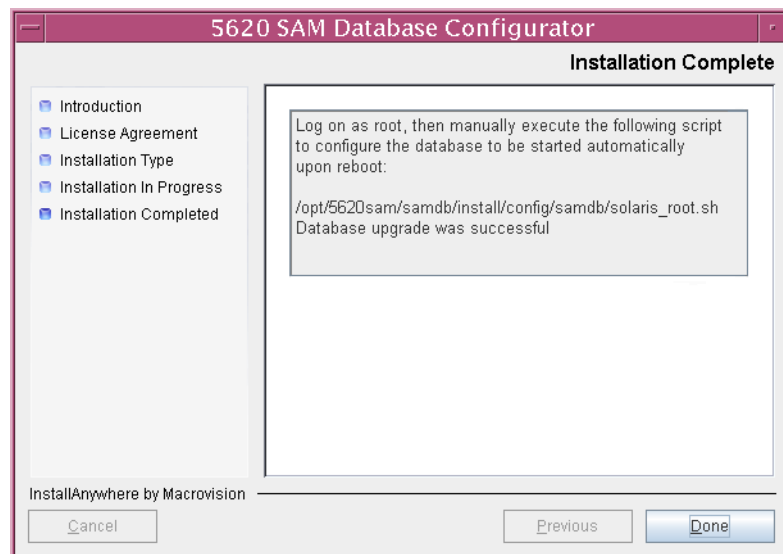
The next panel displays database creation progress, as shown in Figure 3-89.

Figure 3-89 Database Upgrade



- 52 When the panel in Figure 3-90 is displayed, the 5620 SAM database upgrade is complete, but as shown in the panel text, you must run a script to enable automatic database startup.

Figure 3-90 Installation Complete



Perform the following steps to run the script described in the panel.

- i Open a separate console window as the root user.
- ii Enter the following:

```
# path/solaris_root.sh
```

where *path* is the `solaris_root.sh` script location, typically
`/opt/5620sam/samdb/install/config/samdb`

The script returns messages similar to the following:

```
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
Sun Microsystems Inc.   SunOS 5.10       Generic January 2005
```

- iii When the script execution is complete, close the console window.

- 53** Click on the Done button to close the database installer.

This database is the new primary database.

The next section of the procedure describes the upgrade of the original standby main server. A server upgrade requires root user privileges.

Upgrade original standby main server

- 54** Log in to the original standby main server station as the root user.

- 55** Open a console window.

- 56** Perform the following steps to ensure that no-one is logged in to the station as the samadmin user.

- i Enter the following:

```
# who ↵
```

The active user sessions are listed.

- ii If the samadmin user is listed, close each samadmin user session. See the Solaris documentation for more information.

- 57** Place the new 5620 SAM software DVD-ROM in a DVD-ROM drive.

- 58** Navigate to the DVD-ROM drive.

59 Perform one of the following to open the 5620 SAM server installer.

a On a SPARC station:

i Enter the following:

```
# cd Solaris ↵
```

ii Enter the following:

```
# ./ServerInstall_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
# cd Solarisx86 ↵
```

ii Enter the following:

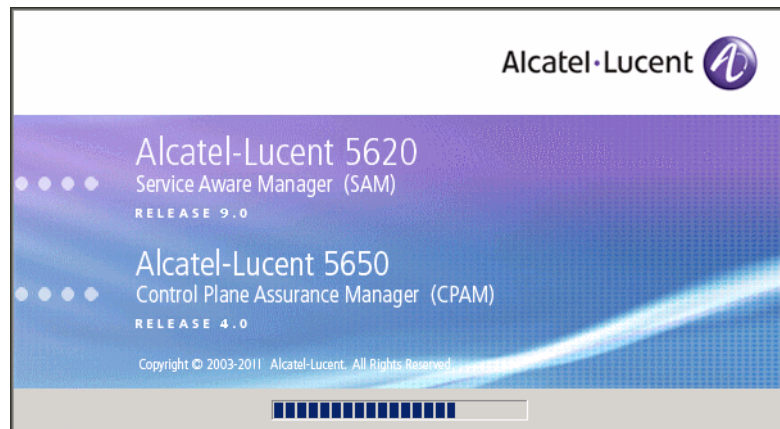
```
# ./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

revision is the revision identifier, such as R1, R3, or another descriptor

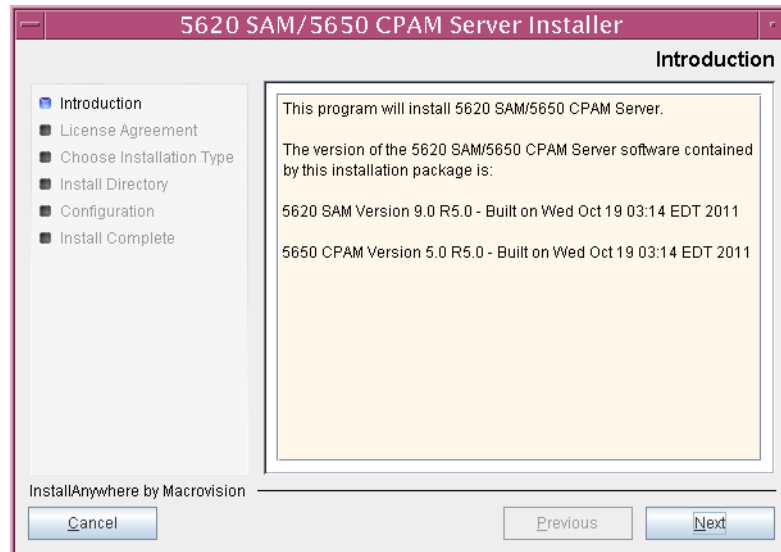
The splash screen shown in Figure 3-91 opens.

Figure 3-91 5620 SAM installer



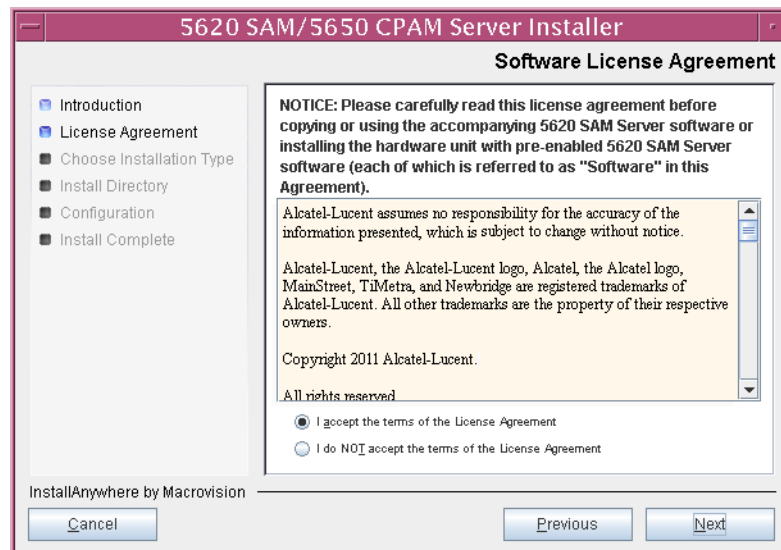
- 60 The 5620 SAM server installer opens, as shown in Figure 3-92. The left pane indicates upgrade progress. The right pane displays release information about the software. Click on the Next button.

Figure 3-92 Introduction



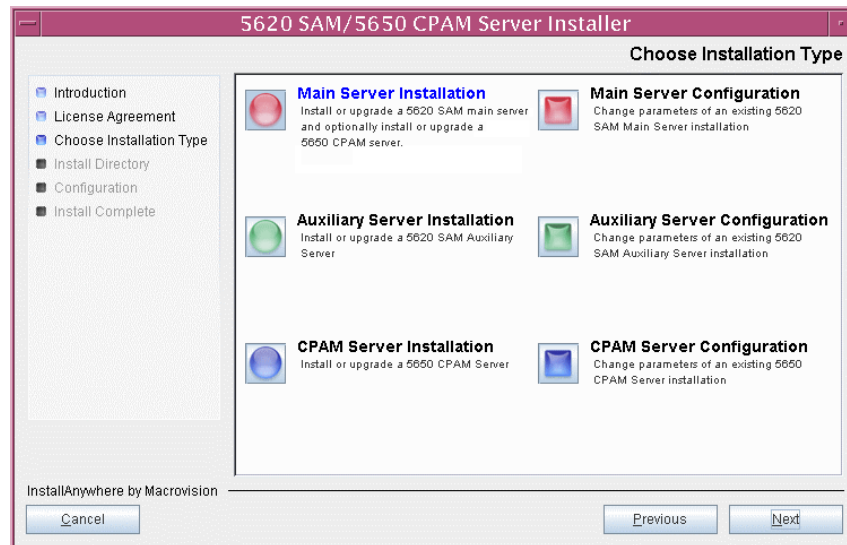
- 61 Review and accept the terms of the license agreement shown in Figure 3-93. Click on the Next button.

Figure 3-93 Software License Agreement



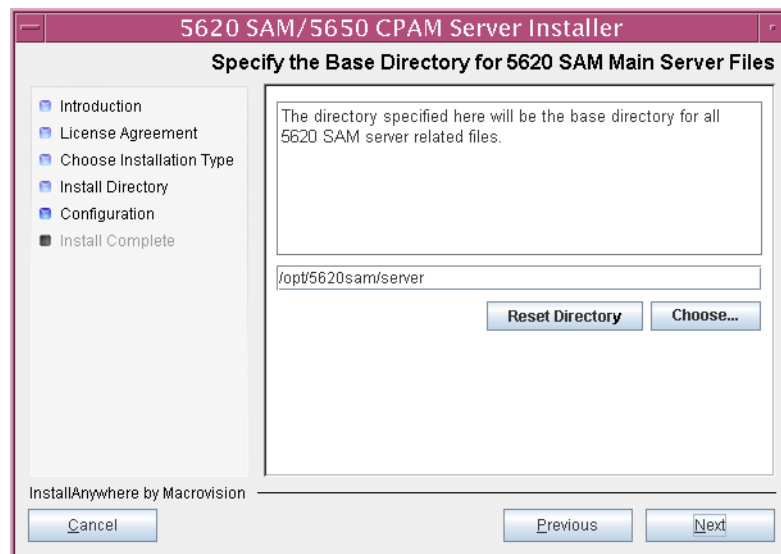
- 62 Select Main Server Installation, as shown in Figure 3-94. Click on the Next button.

Figure 3-94 Choose Installation Type



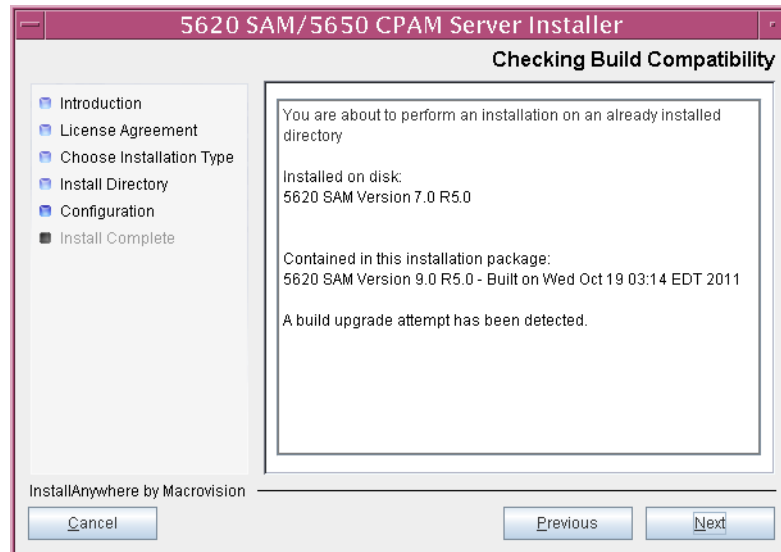
- 63 Specify the base directory in which the existing 5620 SAM main server software is installed (typically /opt/5620sam/server), as shown in Figure 3-95. Click on the Next button.

Figure 3-95 Specify the Base Directory for 5620 SAM Main Server Files



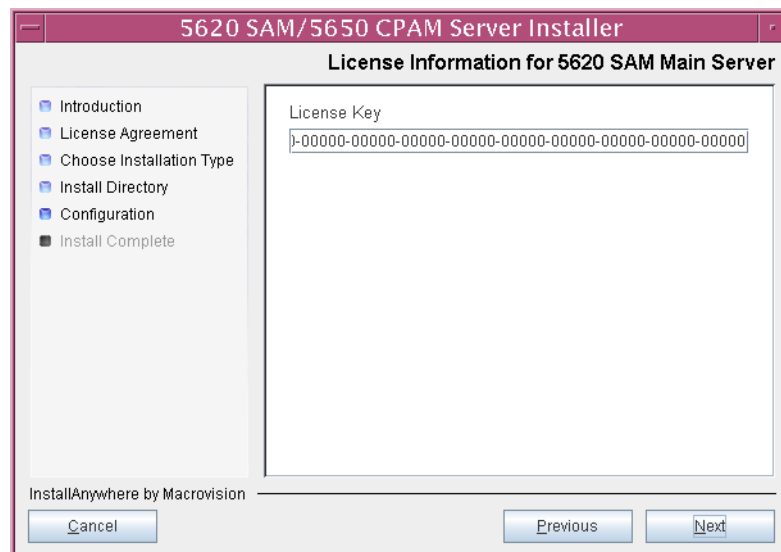
- 64 As shown in Figure 3-96, the installer indicates which release of 5620 SAM software is currently installed and the release to which it is to be upgraded. Verify the information. Click on the Next button.

Figure 3-96 Checking Build Compatibility



- 65 The 5620 SAM installer displays the existing license key. Enter the license key for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 3-97. Click on the Next button.

Figure 3-97 License Information for 5620 SAM Main Server



66 Configure the following parameters shown in Figure 3-98, then click on the Next button.

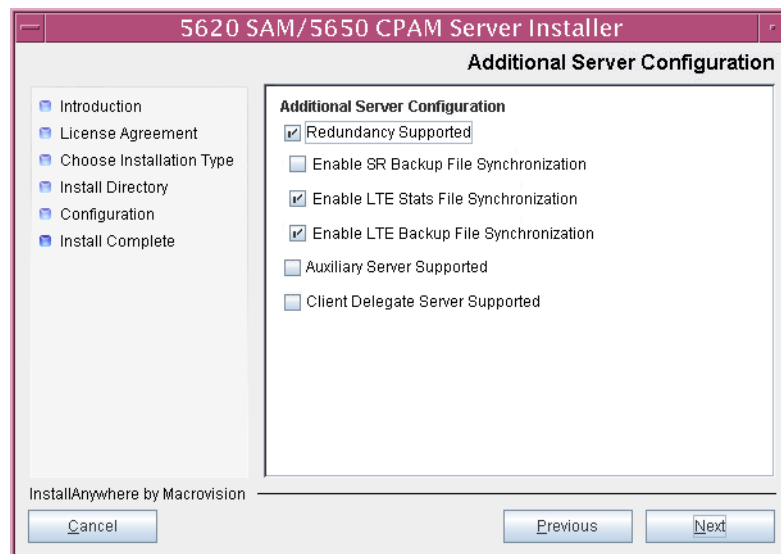
- Redundancy Supported
- Enable SR Backup File Synchronization
- Enable LTE Stats File Synchronization
- Enable LTE Backup File Synchronization
- Auxiliary Server Supported
- Client Delegate Server Supported



Note 1 — You must select the “Redundancy Supported” parameter.

Note 2 — The “Enable SR Backup File Synchronization”, “Enable LTE Stats File Synchronization”, and “Enable LTE Backup File Synchronization” parameters are displayed only when the “Redundancy Supported” parameter is enabled.

Figure 3-98 Additional Server Configuration



67 Configure the following parameters, shown in Figure 3-99, using the recorded values from the new primary database upgrade, then click on the Next button.

- Primary Database Server IP Address (the IP address of the new primary database station)
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (the name of the former standby database instance, typically samdb2)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

Figure 3-99 Primary Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Primary Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the primary 5620 SAM database's public IP address, as known to the 5620 SAM server.' Below this are six input fields: 'Primary Database Server IP Address' (empty), 'Primary Database Server Port' (1523), 'Primary Database Instance Name' (samdb2), 'Database User Name' (samuser), 'Database User Password' (masked with asterisks), and 'Primary Database Proxy Port' (9002). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

68 Depending on the existing configuration, the panel in Figure 3-100 is displayed. Configure the following parameters, if required, then click on the Next button:

- Online Backup Interval (Hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number Of Backup Sets (typically 3)



Note — The “Online Backup Destination” value is a path on the file system of the database station specified in step 67.

Figure 3-100 Online Database Backup

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Online Database Backup' panel selected. The panel contains a text box with instructions: 'The database backup directory resides on the database workstation. Please ensure that the specified directory exists on the database workstation and it is writable.' Below this are three input fields: 'Online Backup Interval (Hours)' with the value '24', 'Online Backup Destination' with the value '/opt/5620sam/dbbackup', and 'Number Of Backup Sets' with the value '3'. At the bottom left, it says 'InstallAnywhere by Macrovision' with a 'Cancel' button. At the bottom right, there are 'Previous' and 'Next' buttons.

69 Configure the following parameters shown in Figure 3-101, then click on the Next button:

- Database Server IP Address (the IP address of the new standby database station)
- Database Instance Name (the name of the database instance on the new standby database station, typically samdb1)
- Database Proxy Port (typically 9002)
- Enable Database Backup File Synchronization

Figure 3-101 Standby Database Configuration

The screenshot shows the 'Standby Database Configuration' window of the '5620 SAM/5650 CPAM Server Installer'. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'If NAT (network address translation) is to be used, enter the standby 5620 SAM database's public IP address as known to the 5620 SAM server.' Below this are three input fields: 'Database Server IP Address' (highlighted in yellow), 'Database Instance Name' (containing 'samdb1'), and 'Database Proxy Port' (containing '9002'). There is an unchecked checkbox labeled 'Enable Database Backup File Synchronization'. At the bottom left, it says 'InstallAnywhere by Macrovision' with a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

- 70 The panel in Figure 3-102 is displayed if you select the “Auxiliary Server Supported” parameter in step 66. Otherwise, go to step 72.

Perform the following steps to specify an auxiliary server, if required.

- i Configure the following parameters shown in Figure 3-102:
 - NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main and auxiliary servers.
 - Private IP (accessible only by this server)
 - Public IP (accessible to auxiliary)
 - Server Port (typically 12800)
 - Enable Stats Collection on Auxiliary Servers
 - Enable Call Trace Collection on Auxiliary Servers



Note 1 — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

Note 2 — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 3-102 Main Server Configuration for Auxiliary Servers

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Auxiliary Servers' panel active. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main panel contains the following configuration options:

- A text box with the instruction: "Enter the the network interface information that this 5620 SAM main server requires to communicate with the 5620 SAM auxiliary servers. At least one service type checkbox must be selected." Below this is a checkbox labeled "NAT (network address translation) Used" which is checked.
- A dropdown menu for "Private IP (accessible only by this server)" showing the value "192.168.200.111".
- A text box for "Public IP (accessible to auxiliary)" which is currently empty and highlighted in yellow.
- A text box for "Server Port" showing the value "12800".
- Two checkboxes at the bottom: "Enable Stats Collection on Auxiliary Servers" (unchecked) and "Enable Call Trace Collection on Auxiliary Servers" (checked).

At the bottom of the window, there is a status bar that says "InstallAnywhere by Macrovision" and three buttons: "Cancel", "Previous", and "Next".

- ii Click on the Next button.

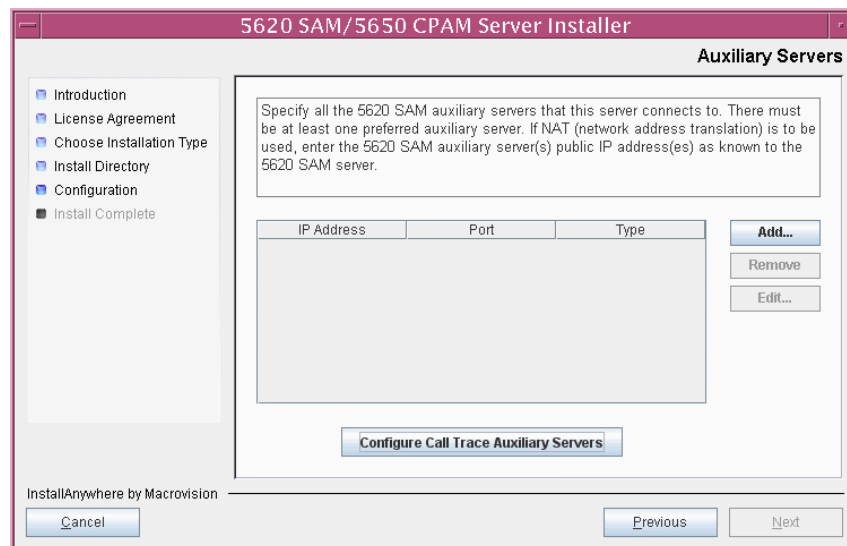
- iii Click on the Add button shown in Figure 3-103 to specify an auxiliary server. The form shown in Figure 3-104 opens.



Note 1 – Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

Note 2 – Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

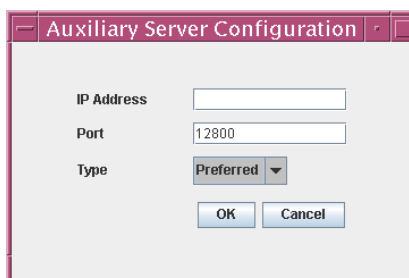
Figure 3-103 Auxiliary Servers



Note 1 – The Preferred auxiliary server of the primary main server must be the Reserved auxiliary server of the standby main server. Conversely, the Reserved auxiliary server of the primary main server must be the Preferred auxiliary server of the standby main server.

Note 2 – To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

Figure 3-104 Auxiliary Server Configuration



- iv Configure the following parameters:
 - IP Address (the IP address of the auxiliary server)
 - Port (typically 12800)
 - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 70 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 70 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 3-103. Otherwise, go to step 71.
- viii The form shown in Figure 3-105 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 3-105 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

Preferred Auxiliary Servers	
IP Address	Port
10.1.1.1	12800
10.1.1.2	12800
10.1.1.3	12800

Reserved Auxiliary Servers	
IP Address	Port
10.2.2.1	12800
10.2.2.2	12801
10.2.2.3	12800

Server Pairs	
Preferred Server IP	Reserved Server IP

Make Pair from Selected Remove Selected Pair OK Cancel

- ix Repeat step 70 viii to configure another call-trace auxiliary server pair, if required.

- 71 Click on the Next button.
- 72 If you select the “Enable Database Alignment” parameter shown in Figure 3-106, you must specify the preferred database of this main server, then click on the Next button.

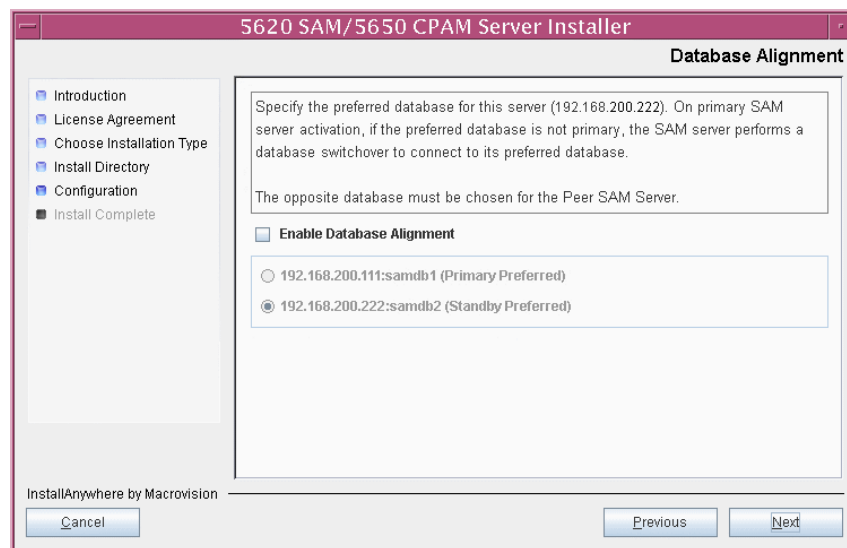
Database alignment associates each main server with the database to which it is most directly connected in terms of network latency. This database is the preferred database of the main server. For example, in a 5620 SAM complex that is geographically dispersed, the preferred database of a main server is the database in the same physical facility; typically, the primary main server and database are in one facility, and the standby server and database are in another.

When a primary server starts, it verifies that the database to which it connects is the preferred database. If this database is not the preferred database, the server performs a database switchover to reverse the primary and standby database roles. If the switchover is successful, the main servers and databases in the 5620 SAM complex are aligned. If the switchover fails, each database reverts to the former role, and the main server raises an alarm about the failed switchover.

When database alignment is enabled and you perform a database switchover, the primary server does not attempt database realignment, because a switchover is a manual operation that is considered to be a purposeful act.

When database alignment is enabled and you perform a server activity switch, the primary main server performs an automatic database switchover to maintain alignment with the preferred database.

Figure 3-106 Database Alignment



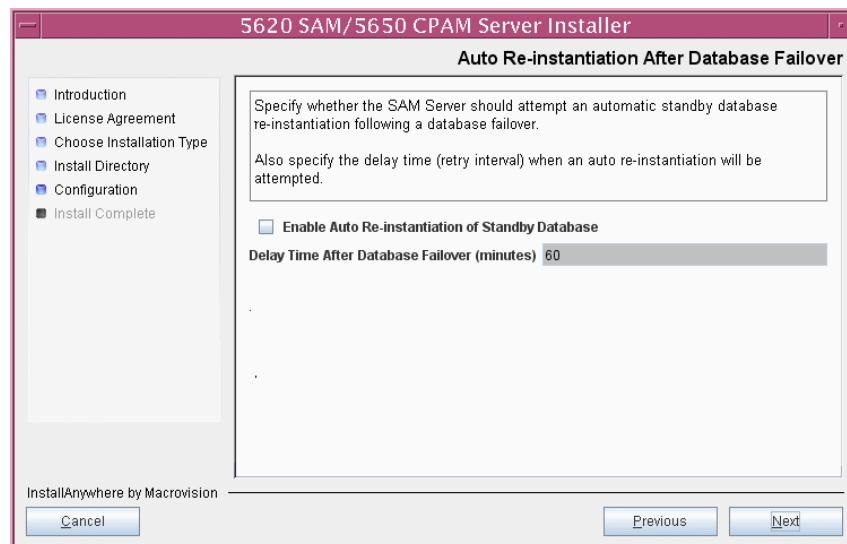
73 Configure the following parameters shown in Figure 3-107, then click on the Next button:

- **Enable Auto Re-Instantiation of Standby Database**
If this parameter is selected, the 5620 SAM main server automatically reinstantiates the standby database after a database failover.
- **Delay Time After Database Failover (minutes)**
This parameter specifies how long, in m, the main server waits after database failover completion before it initiates a standby database reinstantiation.



Note — The “Delay Time After Database Failover (minutes)” parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.

Figure 3-107 Auto Re-Instantiation After Database Failover



74 Perform the following steps.

- i Configure the following parameters shown in Figure 3-108:
 - Server Domain Name (typically 5620sam)
This parameter uniquely identifies the 5620 SAM server cluster to which the main server belongs.
 - Use Hostname for Communication
Select this parameter if the main server is to use multiple interfaces for GUI and OSS client communication.

Figure 3-108 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar shows a navigation menu with options: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main configuration area contains the following fields and options:

- Server Domain Name:** 5620sam
- ☐ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server):** 192.168.200.222
- Public IP (accessible to clients):** (empty field)
- EJB JNDI Server port:** 1099
- EJB JMS Server port:** 8093
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

- ii If you select the “Use Hostname for Communication” parameter, go to step 74 vi.
- iii Configure the following parameters:
 - NAT (network address translation) Used
 - Private IP (accessible only by this server)
 - Public IP (accessible to clients)
 - EJB JNDI Server port (typically 1099)
 - EJB JMS Server port (typically 8093)
 - Enable 5670 RAM
 - Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 75.
- vi Configure the following parameters shown in Figure 3-109:
 - NAT (network address translation) Used
 - Private IP (accessible only by this server)
 - Public Hostname
 - EJB JNDI Server port (typically 1099)
 - EJB JMS Server port (typically 8093)
 - Enable 5670 RAM
 - Enable 3GPP OSS Interface



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 3-109 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains the following configuration options:

- Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server.
- If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.
- Server Domain Name: 5620sam
- ☒ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server): 192.168.200.222
- Public Hostname: (empty field)
- EJB JNDI Server port: 1099
- EJB JMS Server port: 8093
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- vii Click on the Next button.

75 Configure the following parameters shown in Figure 3-110, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

Figure 3-110 Main Server Configuration for Clients (cont.)

5620 SAM/5650 CPAM Server Installer

Main Server Configuration for Clients (cont.)

Introduction
License Agreement
Choose Installation Type
Install Directory
Configuration
Install Complete

RMI Port 1098

RMI Object Port 4444

InstallAnywhere by Macrovision

Cancel Previous Next

- 76 The panel in Figure 3-111 is displayed if you do not select the “Auxiliary Server Supported” parameter in step 66. Otherwise, go to step 77.

Configure the parameters shown in Figure 3-111:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the OSS clients.
- Public IP (accessible to OSS clients)

Figure 3-111 Server Configuration for OSS Clients

5620 SAM/5650 CPAM Server Installer

Server Configuration for OSS Clients

Enter the network interface information that the OSS clients require to retrieve statistic data from this 5620 SAM server.

☐ NAT (network address translation) Used

Public IP (accessible to OSS clients) 192.168.200.111

InstallAnywhere by Macrovision

Cancel Previous Install

77 Configure the following parameters shown in Figure 3-112:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between this 5620 SAM server and the peer 5620 SAM server.
- Private IP (accessible only by this server)
- Public IP (accessible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)



Note — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 3-112 Main Server Configuration for Peer Server

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is '5620 SAM/5650 CPAM Server Installer'. The main title is 'Main Server Configuration for Peer Server'. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'Enter the network interface information that this 5620 SAM main server requires to communicate with the peer server.' Below this are several configuration options: a checked checkbox for 'NAT (network address translation) Used', a dropdown menu for 'Private IP (accessible only by this server)' showing '192.168.200.111', a yellow highlighted text box for 'Public IP (accessible to peer server)', a text box for 'High Available JNDI Port' with the value '1100', and a text box for 'TCP Port Cluster Number' with the value '11800'. At the bottom are 'Cancel', 'Previous', and 'Next' buttons. The footer text is 'InstallAnywhere by Macrovision'.

78 Configure the following parameters shown in Figure 3-113, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer server)
- Peer Public IP (accessible to this server)



Note — The “Public IP (accessible to peer server)” and “Peer Public IP (accessible to this server)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

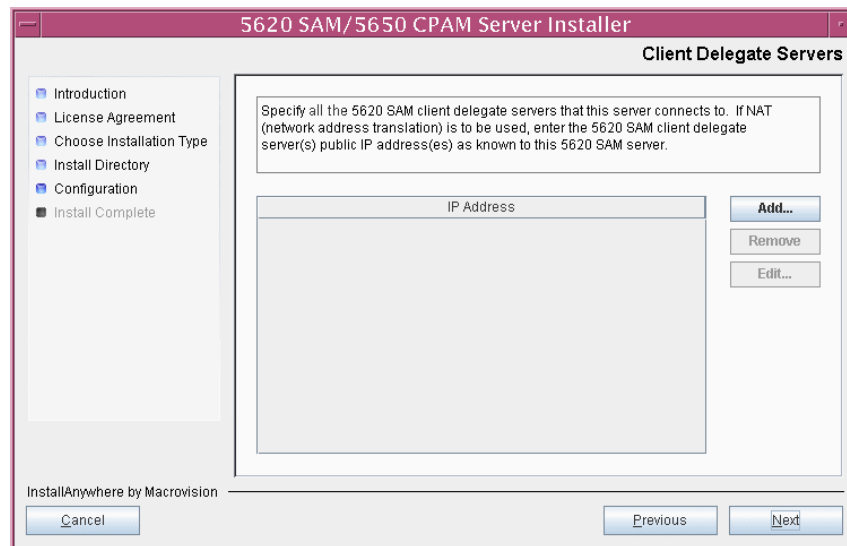
Figure 3-113 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM main servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath are two input fields: 'Public IP (accessible to peer server)' and 'Peer Public IP (accessible to this server)'. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The footer of the window reads 'InstallAnywhere by Macrovision'.

- 79 The panel in Figure 3-114 is displayed if you select the “Client Delegate Server Supported” parameter in step 66. Otherwise, go to step 80.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5620 SAM server and client delegate servers, specify the public IP address. Click on the Next button.

Figure 3-114 Client Delegate Servers



- 80 Perform the following steps to enable communication security between the main server and clients, and between the main and auxiliary servers. Otherwise, click on the Next button.



Note — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 3-115.

Figure 3-115 SSL Configuration

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password



Note — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The main server copies the files, imports them into the main server configuration, and transfers the keystore file to each client and auxiliary server.

- 81 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 3-116. If it does, enter the 5650 CPAM license key provided by from Alcatel-Lucent. Include the dashes in the key. Click on the Next button.

Figure 3-116 License Information for 5650 CPAM Server

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple with the text '5620 SAM/5650 CPAM Server Installer'. The window has a sidebar on the left with a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The 'Configuration' step is selected. The main area is titled 'SNMP Configuration' and contains the following text: 'If NAT (network address translation) is to be used, enter the 5620 SAM main server's public IP address as known to the devices within the managed network.' Below this text are two checkboxes: 'NAT (network address translation) Used' (unchecked) and 'IPv6 Address Used' (checked). There are four input fields: 'SNMP Trap Receiving IPv4 Address' with the value '192.168.200.122', 'SNMP Trap Receiving IPv6 Address' (empty), 'SNMP Trap Receiving Port' with the value '162', and 'Trap Log Id' with the value '98'. At the bottom left, it says 'InstallAnywhere by Macrovision'. At the bottom right, there are three buttons: 'Cancel', 'Previous', and 'Next'.

82 Configure the following parameters shown in Figure 3-117, then click on the Next button:

- NAT (network address translation) Used
Select this parameter only if NAT is to be used between the 5620 SAM main server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



Note — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 3-117.

Figure 3-117 SNMP Configuration

5620 SAM/5650 CPAM Server Installer

SNMP Configuration

Introduction
License Agreement
Choose Installation Type
Install Directory
Configuration
Install Complete

If NAT (network address translation) is to be used, enter the 5620 SAM main server's public IP address as known to the devices within the managed network.

☐ NAT (network address translation) Used

☒ IPv6 Address Used

SNMP Trap Receiving IPv4 Address 192.168.200.122

SNMP Trap Receiving IPv6 Address

SNMP Trap Receiving Port 162

Trap Log Id 98

InstallAnywhere by Macrovision

Cancel Previous Next

83 Configure the following parameters shown in Figure 3-118, then click on the Next button:

- Peer Server IP Address (original primary server station IP address)
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IPv4 Address
- Peer Server SNMP Trap Receiving IPv6 Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)



Note 1 — The peer server is the other 5620 SAM main server, which is the new standby main server after the upgrade.

Note 2 — The “Peer Server SNMP Trap Receiving IPv6 Address” parameter is configurable only if you select the “IPv6 Address Used” parameter in step 82.

Figure 3-118 Peer Main Server Configurations

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is '5620 SAM/5650 CPAM Server Installer'. The main window has a tab titled 'Peer Main Server Configurations'. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the following text: 'If NAT (network address translation) is to be used, enter the 5620 SAM peer server's public IP address as known to the 5620 SAM server. Also enter the 5620 SAM peer server's public IP address as known to the devices within the managed network.' Below this text box are six input fields: 'Peer Server IP Address' (empty), 'Peer Server Trap Log Id' (98), 'Peer Server SNMP Trap Receiving IPv4 Address' (empty), 'Peer Server SNMP Trap Receiving IPv6 Address' (empty), 'Peer Server SNMP Trap Receiving Port' (162), and 'Peer Server TCP Port Cluster Number' (11800). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

84 If the “Use Hostname for Communication” parameter in step 74 is selected, go to step 87.

85 Configure the following parameters shown in Figure 3-119, then click on the Next button:

- Peer Server IP Address (new standby server station IP address)
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

Figure 3-119 Peer Main Server Configurations (cont.)

5620 SAM/5650 CPAM Server Installer

Peer Main Server Configurations (cont.)

Introduction
License Agreement
Choose Installation Type
Install Directory
Configuration
Install Complete

Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5620 SAM clients.

If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field.

Peer Server IP Address

JNDI High Available Peer Server Port 1100

JNDI Peer Server Port 1099

InstallAnywhere by Macrovision

Cancel Previous Next

86 Go to step 88.

87 Configure the following parameters shown in Figure 3-120, then click on the Next button:

- Peer Server Hostname
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

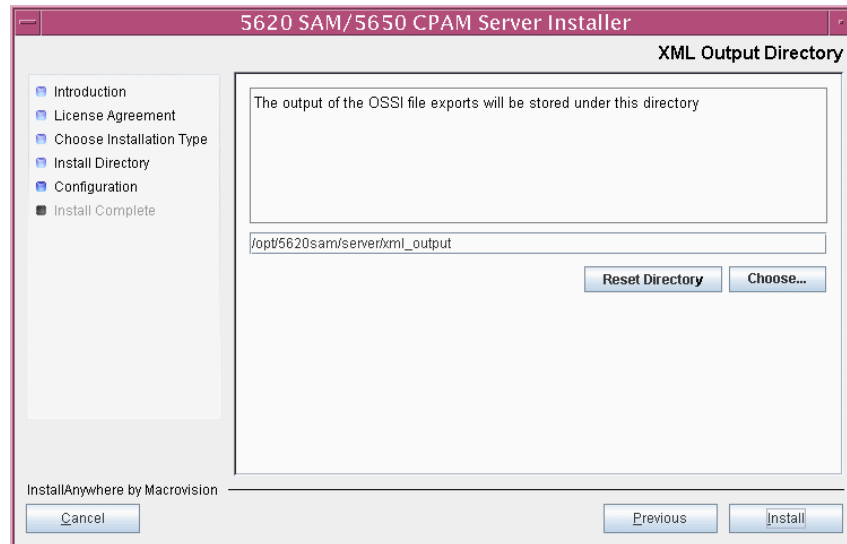
Figure 3-120 Peer Main Server Configurations (cont.)

88 If you require 5620 SAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 3-121 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button.

Figure 3-121 Navigation from External Systems

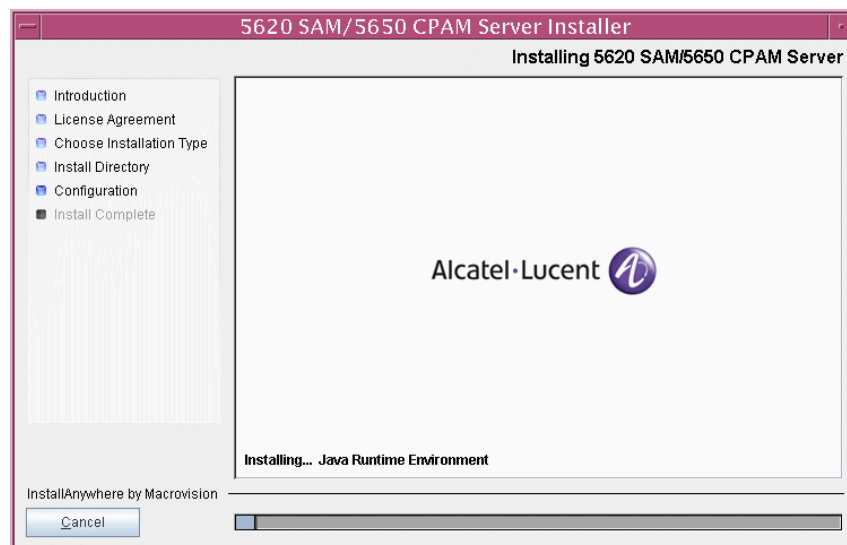
- 89 Specify an OSS XML output location (typically /opt/5620sam/server/xml_output), as shown in Figure 3-122. Click on the Install button to begin the server upgrade.

Figure 3-122 XML Output Directory



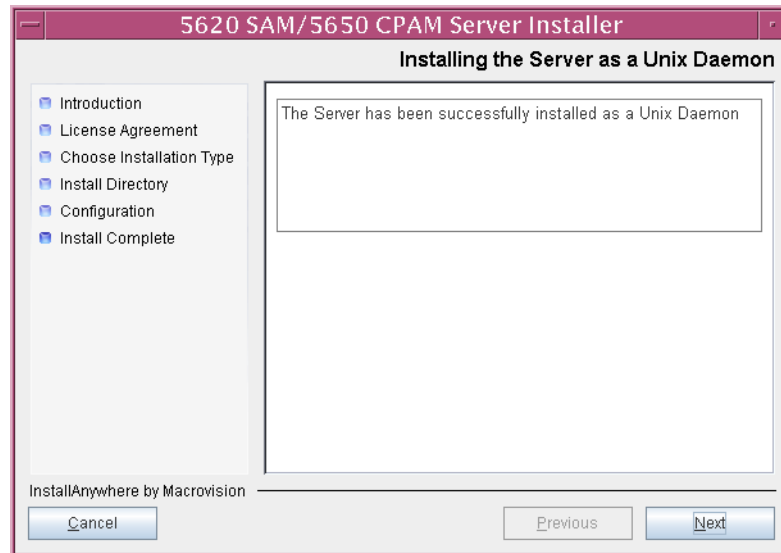
The next panel displays upgrade progress, as shown in Figure 3-123.

Figure 3-123 Installing 5620 SAM/5650 CPAM Server



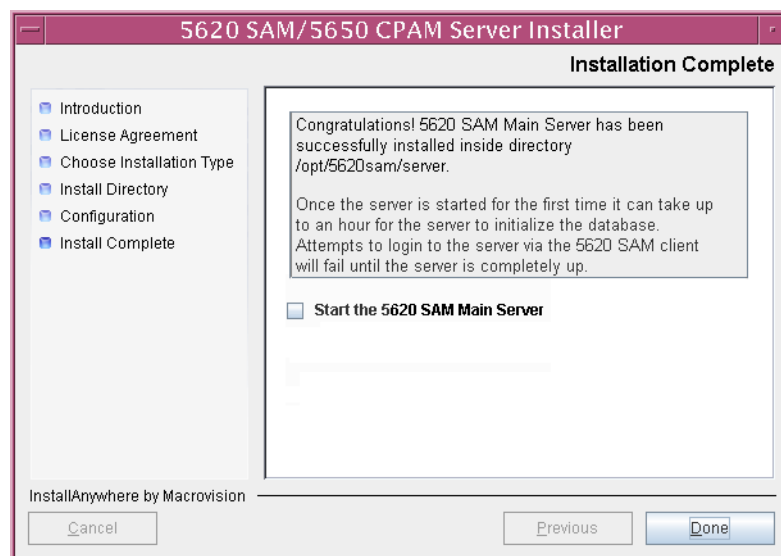
- 90 As shown in Figure 3-124, the 5620 SAM server is installed as a UNIX daemon. Click on the Next button.

Figure 3-124 Installing the server as a Unix Daemon



- 91 When the main server upgrade is complete, ensure that the “Start the 5620 SAM Main Server” parameter is not selected, as shown in Figure 3-125.

Figure 3-125 Installation Complete



This server is the new primary main server.

- 92 Click on the Done button to close the server installer.
- 93 If the 3GPP OSS interface is not enabled in step 74, go to step 95.

- 94 If the 3GPP OSS interface has not been configured during a previous 5620 SAM main server installation or upgrade, perform the following steps.

- i Open the *path/nms/cnbi/home/config/cnbi.properties* file using a plain-text editor

where *path* is the 5620 SAM main server installation location, typically *opt/5620sam/server*

- ii Locate the following line:

```
CNBI.SAMO.USER=
```

- iii Edit the line to read:

```
CNBI.SAMO.USER=3GPP_OSS_user_name
```

where *3GPP_OSS_user_name* is the user name that OSS applications must send in requests to the interface

- iv Locate the following line:

```
CNBI.SAMO.PASSWORD=
```

- v Edit the line to read:

```
CNBI.SAMO.PASSWORD=3GPP_OSS_password
```

where *3GPP_OSS_password* is the MD5-encrypted user password that OSS applications must send in requests to the interface

- vi Save and close the file.

Upgrade original standby auxiliary servers

- 95 If the 5620 SAM deployment contains auxiliary servers, perform Procedure 3-7 on each preferred and reserved auxiliary server of the original standby main server to upgrade the auxiliary server software.



Note — Do not start the auxiliary servers immediately after you upgrade them; they are started later in this procedure.

Stop original primary main server

- 96 Stop the 5620 SAM server application on the original primary main server station.

- i Log in to the original primary main server station as the samadmin user.
ii Open a console window.
iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically */opt/5620sam/server*

- iv Enter the following to stop the 5620 SAM server software:

```
bash$ ./nmserver.bash stop ↵
```

- v Enter the following to display the 5620 SAM server status:

```
bash$ ./nmserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5620 SAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 96 v. Do not proceed to the next step until the server is stopped.



Note — This is the beginning of the network management outage.

Disable original primary server daemon

- 97 Disable the 5620 SAM server startup daemon on the original primary server station. This ensures that the 5620 SAM server does not automatically start in the event of a power disruption during the upgrade.

- i Log in to the original primary server station as the root user.

- ii Open a console window.

- iii Enter the following to change to the /etc/rc3.d directory:

```
# cd /etc/rc3.d ↵
```

- iv Enter the following to disable the 5620 SAM server daemon by renaming it:

```
# mv S975620SAMServerWrapper  
inactive.S975620SAMServerWrapper ↵
```

Stop original primary database

- 98 Stop the 5620 SAM database application on the original primary database station.

- i Log in to the original primary database station as the root user.

- ii Open a console window.

- iii Enter the following to change to the /etc/rc3.d directory:

```
# cd /etc/rc3.d ↵
```

- iv Enter the following to stop the Oracle proxy daemon:

```
# ./S965620SAMOracleProxyWrapper stop ↵
```

- v Enter the following to stop the 5620 SAM database daemon:

```
# ./S95db5620sam stop ↵
```

Do not proceed until the command displays the following message:

Done

Disable original primary database daemons

- 99 Disable the 5620 SAM Oracle proxy and database startup daemons on the original primary database station. This ensures that the original primary 5620 SAM database does not automatically start in the event of a power disruption during the upgrade.

- i Log in to the database station as the root user.
- ii Open a console window.
- iii Enter the following to change to the /etc/rc3.d directory:

```
# cd /etc/rc3.d ↵
```

- iv Enter the following to disable the Oracle database daemon by renaming it:

```
# mv S95db5620sam inactive.S95db5620sam ↵
```

- v Enter the following to disable the Oracle proxy daemon by renaming it:

```
# mv S965620SAMOracleProxyWrapper  
inactive.S965620SAMOracleProxyWrapper ↵
```

Stop original primary auxiliary servers

- 100 If the 5620 SAM deployment contains auxiliary servers, perform the following steps to stop the auxiliary server software on each preferred or reserved auxiliary server of the original primary main server.

- i Log in to the auxiliary server station as the samadmin user.
- ii Open a console window.
- iii Enter the following:

```
bash$ path/nms/bin/auxnmserver.bash auxstop ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server stops.

Start new primary main server

101 Perform the following steps to start the new primary 5620 SAM main server.

- i Enter the following to switch to the samadmin user on the new primary main server station:

```
# su - samadmin ↵
```

- ii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iii Enter the following to start the 5620 SAM server software:

```
bash$ ./nmserver.bash start ↵
```

- iv Enter the following:

```
bash$ path/nms/bin/nmserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the new primary main server is not completely started, it is possible that the command can produce exception messages, or the first line of status information is the following:

```
Main Server is not ready...
```

The new primary 5620 SAM server is completely started when the command returns the following line of output:

```
-- Primary server is UP
```

- v If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.



Note — Do not proceed to the next step until the server is completely started.

Start new primary auxiliary servers

102 Perform the following steps on each preferred and reserved 5620 SAM auxiliary server of the new primary main server.

- i Log in to the auxiliary server station as the samadmin user.
- ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

- iv Enter the following to start the 5620 SAM server software:

```
bash$ ./auxnmserver.bash auxstart ↵
```

The 5620 SAM auxiliary server starts. Initial server startup can take twenty minutes or more.

Upgrade or install 5620 SAM client

- 103** If you modify the SSL configuration during a main server upgrade, you cannot upgrade a client that connects to the main server; you must uninstall the client software and re-install it. Perform the appropriate procedure in chapter 6 to uninstall the client or client delegate server software, as required.
- 104** Perform one of the following to upgrade or install the 5620 SAM client software on a Solaris station, if required.



Note — You must specify the IP address of the current standby 5620 SAM server as the primary main server IP address when you install or upgrade the client software. The current standby server is the new primary server after the upgrade.

- a Perform Procedure 2-3 or 2-4 to install a single-user client.
 - b Perform Procedure 2-7 to install a client delegate server.
 - c Perform Procedure 3-4 to upgrade a single-user client, if you did not modify the SSL configuration on the main server during the upgrade.
 - d Perform Procedure 3-6 to upgrade a client delegate server, if you did not modify the SSL configuration on the main server during the upgrade.
- 105** Perform one of the following to upgrade or install the 5620 SAM client software on a Windows station, if required.



Note — You must specify the IP address of the current standby 5620 SAM server as the primary main server IP address when you install or upgrade the client software. The current standby server is the new primary server after the upgrade.

- a Perform Procedure 2-5 or 2-6 to install a single-user client.
 - b Perform Procedure 3-5 to upgrade a single-user client, if you did not modify the SSL configuration on the main server during the upgrade.
- 106** If the 3GPP OSS interface is not enabled in step 74, go to step 108.

107 If the 3GPP OSS interface has not been configured during a previous 5620 SAM main server installation or upgrade, perform the following steps.

- i Log in to a 5620 SAM GUI client as the admin user.
- ii Create a user account for 3GPP OSS interface access. Observe the following when you create the account:
 - The user name must be the user name specified in step 94.
 - The password must be the password specified in step 94.
 - The user account requires full permissions on the fm and oss packages.

See the *5620 SAM User Guide* for information about creating 5620 SAM user accounts.

The next section of the procedure describes the testing of the 5620 SAM system using a 5620 SAM client.

Test 5620 SAM system using new client

108 When the new primary server is started, use a newly installed or upgraded client to perform sanity testing of the new primary 5620 SAM server and database.

See the *5620 SAM User Guide* for information about client operation.

If you need to back out of the upgrade and return the original primary server and database to service, you can do so by stopping the new primary server and database and restarting the original primary server and database applications.

Uninstall original primary database

109 Log in to the original primary database station as the root user.

110 Open a console window.

111 Enter the following to switch to the Oracle management user:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

112 Enter the following to open the 5620 SAM uninstaller:

```
bash$  
path/install/Uninstaller/Uninstall_5620_SAM_Database_Configurator ↵
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

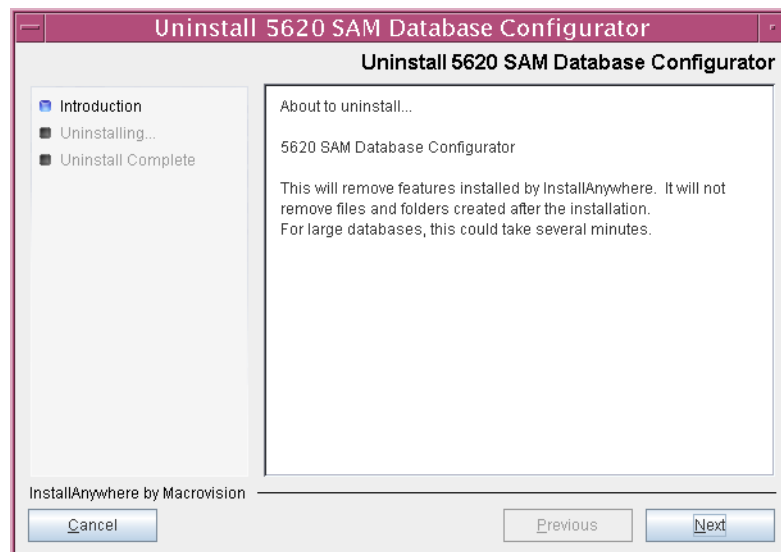
The splash screen shown in Figure 3-126 opens. The splash screen appearance depends on which 5620 SAM release you are uninstalling.

Figure 3-126 5620 SAM Uninstaller



- 113 The 5620 SAM database uninstaller opens, as shown in Figure 3-127. The left pane indicates uninstallation progress. The right pane indicates the operations that are to take place. Click on the Next button.

Figure 3-127 Uninstall 5620 SAM Database Configurator

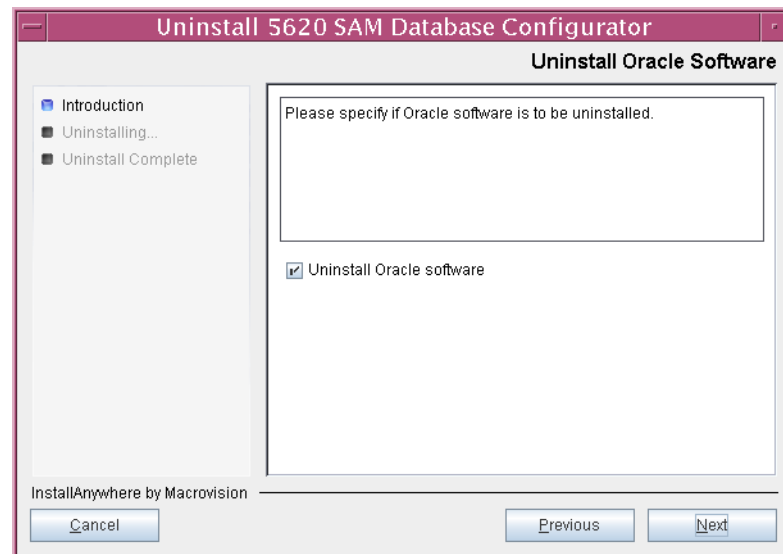


- 114 A 5620 SAM standby database upgrade requires the removal of the previously installed Oracle software. Select the “Uninstall Oracle software” parameter, as shown in Figure 3-128, and click on the Next button.



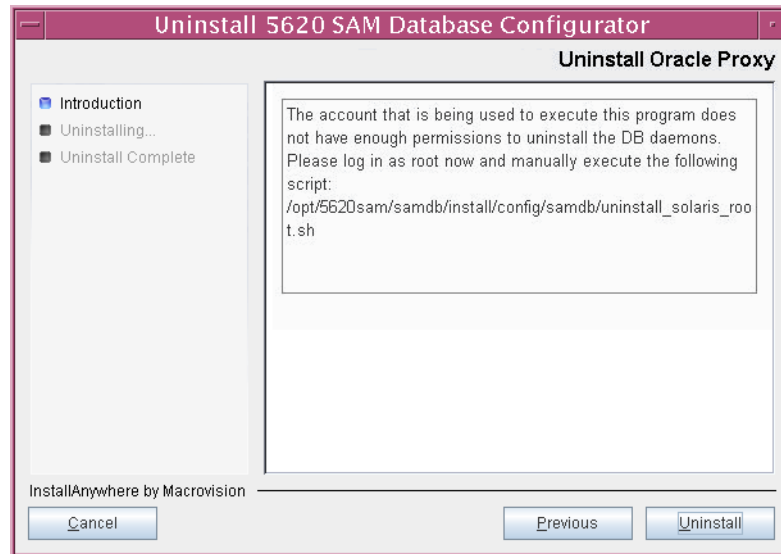
Note — When the installer removes the Oracle software, it does not delete the Oracle base installation directory, because this directory is typically the home directory of the Oracle management user.

Figure 3-128 Uninstall Oracle Software



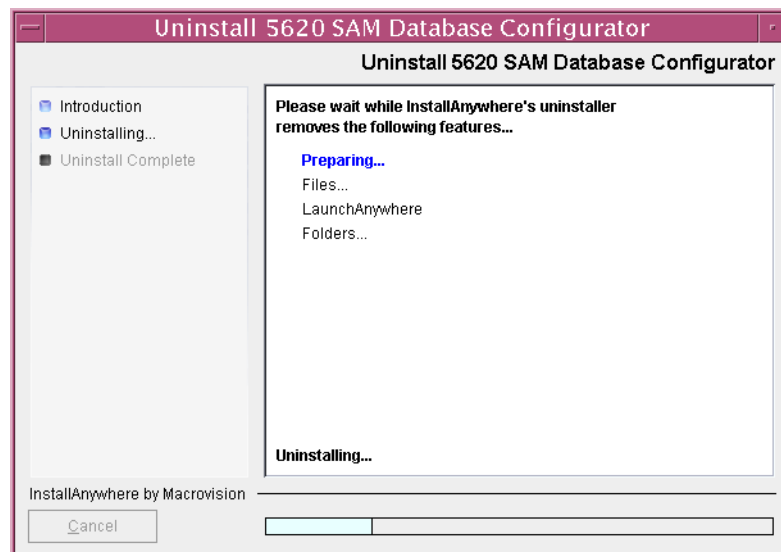
- 115 As shown in Figure 3-129, you are prompted to run a script that enables the uninstallation of the database daemons. Open a separate console window and run the script.

Figure 3-129 Uninstall Oracle Proxy



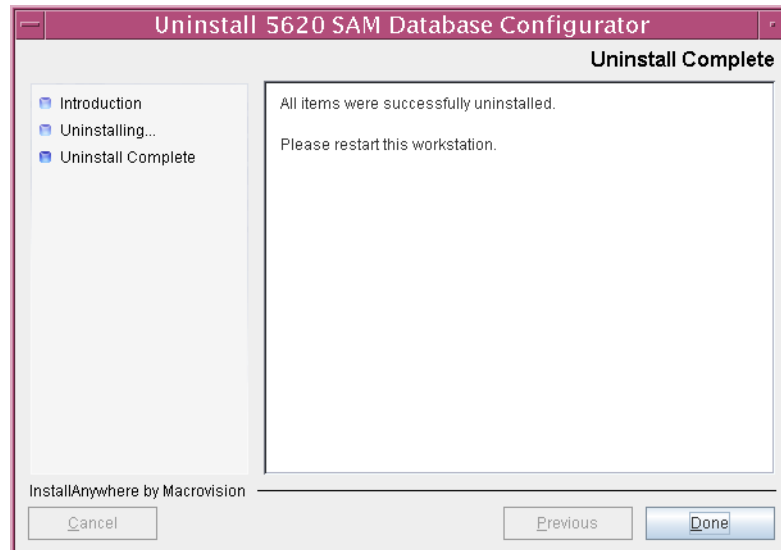
- 116 When the script execution is complete, click on the OK button.
- 117 Click on the Uninstall button shown in Figure 3-129 to begin the uninstallation.
- 118 As shown in Figure 3-130, the uninstaller begins to remove files and directories from the original primary database station.

Figure 3-130 Uninstall 5620 SAM Database Configurator



- 119 When database uninstallation is complete, as shown in Figure 3-131, click on the Done button to close the database uninstaller.

Figure 3-131 Uninstall Complete



- 120 Enter the following to reboot the database station:

```
# shutdown -y -i6 -g0 ↵
```

The database station reboots.

The next section of the procedure describes the installation of the new standby (original primary) 5620 SAM database. 5620 SAM database installation requires root user and Oracle management user privileges.

Install new standby database

- 121 After the database station reboots, open a console window.
- 122 Before you perform a 5620 SAM database installation, you must run a pre-installation script. This script configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.



Caution — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database installation to fail.

Enter the following to switch to the root user:

```
bash$ su - ↵
```

- 123 Place the new 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 124 Navigate to the DVD-ROM drive.

125 Perform one of the following to change to the appropriate directory.

- a On a SPARC station, enter the following:

```
# cd Solaris ↵
```

- b On an x86-based station, enter the following:

```
# cd Solarisx86 ↵
```

126 Enter the following:

```
# ./OracleSw_PreInstall.sh ↵
```

The following prompt is displayed:

```
Please select between the following option:
```

- ```
1) NEW INSTALL OF 5620 SAM
2) UPGRADE OF 5620 SAM
```

**127** Enter 1 ↵. The script generates INFO messages as it validates the OS requirements, and then prompts you for Oracle management user information.



**Note 1** — To reduce the complexity of subsequent software upgrades and technical support activities, Alcatel-Lucent recommends that you press ↵ to accept the default for each parameter that has a default.

**Note 2** — If you specify a value other than the default, you must record the value for use when the OracleSw\_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

**128** Provide the following information when you are prompted; the console may display status messages between prompts:

- user group name (default is dba)
- user name (default is oracle)
- user home directory (default is /opt/5620sam/oracle11r2)
- user password, if one of the following is true:
  - there is no password
  - there is a password, but you specify that you want to change it



**Note** — If the script generates a “failed to create group” message, ensure that NIS is disabled and re-run the pre-installation script. Contact Alcatel-Lucent technical support for more information.

The script updates the system configuration and exits.

**129** When the script execution is complete, enter the following to reboot the new standby database station and put the system update into effect:

```
shutdown -y -i6 -g0 ↵
```

The new standby database station reboots.

**130** After the new standby database station reboots, log in as the Oracle management user on the new standby database station.

**131** Open a console window.

**132** Navigate to the DVD-ROM drive that contains the new 5620 SAM software DVD-ROM.

**133** Perform one of the following to open the 5620 SAM database installer.

**a** On a SPARC station:

**i** Enter the following:

```
bash$ cd Solaris ↵
```

**ii** Enter the following:

```
bash$./DBConfig_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

**b** On an x86-based station:

**i** Enter the following:

```
bash$ cd Solarisx86 ↵
```

**ii** Enter the following:

```
bash$./DBConfig_x86_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor



**Note** — After the upgrade, the database on this station is the new standby database. Later in this procedure, the primary database is reinstantiated on this station.

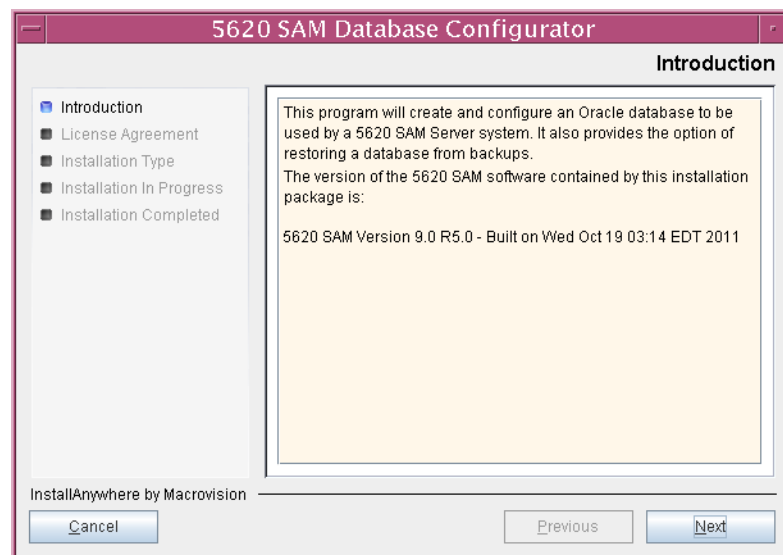
The splash screen shown in Figure 3-132 opens.

Figure 3-132 5620 SAM installer



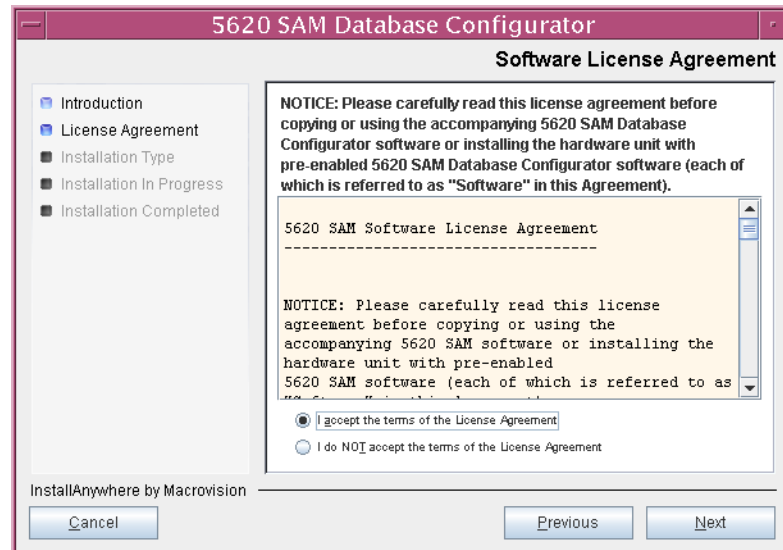
- 134 The 5620 SAM database installer opens, as shown in Figure 3-133. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 3-133 Introduction



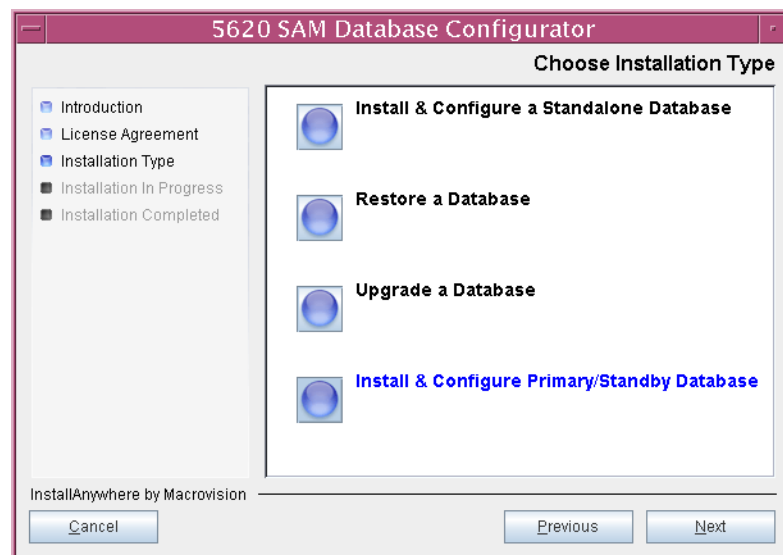
- 135 Review and accept the terms of the license agreement shown in Figure 3-134. Click on the Next button.

Figure 3-134 Software License Agreement



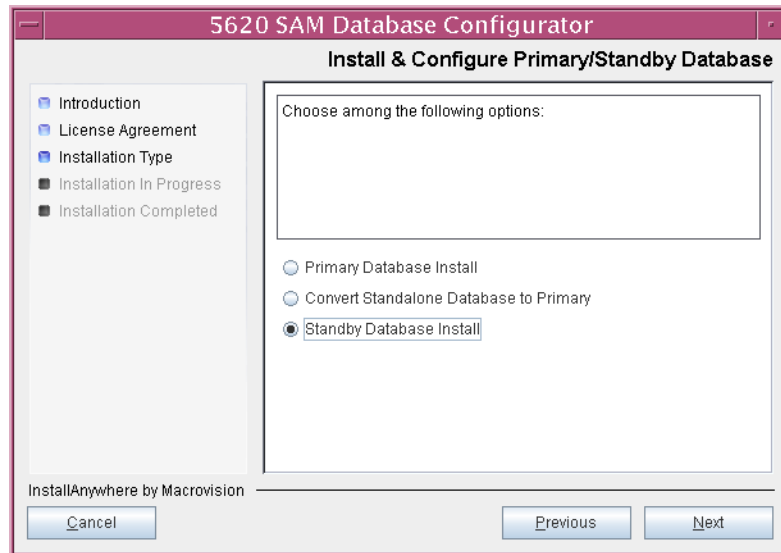
- 136 Select Install & Configure Primary/Standby Database, as shown in Figure 3-135. Click on the Next button.

Figure 3-135 Choose Installation Type



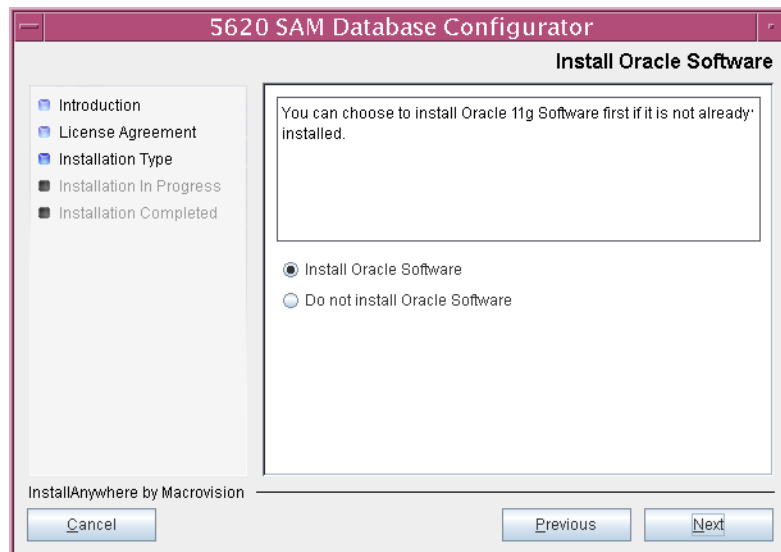
- 137 Select Standby Database Install, as shown in Figure 3-136. Click on the Next button.

**Figure 3-136 Install & Configure Primary/Standby Database**



- 138 Select Install Oracle Software, as shown in Figure 3-137. Click on the Next button.

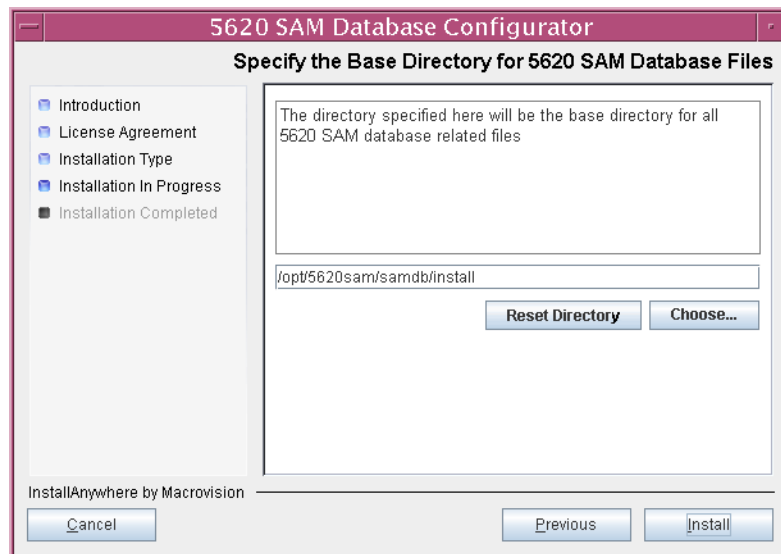
**Figure 3-137 Install Oracle Software**





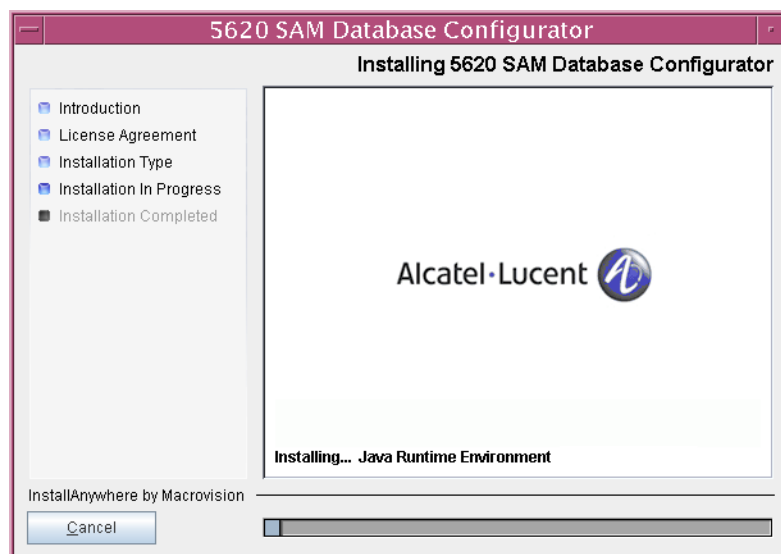
- 139 Specify the base directory for the standby 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 3-138. This directory must be the same one specified in step 26. Click on the Install button to begin the database software installation.

**Figure 3-138 Specify the Base Directory for 5620 SAM Database Files**



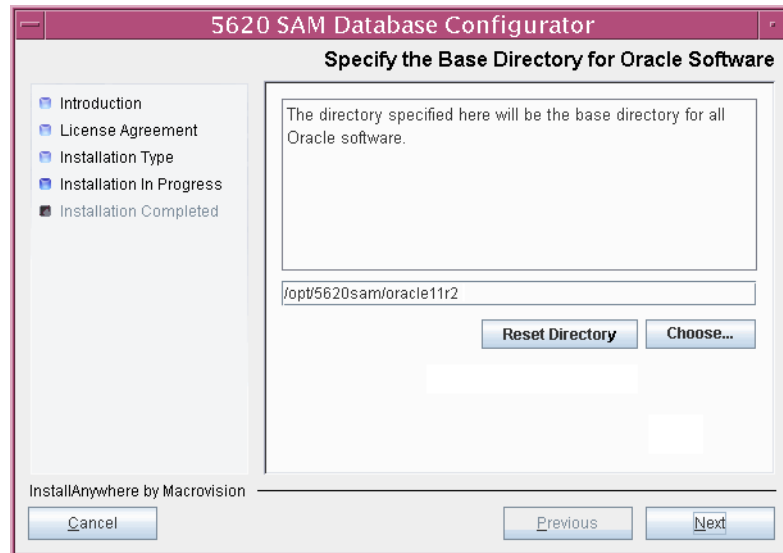
The installer prepares to install the database, as shown in Figure 3-139.

**Figure 3-139 Installing 5620 SAM Database Configurator**



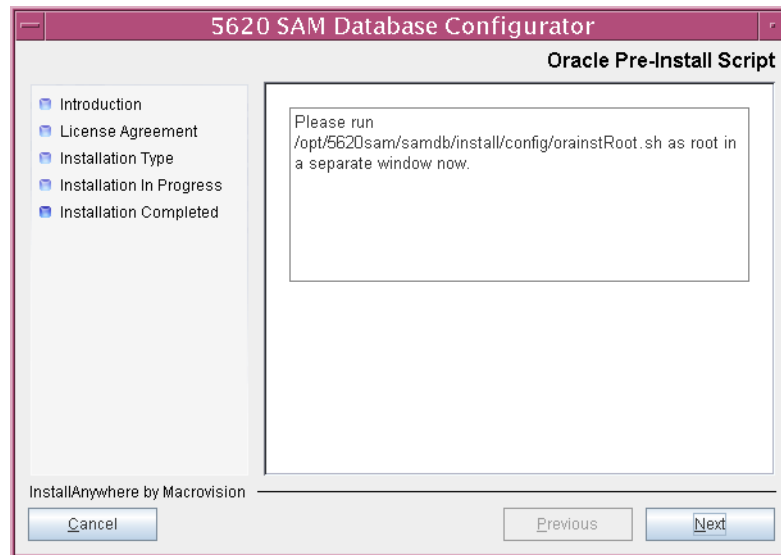
- 140** The panel shown in Figure 3-140 displays the Oracle software installation directory, which cannot be changed. Click on the Next button.

**Figure 3-140 Specify the Base Directory for Oracle Software**



141 Perform the following steps when the panel in Figure 3-141 is displayed.

Figure 3-141 Oracle Pre-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle pre-install script:

```
su -
```

```
path/install/config/orainstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script generates messages like the following:

```
Creating the Oracle inventory pointer file
(/var/opt/oracle/oraInst.loc)
```

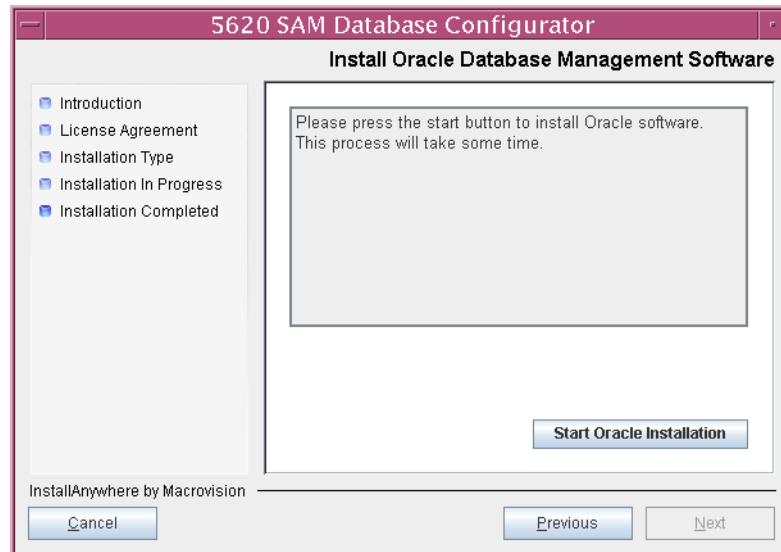
```
Creating the Oracle inventory directory
(/opt/5620sam/oracle11r2/oraInventory)
```

```
Changing groupname of /opt/5620sam/oracle11r2/oraInventory to
(dba) .
```

- iv When the script execution is complete, close the console window.
- v Click on the Next button.

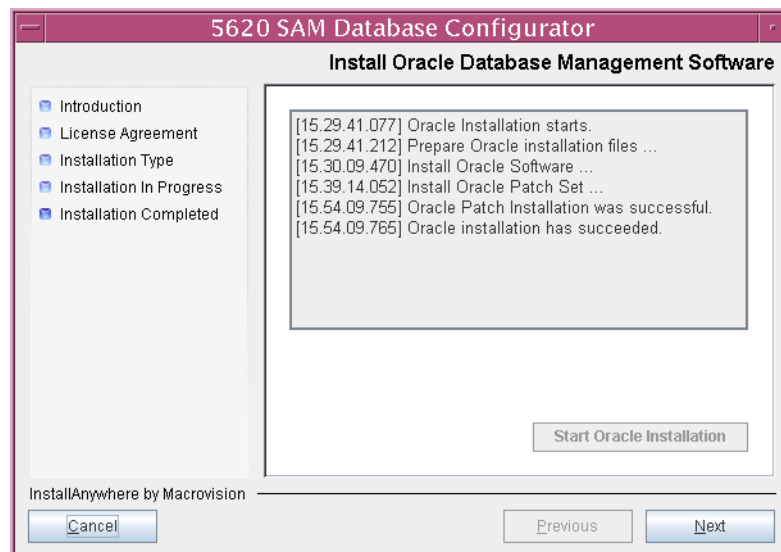
- 142 You are prompted to install Oracle software, as shown in Figure 3-142. This operation can take one hour or more. Click on the Start Oracle Installation button to begin the Oracle software installation.

**Figure 3-142 Install Oracle Database Management Software**



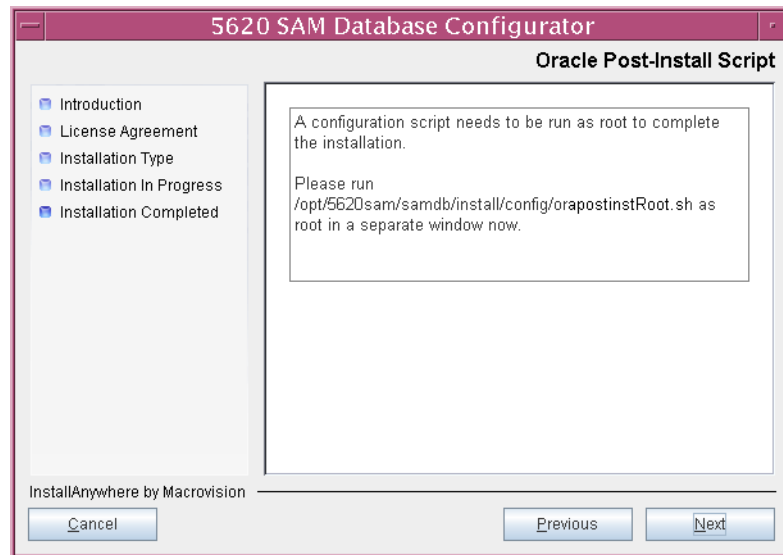
- 143 As shown in Figure 3-143, Oracle installation details are displayed as the installation progresses. When the installation is complete, click on the Next button.

**Figure 3-143 Install Oracle Database Management Software**



144 Perform the following steps when the panel in Figure 3-144 is displayed.

Figure 3-144 Oracle Post-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle post-install script:

```
su -
```

```
path/install/config/orapostinstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script displays the following message:

```
Check path/username_hostname_timestamp.log for output
```

where

*path* is the directory that contains the script log file, typically  
/opt/5620sam/oracle11r2/install

*username* is the Solaris account name of the current user, for example, root

*hostname* is the hostname of this station

*timestamp* is the script execution start time

- iv If the script generates a message that contains the word “error”, view the script log file named in the message for more information, and contact Alcatel-Lucent technical support for assistance, if required.
- v When the script execution is complete, close the console window.
- vi Click on the Next button.

145 Configure the parameters shown in Figure 3-145, then click on the Next button.

- NAT (network address translation) Used
- Public IP (accessible to servers)
- Private IP
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)



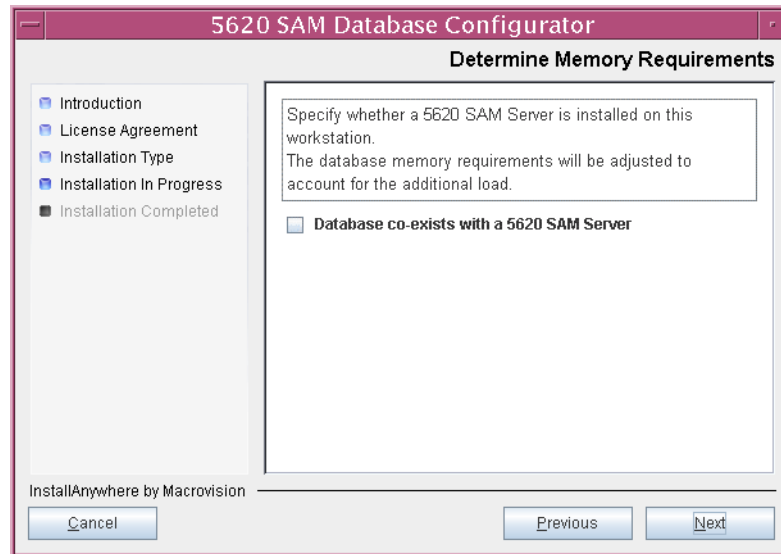
**Note** — The “Private IP” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 3-145 Standby Database Configuration Info

The screenshot shows the '5620 SAM Database Configurator' window with the 'Standby Database Configuration Info' tab selected. On the left is a navigation pane with five items: 'Introduction', 'License Agreement', 'Installation Type', 'Installation In Progress', and 'Installation Completed'. The main area contains instructions: 'Enter the IP address of the network interface the standby database requires to communicate with the server(s). If NAT (network address translation) is to be used, specify the standby database's private IP address.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox are three input fields: 'Public IP (accessible to servers)' with a dropdown menu showing '192.168.200.122', 'Database Proxy Port' with the value '9002', and 'Database File Server Port' with the value '9003'. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 146 If the 5620 SAM server and database are installed on the same station, select the “Database co-exists with a 5620 SAM Server” parameter shown in Figure 3-146. Click on the Next button.

Figure 3-146 Determine Memory Requirements



- 147 Configure the following parameters shown in Figure 3-147, then click on the Next button.

If the “Enable SAM Server IP Validation” parameter is selected, only the servers at the specified IP addresses or hostnames can connect to the database.

- Enable SAM Server IP Validation
- Server One IP Address  
This is the “Server One IP Address” value from step 40.
- Server Two IP Address  
This is the “Server Two IP Address” value from step 40.

Figure 3-147 Main Server IP Validation

The screenshot shows the '5620 SAM Database Configurator' window with the 'Main Server IP Validation' tab selected. On the left, a navigation pane lists: Introduction, License Agreement, Installation Type, Installation In Progress (highlighted), and Installation Completed. The main area contains a text box explaining that if Network Address Translation is used, the user should enter the 5620 SAM Main Server(s) public address(es). Below this is a checkbox for 'Enable SAM Server IP Validation'. If checked, there are two text input fields for 'Server One IP Address' and 'Server Two IP Address'. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

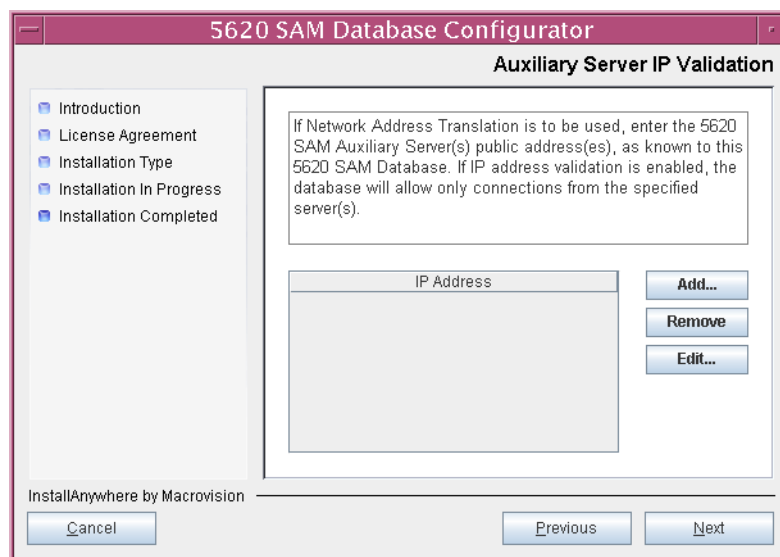


**148** The panel in Figure 3-148 is displayed if the “Enable SAM Server IP Validation” parameter in step 147 is selected. Otherwise, go to step 150.

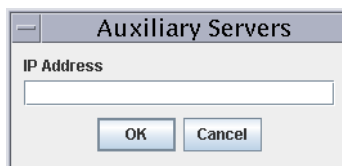
If the 5620 SAM system includes an auxiliary server, perform the following steps.

- i Click on the Add button shown in Figure 3-148. The form shown in Figure 3-149 opens.

**Figure 3-148 Auxiliary Server IP Validation**



**Figure 3-149 Auxiliary Servers**



- ii Enter the IP address or hostname of the auxiliary server.
- iii Click on the OK button to save the information and close the form.
- iv Repeat steps 148 i to iii to specify an additional auxiliary server, if required.

**149** Click on the Next button.

150 Configure the following parameters, shown in Figure 3-150, using the recorded values from the primary database upgrade. Click on the Next button.

- Primary IP Address
- Primary Instance Name (typically samdb2)
- Primary SYS Password
- Primary Database Listener Port (typically 1523)
- Primary Database Proxy Port (typically 9002)

Figure 3-150 Primary Database Info

The screenshot shows the '5620 SAM Database Configurator' window with the 'Primary Database Info' tab selected. On the left, a navigation pane lists: Introduction, License Agreement, Installation Type, Installation In Progress (selected), and Installation Completed. The main area contains a text box with instructions: 'Enter the IP address of the network interface the primary database requires to communicate with the server(s). If NAT (network address translation) is to be used, specify the primary database's public IP address.' Below this are five input fields: 'Primary IP Address' (empty), 'Primary Instance Name' (filled with 'samdb2'), 'Primary SYS Password' (filled with '\*\*\*\*\*'), 'Primary Database Listener Port' (filled with '1523'), and 'Primary Database Proxy Port' (filled with '9002'). At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

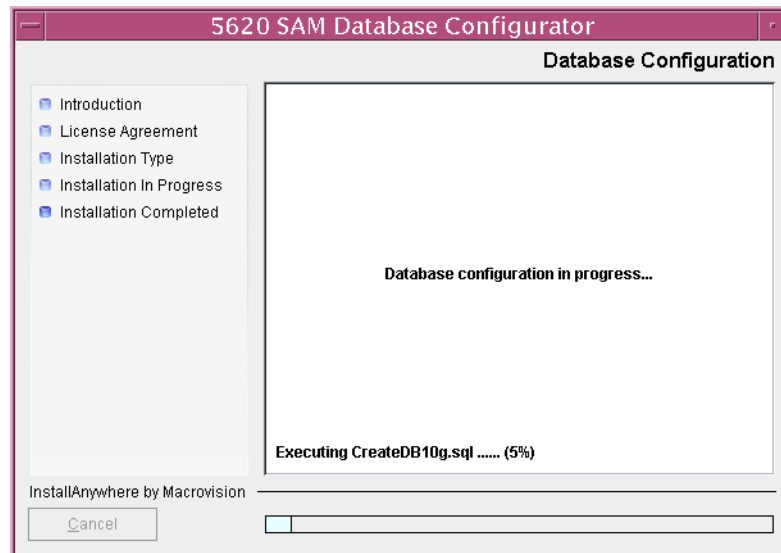
151 You are prompted to begin standby database creation, as shown in Figure 3-151. Click on the Start Process button to begin the database creation.

Figure 3-151 Standby Database Configuration

The screenshot shows the '5620 SAM Database Configurator' window with the 'Standby Database Configuration' tab selected. The left navigation pane is identical to the previous screen, with 'Installation In Progress' selected. The main area contains a text box with the message: 'The database config process is short. Once the configuration files are in place, you can create the standby database later using Standby Re-instantiation.' At the bottom right of the main area is a 'Start Process' button. The bottom of the window features 'Cancel', 'Previous', and 'Next' buttons, and the footer text 'InstallAnywhere by Macrovision'.

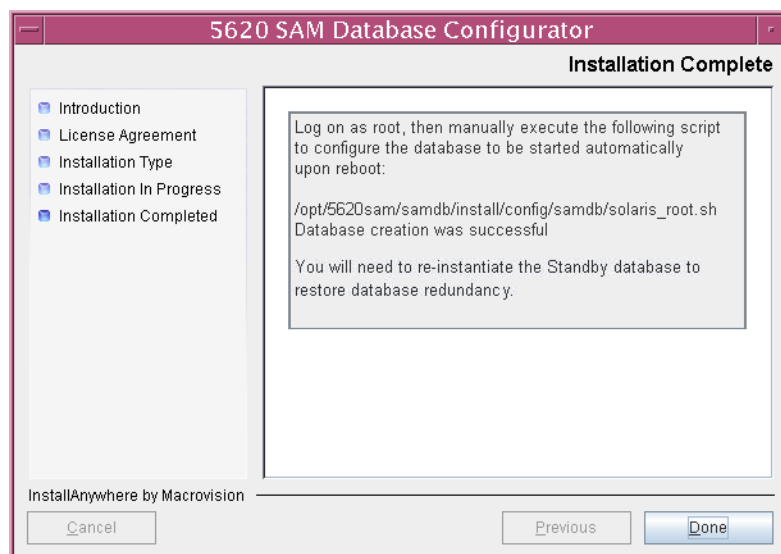
The next panel displays database configuration progress, as shown in Figure 3-152.

**Figure 3-152 Database Configuration**



- 152 When the panel in Figure 3-153 is displayed, the 5620 SAM database installation is complete, but as shown in the panel text, you must run a script to enable automatic database startup.

**Figure 3-153 Installation Complete**



Perform the following steps to run the script described in the panel.

i Open a separate console window as the root user.

ii Enter the following:

```
path/solaris_root.sh
```

where *path* is the `solaris_root.sh` script location, typically  
`/opt/5620sam/samdb/install/config/samdb`

The script returns messages similar to the following:

```
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
```

iii When the script execution is complete, close the console window.

**153** Click on the Done button to close the database installer.

The next section of the procedure describes the reinstantiation of the database on the new standby database station.

### Reinstantiate database on new standby station

**154** Log in to a 5620 SAM client as the admin user.

**155** Choose Administration→System Information from the 5620 SAM main menu. The System Information form opens with the General tab displayed.

**156** Click on the Re-Instantiate Standby button. A dialog box appears.

**157** Click on the Yes button. The database reinstantiation begins.

You can view the reinstantiation status on the client GUI status bar or on the System Information form. The Standby Re-instantiation State changes from In Progress to Success when reinstantiation is complete. The start time of the reinstantiation is shown by the Last Attempted Standby Re-instantiation Time indicator.



**Note 1** — Database reinstantiation can take a long time when there is a large amount of statistics data to transfer.

**Note 2** — You can perform the original primary main server upgrade described in the next section of the procedure while the database reinstantiation is in progress.

**158** When the reinstantiation is complete, close the System Information form.

The next section of the procedure describes the upgrade of the original primary (new standby) 5620 SAM server. A server upgrade requires root user privileges.

## Upgrade original primary main server

159 Log in to the original primary server station as the root user.



**Note** — This station is the new standby server station after the upgrade.

160 Open a console window.

161 Perform the following steps to ensure that no-one is logged in to the station as the samadmin user.

i Enter the following:

```
who ↵
```

The active user sessions are listed.

ii If the samadmin user is listed, close each samadmin user session. See the Solaris documentation for more information.

162 Place the new 5620 SAM software DVD-ROM in a DVD-ROM drive.

163 Navigate to the DVD-ROM drive.

164 Perform one of the following to open the 5620 SAM server installer.

a On a SPARC station:

i Enter the following:

```
cd Solaris ↵
```

ii Enter the following:

```
./ServerInstall_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
cd Solarisx86 ↵
```

ii Enter the following:

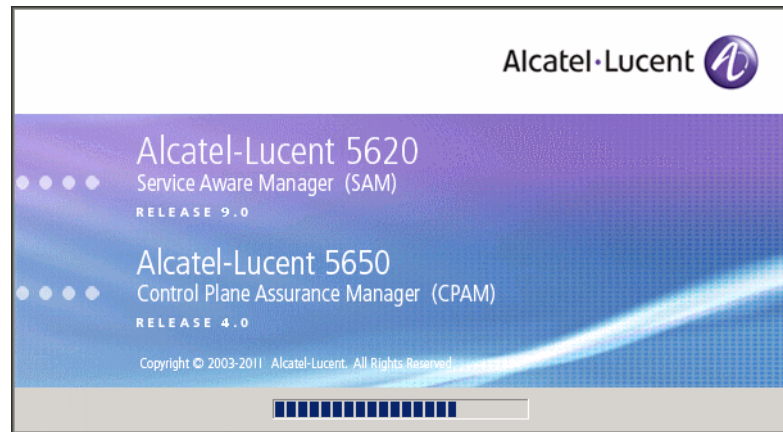
```
./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

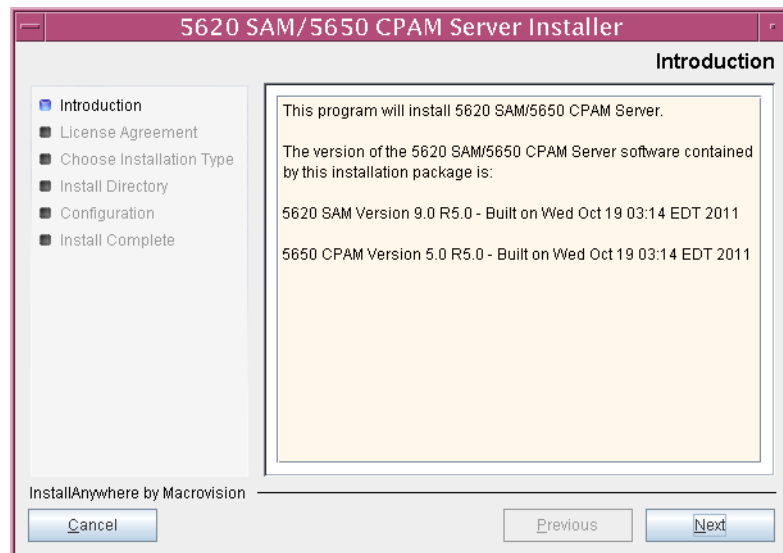
The splash screen shown in Figure 3-154 opens.

Figure 3-154 5620 SAM installer



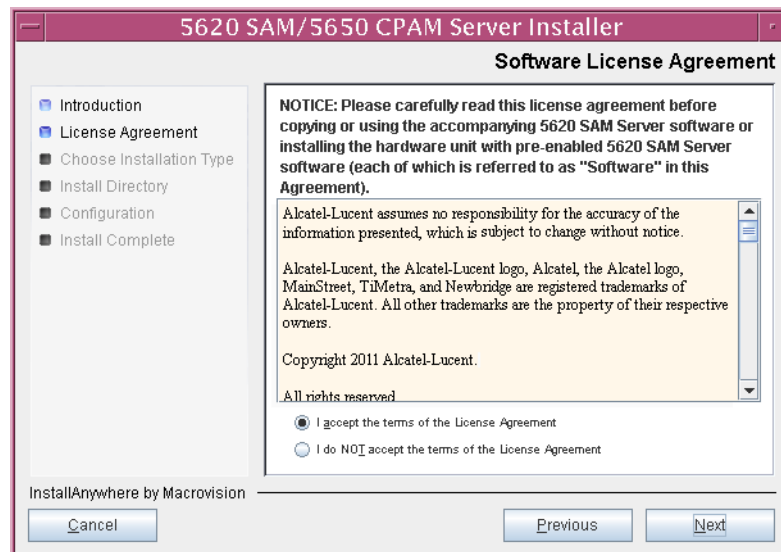
- 165 The 5620 SAM server installer opens, as shown in Figure 3-155. The left pane indicates upgrade progress. The right pane displays release information about the software. Click on the Next button.

Figure 3-155 Introduction



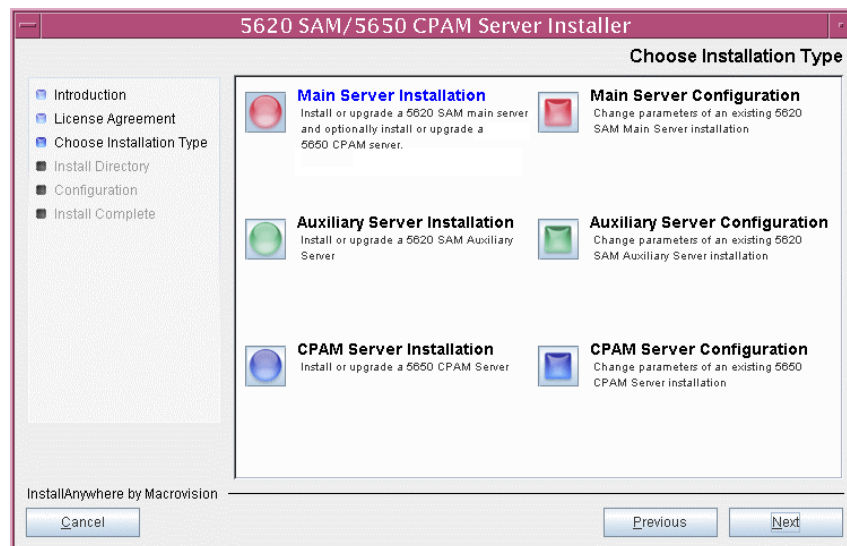
- 166 Review and accept the terms of the license agreement shown in Figure 3-156. Click on the Next button.

Figure 3-156 Software License Agreement



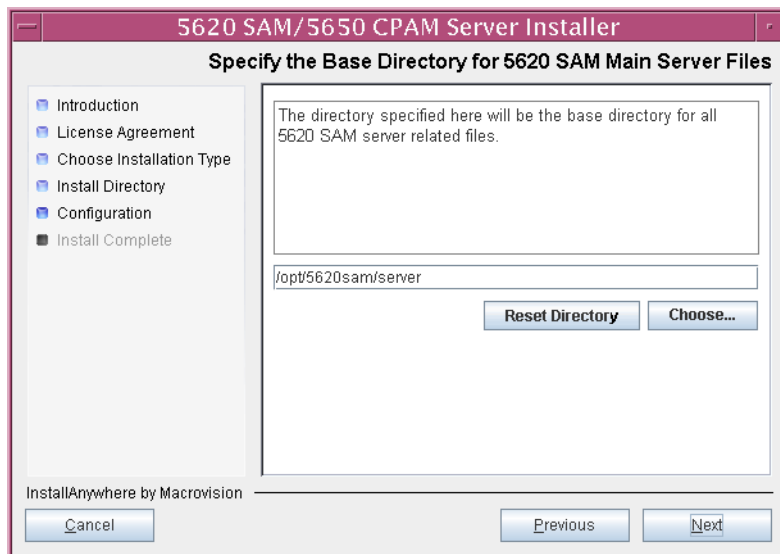
- 167 Select Main Server Installation, as shown in Figure 3-157. Click on the Next button.

Figure 3-157 Choose Installation Type



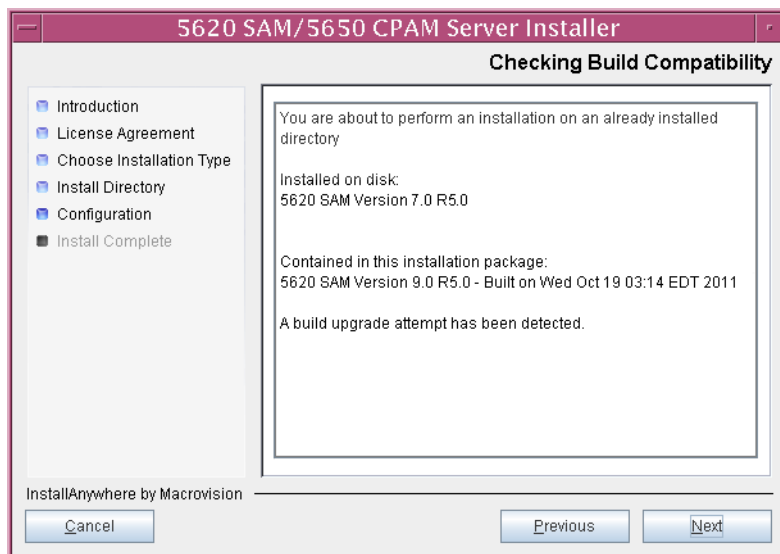
- 168 Specify the base directory in which the existing 5620 SAM main server software is installed (typically /opt/5620sam/server), as shown in Figure 3-158. Click on the Next button.

Figure 3-158 Specify the Base Directory for 5620 SAM Main Server Files



- 169 As shown in Figure 3-159, the installer indicates which release of 5620 SAM software is currently installed and the release to which it is to be upgraded. Verify the information. Click on the Next button.

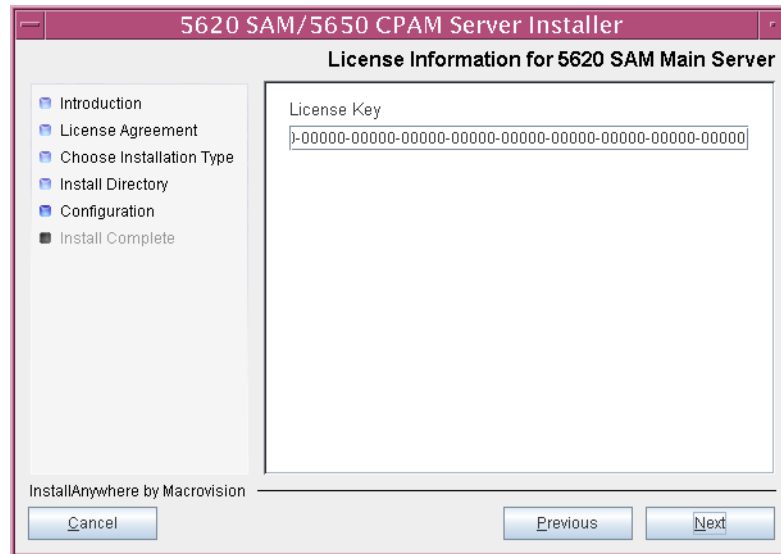
Figure 3-159 Checking Build Compatibility





- 170 The 5620 SAM installer displays the existing license key. Enter the license key for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 3-160. Click on the Next button.

**Figure 3-160 License Information for 5620 SAM Main Server**



171 Configure the following parameters shown in Figure 3-161, then click on the Next button.

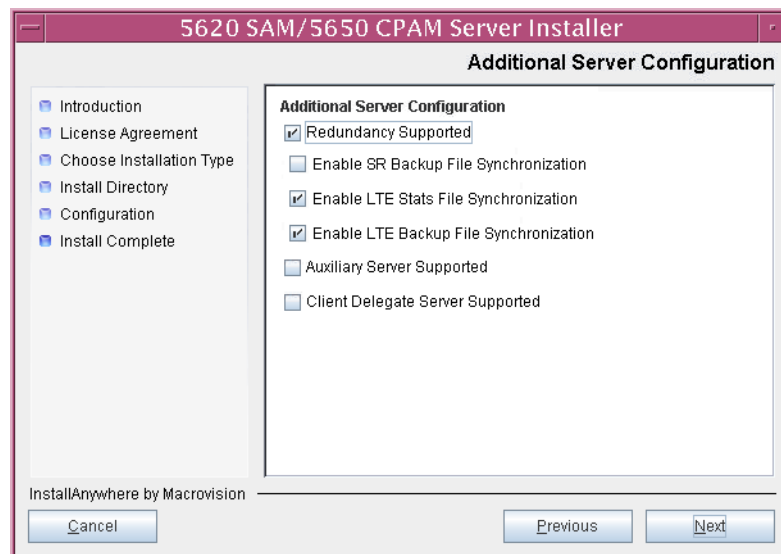
- Redundancy Supported
- Enable SR Backup File Synchronization
- Enable LTE Stats File Synchronization
- Enable LTE Backup File Synchronization
- Auxiliary Server Supported
- Client Delegate Server Supported



**Note 1** — You must select the “Redundancy Supported” parameter.

**Note 2** — The “Enable SR Backup File Synchronization”, “Enable LTE Stats File Synchronization”, and “Enable LTE Backup File Synchronization” parameters are displayed only when the “Redundancy Supported” parameter is enabled.

**Figure 3-161 Additional Server Configuration**



172 Configure the following parameters, shown in Figure 3-162, using the recorded values from the primary database upgrade. Click on the Next button.

- Primary Database Server IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb2)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

Figure 3-162 Primary Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Primary Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the primary 5620 SAM database's public IP address, as known to the 5620 SAM server.' Below this are six input fields: 'Primary Database Server IP Address' (empty), 'Primary Database Server Port' (1523), 'Primary Database Instance Name' (samdb2), 'Database User Name' (samuser), 'Database User Password' (masked with asterisks), and 'Primary Database Proxy Port' (9002). At the bottom, there is a 'Cancel' button, a 'Previous' button, and a 'Next' button. The footer of the window reads 'InstallAnywhere by Macrovision'.

**173** Configure the following parameters shown in Figure 3-163, then click on the Next button:

- Database Server IP Address
- Database Instance Name (typically samdb1)
- Database Proxy Port (typically 9002)
- Enable Database Backup File Synchronization

**Figure 3-163 Standby Database Configuration**

The screenshot shows the 'Standby Database Configuration' window of the '5620 SAM/5650 CPAM Server Installer'. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the standby 5620 SAM database's public IP address as known to the 5620 SAM server.' Below this are three input fields: 'Database Server IP Address' (highlighted in yellow), 'Database Instance Name' (containing 'samdb1'), and 'Database Proxy Port' (containing '9002'). There is an unchecked checkbox for 'Enable Database Backup File Synchronization'. At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

- 174 The panel in Figure 3-164 is displayed if you select the “Auxiliary Server Supported” parameter in step 171. Otherwise, go to step 176.

Perform the following steps to specify an auxiliary server, if required.

- i Configure the following parameters shown in Figure 3-164:
  - NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main and auxiliary servers.
  - Private IP (accessible only by this server)
  - Public IP (accessible to auxiliary)
  - Server Port (typically 12800)
  - Enable Stats Collection on Auxiliary Servers
  - Enable Call Trace Collection on Auxiliary Servers



**Note 1** — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

**Note 2** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 3-164 Main Server Configuration for Auxiliary Servers**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Auxiliary Servers' panel active. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main panel contains the following configuration options:

- A text box with the instruction: "Enter the the network interface information that this 5620 SAM main server requires to communicate with the 5620 SAM auxiliary servers. At least one service type checkbox must be selected." Below this is a checkbox labeled "NAT (network address translation) Used" which is checked.
- A dropdown menu for "Private IP (accessible only by this server)" with the value "192.168.200.111" selected.
- A text box for "Public IP (accessible to auxiliary)" which is currently empty and highlighted in yellow.
- A text box for "Server Port" with the value "12800" entered.
- Two checkboxes at the bottom: "Enable Stats Collection on Auxiliary Servers" (unchecked) and "Enable Call Trace Collection on Auxiliary Servers" (checked).

At the bottom of the window, there are three buttons: "Cancel", "Previous", and "Next". The "Next" button is highlighted in blue.

- ii Click on the Next button.

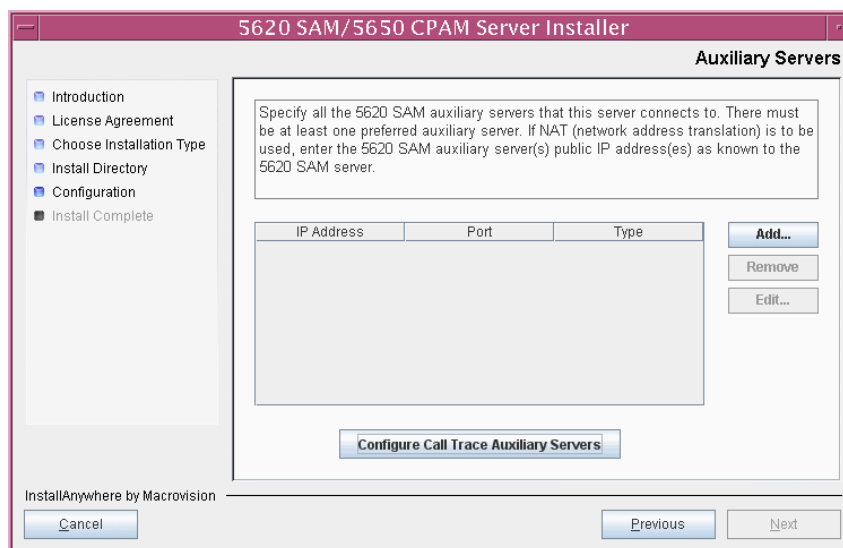
- iii Click on the Add button shown in Figure 3-165 to specify an auxiliary server. The form shown in Figure 3-166 opens.



**Note 1** — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

**Note 2** — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

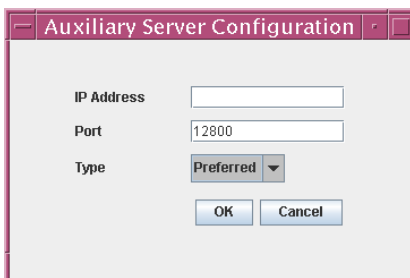
**Figure 3-165 Auxiliary Servers**



**Note 1** — The Preferred auxiliary server of the primary main server must be the Reserved auxiliary server of the standby main server. Conversely, the Reserved auxiliary server of the primary main server must be the Preferred auxiliary server of the standby main server.

**Note 2** — To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

**Figure 3-166 Auxiliary Server Configuration**



- iv Configure the following parameters:
  - IP Address
  - Port (typically 12800)
  - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 174 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 174 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 3-165. Otherwise, go to step 175.
- viii The form shown in Figure 3-167 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 3-167 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

| Preferred Auxiliary Servers |       |
|-----------------------------|-------|
| IP Address                  | Port  |
| 10.1.1.1                    | 12800 |
| 10.1.1.2                    | 12800 |
| 10.1.1.3                    | 12800 |

| Reserved Auxiliary Servers |       |
|----------------------------|-------|
| IP Address                 | Port  |
| 10.2.2.1                   | 12800 |
| 10.2.2.2                   | 12801 |
| 10.2.2.3                   | 12800 |

| Server Pairs        |                    |
|---------------------|--------------------|
| Preferred Server IP | Reserved Server IP |

Make Pair from Selected      Remove Selected Pair      OK      Cancel

- ix Repeat step 174 viii to configure another call-trace auxiliary server pair, if required.

175 Click on the Next button.

176 If you select the “Enable Database Alignment” parameter shown in Figure 3-168, you must specify the preferred database of this main server, then click on the Next button.

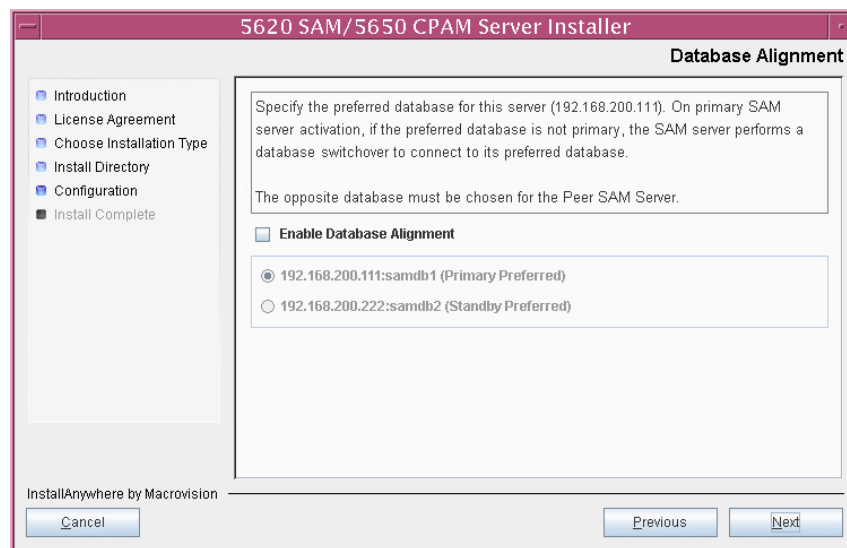
Database alignment associates each main server with the database to which it is most directly connected in terms of network latency. This database is the preferred database of the main server. For example, in a 5620 SAM complex that is geographically dispersed, the preferred database of a main server is the database in the same physical facility; typically, the primary main server and database are in one facility, and the standby server and database are in another.

When a primary server starts, it verifies that the database to which it connects is the preferred database. If this database is not the preferred database, the server performs a database switchover to reverse the primary and standby database roles. If the switchover is successful, the main servers and databases in the 5620 SAM complex are aligned. If the switchover fails, each database reverts to the former role, and the main server raises an alarm about the failed switchover.

When database alignment is enabled and you perform a database switchover, the primary server does not attempt database realignment, because a switchover is a manual operation that is considered to be a purposeful act.

When database alignment is enabled and you perform a server activity switch, the primary main server performs an automatic database switchover to maintain alignment with the preferred database.

**Figure 3-168 Database Alignment**





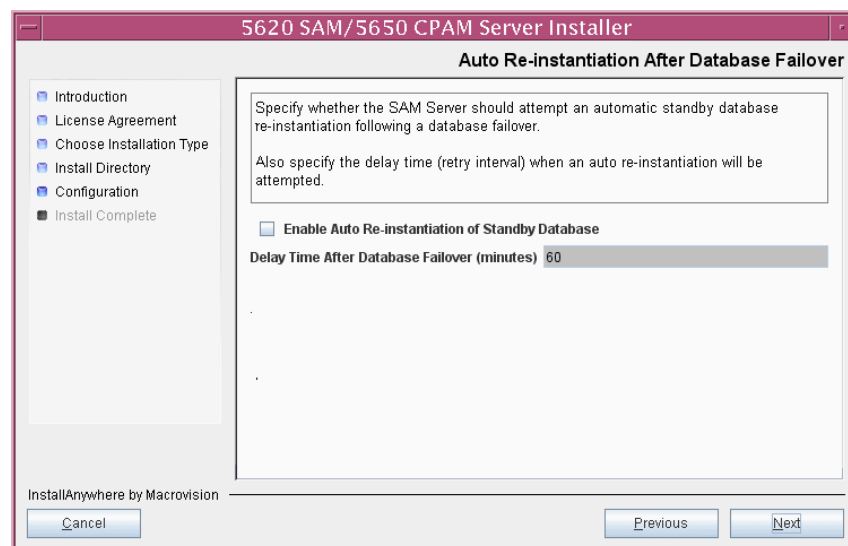
177 Configure the following parameters shown in Figure 3-169, then click on the Next button:

- **Enable Auto Re-Instantiation of Standby Database**  
If this parameter is selected, the 5620 SAM main server automatically reinstantiates the standby database after a database failover.
- **Delay Time After Database Failover (minutes)**  
This parameter specifies how long, in m, the main server waits after database failover completion before it initiates a standby database reinstantiation.



**Note** — The “Delay Time After Database Failover (minutes)” parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.

**Figure 3-169 Auto Re-Instantiation After Database Failover**



**178** Perform the following steps.

- i Configure the following parameters shown in Figure 3-170:
  - Server Domain Name (typically 5620sam)  
This parameter uniquely identifies the 5620 SAM server cluster to which the main server belongs.
  - Use Hostname for Communication  
Select this parameter if the main server is to use multiple interfaces for GUI and OSS client communication.

**Figure 3-170 Main Server Configuration for Clients**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains the following configuration options:

- Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server.
- If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.
- Server Domain Name:
- ☐ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server):
- Public IP (accessible to clients):
- EJB JNDI Server port:
- EJB JMS Server port:
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

- ii If you select the “Use Hostname for Communication” parameter, go to step 178 vi.
- iii Configure the following parameters:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public IP (accessible to clients)
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)
  - Enable 5670 RAM
  - Enable 3GPP OSS Interface



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 179.
- vi Configure the following parameters shown in Figure 3-171:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public Hostname
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)
  - Enable 5670 RAM
  - Enable 3GPP OSS Interface



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 3-171 Main Server Configuration for Clients**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains the following configuration options:

- Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server.
- If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.
- Server Domain Name: 5620sam
- ☒ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server): 192.168.200.111
- Public Hostname: (empty field)
- EJB JNDI Server port: 1099
- EJB JMS Server port: 8093
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- vii Click on the Next button.

**179** Configure the following parameters shown in Figure 3-172, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

**Figure 3-172 Main Server Configuration for Clients (cont.)**

5620 SAM/5650 CPAM Server Installer

Main Server Configuration for Clients (cont.)

Introduction  
License Agreement  
Choose Installation Type  
Install Directory  
Configuration  
Install Complete

RMI Port 1098

RMI Object Port 4444

InstallAnywhere by Macrovision

Cancel Previous Next

- 180** The panel in Figure 3-173 is displayed if you do not select the “Auxiliary Server Supported” parameter in step 171. Otherwise, go to step 181.

Configure the parameters shown in Figure 3-173:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main server and the OSS clients.
- Public IP (accessible to OSS clients)

**Figure 3-173 Server Configuration for OSS Clients**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The 'Server Configuration for OSS Clients' panel is active. On the left, a navigation pane lists steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'Enter the network interface information that the OSS clients require to retrieve statistic data from this 5620 SAM server.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox is a label 'Public IP (accessible to OSS clients)' followed by a dropdown menu showing the value '192.168.200.222'. At the bottom left, it says 'InstallAnywhere by Macrovision'. At the bottom right, there are 'Cancel', 'Previous', and 'Install' buttons.

**181** Configure the following parameters shown in Figure 3-174:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between this 5620 SAM server and the peer 5620 SAM server.
- Private IP (accessible only by this server)
- Public IP (accessible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 3-174 Main Server Configuration for Peer Server**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Peer Server' tab selected. On the left is a navigation pane with the following options: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box for network interface information. Below it, the 'NAT (network address translation) Used' checkbox is checked. The 'Private IP (accessible only by this server)' dropdown menu is set to '192.168.200.222'. The 'Public IP (accessible to peer server)' field is empty and highlighted in yellow. The 'High Available JNDI Port' is set to '1100' and the 'TCP Port Cluster Number' is set to '11800'. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

182 Configure the following parameters shown in Figure 3-175, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer server)
- Peer Public IP (accessible to this server)



**Note** — The “Public IP (accessible to peer server)” and “Peer Public IP (accessible to this server)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

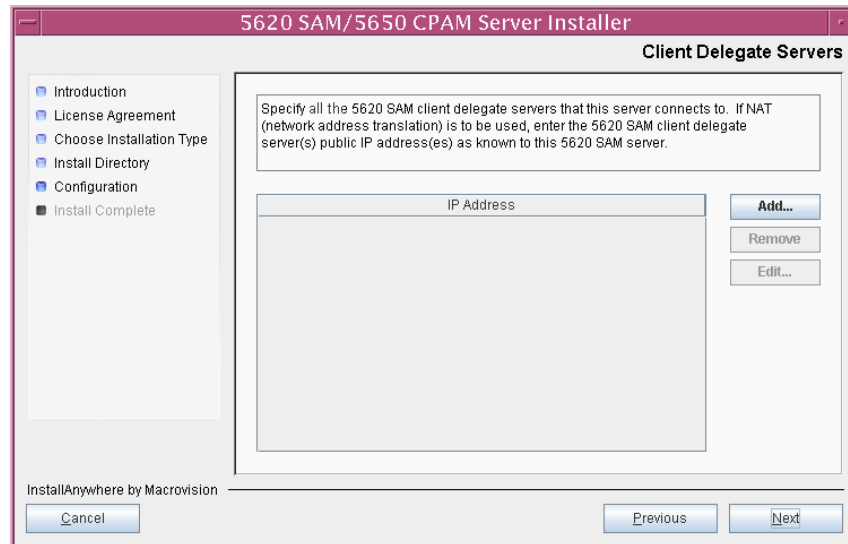
Figure 3-175 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM main servers.' Below this is a checked checkbox labeled 'Enable Synchronization of Data'. Underneath the checkbox are two input fields: 'Public IP (accessible to peer server)' which is a dropdown menu, and 'Peer Public IP (accessible to this server)' which is a text box. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 183** The panel in Figure 3-176 is displayed if you select the “Client Delegate Server Supported” parameter in step 171. Otherwise, go to step 184.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5620 SAM server and client delegate servers, specify the public IP address. Click on the Next button.

**Figure 3-176 Client Delegate Servers**





- 184 Perform the following steps to enable communication security between the main server and clients, and between the main and auxiliary servers. Otherwise, click on the Next button.



**Note** — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 3-177.

**Figure 3-177 SSL Configuration**

- ii Configure the following parameters:
  - Keystore File
  - Truststore File
  - Keystore Password
  - Truststore Password



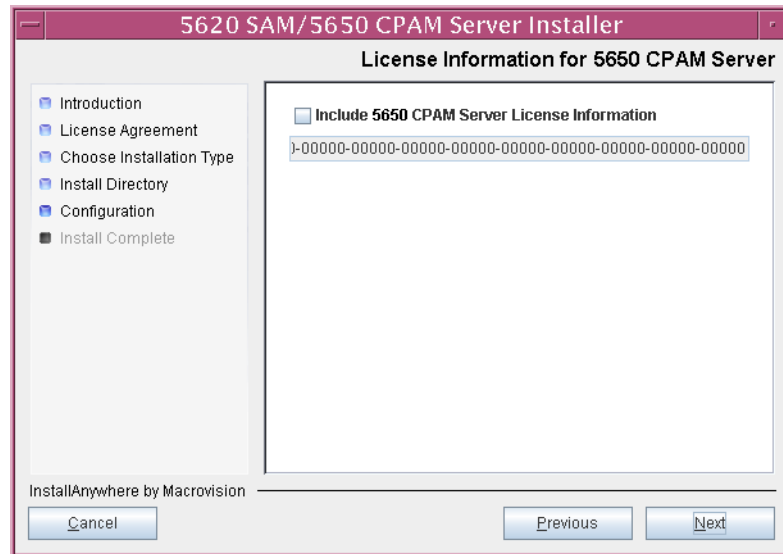
**Note 1** — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

**Note 2** — The parameter values must match the values specified during the original standby main server upgrade.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The main server copies the files, imports them into the main server configuration, and transfers the keystore file to each client and auxiliary server.

- 185 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 3-178. If it does, enter the 5650 CPAM license key provided by Alcatel-Lucent. Include the dashes in the key. Click on the Next button.

**Figure 3-178 License Information for 5650 CPAM Server**



**186** Configure the following parameters shown in Figure 3-179, then click on the Next button:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



**Note** — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 3-179.

**Figure 3-179 SNMP Configuration**

**187** Configure the following parameters shown in Figure 3-180, then click on the Next button:

- Peer Server IP Address (the new primary server IP address)
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IPv4 Address
- Peer Server SNMP Trap Receiving IPv6 Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)



**Note 1** — The peer server is the other 5620 SAM main server, which is the new primary main server after the upgrade.

**Note 2** — The “Peer Server SNMP Trap Receiving IPv6 Address” parameter is configurable only if you select the “IPv6 Address Used” parameter in step 186.

**Figure 3-180 Peer Main Server Configurations**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Peer Main Server Configurations' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the 5620 SAM peer server's public IP address as known to the 5620 SAM server. Also enter the 5620 SAM peer server's public IP address as known to the devices within the managed network.' Below this are six input fields: 'Peer Server IP Address' (empty), 'Peer Server Trap Log Id' (98), 'Peer Server SNMP Trap Receiving IPv4 Address' (empty), 'Peer Server SNMP Trap Receiving IPv6 Address' (empty), 'Peer Server SNMP Trap Receiving Port' (162), and 'Peer Server TCP Port Cluster Number' (11800). At the bottom are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

**188** If the “Use Hostname for Communication” parameter in step 178 is selected, go to step 191.

**189** Configure the following parameters shown in Figure 3-181, then click on the Next button:

- Peer Server IP Address (the new primary server station IP address)
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

**Figure 3-181 Peer Main Server Configurations (cont.)**

5620 SAM/5650 CPAM Server Installer

Peer Main Server Configurations (cont.)

Introduction  
License Agreement  
Choose Installation Type  
Install Directory  
Configuration  
Install Complete

Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5620 SAM clients.

If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field.

Peer Server IP Address

JNDI High Available Peer Server Port 1100

JNDI Peer Server Port 1099

Cancel Previous Next

InstallAnywhere by Macrovision

**190** Go to step 192.

191 Configure the following parameters shown in Figure 3-182, then click on the Next button:

- Peer Server Hostname
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

Figure 3-182 Peer Main Server Configurations (cont.)

5620 SAM/5650 CPAM Server Installer

Peer Main Server Configurations (cont.)

Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5620 SAM clients.

If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field.

Peer Server Hostname

JNDI High Available Peer Server Port 1100

JNDI Peer Server Port 1099

InstallAnywhere by Macrovision

Cancel Previous Next

192 If you require 5620 SAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 3-183 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button.

Figure 3-183 Navigation from External Systems

5620 SAM/5650 CPAM Server Installer

Navigation from External Systems

Select this option to enable GUI navigation from a 5620 NM system.

☐ Enable Navigation from External Systems

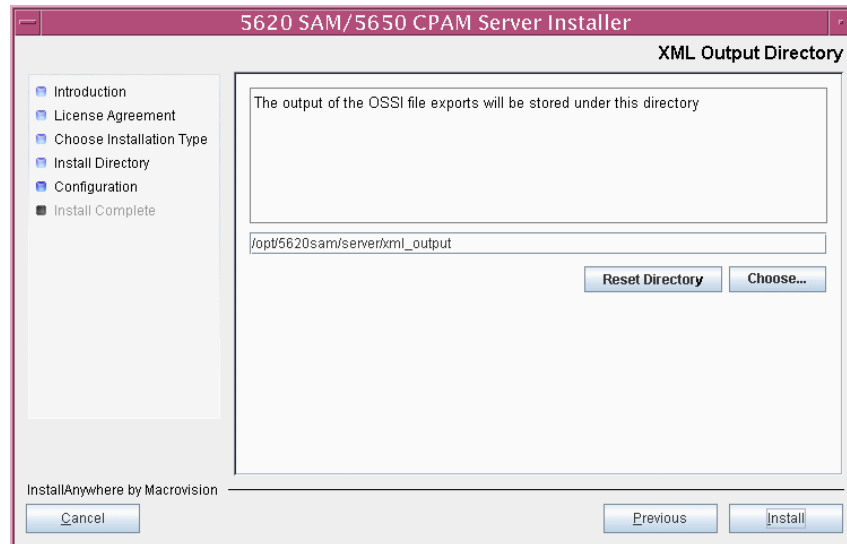
TCP port for accepting GUI navigation requests

InstallAnywhere by Macrovision

Cancel Previous Next

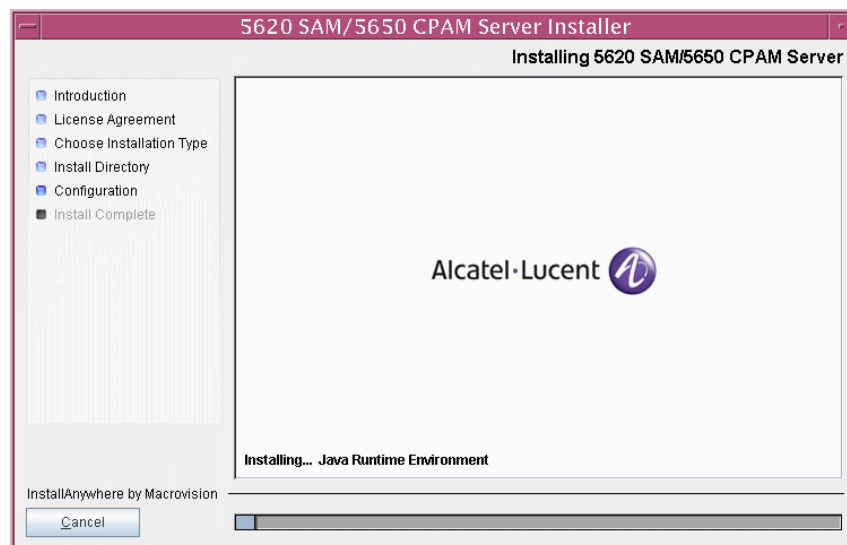
- 193 Specify an OSS XML output location (typically /opt/5620sam/server/xml\_output), as shown in Figure 3-184. Click on the Install button to begin the server upgrade.

Figure 3-184 XML Output Directory



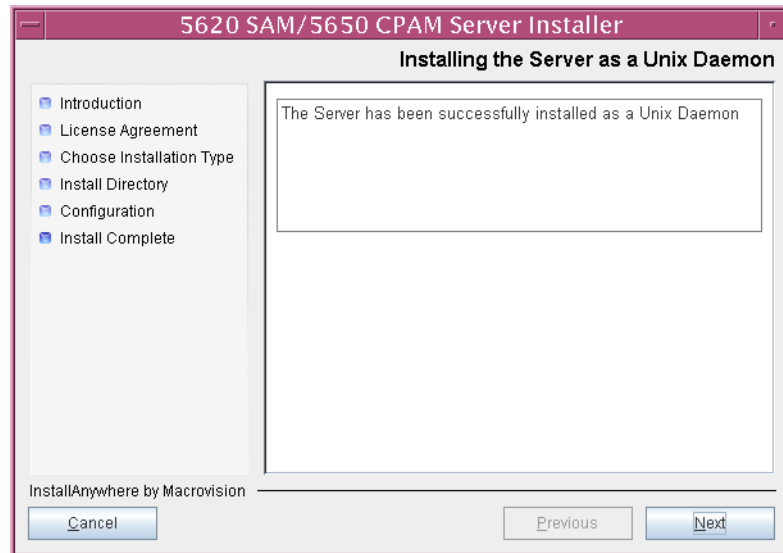
The next panel displays upgrade progress, as shown in Figure 3-185.

Figure 3-185 Installing 5620 SAM/5650 CPAM Server



- 194 The 5620 SAM server is installed as a UNIX daemon, as shown in Figure 3-186. Click on the Next button.

Figure 3-186 Installing the Server as a Unix Daemon

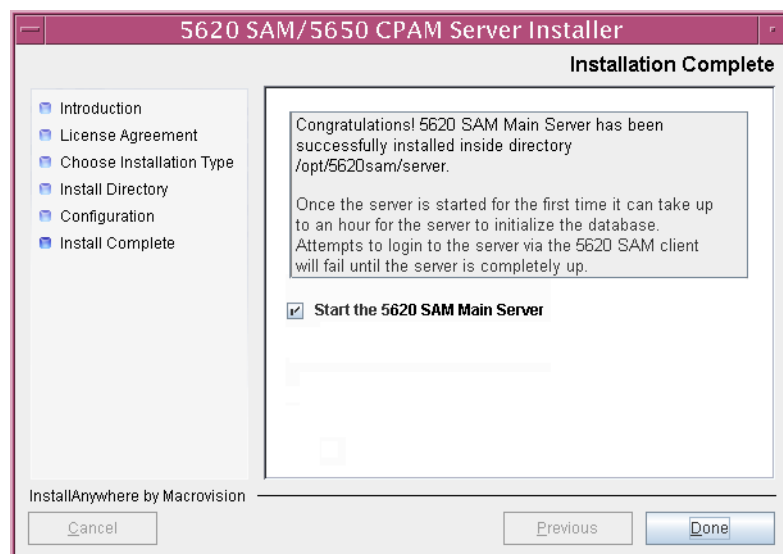


- 195 When the main server upgrade is complete, as shown in Figure 3-187, configure the “Start the 5620 SAM Main Server” parameter to specify whether you want the server to start immediately after the upgrade.



**Caution** — If the 3GPP OSS interface is enabled in step 178, and you did not enable the interface on this station during a previous installation or upgrade, ensure that the “Start the 5620 SAM Main Server” parameter is not selected.

Figure 3-187 Installation Complete





- 196** Click on the Done button to close the server installer. If you specified that the main server is to start immediately after the upgrade, the server starts. Initial server startup can take twenty minutes or more.

This server is the new standby main server.

- 197** If the 3GPP OSS interface is not enabled in step 178, go to step 199.

- 198** If the 3GPP OSS interface has not been configured during a previous 5620 SAM main server installation or upgrade, perform the following steps.

- i Open the *path/nms/cnbi/home/config/cnbi.properties* file using a plain-text editor

where *path* is the 5620 SAM main server installation location, typically *opt/5620sam/server*

- ii Locate the following line:

```
CNBI.SAMO.USER=
```

- iii Edit the line to read:

```
CNBI.SAMO.USER=3GPP_OSS_user_name
```

where *3GPP\_OSS\_user\_name* is the user name that OSS applications must send in requests to the interface

- iv Locate the following line:

```
CNBI.SAMO.PASSWORD=
```

- v Edit the line to read:

```
CNBI.SAMO.PASSWORD=3GPP_OSS_password
```

where *3GPP\_OSS\_password* is the MD5-encrypted user password that OSS applications must send in requests to the interface



**Note —** The user name and password must be the same user name and password specified during the primary main server configuration in step 94.

- vi Save and close the file.

- vii Go to step 200.

- 199** If you specified that the main server is to start immediately after the upgrade, perform the following steps to verify that the server is started.

- i Enter the following to switch to the samadmin user:

```
su - samadmin ↵
```

- ii Enter the following:

```
bash$ path/nms/bin/nmsserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically */opt/5620sam/server*

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- Standby Server is UP
```

- iii If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

**200** If you specified not to start the main server immediately after the upgrade, perform the following steps to start the server manually.

- i Log in to the main server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to start the 5620 SAM server software:

```
bash$./nmsserver.bash start ↵
```

- v Enter the following:

```
bash$ path/nms/bin/nmsserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- Standby Server is UP
```

- vi If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

**201** Close the console window.

### Upgrade new standby auxiliary servers

- 202** If the 5620 SAM deployment contains auxiliary servers, perform Procedure 3-7 on each preferred and reserved auxiliary server of the new standby main server to upgrade the auxiliary server software.



**Note —** Do not start the auxiliary servers immediately after you upgrade them; they are started later in this procedure.

### Start new standby auxiliary servers

- 203** Perform the following steps on each preferred and reserved 5620 SAM auxiliary server of the new standby main server.

- i Log in to the auxiliary server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to start the 5620 SAM server software:

```
bash$ path/nms/bin/auxnmserver.bash auxstart ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server starts. Initial server startup can take twenty minutes or more.

### Upgrade or install additional clients for redundant system

- 204** If you modify the SSL configuration during a main server upgrade, you cannot upgrade a client that connects to the main server; you must uninstall the client software and re-install it. Perform the appropriate procedure in chapter 6 to uninstall the client or client delegate server software, as required.
- 205** Perform one of the following to upgrade or install the 5620 SAM client software on a Solaris station, if required.
- a Perform Procedure 2-3 or 2-4 to install a single-user client.
  - b Perform Procedure 2-7 to install a client delegate server.

- c Perform Procedure 3-4 to upgrade a single-user client, if you did not modify the SSL configuration on the main server during the upgrade.
  - d Perform Procedure 3-6 to upgrade a client delegate server, if you did not modify the SSL configuration on the main server during the upgrade.
- 206 Perform one of the following to upgrade or install the 5620 SAM client software on a Windows station, if required.
- a Perform Procedure 2-5 or 2-6 to install a single-user client.
  - b Perform Procedure 3-5 to upgrade a single-user client, if you did not modify the SSL configuration on the main server during the upgrade.
- 

## 3.8 5620 SAM client and client delegate server upgrade

This section describes how to upgrade a client or client delegate server component in a standalone or redundant 5620 SAM system. Procedure 3-4 describes how to upgrade the 5620 SAM client software on a Solaris station. Procedure 3-5 describes how to upgrade the 5620 SAM client software on a Windows station. Procedure 3-6 describes how to upgrade a 5620 SAM client delegate server.

### Procedure 3-4 To upgrade a 5620 SAM single-user client on Solaris

---

Perform this procedure to upgrade the 5620 SAM single-user client software on a Solaris station. A 5620 SAM client software upgrade happens automatically when the client connects to a main server at a different 5620 SAM release.



**Note 1** — The 5620 SAM main server to which the 5620 SAM single-user client connects must be upgraded and operational before you can upgrade the client.

**Note 2** — The user that installs the 5620 SAM client software on Solaris must be the user that upgrades the client software.

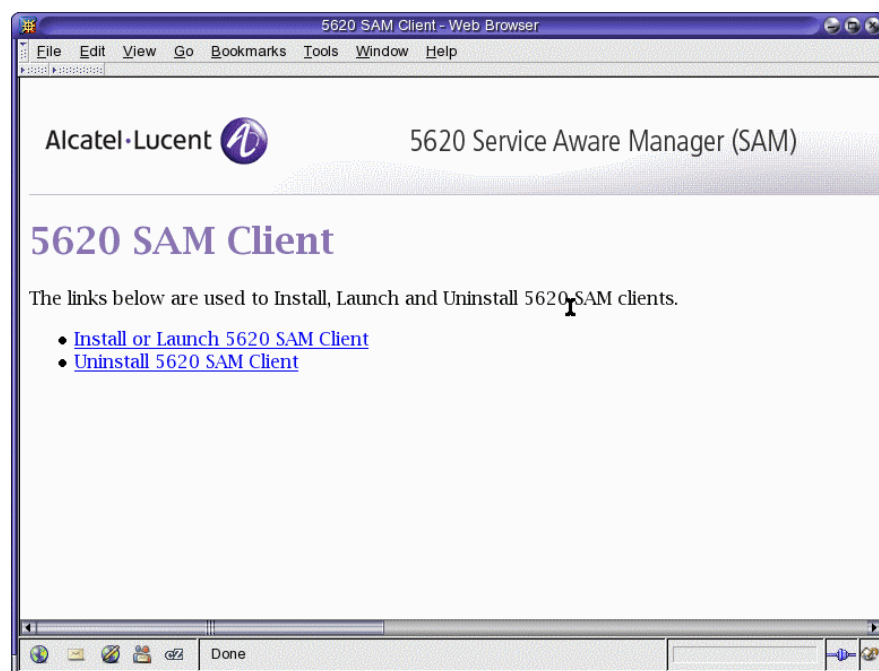
- 1 Close the 5620 SAM single-user client if it is running.
  - i Choose Application→Exit from the 5620 SAM main menu. A dialog box appears.
  - ii Click on the Yes button. The 5620 SAM single-user client closes.

- 2 Perform one of the following.
  - a Double-click on the 5620 SAM Client App desktop icon.
  - b Use a web browser on the client station. Perform the following steps.
    - i Use the browser to open one of the following URLs:
      - <http://server:8085/client>, if SSL security is not enabled on the client and main server.
      - <https://server:8444/client>, if SSL security is enabled on the client and main server

where *server* is the IP address or hostname of the 5620 SAM main server

The page shown in Figure 3-188 is displayed.

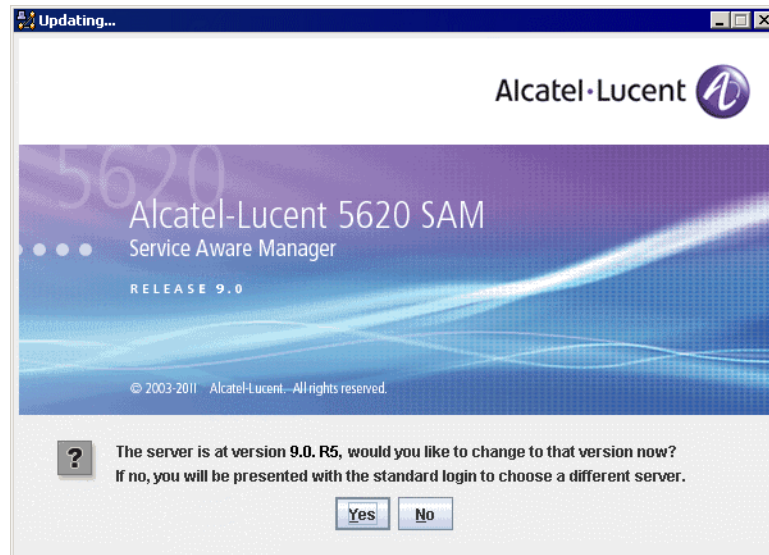
Figure 3-188 5620 SAM client page



- ii Click on the "Install or Launch 5620 SAM Client" link.

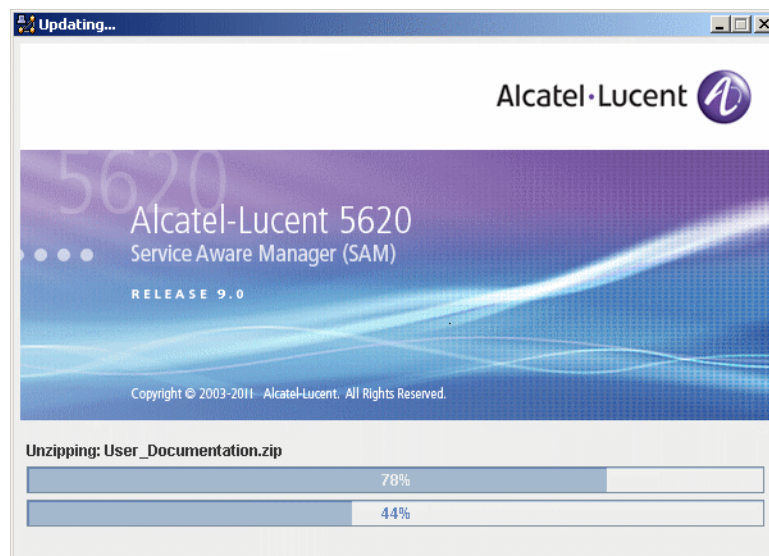
- 3 The 5620 SAM auto-client update utility opens, detects the new client software on the 5620 SAM main server, and displays the panel shown in Figure 3-189.

Figure 3-189 Upgrade prompt



- 4 Click on the Yes button to begin the 5620 SAM client software upgrade. As shown in Figure 3-190, the next panel uses separate bars to indicate the overall and current task progress.

Figure 3-190 Installation progress



When the upgrade is complete, the auto-client update utility closes and the 5620 SAM client login form is displayed.

- 5 Log in to the 5620 SAM client GUI.
- 

### Procedure 3-5 To upgrade a 5620 SAM single-user client on Windows

---

This procedure describes how to upgrade the 5620 SAM single-user client software on a Windows station. A 5620 SAM client software upgrade happens automatically when the client connects to a main server at a different 5620 SAM release.



**Note 1** — The 5620 SAM main server to which the 5620 SAM single-user client connects must be upgraded and operational before you can upgrade the client.

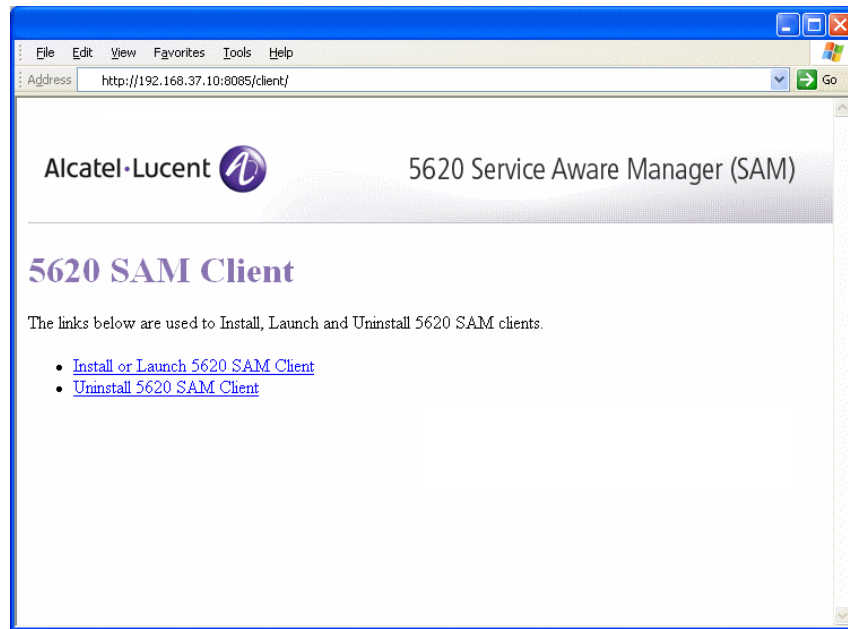
**Note 2** — The user that installs the 5620 SAM single-user client software on Windows must be the user that upgrades the client software, or a local administrator.

- 1 Close the 5620 SAM client GUI, if it is open.
  - i Choose Application→Exit from the 5620 SAM main menu. A dialog box appears.
  - ii Click on the Yes button. The client GUI closes.
- 2 Perform one of the following.
  - a Double-click on the 5620 SAM Client App desktop icon.
  - b Use a web browser on the client station. Perform the following steps.
    - i Use the browser to open one of the following URLs:
      - <http://server:8085/client>, if SSL security is not enabled on the client and main server.
      - <https://server:8444/client>, if SSL security is enabled on the client and main server

where *server* is the IP address or hostname of the 5620 SAM main server

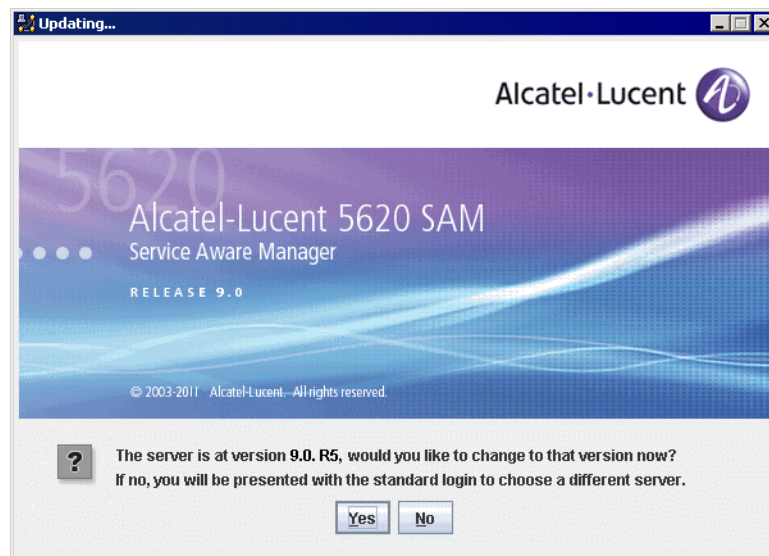
The page shown in Figure 3-191 is displayed.

Figure 3-191 5620 SAM client page



- ii Click on the “Install or Launch 5620 SAM Client” link.
- 3 The 5620 SAM auto-client update utility opens, detects the new client software on the 5620 SAM main server, and displays the panel shown in Figure 3-192.

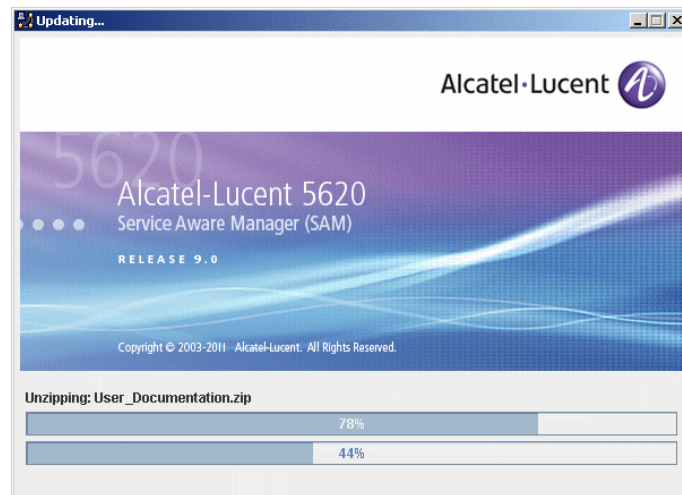
Figure 3-192 Upgrade prompt





- 4 Click on the Yes button to begin the 5620 SAM client software upgrade. As shown in Figure 3-193, the next panel uses separate bars to indicate the overall and current task progress.

Figure 3-193 Installation progress



When the upgrade is complete, the auto-client update utility closes and the 5620 SAM client login form is displayed.

- 5 Log in to the 5620 SAM client GUI.

### Procedure 3-6 To upgrade a 5620 SAM client delegate server

Perform this procedure to upgrade a 5620 SAM client delegate server. A client delegate server supports multiple client GUI sessions using display redirection. You require root user privileges on the client delegate server station to perform this procedure.



**Note** — The 5620 SAM main server to which the 5620 SAM single-user client connects must be upgraded and operational before you can upgrade the client.

The 5620 SAM main server to which the 5620 SAM delegate clients connect must be upgraded and operational before you can upgrade the client delegate server.

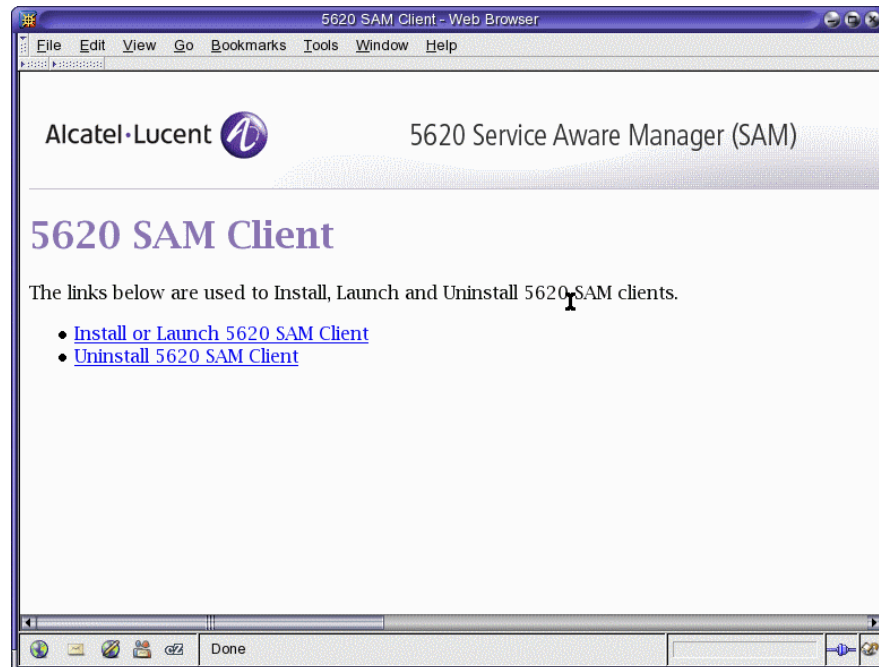
- 1 Close each open 5620 SAM client GUI session that the client delegate server is currently hosting. Perform the following steps on each station that has an open session through the client delegate server.
  - i Choose Application→Exit from the 5620 SAM main menu. A dialog box appears.
  - ii Click on the Yes button. The 5620 SAM client closes.

- 2 Perform one of the following.
  - a Double-click on the 5620 SAM Client App desktop icon.
  - b Use a web browser on the client station. Perform the following steps.
    - i Use the browser to open one of the following URLs:
      - <http://server:8085/client>, if SSL security is not enabled on the client and main server.
      - <https://server:8444/client>, if SSL security is enabled on the client and main server

where *server* is the IP address or hostname of the 5620 SAM main server

The page shown in Figure 3-194 is displayed.

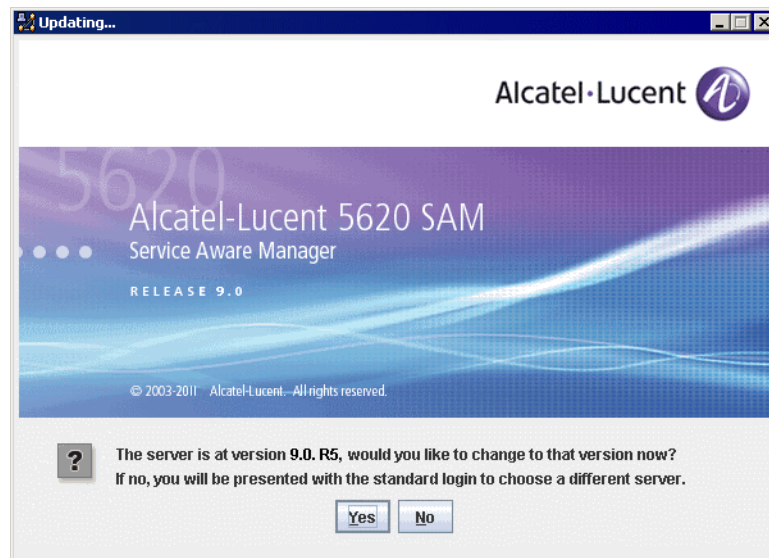
**Figure 3-194 5620 SAM client page**



- ii Click on the "Install or Launch 5620 SAM Client" link.

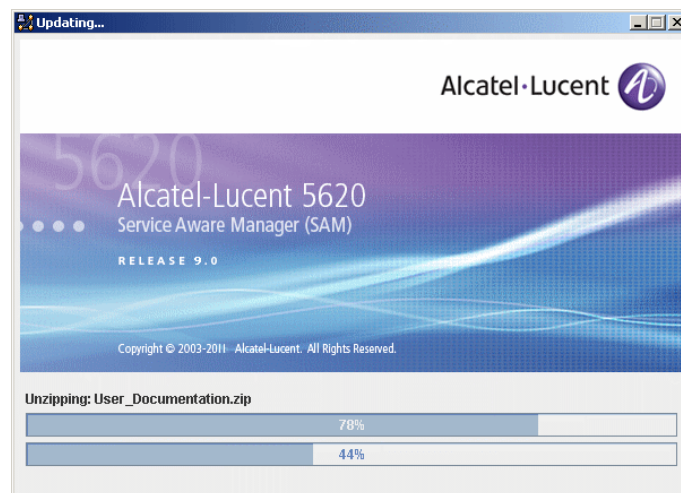
- 3 The 5620 SAM auto-client update utility opens, detects the new client delegate server software on the 5620 SAM main server, and displays the panel shown in Figure 3-195.

Figure 3-195 Upgrade prompt



- 4 Click on the Yes button to begin the upgrade. As shown in Figure 3-196, the next panel uses separate bars to indicate the overall and current task progress.

Figure 3-196 Installation progress



When the upgrade is complete, the auto-client update utility closes and the 5620 SAM client login form is displayed.

- 5 Log in to the 5620 SAM client GUI.

## 3.9 5620 SAM auxiliary server upgrade procedures

This section describes how to upgrade a 5620 SAM auxiliary server component for a standalone or redundant 5620 SAM system. Procedure 3-7 describes how to upgrade the 5620 SAM auxiliary server software.



**Warning** — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panel when you perform a procedure in this section:

- **5620 SAM/5650 CPAM Server Installer**  
Auxiliary Server Address Configuration



**Note 1** — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin user

Do not type the # symbol or bash\$ when you enter a command.

**Note 2** — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

---

### Procedure 3-7 To upgrade a 5620 SAM auxiliary server

---

Perform this procedure to upgrade the 5620 SAM auxiliary server software. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note** — You require the following user privileges on the auxiliary server station to perform this procedure:

- root
- samadmin

- 1 Log in to the auxiliary server station as the root user.
- 2 Open a console window.

- 3 Perform the following steps to ensure that no-one is logged in to the station as the samadmin user.
  - i Enter the following:  

```
who ↵
```

The active user sessions are listed.
  - ii If the samadmin user is listed, close each samadmin user session. See the Solaris documentation for more information.
- 4 Place the new 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 5 Navigate to the DVD-ROM drive.
- 6 Perform one of the following to open the 5620 SAM server installer.
  - a On a SPARC station:
    - i Enter the following:  

```
cd Solaris ↵
```
    - ii Enter the following:  

```
./ServerInstall_SAM_9_0_revision.bin ↵
```

where  
*revision* is the revision identifier, such as R1, R3, or another descriptor
  - b On an x86-based station:
    - i Enter the following:  

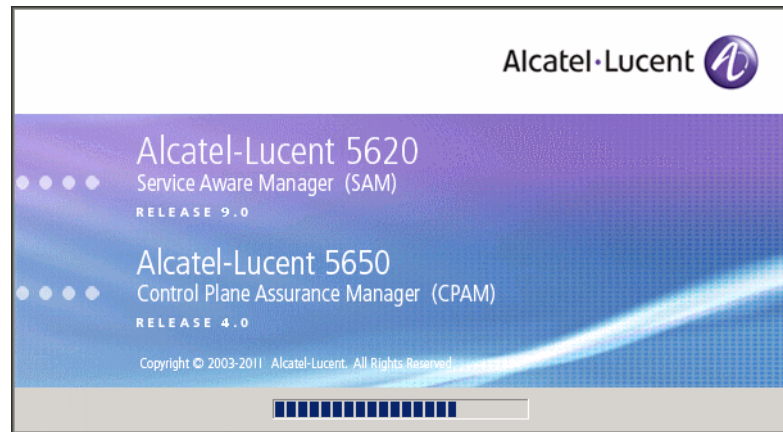
```
cd Solarisx86 ↵
```
    - ii Enter the following:  

```
./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where  
*revision* is the revision identifier, such as R1, R3, or another descriptor

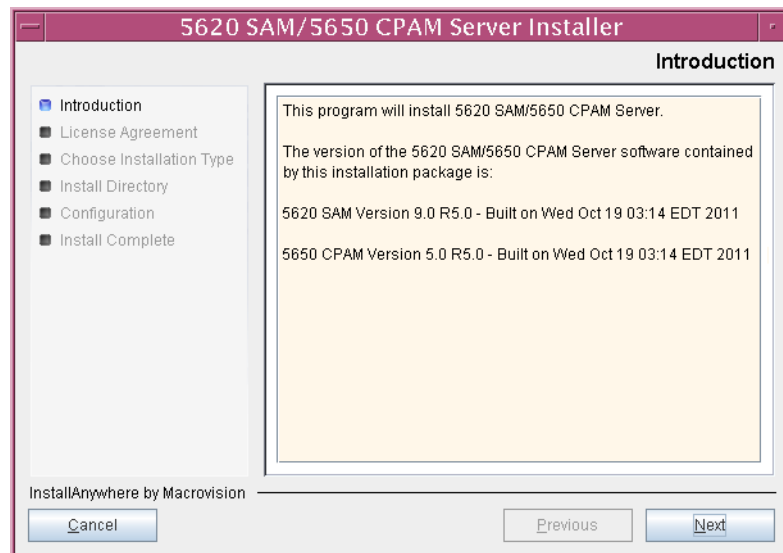
The splash screen shown in Figure 3-197 opens.

Figure 3-197 5620 SAM installer



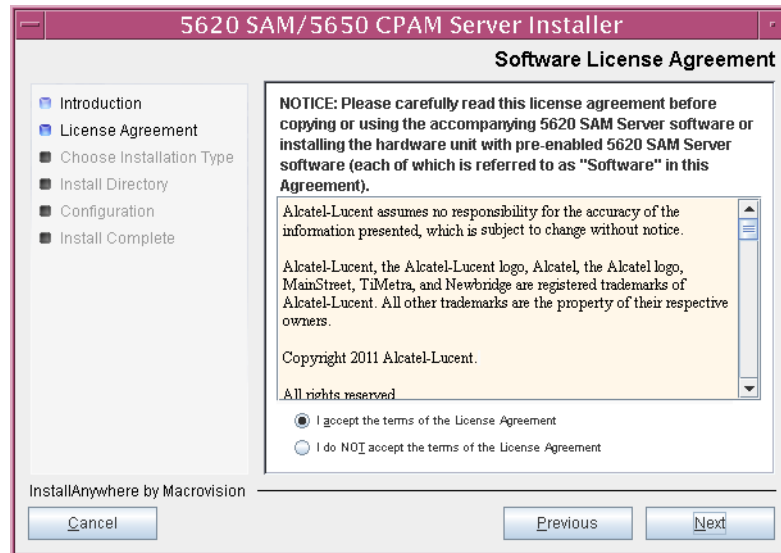
- 7 The 5620 SAM server installer opens, as shown in Figure 3-198. The left pane indicates upgrade progress. The right pane displays release information about the software. Click on the Next button.

Figure 3-198 Introduction



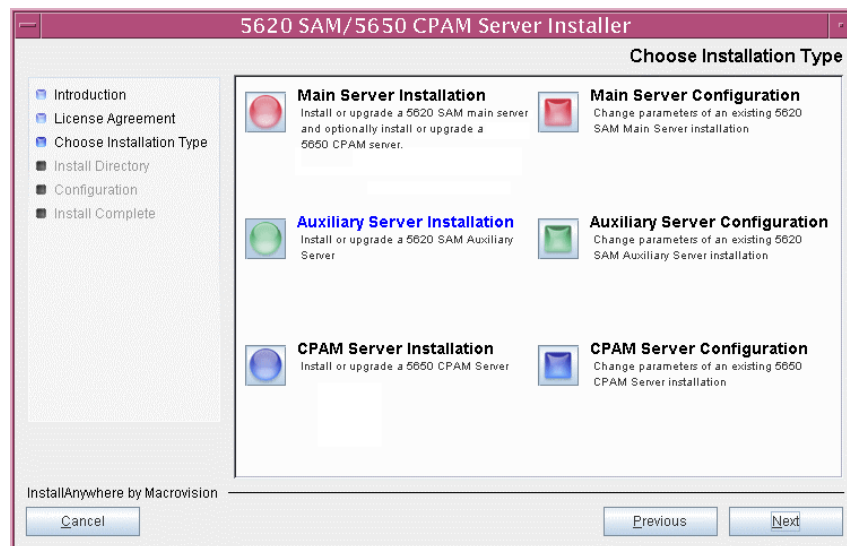
- 8 Review and accept the terms of the license agreement shown in Figure 3-199. Click on the Next button.

Figure 3-199 Software License Agreement



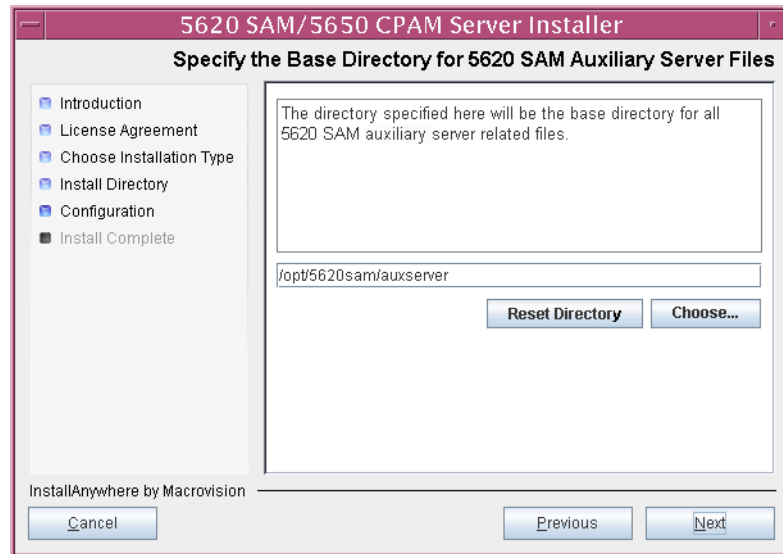
- 9 Select Auxiliary Server Installation, as shown in Figure 3-200. Click on the Next button.

Figure 3-200 Choose Installation Type



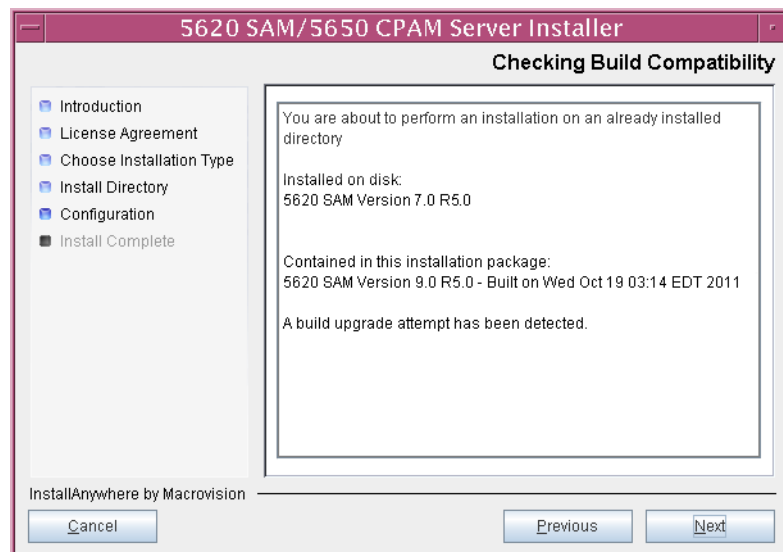
- 10 Specify the base directory in which the existing 5620 SAM auxiliary server software is installed (typically /opt/5620sam/auxserver), as shown in Figure 3-201. Click on the Next button.

**Figure 3-201 Specify the Base Directory for 5620 SAM Auxiliary Server Files**



- 11 As shown in Figure 3-202, the installer indicates which release of 5620 SAM software is currently installed and the release to which it is to be upgraded. Verify the information. Click on the Next button.

**Figure 3-202 Checking Build Compatibility**





12 Configure the parameters shown in Figure 3-203:

- **Server Domain Name** (typically 5620sam)  
This parameter uniquely identifies the 5620 SAM server cluster to which the auxiliary server belongs.
- **NAT (network address translation) Used**  
Select this parameter only if NAT is to be used between the 5620 SAM auxiliary server and the main servers.
- **Private IP** (accessible only by this server)
- **Public IP** (accessible to servers)
- **Server Port** (typically 12800)
- **Redundancy Supported On the 5620 SAM Main Server**  
Select this parameter only if the 5620 SAM main servers are deployed in a redundant configuration.
- **Enable Stats Service**  
Select this parameter if the 5620 SAM auxiliary server is to be used for statistics collection.
- **Enable Call Trace Service**  
Select this parameter if the 5620 SAM auxiliary server is to be used for call-trace data collection.



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 3-203 Auxiliary Server Address Configuration**

**5620 SAM/5650 CPAM Server Installer**

**Auxiliary Server Address Configuration**

Enter the network interface information for the 5620 SAM auxiliary server. The domain name must be the same as the 5620 SAM main server's domain name.

Server Domain Name: 5620sam

☒ NAT (network address translation) Used

Private IP (accessible only by this server): 192.168.200.234

Public IP (accessible to servers):

Server Port: 12800

☐ Redundancy Supported On the 5620 SAM Main Server

☐ Enable Stats Service

☒ Enable Call Trace Service

InstallAnywhere by Macrovision

Cancel Previous Install

- 13 Perform one of the following.
- a If the “Redundancy Supported On the 5620 SAM Main Server” parameter in step 12 is not selected, configure the parameters shown in Figure 3-204:
- Server IP Address
  - Server Port (typically 12800)

**Figure 3-204 Main Server Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple with the text '5620 SAM/5650 CPAM Server Installer'. The main window has a light gray background. On the left, there is a vertical list of steps: 'Introduction', 'License Agreement', 'Choose Installation Type', 'Install Directory', 'Configuration', and 'Install Complete'. The 'Configuration' step is currently selected and highlighted. The main area of the window is titled 'Main Server Configuration'. It contains a text box with the instruction: 'Enter the public IP address of the network interface on the 5620 SAM Main server that this 5620 SAM auxiliary server requires.' Below this text box are two input fields: 'Server IP Address' (which is highlighted in yellow) and 'Server Port' (which contains the value '12800'). At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window.

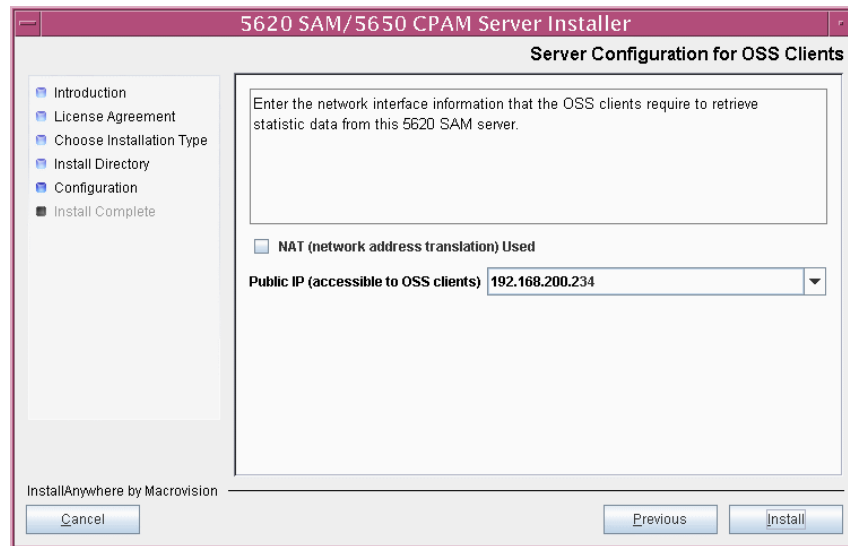
- b If the “Redundancy Supported On the 5620 SAM Main Server” parameter in step 12 is selected, configure the parameters shown in Figure 3-205:
- Server One IP Address
  - Server One Port (typically 12800)
  - Server Two IP Address
  - Server Two Port (typically 12800)

**Figure 3-205 Main Server Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration' tab selected. The window has a sidebar on the left with a tree view containing the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (which is highlighted), and Install Complete. The main area of the window contains a text box with the instruction: 'Enter the public IP addresses of the network interfaces on the 5620 SAM main server that this 5620 SAM auxiliary server requires.' Below this text box are four input fields: 'Server One IP Address' (highlighted in yellow), 'Server One Port' (containing the value 12800), 'Server Two IP Address' (highlighted in yellow), and 'Server Two Port' (containing the value 12800). At the bottom of the window, there is a status bar that reads 'InstallAnywhere by Macrovision' and three buttons: 'Cancel', 'Previous', and 'Next'.

**14** Configure the parameters shown in Figure 3-206:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM auxiliary server and the OSS clients.
- Public IP (accessible to OSS clients)

**Figure 3-206** Server Configuration for OSS Clients**15** If “Enable Call Trace Service” in step 12 is not selected, go to step 17.

- 16 The panel shown in Figure 3-207 is displayed if you select the “Enable Call Trace Service” parameter in step 12. Configure the following parameters, then click on the Next button:

- IPv6 Address Used
- Call Trace Receiving IPv4 Address
- Call Trace Receiving IPv6 Address
- Call Trace Receiving Directory (typically /opt/5620sam/calltrace)
- Debug Trace Receiving Directory (typically /opt/5620sam/debugtrace)



**Note 1** — The “Call Trace Receiving IPv6 Address” parameter is displayed only when the “IPv6 Address Used” parameter is selected, as shown in Figure 3-207.

**Note 2** — If NAT is to be used, each specified IP address must be a public IP address.

Figure 3-207 Auxiliary Server Call Trace Configuration

**5620 SAM/5650 CPAM Server Installer**

**Auxiliary Server Call Trace Configuration**

If NAT (network address translation) is to be used, enter the 5620 SAM auxiliary server's public IP address(es) as known to the devices within the managed network. The chosen local directories will be used to store call trace and debug trace data collected from the eNodeBs in the managed network.

☒ **IPv6 Address Used**

Call Trace Receiving IPv4 Address: 192.168.200.234

Call Trace Receiving IPv6 Address:

Call Trace Receiving Directory: /opt/5620sam/calltrace

Reset Directory Choose...

Debug Trace Receiving Directory: /opt/5620sam/debugtrace

Reset Directory Choose...

InstallAnywhere by Macrovision

Cancel Previous Next

17 Configure the following parameters shown in Figure 3-208, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer auxiliary)
- Peer Public IP (accessible to this auxiliary)



**Note** — The “Public IP (accessible to peer auxiliary)” and “Peer Public IP (accessible to this auxiliary)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

Figure 3-208 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM auxiliary servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath are two input fields: 'Public IP (accessible to peer auxiliary)' with the value '192.168.200.234' and a dropdown arrow, and 'Peer Public IP (accessible to this auxiliary)' which is empty. At the bottom left, it says 'InstallAnywhere by Macrovision' above a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

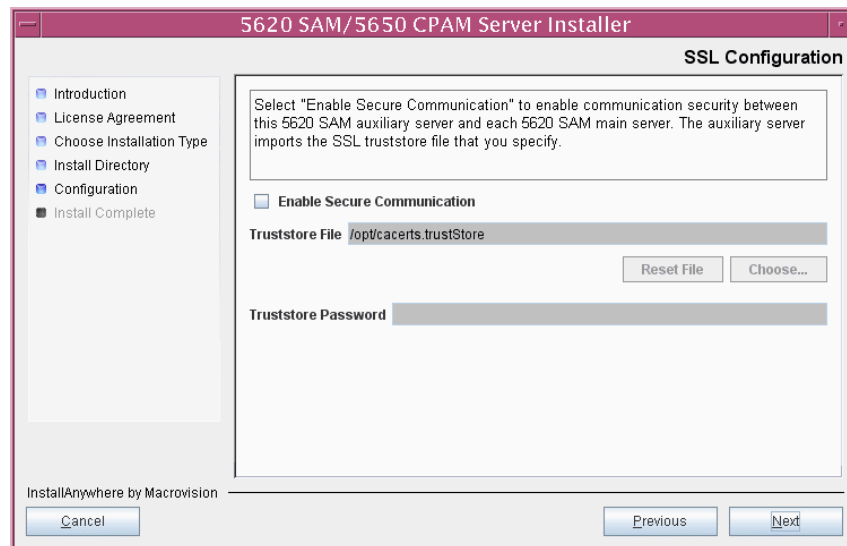
- 18 Perform the following steps to enable communication security between this auxiliary server and each main server. Otherwise, click on the Next button.



**Note** — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 3-209.

**Figure 3-209 SSL Configuration**



- ii Configure the following parameters:

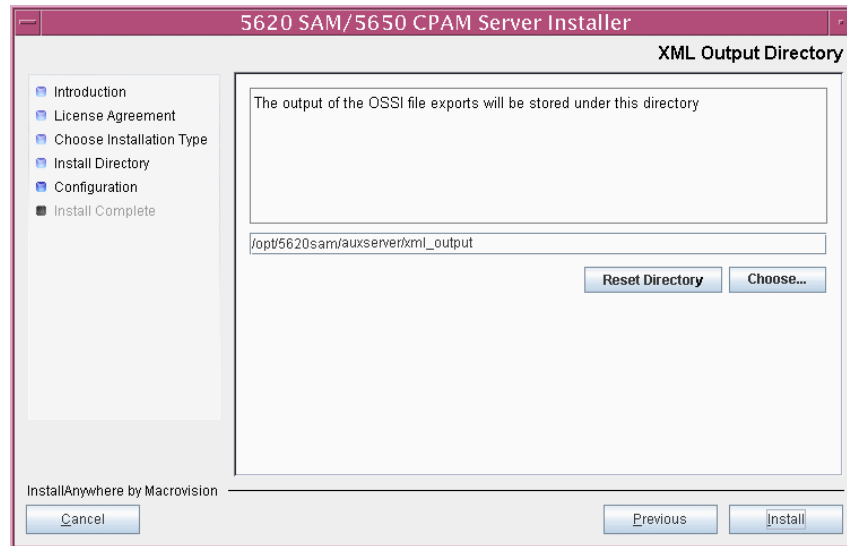
- Truststore File
- Truststore Password



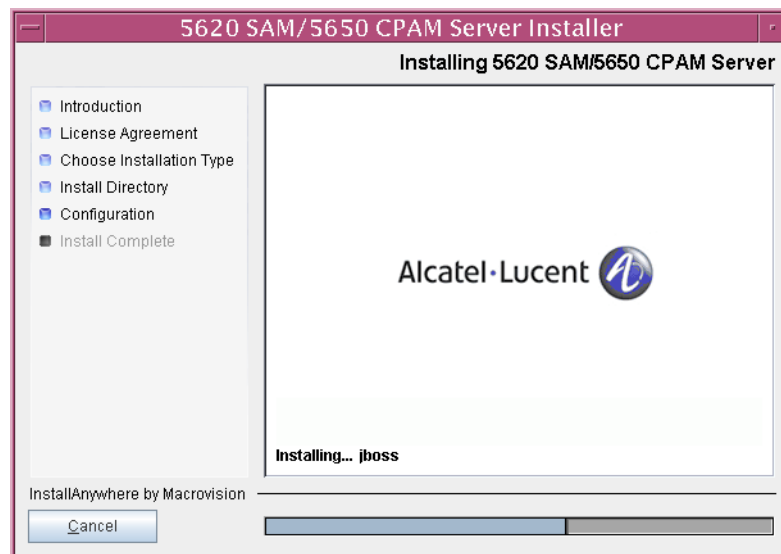
**Note** — The parameter values must match the values specified during the main server upgrade.

- iii Click on the Next button.

- 19 Specify an OSS XML output location (typically /opt/5620sam/auxserver/xml\_output), as shown in Figure 3-210. Click on the Install button to begin the auxiliary server upgrade.

**Figure 3-210 XML Output Directory**

The next panel displays upgrade progress, as shown in Figure 3-211.

**Figure 3-211 Installing 5620 SAM/5650 CPAM Server**



- 20 As shown in Figure 3-212, the 5620 SAM auxiliary server is installed as a UNIX daemon. Click on the Next button.

Figure 3-212 Installing the Server as a Unix Daemon

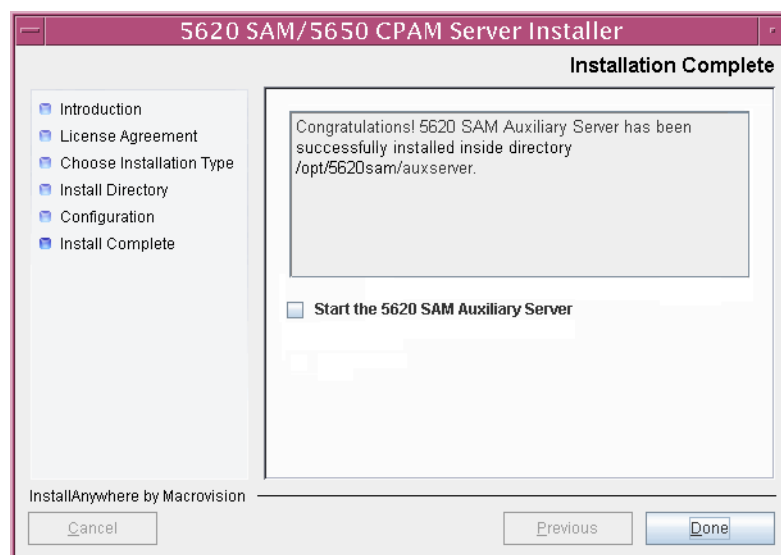


- 21 When the auxiliary server upgrade is complete, as shown in Figure 3-213, configure the “Start the 5620 SAM Auxiliary Server” parameter to specify whether you want the server to start immediately after the upgrade.



**Caution** — If you are upgrading the auxiliary server as part of a redundant 5620 SAM system upgrade, do not configure the server to start immediately after the upgrade.

Figure 3-213 Installation Complete



If you specify not to start the auxiliary server immediately after the upgrade, you can start the server later by performing the following steps.

- i Log in to the auxiliary server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to start the 5620 SAM server software:

```
bash$ path/nms/bin/auxnmserver.bash auxstart ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server starts. Initial server startup can take twenty minutes or more.



**Note** — The order in which a 5620 SAM auxiliary server and the primary 5620 SAM main server initialize is unimportant. A 5620 SAM server synchronizes with an auxiliary server as soon as it is able to communicate with the auxiliary server.

- 22 Click on the Done button to close the server installer. If you specified that the auxiliary server is to start after the upgrade, the server starts. Initial server startup can take twenty minutes or more.
-

## **4 — 5620 SAM conversion to redundancy**

---

- 4.1 5620 SAM conversion to redundancy overview 4-2
- 4.2 5620 SAM conversion to redundancy procedures list 4-2
- 4.3 Workflow for 5620 SAM conversion to redundancy 4-3
- 4.4 5620 SAM conversion to redundancy procedures 4-4

## 4.1 5620 SAM conversion to redundancy overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this document.



**Caution 1** – Converting a 5620 SAM system from standalone to redundant requires that you thoroughly understand the general and OS-specific requirements. It is essential that the conversion procedure be planned, documented and tested in advance on a lab system that is representative of the target live network.

Contact Alcatel-Lucent technical support to assess the conversion requirements for your network implementation of the 5620 SAM. Alcatel-Lucent offers an upgrade service and strongly recommends that it be engaged for conversions in larger or more complex networks.

**Caution 2** – Alcatel-Lucent supports 5620 SAM software configuration only under the conditions described in chapter 1.



**Note 1** – You cannot convert a standalone 5620 SAM system to redundancy as part of a 5620 SAM system upgrade. To upgrade your 5620 SAM system and convert it to redundancy, you must upgrade the system before you perform the conversion.

**Note 2** – You require a second 5620 SAM license key for the new standby main server. The new key must have the same capacity specifications as the existing key, and must be generated specifically for the new 5620 SAM server station. Contact Alcatel-Lucent technical support for more information about license keys.

See Appendix C for detailed 5620 SAM conversion to redundancy parameter descriptions.

## 4.2 5620 SAM conversion to redundancy procedures list

Table 4-1 lists the procedures required to convert a standalone 5620 SAM system on Solaris to a redundant 5620 SAM system.

**Table 4-1 5620 SAM conversion to redundancy procedures list**

| Procedure                                                                                | Purpose                                                                                              |
|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <a href="#">To convert a standalone 5620 SAM system on Solaris to a redundant system</a> | Convert a standalone 5620 SAM system on one or more Solaris stations to a redundant 5620 SAM system. |

## 4.3 Workflow for 5620 SAM conversion to redundancy

The following is the sequence of high-level actions required to convert a standalone 5620 SAM system on Solaris to a redundant system. A section heading in quotation marks is a reference to a section in Procedure 4-1.

- 1 Back up the 5620 SAM configuration files. See [“Back up configuration files”](#) for more information.
- 2 Gather the system information required for the conversion. See [“Gather required information”](#) for more information.
- 3 Close the unrequired 5620 SAM client sessions. See [“Close client sessions”](#) for more information.
- 4 Close the 5620 SAM LogViewer application, if it is running. See [“Close 5620 SAM LogViewer”](#) for more information.
- 5 Back up the 5620 SAM database. See [“Back up database”](#) for more information.
- 6 Stop the 5620 SAM server. See [“Stop server”](#) for more information.
- 7 Disable the 5620 SAM server startup daemon. See [“Disable server daemon”](#) for more information.
- 8 Convert the standalone database to a primary database. See [“Convert standalone database to primary database”](#) for more information.
- 9 Convert the standalone server to a primary server. See [“Convert standalone server to primary server”](#) for more information.
- 10 Create an Oracle management user account and configure the associated system parameters on the standby database station. See [“Prepare new standby database station for standby database installation”](#) for more information.
- 11 Install the standby database. See [“Install standby database”](#) for more information.
- 12 Install the standby server. See [“Install standby server”](#) for more information.
- 13 Reinstantiate the database on the standby database station. See [“Reinstantiate standby database”](#) for more information.
- 14 Use a 5620 SAM client to perform sanity testing on the newly redundant 5620 SAM system, as required.

## 4.4 5620 SAM conversion to redundancy procedures

This section describes how to convert a standalone 5620 SAM system on Solaris to a redundant system. Procedure 4-1 describes how to convert a standalone 5620 SAM system to a redundant system.



**Warning —** Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panels when you perform the procedure in this section:

- **5620 SAM Database Configurator**
  - Standalone Database Info
  - Standby Database Configuration Info
- **5620 SAM/5650 CPAM Server Installer**
  - Main Server Configuration for Auxiliary Servers
  - Main Server Configuration for Peer Server



**Note 1 —** Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

**Note 2 —** If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

## Procedure 4-1 To convert a standalone 5620 SAM system on Solaris to a redundant system

Perform this procedure to convert a standalone 5620 SAM system on a Solaris platform to a redundant 5620 SAM system. This involves the following:

- Converting the standalone main server and database to a primary main server and database
- Installing the standby main server and database software
- Reinstantiating the new primary database on the new standby database station

Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note 1** — You require the following user privileges to perform this procedure:

on the current standalone server station:

- root
- samadmin

on the station that is to be the new standby main server station:

- root

on each database station:

- root
- Oracle management

**Note 2** — The samadmin user account is created on the standby main server station during this procedure.

**Note 3** — The Oracle management user account is created on the standby database station during this procedure.

### Back up configuration files

- 1 Make a backup copy of each file that you have created or customized in or under the *path/nms* and *path/jre* directories on each server station

where *path* is the 5620 SAM server installation location, typically */opt/5620sam/server*



**Note** — At the beginning of a 5620 SAM server upgrade, the 5620 SAM installation utility backs up specific configuration and log files to a timestamped directory under the installation directory. The utility then deletes directories under the server installation directory. If you have created or customized a file under the installation directory, you risk losing the file unless you back up the file before the upgrade to a storage location that is unaffected by the upgrade.

Store the files in a secure location that is unaffected by 5620 SAM upgrade activity.

- 2 Make a copy of any custom XML configuration files in the *path*/nms/jboss directory on the server station

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server



**Note** — The upgrade process re-installs and potentially modifies the format of the XML files in the jboss directory. You can use the copy of the pre-upgrade XML files as a reference for restoring your custom configuration, but you cannot use the files as part of the upgraded server installation. Copying the files to the new jboss directory after the upgrade does not restore the configuration specified in the XML files.

Store the files in a secure location that is unaffected by the 5620 SAM conversion activity, such as a non-5620 SAM station.

### Gather required information


- 3 Obtain the following information from the main server station and record it for use during the conversion:
  - hostname, which is one of the following:
    - the hostname specified for the main server station during the previous 5620 SAM software installation or upgrade
    - the local hostname, if an IP address was specified for the main server station during the previous 5620 SAM software installation or upgrade
  - IP addresses
    - server IP addresses used by the current and new 5620 SAM databases to reach the server (public IP addresses, if NAT is used)
    - server IP address used by 5620 SAM GUI and OSS clients to reach this server (public IP address, if NAT is used)
    - server IP address used by 5620 SAM auxiliary servers to reach this server (public IP address, if NAT is used)
    - private server IP address (if NAT is used)
  - root user password



- 4 Obtain the following information from the database station and record it for use during the conversion:
  - hostname
  - IP addresses
    - database IP addresses used by the current and new 5620 SAM servers to reach the database on this station (public IP addresses, if NAT is used)
    - database IP address used by 5620 SAM auxiliary servers to reach the database on this station (public IP address, if NAT is used)
    - private database IP address (if NAT is used)
  - root user password
  - UNIX username for Oracle management account (default value at installation is oracle)
  - Oracle database user ID (default value at installation is samuser)
  - Oracle database user password
  - Oracle SYS password
  - Oracle base installation directory name (default installation value is /opt/5620sam/oracle11r2)
  - 5620 SAM database installation directory name (default value at installation is /opt/5620sam/samdb)
- 5 If the 5620 SAM system includes one or more auxiliary servers, perform the following steps. Otherwise, go to step 7.
  - i Open a 5620 SAM client.
  - ii Choose Administration→System Information from the 5620 SAM main menu. The System Information window is displayed.
  - iii Click on the Auxiliary Servers tab button.
- 6 Perform the following steps for each auxiliary server listed on the form:
  - i Select an auxiliary server in the list and click on the Properties button. The properties form for the auxiliary server opens.
  - ii Record the following information for use during the upgrade:
    - Host Name
    - Port Number
    - Auxiliary Server Type
    - Server Status
    - Public IP address
    - Private IP address, if displayed
  - iii Close the auxiliary server properties form.

- 7 If the 5620 SAM system includes one or more client delegate servers, perform the following steps. Otherwise, go to step 9.
  - i Open a 5620 SAM client.
  - ii Choose Administration→System Information from the 5620 SAM main menu. The System Information window is displayed.
  - iii Click on the Client Delegate Servers tab button.
- 8 Perform the following steps for each client delegate server listed on the form:
  - i Select a client delegate server in the list and click on the Properties button. The properties form for the client delegate server opens.
  - ii Record the IP Address value for use during the upgrade.
  - iii Close the client delegate server properties form.
- 9 Close the System Information form, if it is open.

#### Close client sessions

- 10 Close all unrequired open 5620 SAM client sessions.
    - i Open a 5620 SAM client session using an account with security management privileges, such as admin.
    - ii Click on Administration→Security→5620 SAM User Security in the 5620 SAM main menu. The 5620 SAM User Security - Security Management (Edit) form opens with the General tab displayed.
    - iii Click on the Sessions tab button.
    - iv Click on the Search button. The form displays a list of the open 5620 SAM client sessions.
    - v Using the IP addresses in the Client IP column, identify the GUI and OSS clients that are currently logged in.
    - vi Close the client sessions by selecting them and clicking on the Close Session button. A dialog box appears.
-  **Note** — One of the listed sessions is the session that you are using. Do not attempt to close this session.
- vii Click on the Yes button to confirm the action.
  - viii Click on the Search button to refresh the list of open client sessions.

**Close 5620 SAM LogViewer**

- 11 Close the 5620 SAM LogViewer application, if it is open.



**Caution** — If the 5620 SAM LogViewer is running during a 5620 SAM upgrade, the upgrade fails.

**Back up database**

- 12 Perform one of the following to back up the 5620 SAM database.



**Caution 1** — The path of the 5620 SAM database backup directory must not include the 5620 SAM database installation directory, typically /opt/5620sam/samdb, or data loss may occur.

**Caution 2** — Before the 5620 SAM performs a database backup, it deletes the contents of the specified backup directory. Ensure that the backup directory that you specify in this step does not contain files that you want to retain.

- a Use a 5620 SAM client GUI to back up the database. See the *5620 SAM User Guide* for information about performing database backups using the client GUI.
- b Use a CLI script to back up the database. Perform the following steps.
  - i Log in to the database station as the Oracle management user.
  - ii Open a console window.
  - iii Enter the following to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh
backup_directory ↵
```

where

*path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb  
*backup\_directory* is the directory that is to contain the database backup

The 5620 SAM backs up the database.

- iv Record the backup directory location.
- v Copy the database backup files from the backup directory to a secure location, such as a non-5620 SAM station, for safekeeping.

**Stop server**

- 13 Perform the following steps to stop the 5620 SAM main server application.
  - i Log in to the main server station as the samadmin user.
  - ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to stop the 5620 SAM server software:

```
bash$./nmsserver.bash stop ↵
```

- v Enter the following to display the 5620 SAM server status:

```
bash$./nmsserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5620 SAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 13 v. Do not proceed to the next step until the server is stopped.

### Disable server daemon

- 14 Disable the 5620 SAM server startup daemon. This ensures that the 5620 SAM server does not automatically start in the event of a power disruption during the conversion.

- i Enter the following to switch to the root user:

```
bash$ su - ↵
```

- ii Enter the following to change to the /etc/rc3.d directory:

```
cd /etc/rc3.d ↵
```

- iii Enter the following to disable the 5620 SAM server daemon by renaming it:

```
mv S975620SAMServerWrapper
inactive.S975620SAMServerWrapper ↵
```

The next section of the procedure describes the conversion of the standalone 5620 SAM database to the primary database in a redundant system.

### Convert standalone database to primary database

- 15 Log in to the database station as the Oracle management user.
- 16 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 17 Open a console window.
- 18 Navigate to the DVD-ROM drive.

**19** Perform one of the following to open the 5620 SAM database installer.

**a** On a SPARC station:

**i** Enter the following:

```
bash$ cd Solaris ↵
```

**ii** Enter the following:

```
bash$./DBConfig_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

**b** On an x86-based station:

**i** Enter the following:

```
bash$ cd Solarisx86 ↵
```

**ii** Enter the following:

```
bash$./DBConfig_x86_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

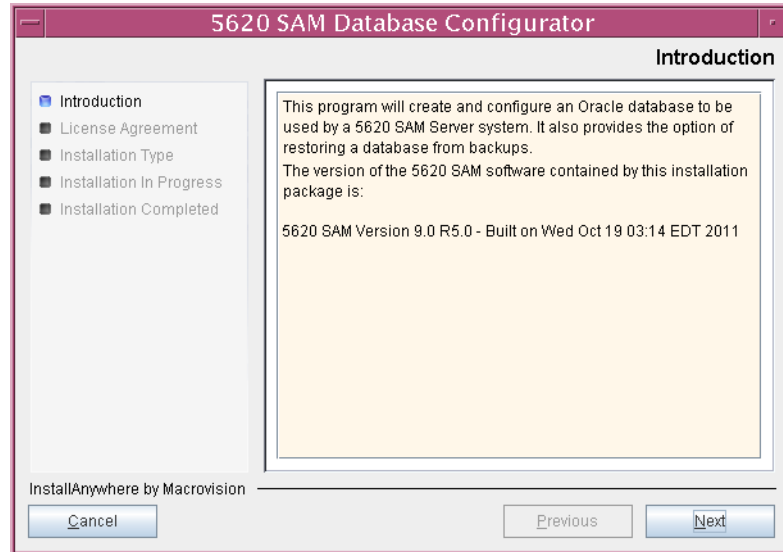
The splash screen shown in Figure 4-1 opens.

**Figure 4-1** 5620 SAM installer



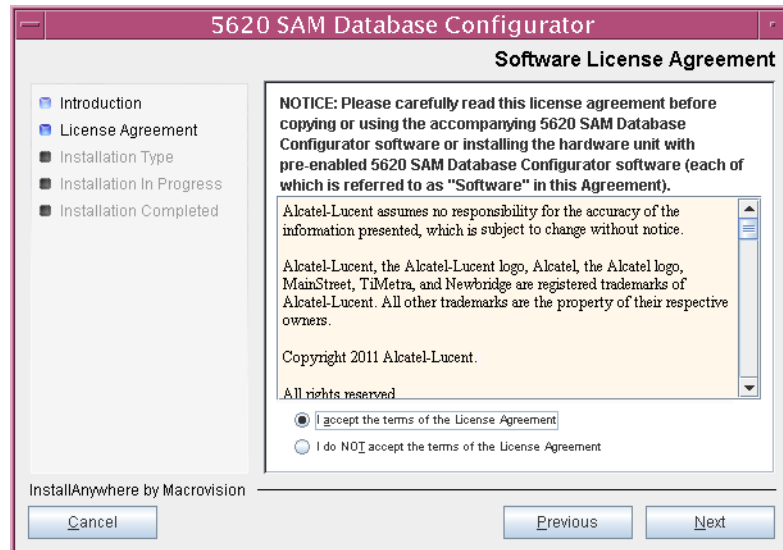
- 20 The 5620 SAM database installer opens, as shown in Figure 4-2. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 4-2 Introduction



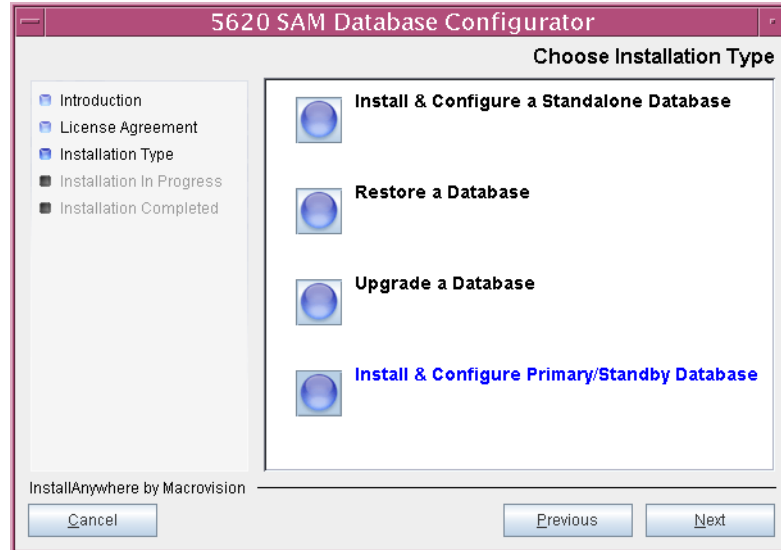
- 21 Review and accept the terms of the license agreement shown in Figure 4-3. Click on the Next button.

Figure 4-3 Software License Agreement



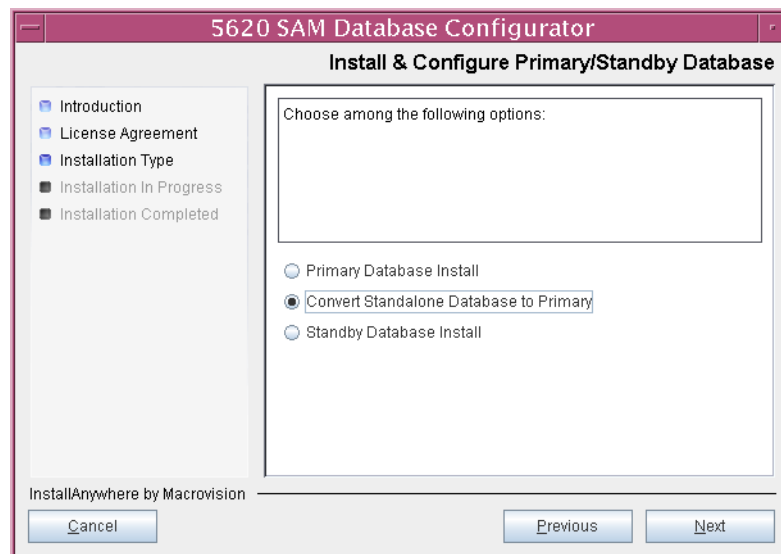
- 22 Select Install & Configure Primary/Standby Database, as shown in Figure 4-4. Click on the Next button.

Figure 4-4 Choose Installation Type



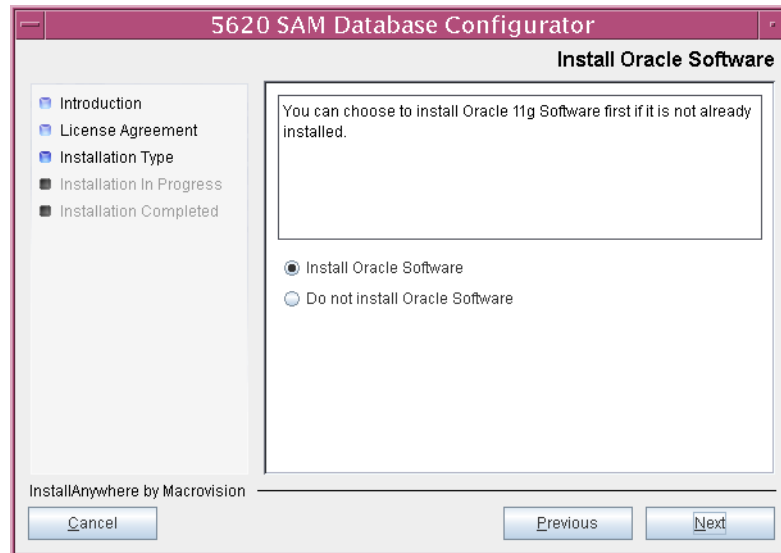
- 23 Select Convert Standalone Database to Primary, as shown in Figure 4-5. Click on the Next button.

Figure 4-5 Install & Configure Primary/Standby Database



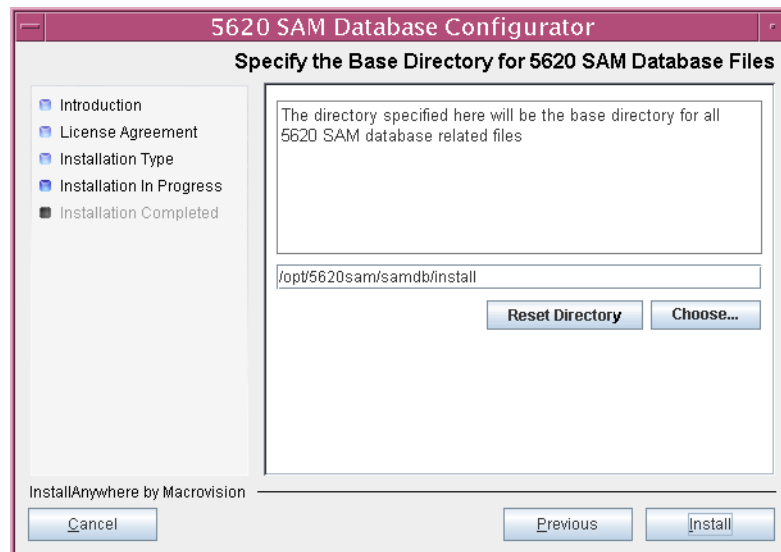
- 24 Select Do not Install Oracle Software, as shown in Figure 4-6. Click on the Next button.

Figure 4-6 Install Oracle Software



- 25 Specify the base directory in which the existing 5620 SAM database software is installed (typically /opt/5620sam/samdb/install), as shown in Figure 4-7. Click on the Install button to begin the database conversion.

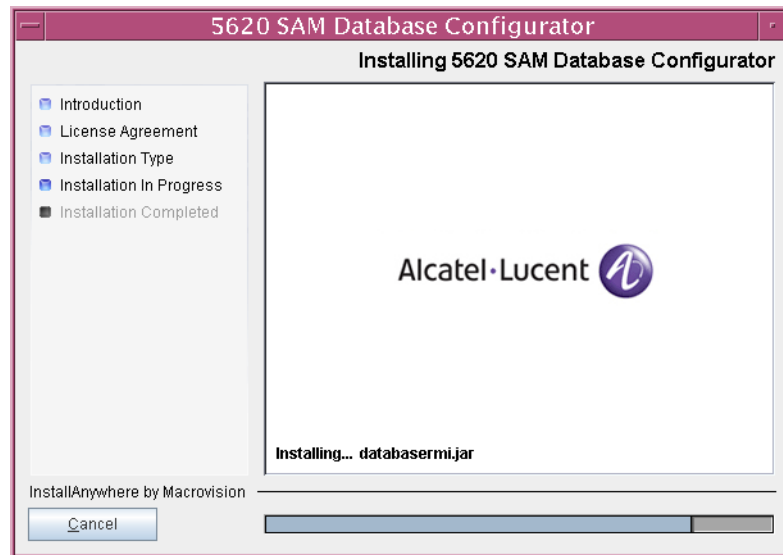
Figure 4-7 Specify the Base Directory for 5620 SAM Database Files





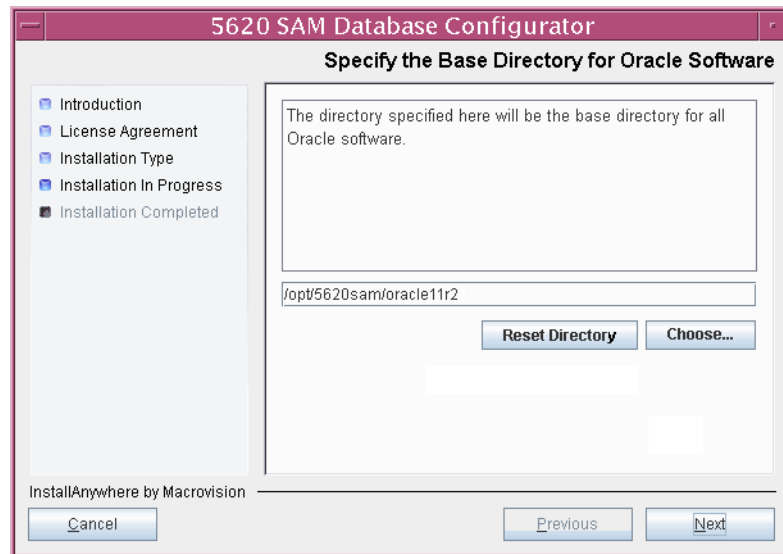
The installer prepares to convert the database, as shown in Figure 4-8.

**Figure 4-8** Installing 5620 SAM Database Configurator



- 26 The panel shown in Figure 4-9 displays the Oracle software installation directory, which cannot be changed. Click on the Next button.

**Figure 4-9** Specify the Base Directory for Oracle Software



27 Configure the following parameters shown in Figure 4-10, then click on the Next button:

- NAT (network address translation) Used
- Public IP (accessible to servers)
- Private IP
- Database Name (typically samdb)
- Instance Name (typically samdb)
- User Name (typically samuser)
- User Password



**Note** — The “Private IP” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

If you modify the “User Password” parameter, the value that you specify must meet the following criteria:

- The password must be between 4 and 30 characters long.
- The password must contain at least three of the following:
  - lower-case alphabetic character
  - upper-case alphabetic character
  - numeric character
  - special character, which is one of the following:  
# \$ \_
- The password must not contain four or more of the same character type in sequence.
- The password must not be the same as the user name or its reverse.
- The password must not contain a space character.

Figure 4-10 Standalone Database Info

**5620 SAM Database Configurator**

**Standalone Database Info**

Enter the network interface information that the database will use to communicate with the servers. If NAT (network address translation) is to be used, specify both the database's private and public IP addresses.

☒ NAT (network address translation) Used

Public IP (accessible to servers)

Database Name

Instance Name

User Name

User Password

InstallAnywhere by Macrovision

- 28 Configure the following parameters shown in Figure 4-11, then click on the Next button:
- Database Listener Port (typically 1523)
  - Database Proxy Port (typically 9002)
  - Database File Server Port (typically 9003)

Figure 4-11 Standalone Database Info (cont.)

The screenshot shows the '5620 SAM Database Configurator' window with the 'Standalone Database Info (cont.)' tab selected. On the left, a navigation pane lists: Introduction, License Agreement, Installation Type, Installation In Progress, and Installation Completed. The main area contains three text input fields: 'Database Listener Port' with the value '1523', 'Database Proxy Port' with the value '9002', and 'Database File Server Port' with the value '9003'. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- 29 If the 5620 SAM server and database are installed on the same station, select the “Database co-exists with a 5620 SAM Server” parameter shown in Figure 4-12. Click on the Next button.

Figure 4-12 Determine Memory Requirements

The screenshot shows the '5620 SAM Database Configurator' window with the 'Determine Memory Requirements' tab selected. The left navigation pane is identical to Figure 4-11. The main area contains a text box with the following text: 'Specify whether a 5620 SAM Server is installed on this workstation. The database memory requirements will be adjusted to account for the additional load.' Below this text box is a checkbox labeled 'Database co-exists with a 5620 SAM Server', which is currently unchecked. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- 30 Configure the following parameters shown in Figure 4-13, then click on the Next button.

If the “Enable SAM Server IP Validation” parameter is selected, only the servers at the specified IP addresses or hostnames can connect to the database.

- Enable SAM Server IP Validation
- Server One IP Address
- Server Two IP Address

Figure 4-13 Main Server IP Validation

The screenshot shows the '5620 SAM Database Configurator' window with the 'Main Server IP Validation' tab selected. On the left is a navigation pane with five items: 'Introduction', 'License Agreement', 'Installation Type', 'Installation In Progress', and 'Installation Completed'. The 'Installation In Progress' item is highlighted. The main area contains a text box with instructions: 'If Network Address Translation is to be used, enter the 5620 SAM Main Server(s) public address(es), as known to this 5620 SAM Database. If IP address validation is enabled, the database will allow only connections from the specified server(s)'. Below this is a checkbox labeled 'Enable SAM Server IP Validation'. Underneath the checkbox are two text input fields labeled 'Server One IP Address' and 'Server Two IP Address'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The 'Next' button is highlighted. The text 'InstallAnywhere by Macrovision' is visible at the bottom left of the window frame.

31 Configure the following standby database parameters shown in Figure 4-14, record the information for use later in the procedure, then click on the Next button:

- Standby IP Address
- Standby Instance Name (typically samdb2)
- Standby Oracle Home (typically /opt/5620sam/oracle11r2)
- Standby Archive Log Destination (typically /opt/5620sam/samdb/archivelog)

Figure 4-14 Standby Database Info

**5620 SAM Database Configurator**

**Standby Database Info**

If NAT (network address translation) is to be used, enter the standby 5620 SAM database's public IP address, as known to the 5620 SAM server.

Standby IP Address

Standby Instance Name

Standby Oracle Home

Standby Archive Log Destination

InstallAnywhere by Macrovision

The installer prepares to convert the database, as shown in Figure 4-15.

Figure 4-15 Please Wait

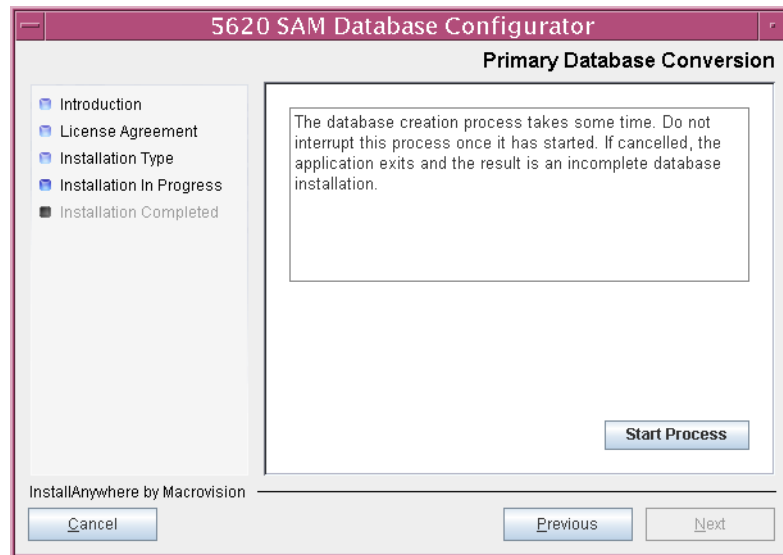
**5620 SAM Database Configurator**

**Please Wait**

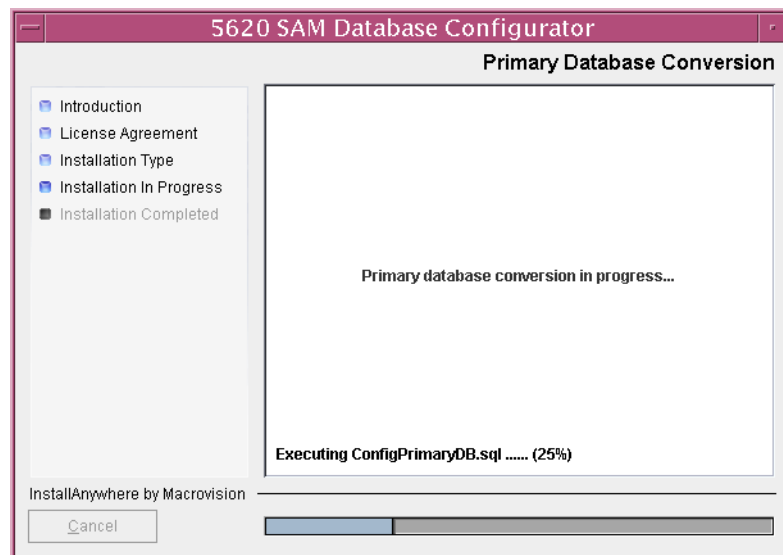
Please wait, 5620 SAM Database Configurator is being configured for your system. This may take a moment...

InstallAnywhere by Macrovision

- 32 Click on the Next button.
- 33 You are prompted to begin primary database conversion, as shown in Figure 4-16. Database conversion can take one hour or more, depending on the tablespace configuration. Click on the Start Process button to begin the database conversion.

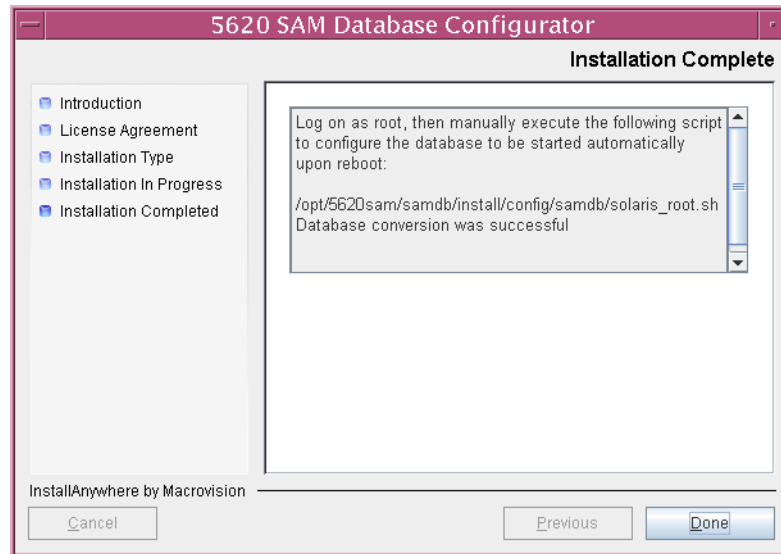
**Figure 4-16 Primary Database Conversion**

The next panel displays conversion progress, as shown in Figure 4-17.

**Figure 4-17 Primary Database Conversion**

- 34 When the panel in Figure 4-18 is displayed, the 5620 SAM database conversion is complete, but as shown in the panel text, you must run a script to enable automatic database startup.

Figure 4-18 Installation Complete



Perform the following steps to run the script described in the panel.

- i Open a separate console window as the root user.
- ii Enter the following:

```
path/solaris_root.sh
```

where *path* is the `solaris_root.sh` script location, typically  
`/opt/5620sam/samdb/install/config/samdb`

The script returns messages similar to the following:

```
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
```

- iii When the script execution is complete, close the console window.

- 35 Click on the Done button to close the database installer.

The next section of the procedure describes the conversion of the standalone 5620 SAM server to the primary 5620 SAM server. Server conversion requires root user privileges.

### Convert standalone server to primary server

- 36 Log in to the standalone server station as the root user.
- 37 Open a console window.
- 38 Perform the following steps to ensure that no-one is logged in to the station as the samadmin user.
  - i Enter the following:  

```
who ↵
```

The active user sessions are listed.
  - ii If the samadmin user is listed, close each samadmin user session. See the Solaris documentation for more information.
- 39 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 40 Navigate to the DVD-ROM drive.
- 41 Perform one of the following to open the 5620 SAM server installer.
  - a On a SPARC station:
    - i Enter the following:  

```
cd Solaris ↵
```
    - ii Enter the following:  

```
./ServerInstall_SAM_9_0_revision.bin ↵
```

where  
*revision* is the revision identifier, such as R1, R3, or another descriptor
  - b On an x86-based station:
    - i Enter the following:  

```
cd Solarisx86 ↵
```
    - ii Enter the following:  

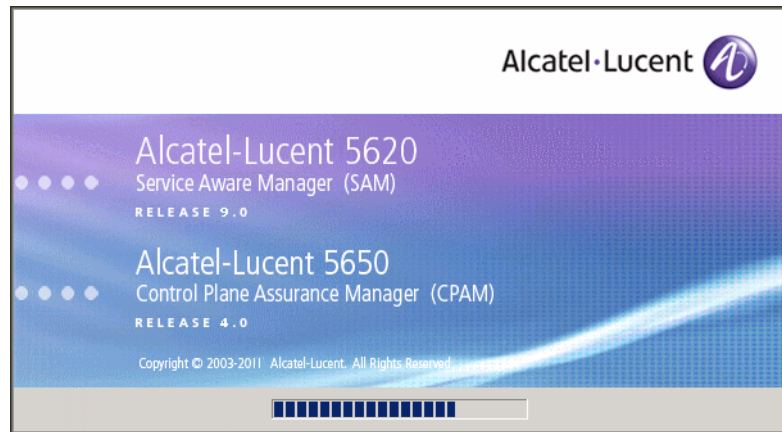
```
./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where  
*revision* is the revision identifier, such as R1, R3, or another descriptor



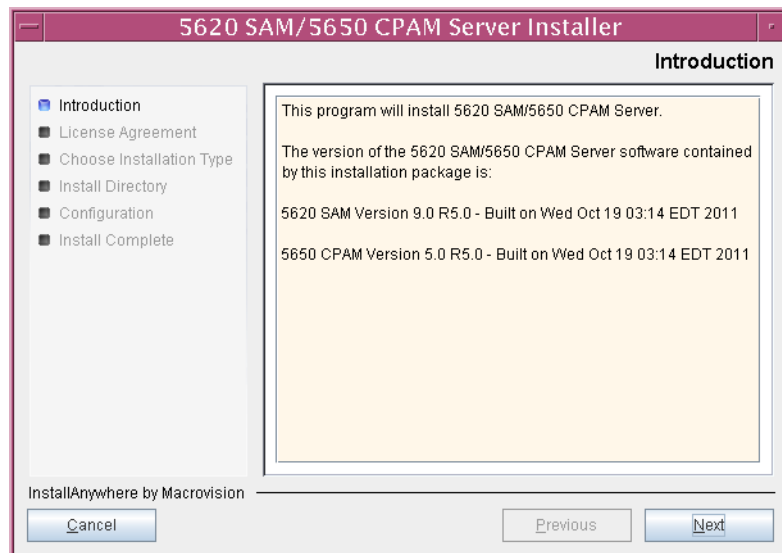
The splash screen shown in Figure 4-19 opens.

**Figure 4-19 5620 SAM installer**



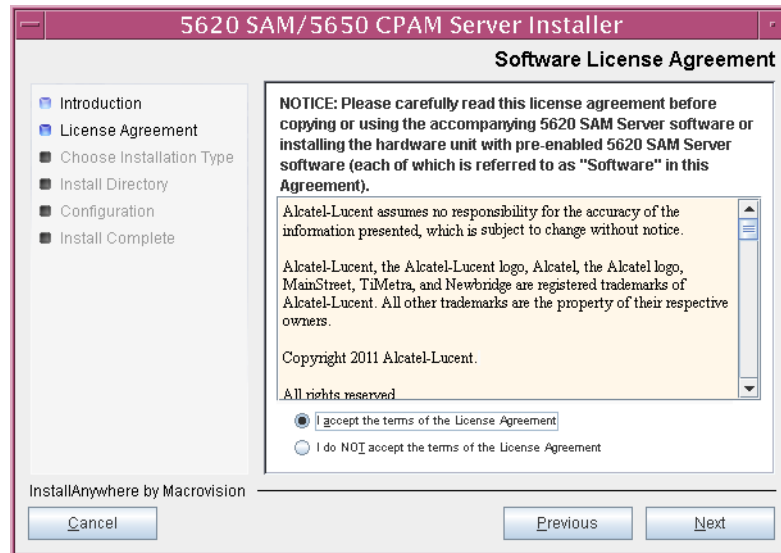
- 42 The 5620 SAM server installer opens, as shown in Figure 4-20. The left pane indicates the conversion progress. The right pane displays release information about the software. Click on the Next button.

**Figure 4-20 Introduction**



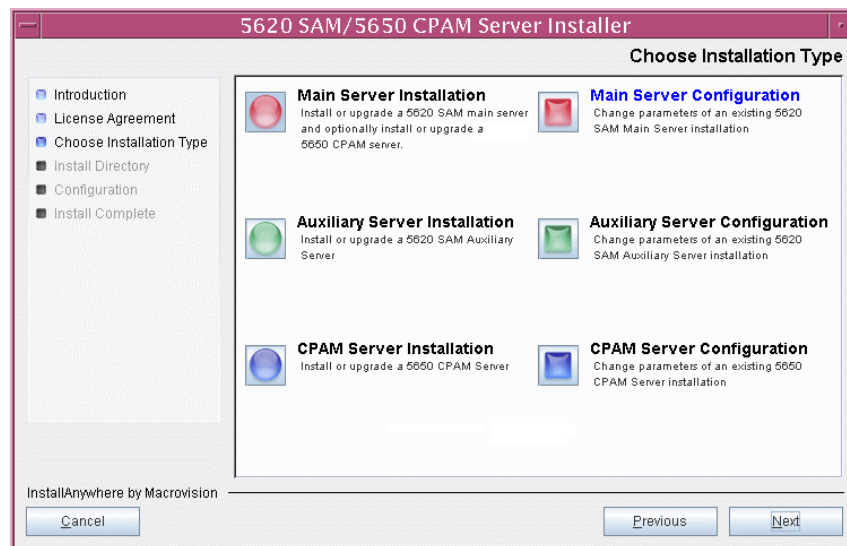
- 43 Review and accept the terms of the license agreement shown in Figure 4-21. Click on the Next button.

Figure 4-21 Software License Agreement



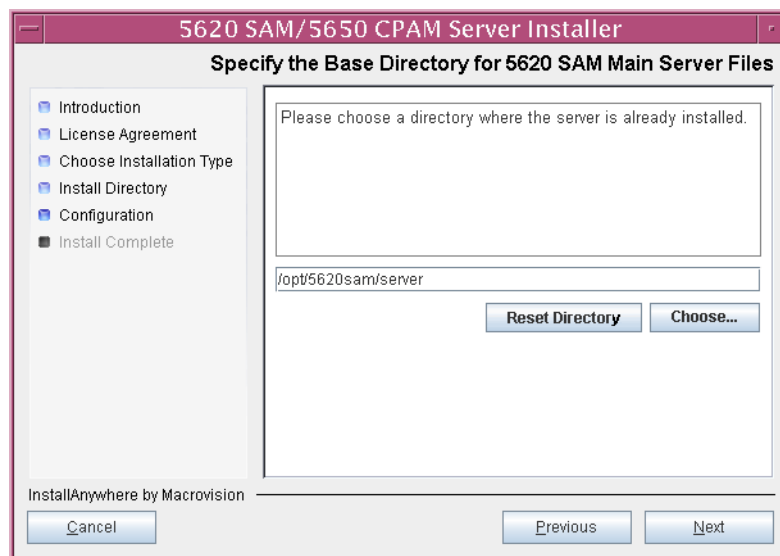
- 44 Select Main Server Configuration, as shown in Figure 4-22. Click on the Next button.

Figure 4-22 Choose Installation Type



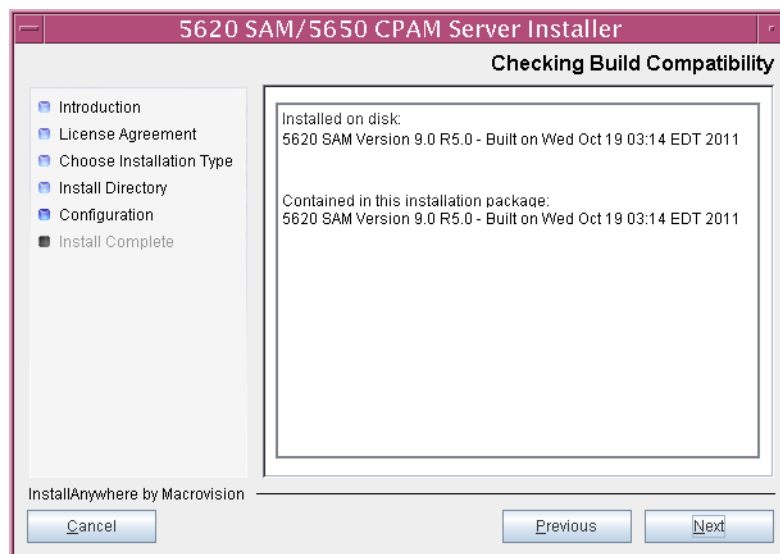
- 45 Specify the base directory in which the existing 5620 SAM main server software is installed (typically /opt/5620sam/server), as shown in Figure 4-23. Click on the Next button.

**Figure 4-23 Specify the Base Directory for 5620 SAM Main Server Files**



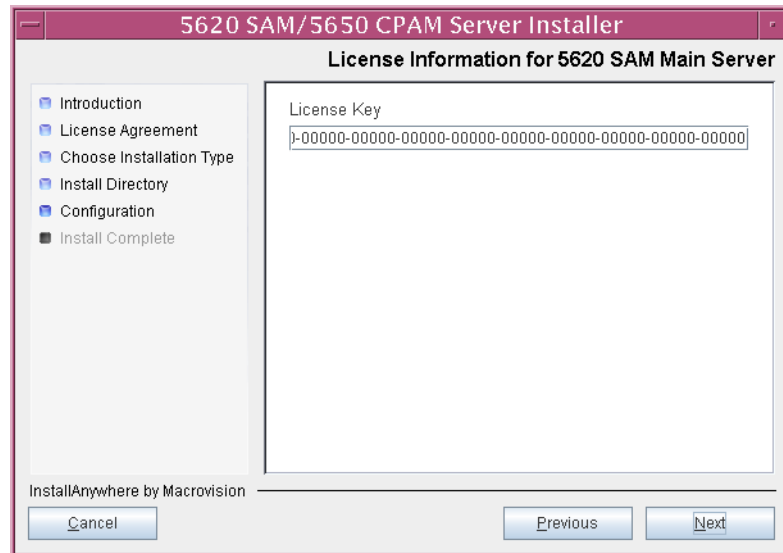
- 46 As shown in Figure 4-24, the installer indicates which release of 5620 SAM software is installed. Verify the information. Click on the Next button.

**Figure 4-24 Checking Build Compatibility**



- 47 The 5620 SAM installer displays the existing license key, as shown in Figure 4-25. Click on the Next button.

**Figure 4-25 License information for 5620 SAM Main Server**



**48** Configure the following parameters shown in Figure 4-26, then click on the Next button.

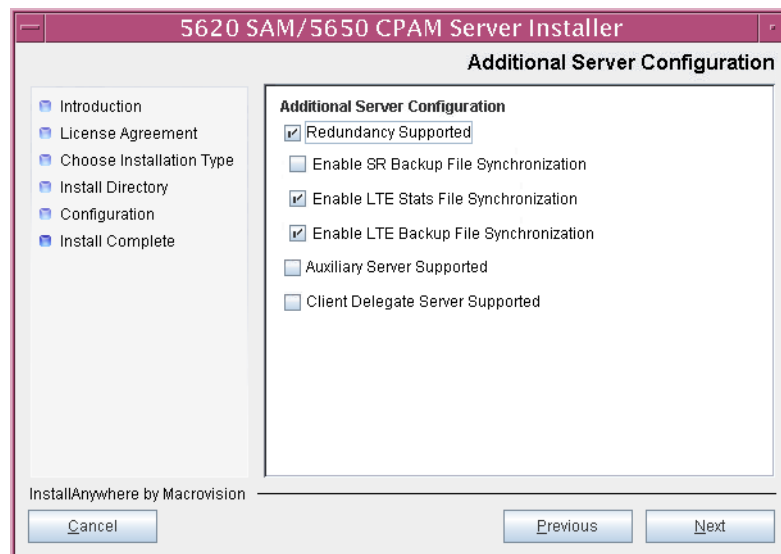
- Redundancy Supported
- Enable SR Backup File Synchronization
- Enable LTE Stats File Synchronization
- Enable LTE Backup File Synchronization
- Auxiliary Server Supported
- Client Delegate Server Supported



**Note 1** — You must select the “Redundancy Supported” parameter.

**Note 2** — The “Enable SR Backup File Synchronization”, “Enable LTE Stats File Synchronization”, and “Enable LTE Backup File Synchronization” parameters are displayed only when the “Redundancy Supported” parameter is enabled.

**Figure 4-26 Additional Server Configuration**



49 Configure the following parameters, shown in Figure 4-27, using the recorded values from the primary database conversion. Click on the Next button.

- Primary Database Server IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

Figure 4-27 Primary Database Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Primary Database Configuration' tab selected. On the left is a navigation pane with links: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The main area contains a text box with NAT instructions, followed by input fields for: Primary Database Server IP Address, Primary Database Server Port (1523), Primary Database Instance Name (samdb), Database User Name (samuser), Database User Password (masked with asterisks), and Primary Database Proxy Port (9002). At the bottom are 'Cancel', 'Previous', and 'Next' buttons, and the text 'InstallAnywhere by Macrovision'.

50 Depending on the existing configuration, the panel in Figure 4-28 is displayed. Configure the following parameters, if required, then click on the Next button:

- Online Backup Interval (Hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number Of Backup Sets (typically 3)



**Note** — The “Online Backup Destination” value is a path on the file system of the database station specified in step 49.

Figure 4-28 Online Database Backup

5620 SAM/5650 CPAM Server Installer

Online Database Backup

Introduction  
License Agreement  
Choose Installation Type  
Install Directory  
Configuration  
Install Complete

The database backup directory resides on the database workstation.  
Please ensure that the specified directory exists on the database workstation and it is writable.

Online Backup Interval (Hours) 24

Online Backup Destination /opt/5620sam/dbbackup

Number Of Backup Sets 3

InstallAnywhere by Macrovision

Cancel Previous Next

51 Configure the following parameters shown in Figure 4-29, then click on the Next button:

- Database Server IP Address
- Database Instance Name (typically samdb2)
- Database Proxy Port (typically 9002)
- Enable Database Backup File Synchronization

**Figure 4-29 Standby Database Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Standby Database Configuration' tab selected. On the left, a navigation pane lists the installation steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions about NAT, followed by input fields for 'Database Server IP Address' (highlighted in yellow), 'Database Instance Name' (containing 'samdb2'), and 'Database Proxy Port' (containing '9002'). There is an unchecked checkbox for 'Enable Database Backup File Synchronization'. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons, and the text 'InstallAnywhere by Macrovision'.



- 52 The panel in Figure 4-30 is displayed if you select the “Auxiliary Server Supported” parameter in step 48. Otherwise, go to step 54.

Perform the following steps to specify an auxiliary server, if required.

- i Configure the following parameters shown in Figure 4-30:
  - NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main and auxiliary servers.
  - Private IP (accessible only by this server)
  - Public IP (accessible to auxiliary)
  - Server Port (typically 12800)
  - Enable Stats Collection on Auxiliary Servers
  - Enable Call Trace Collection on Auxiliary Servers



**Note 1** — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

**Note 2** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 4-30 Main Server Configuration for Auxiliary Servers**

The screenshot shows the 'Main Server Configuration for Auxiliary Servers' window of the 5620 SAM/5650 CPAM Server Installer. The window has a title bar and a sidebar on the left with navigation links: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains instructions: 'Enter the the network interface information that this 5620 SAM main server requires to communicate with the 5620 SAM auxiliary servers. At least one service type checkbox must be selected.' Below this are several fields and checkboxes:
 

- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server): 192.168.200.111 (dropdown menu)
- Public IP (accessible to auxiliary): (empty yellow field)
- Server Port: 12800 (text field)
- ☐ Enable Stats Collection on Auxiliary Servers
- ☒ Enable Call Trace Collection on Auxiliary Servers

 At the bottom, there is a footer with 'InstallAnywhere by Macrovision' and three buttons: Cancel, Previous, and Next.

- ii Click on the Next button.

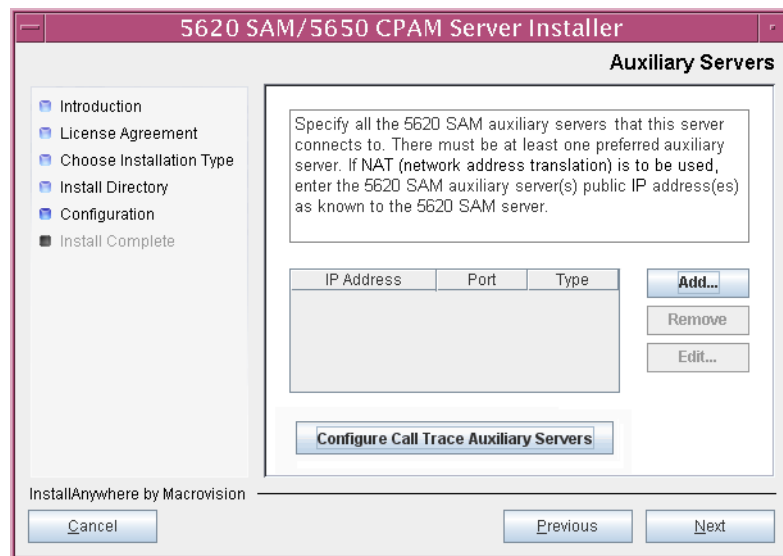
- iii Click on the Add button shown in Figure 4-31. The form shown in Figure 4-32 opens.



**Note 1** – Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

**Note 2** – Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

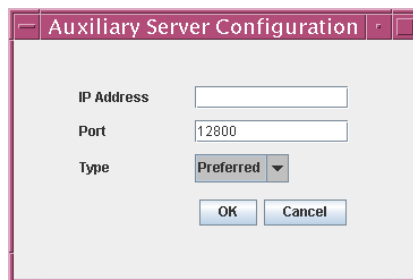
**Figure 4-31 Auxiliary Servers**



**Note 1** – The Preferred auxiliary server of the primary main server must be the Reserved auxiliary server of the standby main server. Conversely, the Reserved auxiliary server of the primary main server must be the Preferred auxiliary server of the standby main server.

**Note 2** – To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

**Figure 4-32 Auxiliary Server Configuration**



- iv Configure the following parameters shown in Figure 4-32:
  - IP Address
  - Port (typically 12800)
  - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 52 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 52 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 4-31. Otherwise, go to step 53.
- viii The form shown in Figure 4-33 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 4-33 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

| Preferred Auxiliary Servers |       |
|-----------------------------|-------|
| IP Address                  | Port  |
| 10.1.1.1                    | 12800 |
| 10.1.1.2                    | 12800 |
| 10.1.1.3                    | 12800 |

| Reserved Auxiliary Servers |       |
|----------------------------|-------|
| IP Address                 | Port  |
| 10.2.2.1                   | 12800 |
| 10.2.2.2                   | 12801 |
| 10.2.2.3                   | 12800 |

| Server Pairs        |                    |
|---------------------|--------------------|
| Preferred Server IP | Reserved Server IP |

Make Pair from Selected      Remove Selected Pair      OK      Cancel

- ix Repeat step 52 viii to configure another call-trace auxiliary server pair, if required.

- 53 Click on the Next button.
- 54 If you select the “Enable Database Alignment” parameter shown in Figure 4-34, you must specify the preferred database of this main server, then click on the Next button.

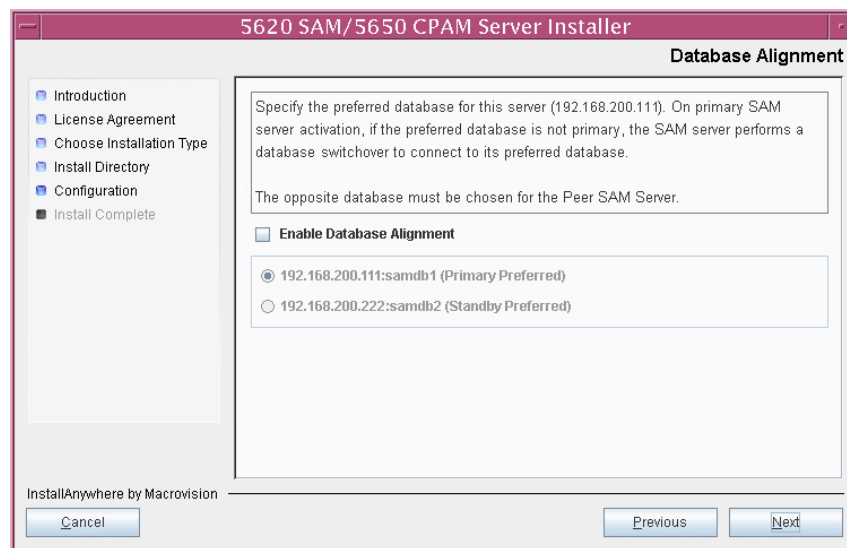
Database alignment associates each main server with the database to which it is most directly connected in terms of network latency. This database is the preferred database of the main server. For example, in a 5620 SAM complex that is geographically dispersed, the preferred database of a main server is the database in the same physical facility; typically, the primary main server and database are in one facility, and the standby server and database are in another.

When a primary server starts, it verifies that the database to which it connects is the preferred database. If this database is not the preferred database, the server performs a database switchover to reverse the primary and standby database roles. If the switchover is successful, the main servers and databases in the 5620 SAM complex are aligned. If the switchover fails, each database reverts to the former role, and the main server raises an alarm about the failed switchover.

When database alignment is enabled and you perform a database switchover, the primary server does not attempt database realignment, because a switchover is a manual operation that is considered to be a purposeful act.

When database alignment is enabled and you perform a server activity switch, the primary main server performs an automatic database switchover to maintain alignment with the preferred database.

**Figure 4-34 Database Alignment**



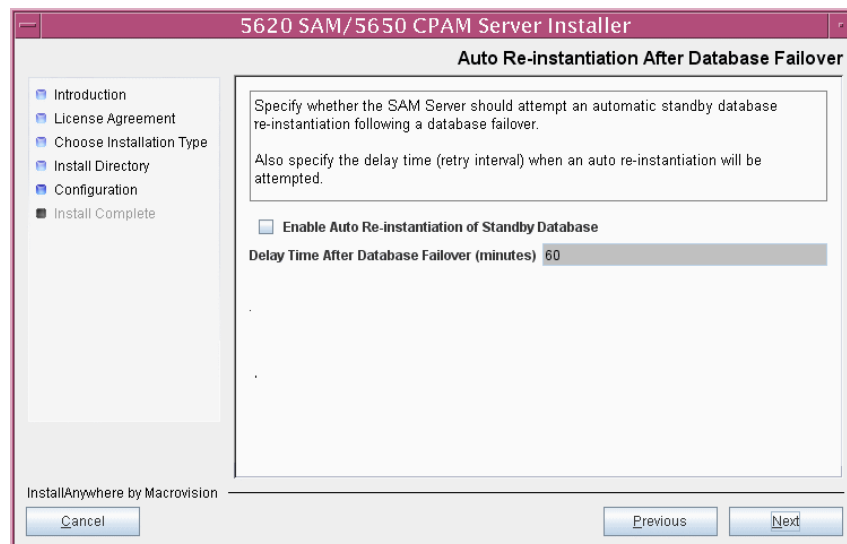
55 Configure the following parameters shown in Figure 4-35, then click on the Next button:

- **Enable Auto Re-Instantiation of Standby Database**  
If this parameter is selected, the 5620 SAM main server automatically reinstantiates the standby database after a database failover.
- **Delay Time After Database Failover (minutes)**  
This parameter specifies how long, in m, the main server waits after database failover completion before it initiates a standby database reinstantiation.



**Note** — The “Delay Time After Database Failover (minutes)” parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.

**Figure 4-35 Auto Re-Instantiation After Database Failover**



**56** Perform the following steps.

- i Configure the following parameters shown in Figure 4-36:
  - Server Domain Name (typically 5620sam)  
This parameter uniquely identifies the 5620 SAM server cluster to which the main server belongs.
  - Use Hostname for Communication  
Select this parameter if the main server is to use multiple interfaces for GUI and OSS client communication.

**Figure 4-36 Main Server Configuration for Clients**

**5620 SAM/5650 CPAM Server Installer**

**Main Server Configuration for Clients**

Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server.

If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.

Server Domain Name

☐ Use Hostname for Communication (recommended if NAT is used)

☒ NAT (network address translation) Used

Private IP (accessible only by this server)

Public IP (accessible to clients)

EJB JNDI Server port

EJB JMS Server port

☐ Enable 5670 RAM

☐ Enable 3GPP OSS Interface

InstallAnywhere by Macrovision

- ii If you select the “Use Hostname for Communication” parameter, go to step 56 vi.
- iii Configure the following parameters:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public IP (accessible to clients)
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)
  - Enable 5670 RAM
  - Enable 3GPP OSS Interface



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 57.
- vi Configure the following parameters shown in Figure 4-37:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public Hostname
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)
  - Enable 5670 RAM
  - Enable 3GPP OSS Interface



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 4-37 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The main area contains the following configuration options:

- Enter the network interface information that the GUI and OSS clients require to communicate with this 5620 SAM main server.
- If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Public Hostname field.
- Server Domain Name: 5620sam
- ☒ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server): 192.168.200.111
- Public Hostname: (empty field)
- EJB JNDI Server port: 1099
- EJB JMS Server port: 8093
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- vii Click on the Next button.

57 Configure the following parameters shown in Figure 4-38, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

**Figure 4-38 Main Server Configuration for Clients (cont.)**

5620 SAM/5650 CPAM Server Installer

Main Server Configuration for Clients (cont.)

Introduction  
License Agreement  
Choose Installation Type  
Install Directory  
Configuration  
Install Complete

RMI Port 1098

RMI Object Port 4444

InstallAnywhere by Macrovision

Cancel Previous Next



- 58 The panel in Figure 4-39 is displayed if you do not select the “Auxiliary Server Supported” parameter in step 48. Otherwise, go to step 59.

Configure the parameters shown in Figure 4-39:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main server and the OSS clients.
- Public IP (accessible to OSS clients)

Figure 4-39 Server Configuration for OSS Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is pink. The main window has a light gray background. On the left, there is a vertical list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The 'Configuration' step is currently selected. The main area is titled 'Server Configuration for OSS Clients'. It contains a text box with the instruction: 'Enter the network interface information that the OSS clients require to retrieve statistic data from this 5620 SAM server.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox is a label 'Public IP (accessible to OSS clients)' followed by a dropdown menu showing the value '192.168.200.111'. At the bottom left, it says 'InstallAnywhere by Macrovision'. At the bottom right, there are three buttons: 'Cancel', 'Previous', and 'Install'.

**59** Configure the following parameters shown in Figure 4-40:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between this 5620 SAM server and the peer 5620 SAM server.
- Private IP (accessible only by this server)
- Public IP (accessible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 4-40** Main Server Configuration for Peer Server

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar reads '5620 SAM/5650 CPAM Server Installer'. The main window title is 'Main Server Configuration for Peer Server'. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with the instruction: 'Enter the network interface information that this 5620 SAM main server requires to communicate with the peer server.' Below this are several configuration fields: a checked checkbox for 'NAT (network address translation) Used', a dropdown menu for 'Private IP (accessible only by this server)' showing '192.168.200.222', an empty text box for 'Public IP (accessible to peer server)', a text box for 'High Available JNDI Port' with the value '1100', and a text box for 'TCP Port Cluster Number' with the value '11800'. At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

60 Configure the following parameters shown in Figure 4-41, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer server)
- Peer Public IP (accessible to this server)



**Note** — The “Public IP (accessible to peer server)” and “Peer Public IP (accessible to this server)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

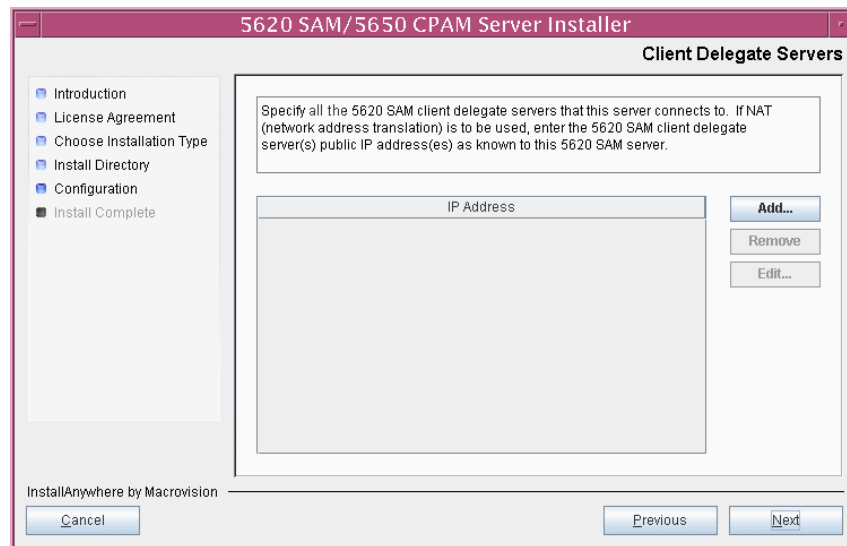
Figure 4-41 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM main servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath the checkbox are two input fields: 'Public IP (accessible to peer server)' and 'Peer Public IP (accessible to this server)'. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 61 The panel in Figure 4-42 is displayed if you select the “Client Delegate Server Supported” parameter in step 48. Otherwise, go to step 62.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5620 SAM server and client delegate servers, specify the public IP address. Click on the Next button.

**Figure 4-42 Client Delegate Servers**



- 62 Perform the following steps to enable communication security between the main server and clients, and between the main and auxiliary servers. Otherwise, click on the Next button.



**Note** — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 4-43.

**Figure 4-43 SSL Configuration**

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password

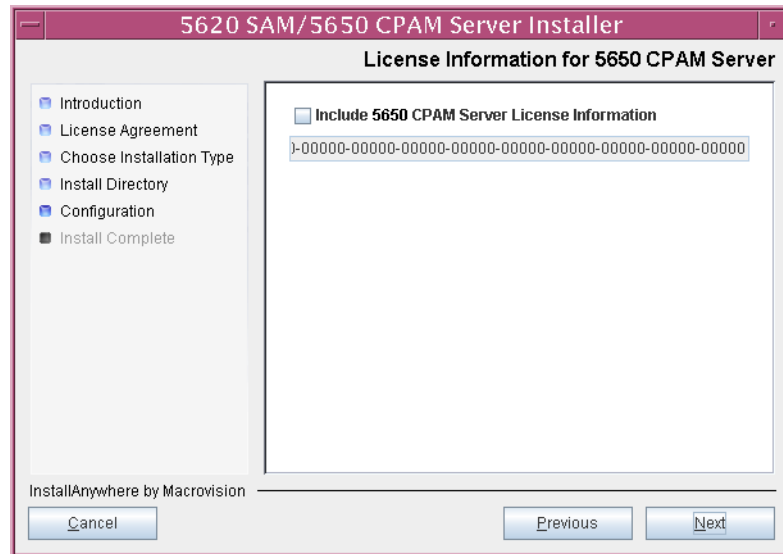


**Note** — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The main server copies the files, imports them into the main server configuration, and transfers the keystore file to each client and auxiliary server.

- 63 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 4-44. If it does, enter the 5650 CPAM license key provided by Alcatel-Lucent. Include the dashes in the key. Click on the Next button.

**Figure 4-44 License Information for 5650 CPAM Server**



64 Configure the following parameters shown in Figure 4-45, then click on the Next button:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



**Note** — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 4-45.

Figure 4-45 SNMP Configuration

65 Configure the following parameters shown in Figure 4-46, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IPv4 Address
- Peer Server SNMP Trap Receiving IPv6 Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)



**Note** — The “Peer Server SNMP Trap Receiving IPv6 Address” parameter is configurable only if you select the “IPv6 Address Used” parameter in step 64.

Figure 4-46 Peer Main Server Configurations

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window, specifically the 'Peer Main Server Configurations' step. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the 5620 SAM peer server's public IP address as known to the 5620 SAM server. Also enter the 5620 SAM peer server's public IP address as known to the devices within the managed network.' Below this are six input fields: 'Peer Server IP Address' (empty), 'Peer Server Trap Log Id' (98), 'Peer Server SNMP Trap Receiving IPv4 Address' (empty), 'Peer Server SNMP Trap Receiving IPv6 Address' (empty), 'Peer Server SNMP Trap Receiving Port' (162), and 'Peer Server TCP Port Cluster Number' (11800). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

66 If the “Use Hostname for Communication” parameter in step 56 is selected, go to step 69.



67 Configure the following parameters shown in Figure 4-47, then click on the Next button:

- Peer Server IP Address
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

Figure 4-47 Peer Main Server Configurations (cont.)

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is red. The main window has a left sidebar with a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area is titled 'Peer Main Server Configurations (cont.)'. It contains a text box with instructions: 'Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5620 SAM clients.' Below this, there is a note: 'If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field.' There are three input fields: 'Peer Server IP Address' (highlighted in yellow), 'JNDI High Available Peer Server Port' (with the value 1100), and 'JNDI Peer Server Port' (with the value 1099). At the bottom left, it says 'InstallAnywhere by Macrovision'. At the bottom right, there are 'Cancel', 'Previous', and 'Next' buttons.

68 Go to step 70.

- 69 Configure the following parameters shown in Figure 4-48, then click on the Next button:
- Peer Server Hostname
  - JNDI High Available Peer Server Port (typically 1100)
  - JNDI Peer Server Port (typically 1099)

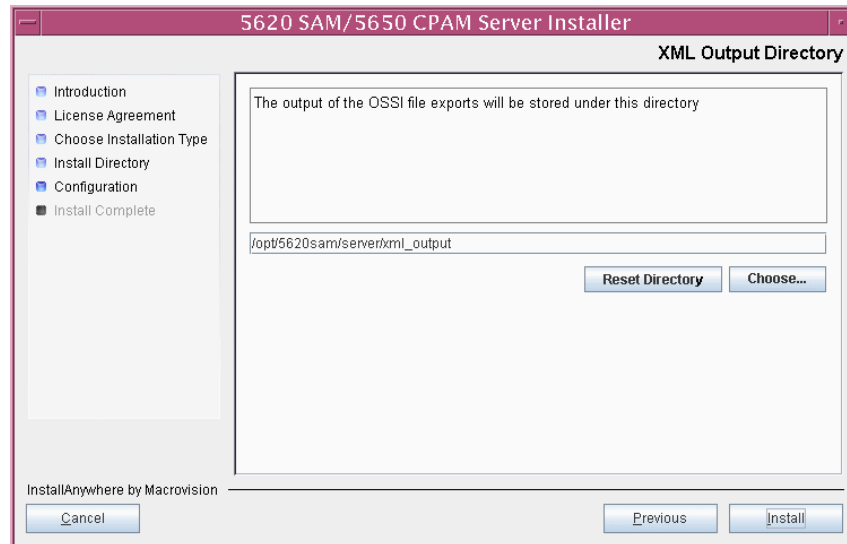
Figure 4-48 Peer Main Server Configurations (cont.)

- 70 If you require 5620 SAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 4-49 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button.

Figure 4-49 Navigation from External Systems

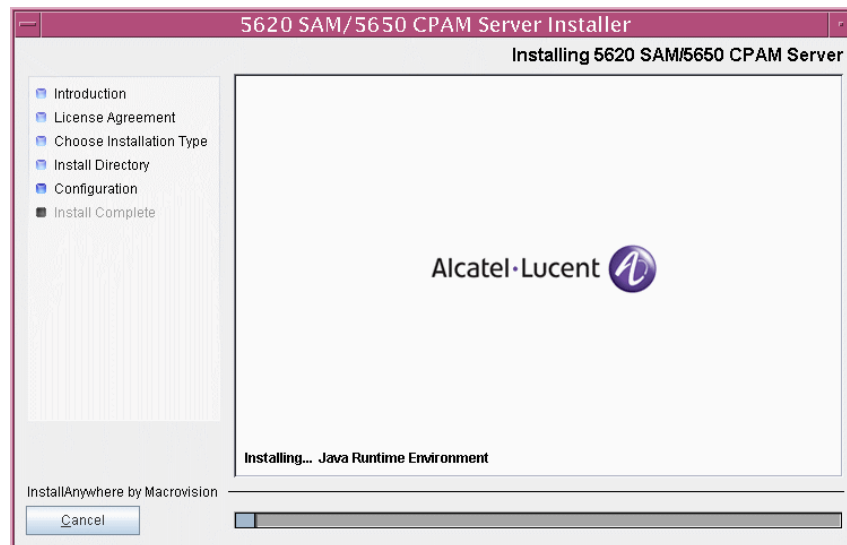
- 71 Specify an OSS XML output location (typically /opt/5620sam/server/xml\_output), as shown in Figure 4-50. Click on the Install button to begin the server conversion.

Figure 4-50 XML Output Directory



The next panel displays conversion progress, as shown in Figure 4-51.

Figure 4-51 Installing 5620 SAM/5650 CPAM Server



- 72 When the main server conversion is complete, as shown in Figure 4-52, configure the “Start the 5620 SAM Main Server” parameter to specify whether you want the server to start immediately after the conversion.



**Caution** — If the 3GPP OSS interface is enabled in step 56, and you did not enable the interface on this station during a previous installation or upgrade, ensure that the “Start the 5620 SAM Main Server” parameter is not selected.

Figure 4-52 Installation Complete



- 73 Click on the Done button to close the server installer. If you specified that the main server is to start after the conversion, the server starts. Initial server startup can take twenty minutes or more.
- 74 If the 3GPP OSS interface is not enabled in step 56, go to step 76.
- 75 If the 3GPP OSS interface has not been configured during a previous 5620 SAM main server installation or upgrade, perform the following steps.
- i Open the *path/nms/cnbi/home/config/cnbi.properties* file using a plain-text editor  
 where *path* is the 5620 SAM main server installation location, typically *opt/5620sam/server*
  - ii Locate the following line:  

```
CNBI.SAMO.USER=
```
  - iii Edit the line to read:

```
CNBI.SAMO.USER=3GPP_OSS_user_name
```

where *3GPP\_OSS\_user\_name* is the user name that OSS applications must send in requests to the interface

- iv Locate the following line:

```
CNBI.SAMO.PASSWORD=
```

- v Edit the line to read:

```
CNBI.SAMO.PASSWORD=3GPP_OSS_password
```

where *3GPP\_OSS\_password* is the MD5-encrypted user password that OSS applications must send in requests to the interface

- vi Save and close the file.

- vii Go to step 77.

- 76 If you specified that the main server is to start immediately after the conversion, perform the following steps to verify that the server is started.

- i Enter the following to switch to the samadmin user:

```
su - samadmin ↵
```

- ii Enter the following:

```
bash$ path/nms/bin/nmserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- SAM Server is UP
```

- iii If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

- iv Go to step 78.

- 77 Perform the following steps to start the 5620 SAM main server manually.

- i Log in to the main server station as the samadmin user.

- ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to start the 5620 SAM server software:

```
bash$./nmsserver.bash start ↵
```

- v Enter the following:

```
bash$ path/nms/bin/nmsserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- SAM Server is UP
```

- vi If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.

- 78 Close the console window.

The next section of the procedure describes the enabling of the 5620 SAM server startup daemon that is currently disabled.

### Enable server daemon

- 79 Enable the 5620 SAM server startup daemon.

- i Enter the following to switch to the root user:

```
bash$ su - ↵
```

- ii Enter the following to change to the /etc/rc3.d directory:

```
cd /etc/rc3.d ↵
```

- iii Enter the following to enable the 5620 SAM server daemon by renaming it:

```
mv inactive.S975620SAMServerWrapper
S975620SAMServerWrapper ↵
```

The next section of the procedure describes the configuration steps required to prepare the new standby database station for the 5620 SAM software.

### Prepare new standby database station for standby database installation

- 80 Before you perform a 5620 SAM database installation, you must run a pre-installation script. This script creates and configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Log in to the station that is to be the standby database station as the root user.



**Caution** — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database installation to fail.

- 81 Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.
- 82 Open a console window.
- 83 Navigate to the DVD-ROM drive.
- 84 Perform one of the following to change to the appropriate directory on the 5620 SAM software DVD-ROM.

a On a SPARC station, enter the following:

```
cd Solaris ↵
```

b On an x86-based station, enter the following:

```
cd Solarisx86 ↵
```

- 85 Enter the following:

```
./OracleSw_PreInstall.sh ↵
```

The following prompt is displayed:

```
Please select between the following option:
```

```
1) NEW INSTALL OF 5620 SAM
```

```
2) UPGRADE OF 5620 SAM
```

- 86 Enter 1 ↵. The script generates INFO messages as it validates the OS requirements, and then prompts you for Oracle management user information.



**Note 1** — To reduce the complexity of subsequent software upgrades and technical support activities, Alcatel-Lucent recommends that you press ↵ to accept the default for each parameter that has a default.

**Note 2** — If you specify a value other than the default, you must record the value for use when the OracleSw\_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

87 Provide the following information when you are prompted; the console may display status messages between prompts:

- user group name (default is dba)
- user name (default is oracle)
- user home directory (default is /opt/5620sam/oracle11r2)
- user password, if one of the following is true:
  - there is no password
  - there is a password, but you specify that you want to change it



**Note** — If the script generates a “failed to create group” message, ensure that NIS is disabled and re-run the pre-installation script. Contact Alcatel-Lucent technical support for more information.

The script updates the system configuration and exits.

88 When the script execution is complete, enter the following to reboot the new standby database station:

```
shutdown -y -i6 -g0 ↵
```

The standby database station reboots.

89 Before you perform a 5620 SAM database installation, the Oracle management user and group created by the pre-installation script require ownership of the directory that is to hold the database.

After the new standby database station reboots, log in to the new standby database station as the root user.

90 Open a console window on the new standby database station.

91 Enter the following to change the current directory to /opt:

```
cd /opt ↵
```

92 Enter the following to specify the required user and group ownership of the 5620sam directory and subdirectories:

```
chown -R user:group 5620sam ↵
```

where

*user* is the username from step 87, typically oracle

*group\_name* is the group name from step 87, typically dba

93 Enter the following to change to the 5620sam directory below /opt:

```
cd 5620sam ↵
```

94 Enter the following to confirm that the Oracle management user home directory has the correct user and group ownerships:

```
ls -l ↵
```

If the command output is not as shown below, repeat steps 89 to 94. Do not proceed unless the output is as shown.



```
drwx----- 2 user group 512 Apr 11 11:15 directory
```

where

*user* is the username specified in step 87, typically oracle

*group* is the group name specified in step 87, typically dba

*directory* is the Oracle management user home directory name specified in step 87, typically /opt/5620sam/oracle11r2

The next section of the procedure describes the installation of the standby 5620 SAM database. The standby database must be installed on a station other than the one on which the primary database is installed.

### Install standby database

- 95 Enter the following to switch to the Oracle management user created by the pre-installation script:

```
su - Oracle_management_user_name ↵
```

where *Oracle\_management\_user\_name* is the name of the UNIX account with Oracle management privileges, typically oracle

- 96 Navigate to the DVD-ROM drive that contains the 5620 SAM software DVD-ROM.

- 97 Perform one of the following to open the 5620 SAM database installer.

**a** On a SPARC station:

- i Enter the following:

```
bash$ cd Solaris ↵
```

- ii Enter the following:

```
bash$./DBConfig_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

**b** On an x86-based station:

- i Enter the following:

```
bash$ cd Solarisx86 ↵
```

- ii Enter the following:

```
bash$./DBConfig_x86_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

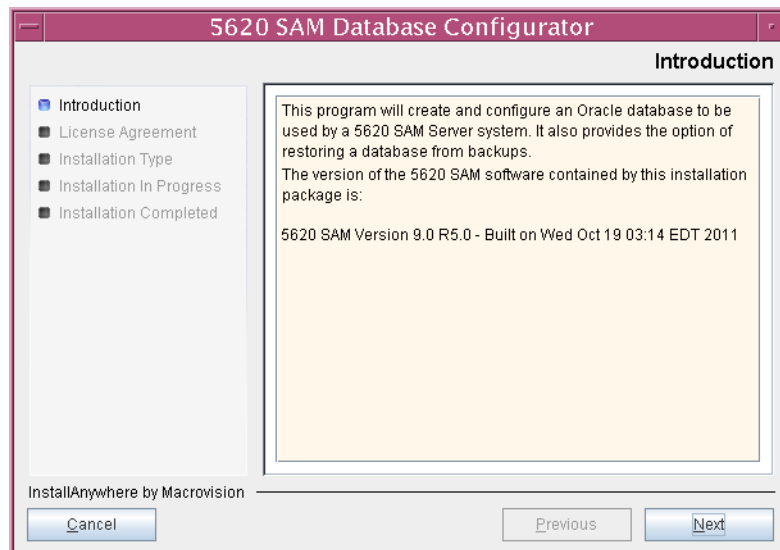
The splash screen shown in Figure 4-53 opens.

Figure 4-53 5620 SAM installer



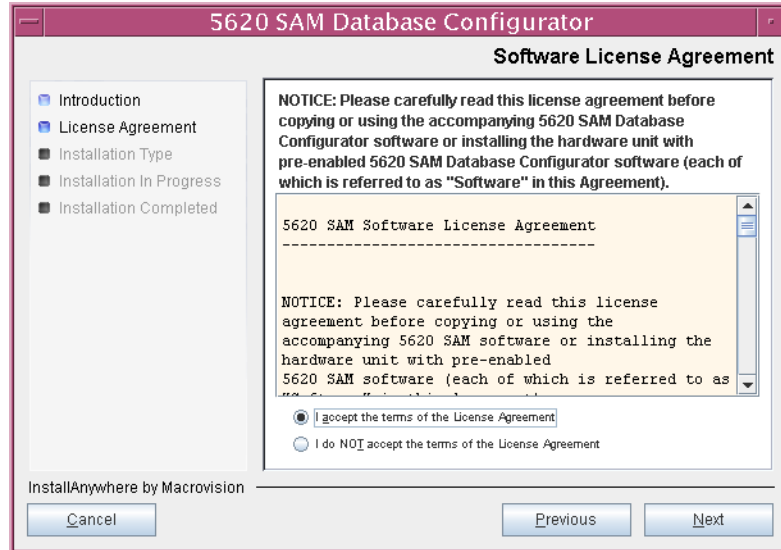
- 98 The 5620 SAM database installer opens, as shown in Figure 4-54. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 4-54 Introduction



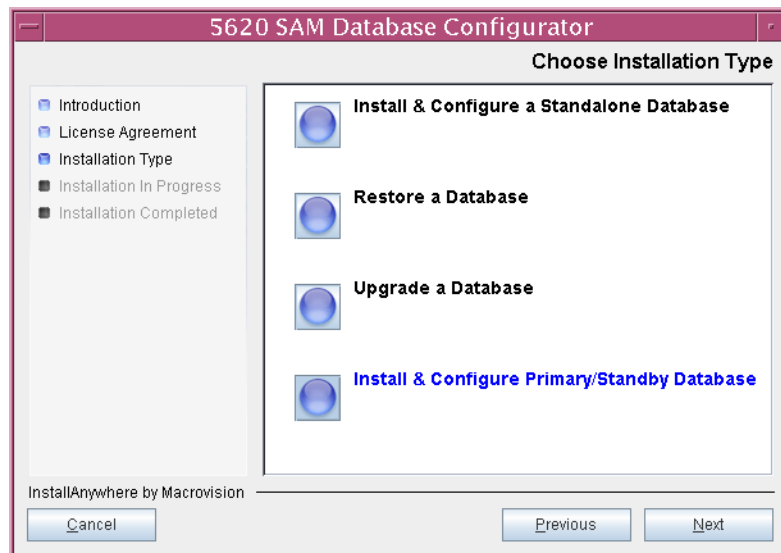
- 99 Review and accept the terms of the license agreement shown in Figure 4-55. Click on the Next button.

Figure 4-55 Software License Agreement



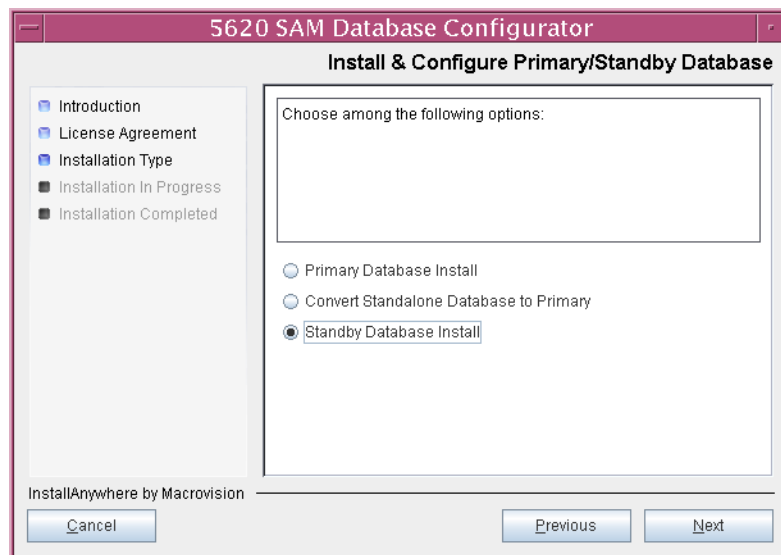
- 100 Select Install & Configure Primary/Standby Database, as shown in Figure 4-56. Click on the Next button.

Figure 4-56 Choose Installation Type



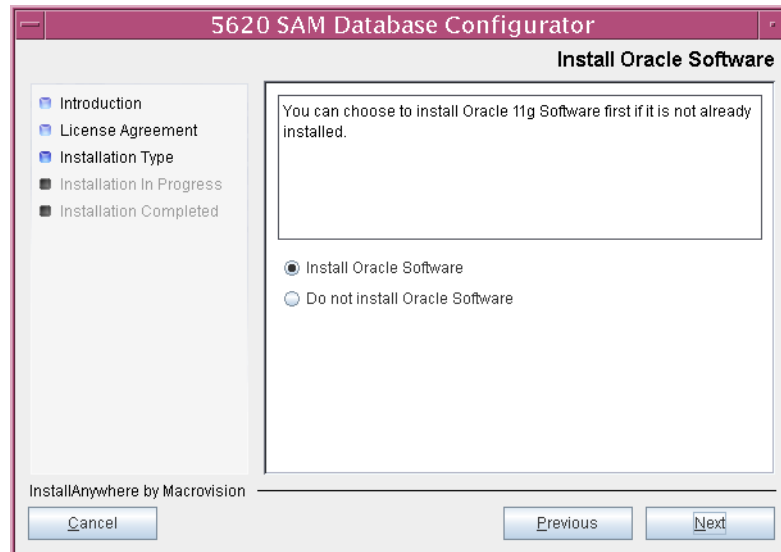
101 Select Standby Database Install, as shown in Figure 4-57. Click on the Next button.

Figure 4-57 Install & Configure Primary/Standby Database



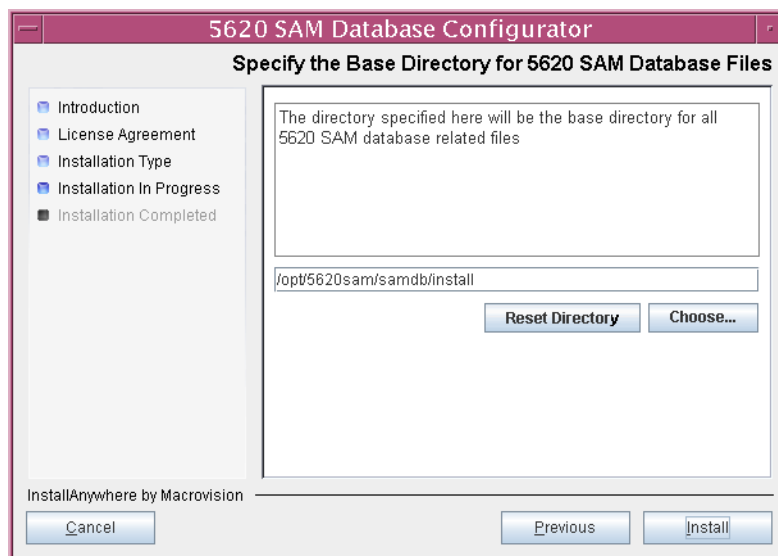
102 Select Install Oracle Software, as shown in Figure 4-58. Click on the Next button.

Figure 4-58 Install Oracle Software



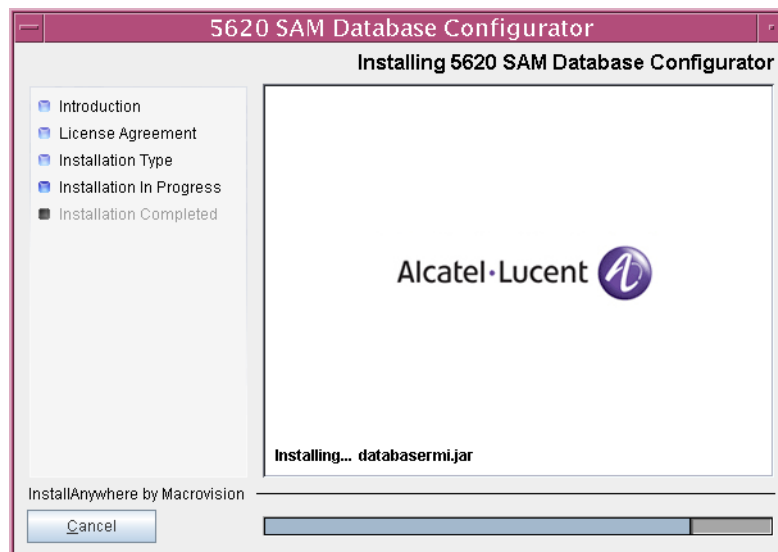
- 103 Specify a base directory in which to install the standby 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 4-59. Click on the Install button to begin database software installation.

**Figure 4-59 Specify the Base Directory for 5620 SAM Database Files**



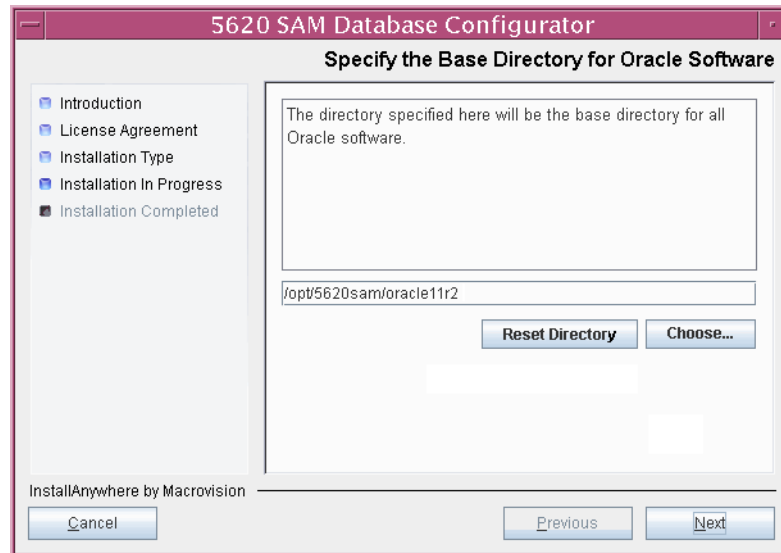
The installer prepares to install the database, as shown in Figure 4-60.

**Figure 4-60 Installing 5620 SAM Database Configurator**



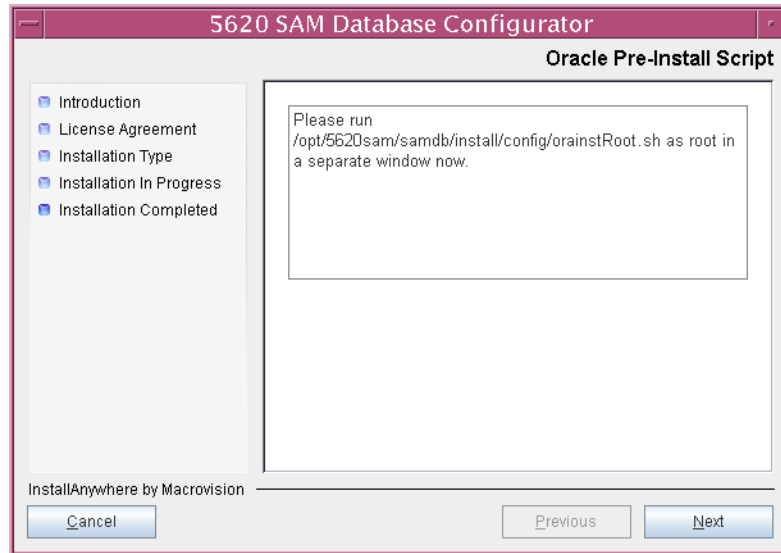
- 104 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle11r2), as shown in Figure 4-61. Click on the Next button.

**Figure 4-61 Specify the Base Directory for Oracle Software**



105 Perform the following steps if the panel in Figure 4-62 is displayed.

Figure 4-62 Oracle Pre-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle pre-install script:

```
su -
```

```
path/install/config/orainstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script generates messages like the following:

```
Creating the Oracle inventory pointer file
(/var/opt/oracle/oraInst.loc)
```

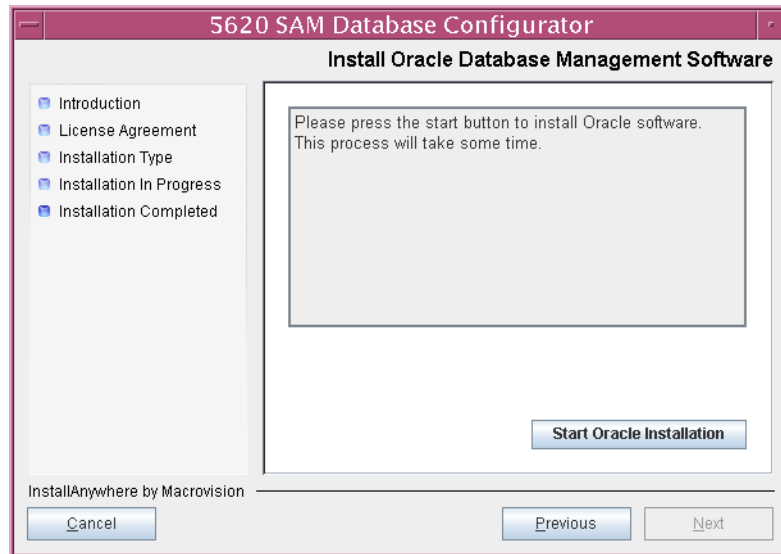
```
Creating the Oracle inventory directory
(/opt/5620sam/oracle11r2/oraInventory)
```

```
Changing groupname of /opt/5620sam/oracle11r2/oraInventory to
(dba).
```

- iv When the script execution is complete, close the console window.
- v Click on the Next button.

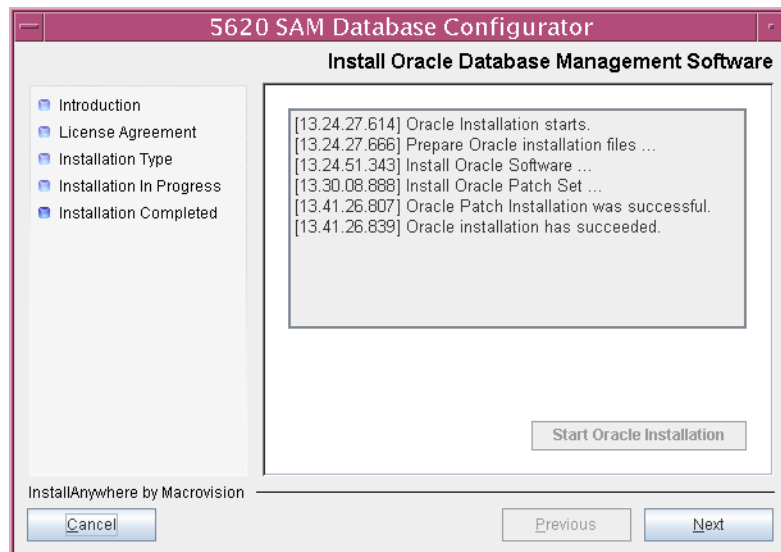
- 106 You are prompted to install Oracle software, as shown in Figure 4-63. This operation can take one hour or more. Click on the Start Oracle Installation button to begin the Oracle software installation.

Figure 4-63 Install Oracle Database Management Software



- 107 As shown in Figure 4-64, Oracle installation details are displayed as the installation progresses. When the installation is complete, Click on the Next button.

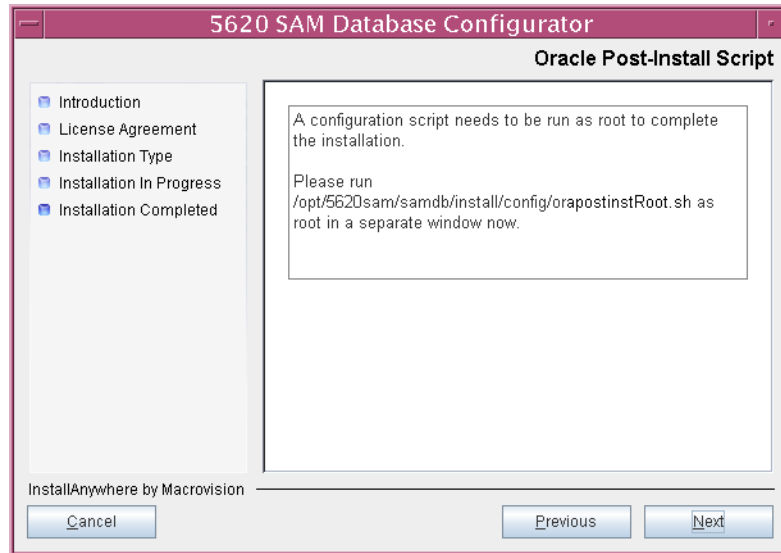
Figure 4-64 Install Oracle Database Management Software





108 Perform the following steps when the panel in Figure 4-65 is displayed.

Figure 4-65 Oracle Post-Install Script



- i Open a separate console window.
- ii Enter the following to switch to the root user:
- iii Enter the following to run the Oracle post-install script:

```
su -
```

```
path/install/config/orapostinstRoot.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

The script displays the following message:

```
Check path/username_hostname_timestamp.log for output
```

where

*path* is the directory that contains the script log file, typically  
/opt/5620sam/oracle11r2/install

*username* is the Solaris account name of the current user, for example, root

*hostname* is the hostname of this station

*timestamp* is the script execution start time

- iv If the script generates a message that contains the word “error”, view the script log file named in the message for more information, and contact Alcatel-Lucent technical support for assistance, if required.
- v When the script execution is complete, close the console window.
- vi Click on the Next button.

109 Configure the parameters shown in Figure 4-66, then click on the Next button.

- NAT (network address translation) Used
- Public IP (accessible to servers)
- Private IP
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)



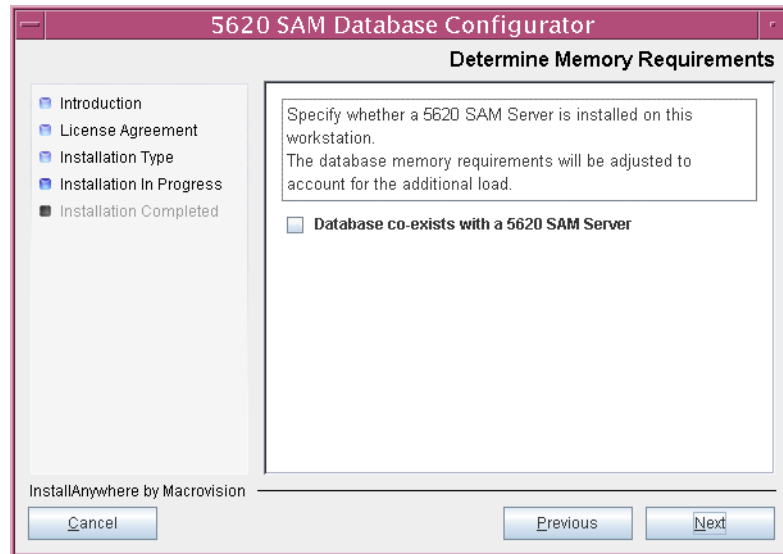
**Note** — The “Private IP” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 4-66 Standby Database Configuration Info

The screenshot shows the '5620 SAM Database Configurator' window. On the left is a navigation pane with the following items: Introduction, License Agreement, Installation Type, Installation In Progress, and Installation Completed. The 'Standby Database Configuration Info' tab is selected. The main area contains a text box with instructions: 'Enter the IP address of the network interface the standby database requires to communicate with the server(s). If NAT (network address translation) is to be used, specify the standby database's private IP address.' Below this is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox are three input fields: 'Public IP (accessible to servers)' with the value '192.168.200.122', 'Database Proxy Port' with the value '9002', and 'Database File Server Port' with the value '9003'. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window.

- 110 If the 5620 SAM server and database are installed on the same station, select the “Database co-exists with a 5620 SAM Server” parameter shown in Figure 4-67. Click on the Next button.

**Figure 4-67 Determine Memory Requirements**



- 111 Configure the following parameters shown in Figure 4-68, then click on the Next button.

If the “Enable SAM Server IP Validation” parameter is selected, only the servers at the specified IP addresses or hostnames can connect to the database.

- Enable SAM Server IP Validation
- Server One IP Address  
This is the “Server One IP Address” value from step 30.
- Server Two IP Address  
This is the “Server Two IP Address” value from step 30.

Figure 4-68 Main Server IP Validation

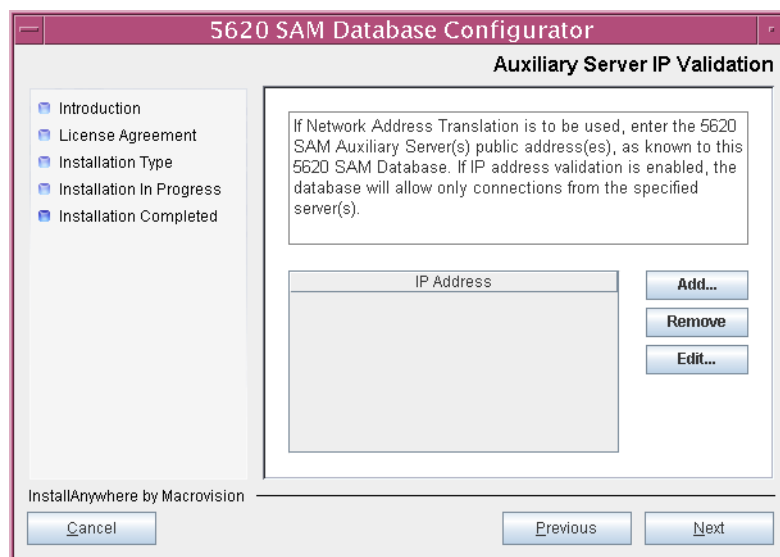
The screenshot shows the '5620 SAM Database Configurator' window with the 'Main Server IP Validation' tab selected. On the left is a navigation pane with five items: 'Introduction', 'License Agreement', 'Installation Type', 'Installation In Progress' (which is highlighted), and 'Installation Completed'. The main area contains a text box with instructions: 'If Network Address Translation is to be used, enter the 5620 SAM Main Server(s) public address(es), as known to this 5620 SAM Database. If IP address validation is enabled, the database will allow only connections from the specified server(s)'. Below this is a checkbox labeled 'Enable SAM Server IP Validation'. Underneath the checkbox are two text input fields: 'Server One IP Address' and 'Server Two IP Address'. At the bottom of the window, there is a 'Cancel' button on the left and 'Previous' and 'Next' buttons on the right. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 112 The panel in Figure 4-69 is displayed if the “Enable SAM Server IP Validation” parameter in step 111 is selected. Otherwise, go to step 114.

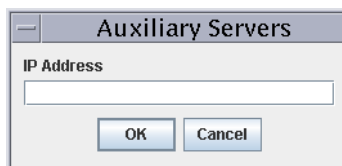
If the 5620 SAM system includes an auxiliary server, perform the following steps.

- i Click on the Add button shown in Figure 4-69. The form shown in Figure 4-70 opens.

**Figure 4-69 Auxiliary Server IP Validation**



**Figure 4-70 Auxiliary Servers**



- ii Enter the IP address or hostname of the auxiliary server.
  - iii Click on the OK button to save the information and close the form.
  - iv Repeat steps 112 i to iii to specify an additional auxiliary server, if required.
- 113 Click on the Next button.

114 Configure the following parameters, shown in Figure 4-71, using the recorded values from the primary database conversion. Click on the Next button.

- Primary IP Address
- Primary Instance Name (typically samdb)
- Primary SYS Password
- Primary Database Listener Port (typically 1523)
- Primary Database Proxy Port (typically 9002)

Figure 4-71 Primary Database Info

**5620 SAM Database Configurator**

**Primary Database Info**

Enter the IP address of the network interface the primary database requires to communicate with the server(s). If NAT (network address translation) is to be used, specify the primary database's public IP address.

Primary IP Address

Primary Instance Name sambd

Primary SYS Password \*\*\*\*\*

Primary Database Listener Port 1523

Primary Database Proxy Port 9002

InstallAnywhere by Macrovision

Cancel Previous Next

115 You are prompted to begin standby database creation, as shown in Figure 4-72. Click on the Start Process button to begin the database creation.

Figure 4-72 Standby Database Configuration

**5620 SAM Database Configurator**

**Standby Database Configuration**

The database config process is short. Once the configuration files are in place, you can create the standby database later using Standby Re-instantiation.

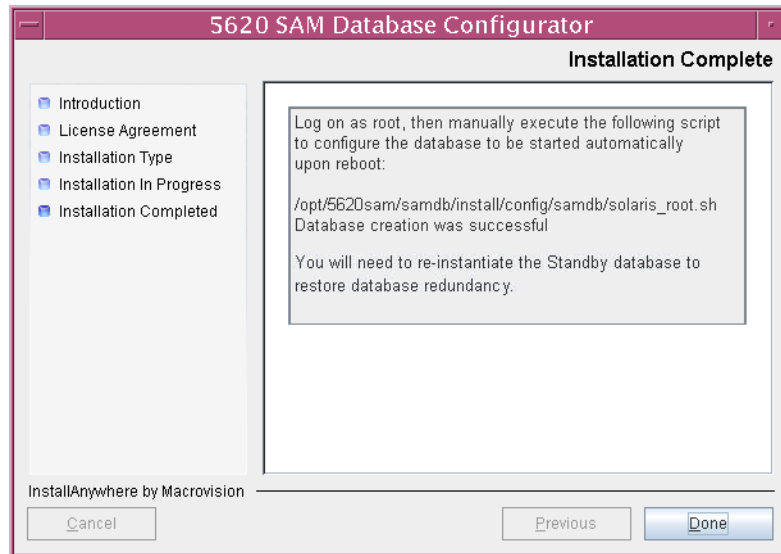
Start Process

InstallAnywhere by Macrovision

Cancel Previous Next

- 116 When the panel in Figure 4-73 is displayed, the 5620 SAM database installation is complete, but as shown in the panel text, you must run a script to enable automatic database startup.

Figure 4-73 Installation Complete



Perform the following steps to run the script described in the panel.

- i Open a separate console window as the root user.
- ii Enter the following:

```
path/solaris_root.sh
```

where *path* is the `solaris_root.sh` script location, typically  
`/opt/5620sam/samdb/install/config/samdb`

The script returns messages similar to the following:

```
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
Sun Microsystems Inc. SunOS 5.10 Generic January 2005
```

- iii When the script execution is complete, close the console window.

- 117 Click on the Done button to close the database installer.

The next section of the procedure describes the installation of the standby 5620 SAM server. You can install the standby server on the same station that contains the standby database, or on a different station. Server installation requires root user privileges.

### Install standby server

**118** Log in to the station that is to be the standby server station as the root user.

**119** Open a console window.

**120** Perform the following steps to ensure that no-one is logged in to the station as the samadmin user.

i Enter the following:

```
who ↵
```

The active user sessions are listed.

ii If the samadmin user is listed, close each samadmin user session. See the Solaris documentation for more information.

**121** Place the 5620 SAM software DVD-ROM in a DVD-ROM drive.

**122** Navigate to the DVD-ROM drive.

**123** Perform one of the following to open the 5620 SAM server installer.

a On a SPARC station:

i Enter the following:

```
cd Solaris ↵
```

ii Enter the following:

```
./ServerInstall_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
cd Solarisx86 ↵
```

ii Enter the following:

```
./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

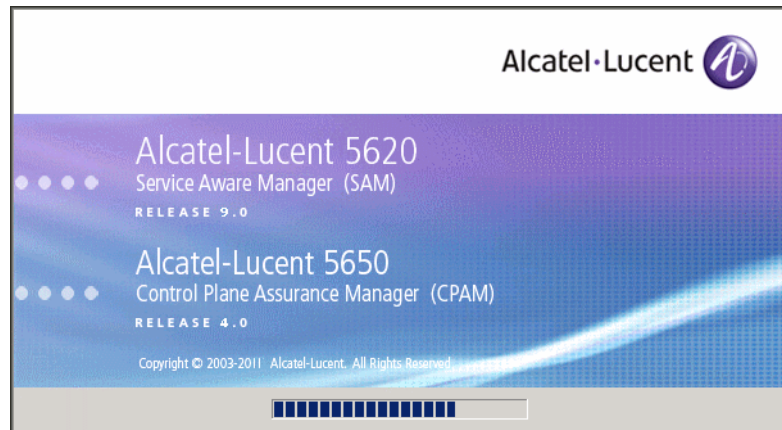
where

*revision* is the revision identifier, such as R1, R3, or another descriptor



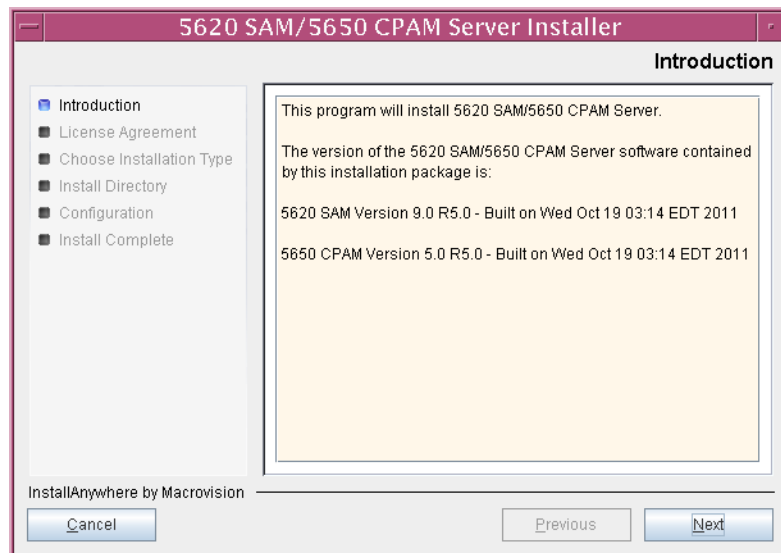
The splash screen shown in Figure 4-74 opens.

Figure 4-74 5620 SAM installer



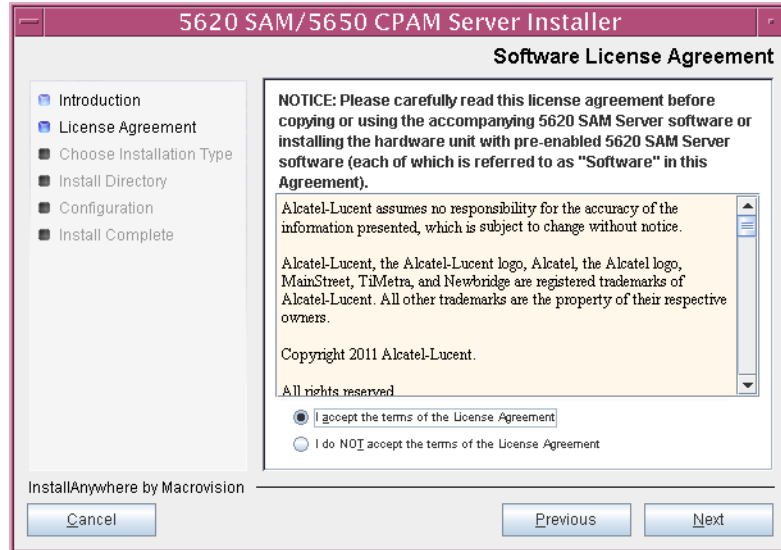
- 124 The 5620 SAM server installer opens, as shown in Figure 4-75. The left pane indicates the installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 4-75 Introduction



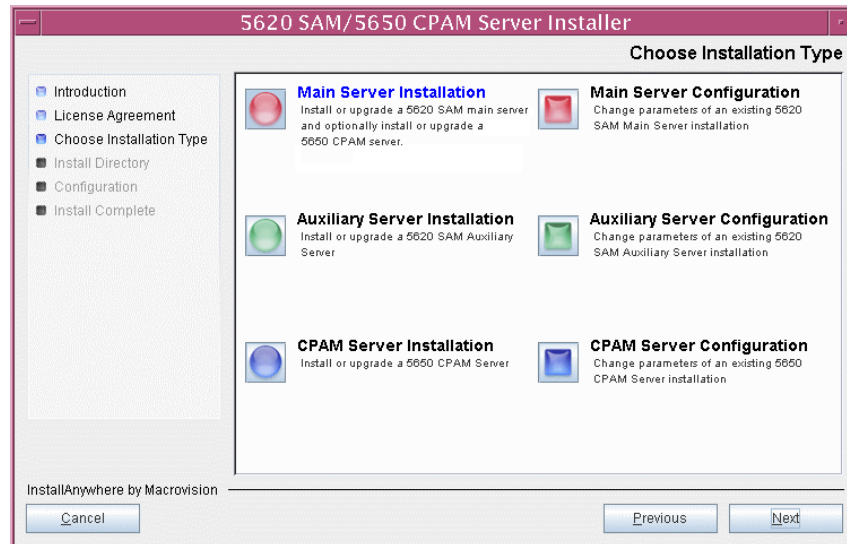
- 125 Review and accept the terms of the license agreement shown in Figure 4-76. Click on the Next button.

Figure 4-76 Software License Agreement



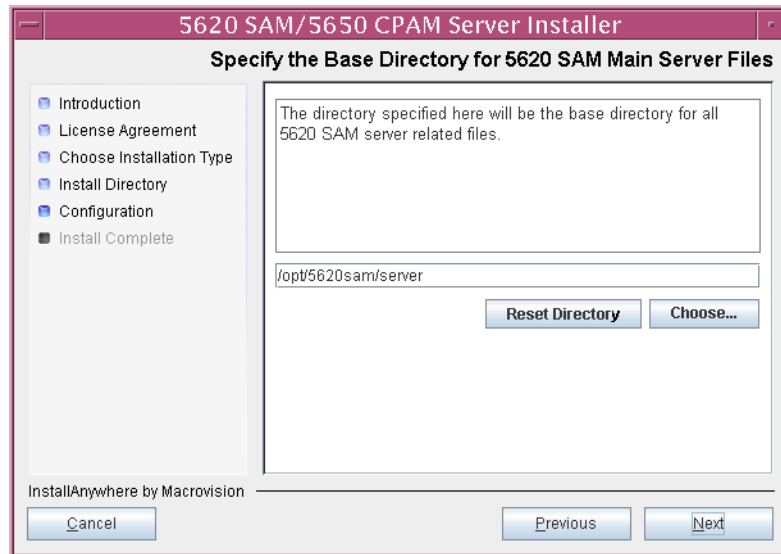
- 126 Select Main Server Installation, as shown in Figure 4-77. Click on the Next button.

Figure 4-77 Choose Installation Type



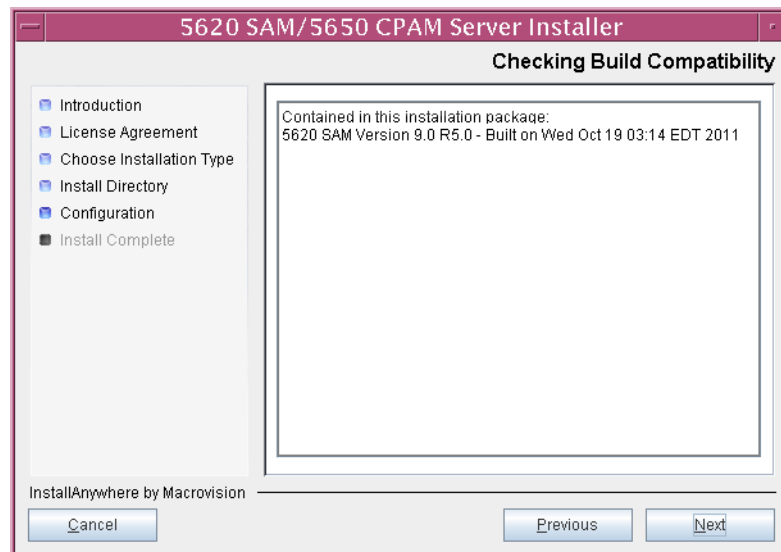
- 127 Specify a base directory in which to install the standby 5620 SAM main server software (typically /opt/5620sam/server), as shown in Figure 4-78. Click on the Next button.

**Figure 4-78 Specify the Base Directory for 5620 SAM Main Server Files**



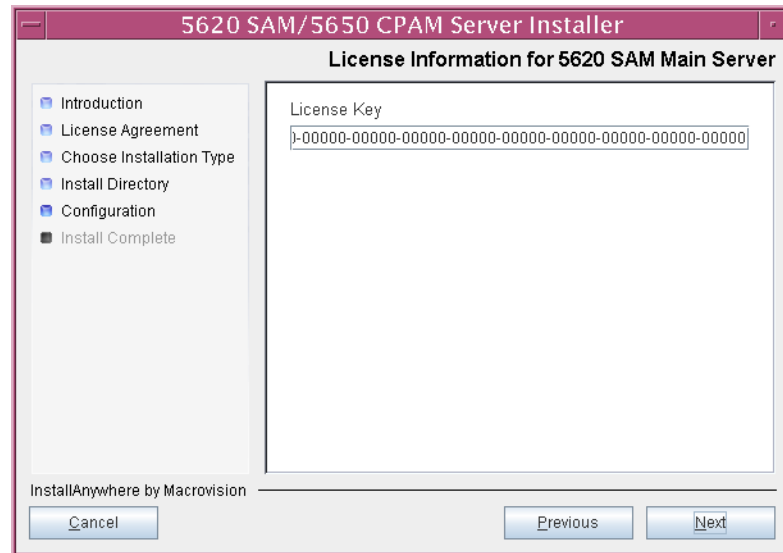
- 128 As shown in Figure 4-79, the installer indicates which release of 5620 SAM software is to be installed. Verify the information. Click on the Next button.

**Figure 4-79 Checking Build Compatibility**



- 129 The 5620 SAM installer displays the existing license key, as shown in Figure 4-80. Click on the Next button.

**Figure 4-80 License Information for 5620 SAM Main Server**



**130** Configure the following parameters shown in Figure 4-81, then click on the Next button.

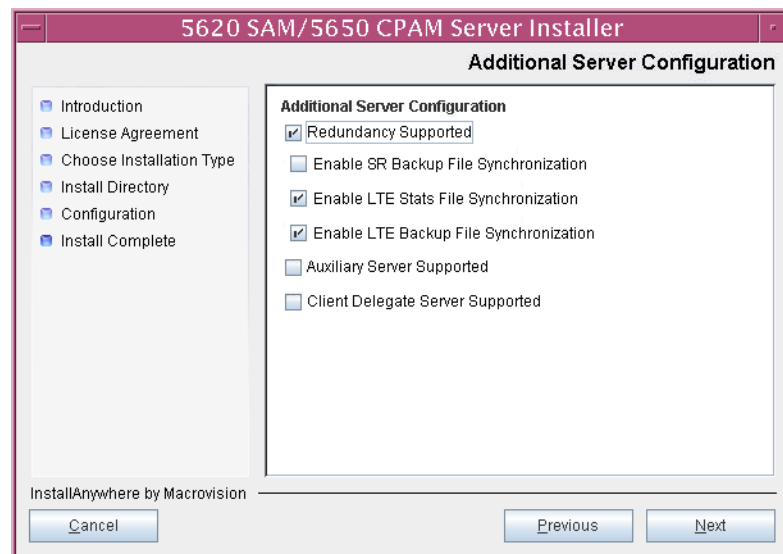
- Redundancy Supported
- Enable SR Backup File Synchronization
- Enable LTE Stats File Synchronization
- Enable LTE Backup File Synchronization
- Auxiliary Server Supported
- Client Delegate Server Supported



**Note 1** — You must select the “Redundancy Supported” parameter.

**Note 2** — The “Enable SR Backup File Synchronization”, “Enable LTE Stats File Synchronization”, and “Enable LTE Backup File Synchronization” parameters are displayed only when the “Redundancy Supported” parameter is enabled.

**Figure 4-81 Additional Server Configuration**



**131** Configure the following parameters, shown in Figure 4-82, using the recorded values from the primary database conversion. Click on the Next button.

- Primary Database Server IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

**Figure 4-82 Primary Database Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Primary Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the primary 5620 SAM database's public IP address, as known to the 5620 SAM server.' Below this are six input fields: 'Primary Database Server IP Address' (empty), 'Primary Database Server Port' (1523), 'Primary Database Instance Name' (samdb), 'Database User Name' (samuser), 'Database User Password' (masked with asterisks), and 'Primary Database Proxy Port' (9002). At the bottom, there is a 'Cancel' button on the left and 'Previous' and 'Next' buttons on the right. The footer text reads 'InstallAnywhere by Macrovision'.

132 Configure the following parameters shown in Figure 4-83, then click on the Next button:

- Database Server IP Address
- Database Instance Name (typically samdb2)
- Database Proxy Port (typically 9002)
- Enable Database Backup File Synchronization

Figure 4-83 Standby Database Configuration

The screenshot shows the 'Standby Database Configuration' window of the '5620 SAM/5650 CPAM Server Installer'. The window has a purple title bar and a sidebar on the left with a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions about NAT, followed by three input fields: 'Database Server IP Address' (highlighted in yellow), 'Database Instance Name' (containing 'samdb2'), and 'Database Proxy Port' (containing '9002'). Below these is a checkbox for 'Enable Database Backup File Synchronization' which is currently unchecked. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- 133 The panel in Figure 4-84 is displayed if you select the “Auxiliary Server Supported” parameter in step 130. Otherwise, go to step 135.

Perform the following steps to specify an auxiliary server, if required.

- i Configure the following parameters shown in Figure 4-84:
  - NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main and auxiliary servers.
  - Private IP (accessible only by this server)
  - Public IP (accessible to auxiliary)
  - Server Port (typically 12800)
  - Enable Stats Collection on Auxiliary Servers
  - Enable Call Trace Collection on Auxiliary Servers



**Note 1** — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

**Note 2** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 4-84 Main Server Configuration for Auxiliary Servers**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple. The main window has a sidebar on the left with a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area is titled 'Main Server Configuration for Auxiliary Servers'. It contains a text box with instructions: 'Enter the the network interface information that this 5620 SAM main server requires to communicate with the 5620 SAM auxiliary servers. At least one service type checkbox must be selected.' Below this are several fields: a checked checkbox for 'NAT (network address translation) Used', a 'Private IP (accessible only by this server)' dropdown menu showing '192.168.200.111', a 'Public IP (accessible to auxiliary)' text field with a yellow background, a 'Server Port' text field showing '12800', and two checkboxes: 'Enable Stats Collection on Auxiliary Servers' (unchecked) and 'Enable Call Trace Collection on Auxiliary Servers' (checked). At the bottom, there is a footer with 'InstallAnywhere by Macrovision' and three buttons: 'Cancel', 'Previous', and 'Next'.

- ii Click on the Next button.



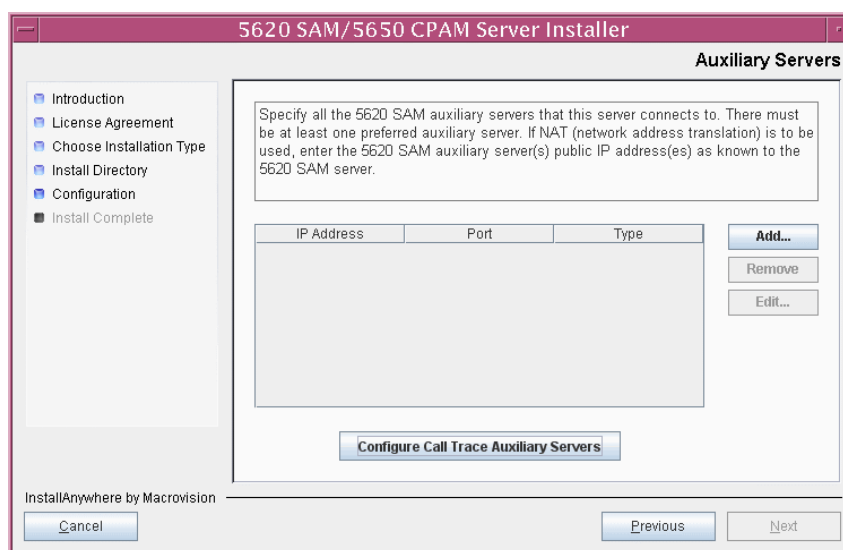
- iii Click on the Add button shown in Figure 4-85 to specify an auxiliary server. The form shown in Figure 4-86 opens.



**Note 1** – Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

**Note 2** – Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

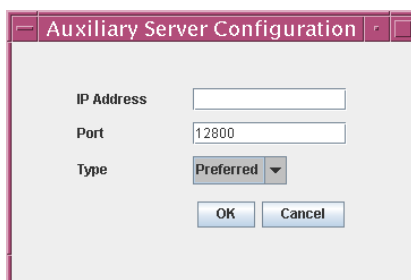
**Figure 4-85 Auxiliary Servers**



**Note 1** – The Preferred auxiliary server of the primary main server must be the Reserved auxiliary server of the standby main server. Conversely, the Reserved auxiliary server of the primary main server must be the Preferred auxiliary server of the standby main server.

**Note 2** – To minimize network latency between this main server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

**Figure 4-86 Auxiliary Server Configuration**



- iv Configure the following parameters shown in Figure 4-86:
  - IP Address
  - Port (typically 12800)
  - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 133 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 133 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 4-85. Otherwise, go to step 134.
- viii The form shown in Figure 4-87 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 4-87 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

| Preferred Auxiliary Servers |       |
|-----------------------------|-------|
| IP Address                  | Port  |
| 10.1.1.1                    | 12800 |
| 10.1.1.2                    | 12800 |
| 10.1.1.3                    | 12800 |

| Reserved Auxiliary Servers |       |
|----------------------------|-------|
| IP Address                 | Port  |
| 10.2.2.1                   | 12800 |
| 10.2.2.2                   | 12801 |
| 10.2.2.3                   | 12800 |

| Server Pairs        |                    |
|---------------------|--------------------|
| Preferred Server IP | Reserved Server IP |

Make Pair from Selected      Remove Selected Pair      OK      Cancel

- ix Repeat step 133 viii to configure another call-trace auxiliary server pair, if required.

134 Click on the Next button.

135 If you select the “Enable Database Alignment” parameter shown in Figure 4-88, you must specify the preferred database of this main server, then click on the Next button.

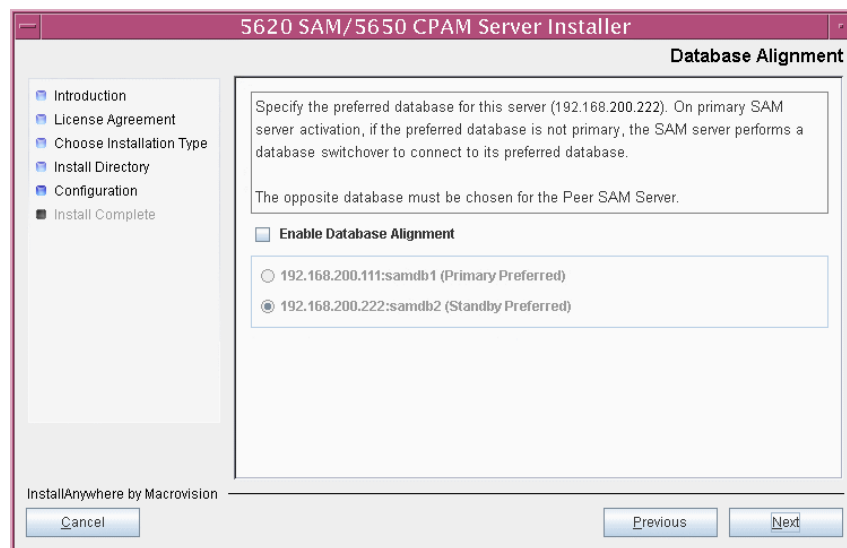
Database alignment associates each main server with the database to which it is most directly connected in terms of network latency. This database is the preferred database of the main server. For example, in a 5620 SAM complex that is geographically dispersed, the preferred database of a main server is the database in the same physical facility; typically, the primary main server and database are in one facility, and the standby server and database are in another.

When a primary server starts, it verifies that the database to which it connects is the preferred database. If this database is not the preferred database, the server performs a database switchover to reverse the primary and standby database roles. If the switchover is successful, the main servers and databases in the 5620 SAM complex are aligned. If the switchover fails, each database reverts to the former role, and the main server raises an alarm about the failed switchover.

When database alignment is enabled and you perform a database switchover, the primary server does not attempt database realignment, because a switchover is a manual operation that is considered to be a purposeful act.

When database alignment is enabled and you perform a server activity switch, the primary main server performs an automatic database switchover to maintain alignment with the preferred database.

Figure 4-88 Database Alignment



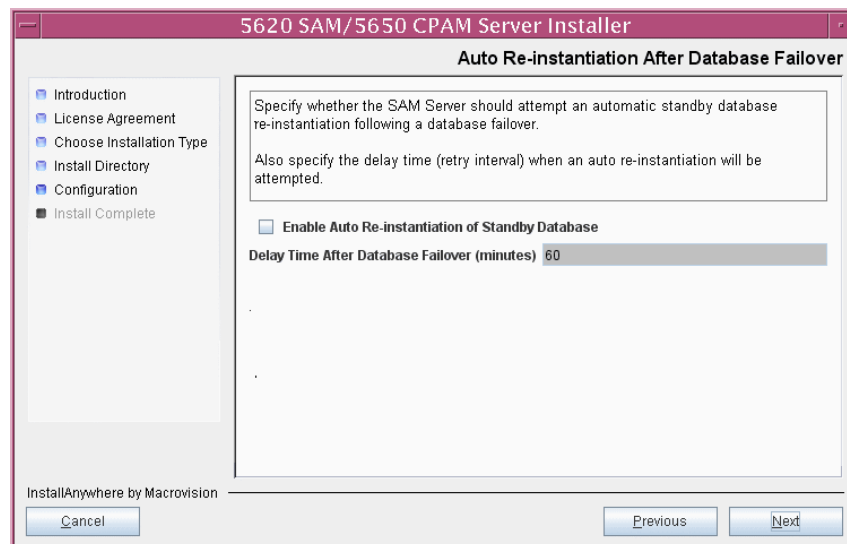
**136** Configure the following parameters shown in Figure 4-89, then click on the Next button:

- **Enable Auto Re-Instantiation of Standby Database**  
If this parameter is selected, the 5620 SAM main server automatically reinstantiates the standby database after a database failover.
- **Delay Time After Database Failover (minutes)**  
This parameter specifies how long, in m, the main server waits after database failover completion before it initiates a standby database reinstantiation.



**Note** — The “Delay Time After Database Failover (minutes)” parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.

**Figure 4-89 Auto Re-Instantiation After Database Failover**



**137** Perform the following steps.

- i Configure the following parameters shown in Figure 4-90:
  - Server Domain Name (typically 5620sam)  
This parameter uniquely identifies the 5620 SAM server cluster to which the main server belongs.
  - Use Hostname for Communication  
Select this parameter if the main server is to use multiple interfaces for GUI and OSS client communication.

**Figure 4-90 Main Server Configuration for Clients**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar shows a navigation menu with options: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main configuration area contains the following fields and options:

- Server Domain Name:** 5620sam
- ☐ Use Hostname for Communication (recommended if NAT is used)
- ☒ NAT (network address translation) Used
- Private IP (accessible only by this server):** 192.168.200.222
- Public IP (accessible to clients):** (empty field)
- EJB JNDI Server port:** 1099
- EJB JMS Server port:** 8093
- ☐ Enable 5670 RAM
- ☐ Enable 3GPP OSS Interface

At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- ii If you select the “Use Hostname for Communication” parameter, go to step 137 vi.
- iii Configure the following parameters:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public IP (accessible to clients)
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)
  - Enable 5670 RAM
  - Enable 3GPP OSS Interface



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 138.
- vi Configure the following parameters shown in Figure 4-91:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public Hostname
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)
  - Enable 5670 RAM
  - Enable 3GPP OSS Interface



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 4-91 Main Server Configuration for Clients

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Main Server Configuration for Clients' tab selected. The left sidebar contains a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main configuration area contains the following fields and options:

- Server Domain Name:** 5620sam
- ☒ **Use Hostname for Communication (recommended if NAT is used)**
- ☒ **NAT (network address translation) Used**
- Private IP (accessible only by this server):** 192.168.200.222 (dropdown menu)
- Public Hostname:** (empty text field)
- EJB JNDI Server port:** 1099
- EJB JMS Server port:** 8093
- ☐ **Enable 5670 RAM**
- ☐ **Enable 3GPP OSS Interface**

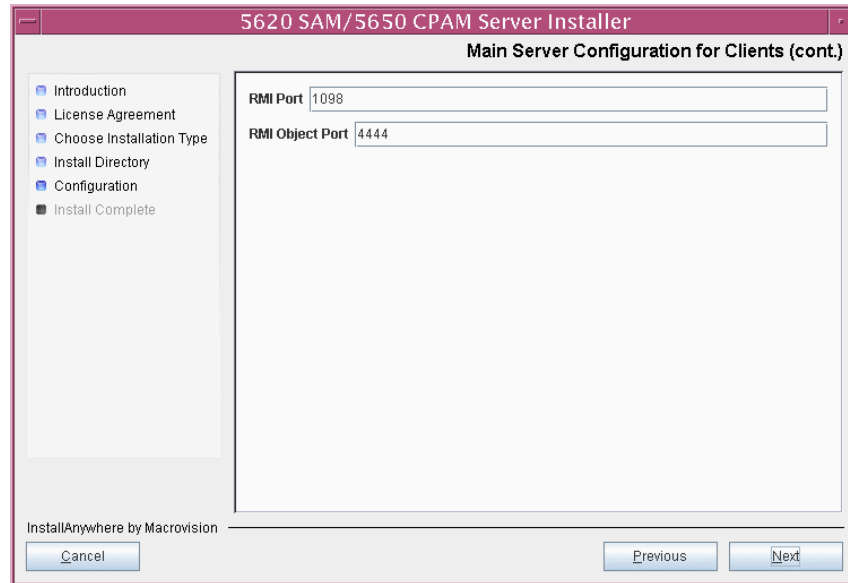
At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner.

- vii Click on the Next button.

**138** Configure the following parameters shown in Figure 4-92, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

**Figure 4-92 Main Server Configuration for Clients (cont.)**



- 139 The panel in Figure 4-93 is displayed if you do not select the “Auxiliary Server Supported” parameter in step 130. Otherwise, go to step 140.

Configure the parameters shown in Figure 4-93:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main server and the OSS clients.
- Public IP (accessible to OSS clients)

**Figure 4-93 Server Configuration for OSS Clients**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple with the text '5620 SAM/5650 CPAM Server Installer'. Below the title bar, the window is divided into two main sections. On the left is a vertical navigation pane with a list of steps: 'Introduction', 'License Agreement', 'Choose Installation Type', 'Install Directory', 'Configuration', and 'Install Complete'. The 'Configuration' step is currently selected and highlighted. The main area on the right is titled 'Server Configuration for OSS Clients'. It contains a text box with the instruction: 'Enter the network interface information that the OSS clients require to retrieve statistic data from this 5620 SAM server.' Below this text box is a checkbox labeled 'NAT (network address translation) Used'. Underneath the checkbox is a label 'Public IP (accessible to OSS clients)' followed by a dropdown menu showing the value '192.168.200.111'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Install'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window's content area.



**140** Configure the following parameters shown in Figure 4-94:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between this 5620 SAM server and the peer 5620 SAM server.
- Private IP (accessible only by this server)
- Public IP (accessible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 4-94 Main Server Configuration for Peer Server**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple. The main window has a purple header with the text 'Main Server Configuration for Peer Server'. On the left is a navigation pane with a list of steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The 'Configuration' step is currently selected. The main area contains a text box with the instruction: 'Enter the network interface information that this 5620 SAM main server requires to communicate with the peer server.' Below this are several configuration options: a checked checkbox for 'NAT (network address translation) Used', a dropdown menu for 'Private IP (accessible only by this server)' showing '192.168.200.111', a yellow highlighted text box for 'Public IP (accessible to peer server)', a text box for 'High Available JNDI Port' with the value '1100', and a text box for 'TCP Port Cluster Number' with the value '11800'. At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

**141** Configure the following parameters shown in Figure 4-95, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer server)
- Peer Public IP (accessible to this server)



**Note** — The “Public IP (accessible to peer server)” and “Peer Public IP (accessible to this server)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

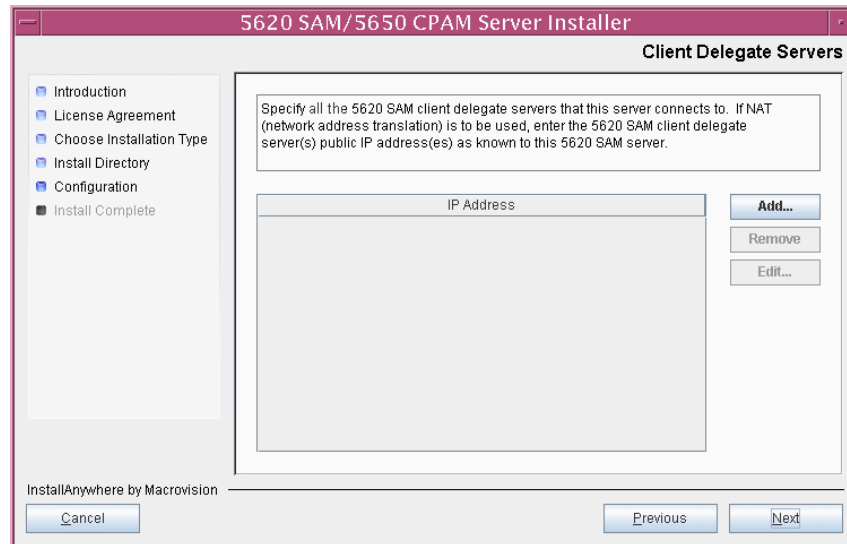
**Figure 4-95 Synchronization of Data**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM main servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath the checkbox are two input fields: 'Public IP (accessible to peer server)' and 'Peer Public IP (accessible to this server)'. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 142 The panel in Figure 4-96 is displayed if you select the “Client Delegate Server Supported” parameter in step 130. Otherwise, go to step 143.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5620 SAM server and client delegate servers, specify the public IP address. Click on the Next button.

**Figure 4-96 Client Delegate Servers**



- 143 Perform the following steps to enable communication security between the main server and clients, and between the main and auxiliary servers. Otherwise, click on the Next button.



**Note** — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 4-97.

**Figure 4-97 SSL Configuration**

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password



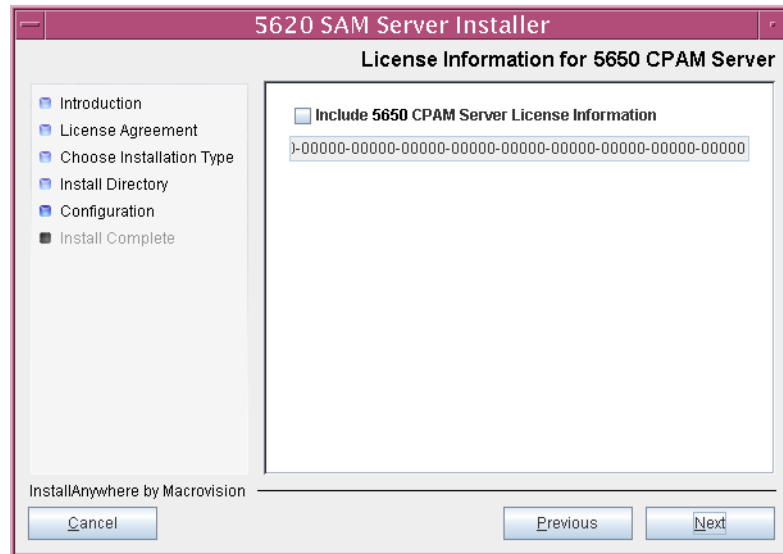
**Note 1** — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

**Note 2** — The parameter values must match the values specified during the standalone main server conversion to a primary main server.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The main server copies the files, imports them into the main server configuration, and transfers the keystore file to each client and auxiliary server.

- 144 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 4-98. If it does, enter the 5650 CPAM license key provided by Alcatel-Lucent. Include the dashes in the key. Click on the Next button.

Figure 4-98 License Information for 5650 CPAM Server



**145** Configure the following parameters shown in Figure 4-99, then click on the Next button:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5620 SAM main server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



**Note** — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 4-99.

**Figure 4-99 SNMP Configuration**

5620 SAM Server Installer

SNMP Configuration

Introduction  
License Agreement  
Choose Installation Type  
Install Directory  
Configuration  
Install Complete

If NAT (network address translation) is to be used, enter the 5620 SAM main server's public IP address as known to the devices within the managed network.

☐ NAT (network address translation) Used

☒ IPv6 Address Used

SNMP Trap Receiving IPv4 Address 192.168.200.133

SNMP Trap Receiving IPv6 Address

SNMP Trap Receiving Port 162

Trap Log Id 98

InstallAnywhere by Macrovision

Cancel Previous Next

**146** Configure the following parameters shown in Figure 4-100, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IPv4 Address
- Peer Server SNMP Trap Receiving IPv6 Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)



**Note** — The “Peer Server SNMP Trap Receiving IPv6 Address” parameter is configurable only if you select the “IPv6 Address Used” parameter in step 145.

**Figure 4-100 Peer Main Server Configurations**

**5620 SAM/5650 CPAM Server Installer**

**Peer Main Server Configurations**

If NAT (network address translation) is to be used, enter the 5620 SAM peer server's public IP address as known to the 5620 SAM server. Also enter the 5620 SAM peer server's public IP address as known to the devices within the managed network.

Peer Server IP Address

Peer Server Trap Log Id

Peer Server SNMP Trap Receiving IPv4 Address

Peer Server SNMP Trap Receiving IPv6 Address

Peer Server SNMP Trap Receiving Port

Peer Server TCP Port Cluster Number

InstallAnywhere by Macrovision

**147** If the “Use Hostname for Communication” parameter in step 137 is selected, go to step 150.

**148** Configure the following parameters shown in Figure 4-101, then click on the Next button:

- Peer Server IP Address
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

**Figure 4-101 Peer Main Server Configurations (cont.)**

5620 SAM/5650 CPAM Server Installer

Peer Main Server Configurations (cont.)

Introduction  
License Agreement  
Choose Installation Type  
Install Directory  
Configuration  
Install Complete

Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5620 SAM clients.

If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field.

Peer Server IP Address

JNDI High Available Peer Server Port 1100

JNDI Peer Server Port 1099

InstallAnywhere by Macrovision

Cancel Previous Next

**149** Go to step 151.



**150** Configure the following parameters shown in Figure 4-102, then click on the Next button:

- Peer Server Hostname
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

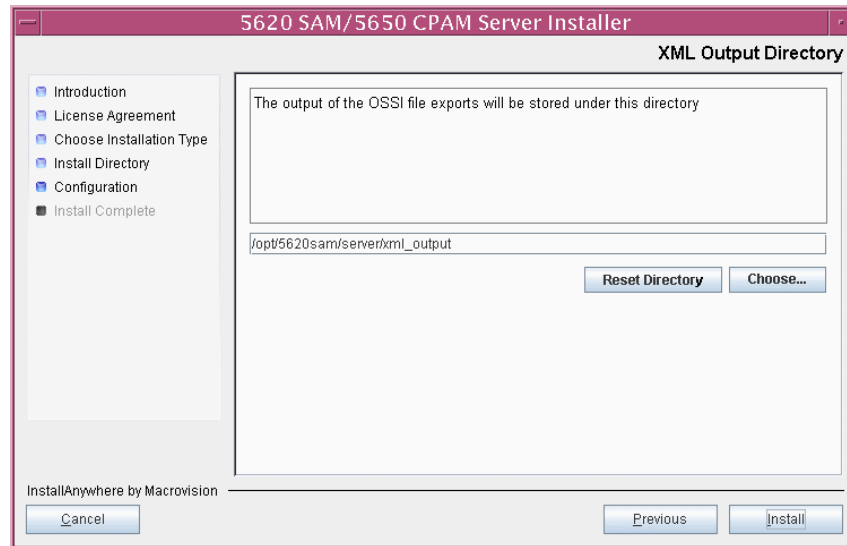
**Figure 4-102 Peer Main Server Configurations (cont.)**

**151** If you require 5620 SAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 4-103 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button.

**Figure 4-103 Navigation from External Systems**

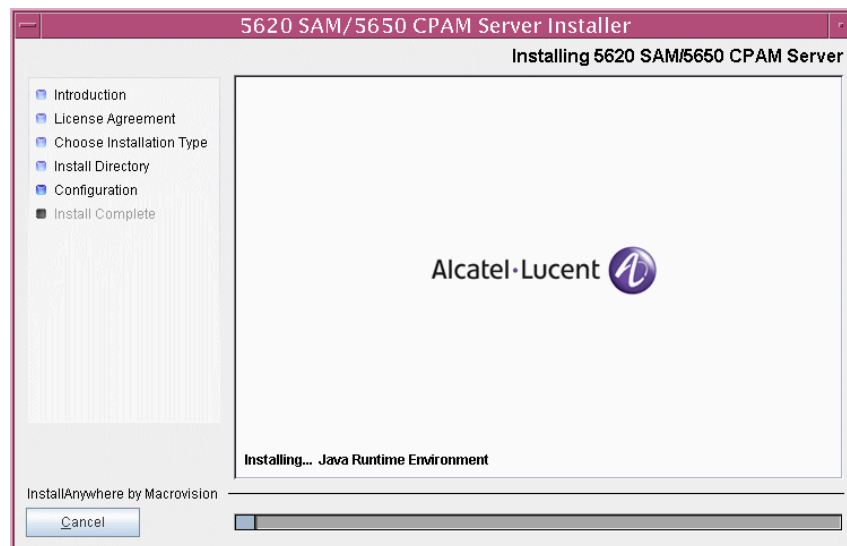
- 152 Specify an OSS XML output location (typically /opt/5620sam/server/xml\_output), as shown in Figure 4-104. Click on the Install button to begin the server installation.

Figure 4-104 XML Output Directory



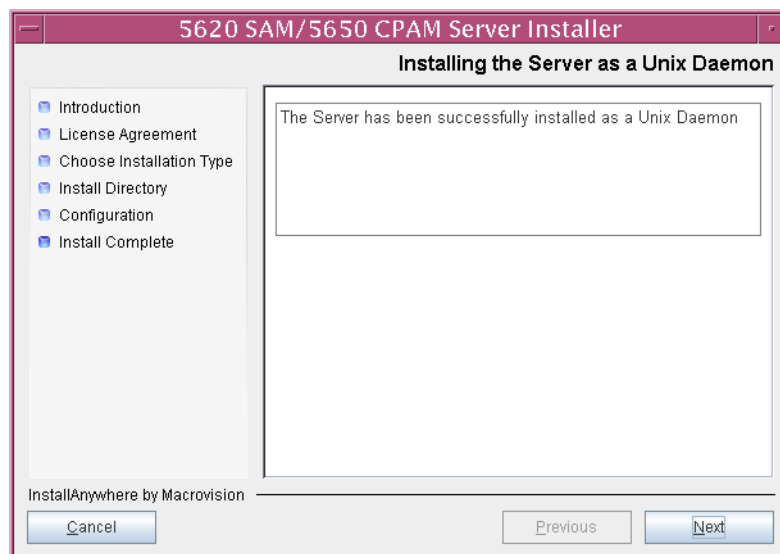
The next panel displays installation progress, as shown in Figure 4-105.

Figure 4-105 Installing 5620 SAM/5650 CPAM Server



- 153 As shown in Figure 4-106, the 5620 SAM server is installed as a UNIX daemon. Click on the Next button.

Figure 4-106 Installing the Server as a Unix Daemon

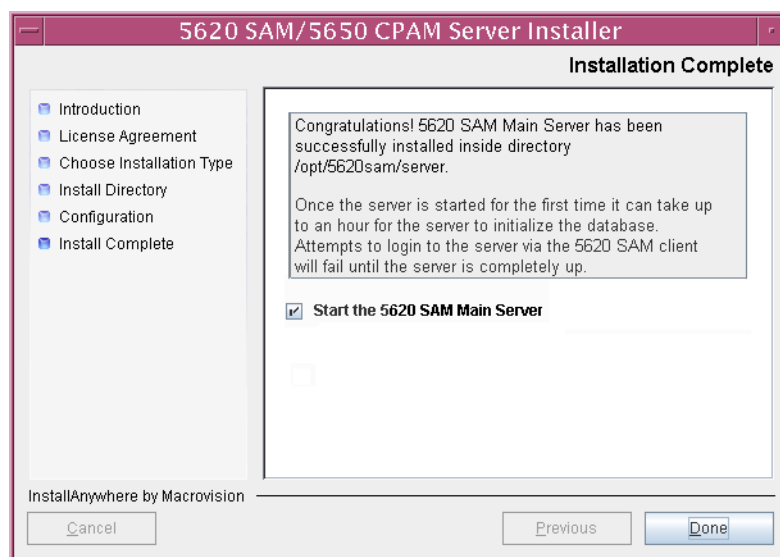


- 154 When the main server installation is complete, as shown in Figure 4-107, configure the “Start the 5620 SAM Main Server” parameter to specify whether you want the server to start immediately after the installation.



**Caution** — If the 3GPP OSS interface is enabled in step 137, ensure that the “Start the 5620 SAM Main Server” parameter is not selected.

Figure 4-107 Installation Complete



- 155** View the panel text to see whether it states that you must assign a password to samadmin, as shown in Figure 4-107. This information is required in step 157.
- 156** Click on the Done button to close the server installer. If you specified that the main server is to start immediately after the installation, the server starts. Initial server startup can take twenty minutes or more.
- 157** If this is the first 5620 SAM server installation on the station, the installer creates a user account called samadmin for 5620 SAM system administration.
- If you must assign a password to samadmin, as determined in step 155, perform the following steps.



**Note** — The samadmin password must not contain the @ symbol, or eNodeB device management may be compromised.

- i Enter the following:

```
passwd samadmin
```

The following prompt is displayed:

```
New Password:
```

- ii Enter the new password and press ↵.

The following prompt is displayed:

```
Confirm New Password:
```

- iii Enter the new password again and press ↵. The password is changed.
- iv Record the new password and store it in a secure location.

- 158** If the 3GPP OSS interface is enabled in step 137, perform the following steps.

- i Open the *path*/nms/cnbi/home/config/cnbi.properties file using a plain-text editor

where *path* is the 5620 SAM main server installation location, typically *opt/5620sam/server*

- ii Locate the following line:

```
CNBI.SAMO.USER=
```

- iii Edit the line to read:

```
CNBI.SAMO.USER=3GPP_OSS_user_name
```

where *3GPP\_OSS\_user\_name* is the user name that OSS applications must send in requests to the interface

- iv Locate the following line:

```
CNBI.SAMO.PASSWORD=
```

- v Edit the line to read:

```
CNBI.SAMO.PASSWORD=3GPP_OSS_password
```

where *3GPP\_OSS\_password* is the MD5-encrypted user password that OSS applications must send in requests to the interface



**Note** — The user name and password must be the same user name and password specified for the 3GPP OSS interface in the primary server configuration.

- vi Save and close the file.

- vii Go to step 160.

**159** If you specified that the main server is to start after installation, perform the following steps to verify that the server is started.

- i Enter the following to switch to the samadmin user:

```
su - samadmin ↵
```

- ii Enter the following:

```
bash$ path/nms/bin/nmsserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- SAM Server is UP
```

- iii If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.



**Note** — Do not proceed to the next step until the server is completely started.

**160** If you specified not to start the main server immediately after the installation, perform the following steps to start the server manually.

- i Log in to the main server station as the samadmin user.
- ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to start the 5620 SAM server software:

```
bash$./nmsserver.bash start ↵
```

- v Enter the following:

```
bash$ path/nms/bin/nmsserver.bash -s nms_status ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

The command returns server status information.

If the main server is not completely started, the first line of status information is the following:

```
Main Server is not ready...
```

The 5620 SAM server is completely started when the command returns the following line of output:

```
-- Standby Server is UP
```

- vi If the command output indicates that the server is not completely started, wait 5m and enter the command again to check the output.



**Note** — Do not proceed to the next step until the server is completely started.

The next section of the procedure describes the reinstantiation of the primary database on the standby database station.

### Reinstantiate standby database

- 161 Log in to a 5620 SAM client as the admin user.
- 162 Choose Administration→System Information from the 5620 SAM main menu. The System Information form opens with the General tab displayed.
- 163 Click on the Re-Instantiate Standby button. A dialog box appears.
- 164 Click on the Yes button. The database reinstantiation begins.

You can view the reinstantiation status on the client GUI status bar or on the System Information form. The Standby Re-instantiation State changes from In Progress to Success when reinstantiation is complete. The start time of the reinstantiation is shown by the Last Attempted Standby Re-instantiation Time indicator.



**Note —** Database reinstantiation can take a long time when there is a large amount of statistics data to transfer.

- 165** When the Standby Re-instantiation State displays Success, close the System Information form.
  - 166** Use a 5620 SAM GUI client to perform sanity testing of the newly redundant 5620 SAM server and database, as required.
-





## **5 — 5620 SAM platform migration**

---

|     |                                                   |      |
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| 5.2 | 5620 SAM platform migration procedures list       | 5-2  |
| 5.3 | Workflow for 5620 SAM platform migration          | 5-3  |
| 5.4 | 5620 SAM platform migration preparation           | 5-3  |
| 5.5 | Standalone 5620 SAM platform migration procedures | 5-7  |
| 5.6 | Redundant 5620 SAM platform migration procedures  | 5-22 |

## 5.1 5620 SAM platform migration overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this document.



**Caution** — Alcatel-Lucent supports 5620 SAM system migration and software configuration only under the conditions described in chapter 1.

The 5620 SAM supports the relocation, or migration, of a 5620 SAM system between platforms that have different processing architectures. The migration paths that the 5620 SAM supports are the following:

- Solaris SPARC to Solaris x86
- Solaris x86 to Solaris SPARC
- Microsoft Windows to Solaris SPARC or x86



**Note 1** — In a migration from one type of Solaris platform to another, the new physical stations to which the 5620 SAM system migrates must have the same processing architecture and their OSs must be at the same release and patch level.

**Note 2** — You cannot upgrade the 5620 SAM software as part of a 5620 SAM system migration. To upgrade your 5620 SAM system and move it to a different platform, you must upgrade the system before you perform the migration.

**Note 3** — A 5620 SAM migration from Windows to a redundant Solaris platform requires the following sequence of operations:

- a standalone 5620 SAM platform migration
- an upgrade of the 5620 SAM system on the new platform
- a conversion of the upgraded 5620 SAM system to redundancy

See chapter 3 for information about upgrading a 5620 SAM system.

See chapter 4 for information about converting a standalone 5620 SAM system to a redundant system.

## 5.2 5620 SAM platform migration procedures list

Table 5-1 lists the procedures required to perform 5620 SAM platform migrations.

Table 5-1 5620 SAM platform migration procedures list

| Procedure                                                                     | Purpose                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| To perform the pre-migration tasks                                            | Prepare a standalone or redundant 5620 SAM system on Solaris for a platform migration by ensuring the correct conditions are in place, gathering the required system information, and backing up the configuration files and database. |
| To relocate a Windows 5620 SAM system to a Solaris platform                   | Move the 5620 SAM database and main server from Microsoft Windows stations to one or more Solaris stations.                                                                                                                            |
| To relocate a standalone 5620 SAM system from one Solaris platform to another | Move a standalone 5620 SAM database and main server on one or more Solaris stations to one or more Solaris stations of a different type.                                                                                               |
| To relocate a redundant 5620 SAM system to a different platform               | Move redundant 5620 SAM databases and main servers on Solaris stations to Solaris stations of a different type.                                                                                                                        |

## 5.3 Workflow for 5620 SAM platform migration

The following is the sequence of high-level actions required to relocate a standalone or redundant 5620 SAM system from one type of Solaris platform to another.

- 1 Perform the pre-migration tasks. See Procedure 5-1 for more information.
- 2 Perform the appropriate 5620 SAM migration procedure.
  - a To relocate a standalone 5620 SAM system to a new platform, perform Procedure 5-3.
  - b To relocate a redundant 5620 SAM system to a new platform, perform Procedure 5-4.
- 3 Perform sanity testing of the new 5620 SAM system using a 5620 SAM client.

## 5.4 5620 SAM platform migration preparation

This section describes how to prepare for the migration of a standalone or redundant 5620 SAM system from one type of platform to another. Before you attempt a 5620 SAM platform migration, you must collect specific information and ensure that the proper conditions are in place. Procedure 5-1 describes the required actions to perform in preparation for a 5620 SAM platform migration.



**Note —** Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

## Procedure 5-1 To perform the pre-migration tasks

---

Perform this procedure to prepare a standalone or redundant 5620 SAM system on one or more Solaris stations for migration to a different platform type. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note** — You require the following user privileges to perform this procedure:

on each main server station:

- root
- samadmin

on each database station:

- root
- Oracle management

### General preparation

- 1 Ensure that the 5620 SAM software DVD-ROM is available.
- 2 Remove all outstanding failed deployments. See the *5620 SAM User Guide* for information about deleting a failed deployment.

### Back up configuration files

- 3 Make a backup copy of the *path/nms/config/nms-server.xml* configuration file on each server station.

where *path* is the 5620 SAM server installation location, typically */opt/5620sam/server*

Copy the file to a secure location that is unaffected by 5620 SAM migration activity, such as a non-5620 SAM station.

- 4 Make a copy of custom XML configuration files that may be present in the *path/nms/jboss* directory on each server station

where *path* is the 5620 SAM server installation location, typically */opt/5620sam/server*

Ensure that you store the files in a secure location that is unaffected by 5620 SAM migration activity, such as a non-5620 SAM station.

**Gather required information**

- 5 Obtain the following information for the appropriate database station in the current 5620 SAM system and record it for use during the migration:



**Note** — The appropriate station is one of the following:

- the standalone database station in a standalone 5620 SAM system
  - the primary database station in a redundant 5620 SAM system
- root user password
    - UNIX username for Oracle management account (default value at installation is oracle)
    - Oracle database user ID (default value at installation is samuser)
    - Oracle database user password
    - Oracle SYS password
    - Oracle base installation directory name (default Solaris installation value is /opt/5620sam/oracle11r2; default Windows installation value is C:\5620sam\oracle10r2)
    - 5620 SAM database installation directory name (default installation value is /opt/5620sam/samdb)
  - 6 Obtain the following information for each station that is to be a server station in the new 5620 SAM system and record it for use during the migration:
    - hostname
    - IP addresses
      - server IP addresses used by 5620 SAM databases to reach the server (public IP addresses, if NAT is used)
      - server IP address used by 5620 SAM GUI and OSS clients to reach the server (public IP address, if NAT is used)
      - server IP address used by 5620 SAM auxiliary servers to reach the main server (public IP address, if NAT is used)
      - server IP address used by device in the managed network to reach the main server (public IP address, if NAT is used)
      - private server IP addresses (if NAT is used)
    - root user password
    - samadmin user password
  - 7 Obtain the following information for each station that is to be a database station in the new 5620 SAM system and record it for use during the migration:
    - hostname
    - IP addresses
      - IP addresses used by 5620 SAM servers to reach the database (public IP addresses, if NAT is used)
      - IP address used by 5620 SAM auxiliary servers to reach the database (public IP address, if NAT is used)
      - private IP addresses (if NAT is used)
    - root user password

### Close unrequired clients

- 8 Close all open 5620 SAM client sessions except one.
  - i Open a 5620 SAM client session using an account with security management privileges, such as admin.
  - ii Click on Administration→Security→5620 SAM User Security in the 5620 SAM main menu. The 5620 SAM User Security - Security Management (Edit) form opens with the General tab displayed.
  - iii Click on the Sessions tab button.
  - iv Click on the Search button. The form displays a list of the open 5620 SAM client sessions.
  - v Using the IP addresses in the Client IP column, identify the GUI and OSS clients that are currently logged in.
  - vi Close the client sessions by selecting them and clicking on the Close Session button. A dialog box appears.



**Note** — One of the listed sessions is the session that you are using. Do not attempt to close this session.

- vii Click on the Yes button to confirm the action.
  - viii Click on the Search button to refresh the list of open client sessions.

### Back up database

- 9 Alcatel-Lucent strongly recommends that you perform a database backup using one of the following methods before you perform a 5620 SAM system migration.

Perform one of the following.

- a Use the 5620 SAM client GUI. See the *5620 SAM User Guide* for information about how to perform a database backup using the client GUI.
- b Use a CLI script. Perform the following steps.
  - i Log in to the database station as one of the following:
    - on Solaris, the Oracle management user
    - on Windows, a user with local administrator privileges



**Note** — In a redundant 5620 SAM system, you must log on to the primary database station.

- ii Open a console window.

- iii Enter one of the following to begin the database backup.



**Caution 1** — The path of the 5620 SAM database backup directory must not include the 5620 SAM database installation directory, typically /opt/5620sam/samdb on Solaris, and C:\5620sam\samdb on Windows, or data loss may occur.

**Caution 2** — Before the 5620 SAM performs a database backup, it deletes the contents of the specified backup directory. Ensure that the backup directory that you specify in this step does not contain files that you want to retain.

On a Solaris station:

```
bash$ path/install/config/instance_name/SAMbackup.sh
backup_directory ↵
```

On a Windows station:

```
path\install\config\instance_name\SAMbackup.bat
backup_directory ↵
```

where

*path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb on Solaris and C:\5620sam\samdb on Windows

*instance\_name* is the 5620 SAM database instance name, typically samdb in a standalone deployment, and samdb1 or samdb2 in a redundant deployment

*backup\_directory* is the directory that is to contain the database backup

The 5620 SAM backs up the database.



**Note** — A 5620 SAM database backup can take considerable time, depending on the database size and tablespace layout.

- iv Record the backup directory name.
- v Copy the database backup files from the backup directory to a secure location, such as a non-5620 SAM station, for safekeeping.
- 

## 5.5 Standalone 5620 SAM platform migration procedures

This section describes the migration of a standalone 5620 SAM system from one type of platform to another.

Procedure 5-2 describes how to relocate a standalone 5620 SAM system on Windows to a Solaris platform.

Procedure 5-3 describes how to relocate a standalone 5620 SAM system from one Solaris platform type to another.



**Note —** Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

---

## Procedure 5-2 To relocate a Windows 5620 SAM system to a Solaris platform

---

Perform this procedure to relocate a standalone 5620 SAM system on Windows to a Solaris platform. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note —** You require the following user privileges to perform this procedure:

on the Solaris main server station:

- root
- samadmin

on the Solaris database station:

- root
- Oracle management

on each Windows station:

- local administrator

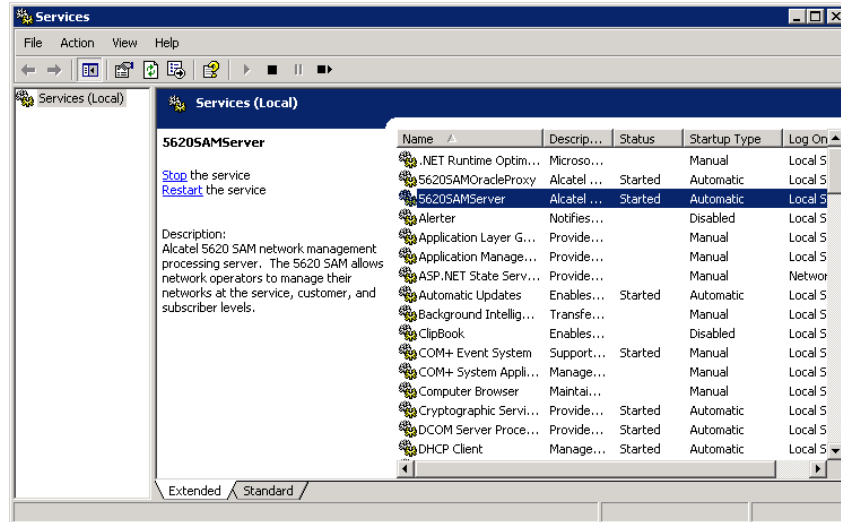
### Stop server

- 1 Perform the following steps on the Windows 5620 SAM main server station to stop the 5620 SAM server service.
  - i Log in to the main server station as a user with local administrator privileges.
  - ii Click on Start→Settings→Control Panel→Administrative Tools→Services. The Services window opens.



- iii Select the 5620SAMServer entry, as shown in Figure 5-1, and click on the Stop the service link.

Figure 5-1 Services - 5620SAMServer service



- 2 Perform the following steps to verify that the 5620 SAM main server is stopped.

- i Open a console window.

- ii Enter the following to change to the main server binary directory:

```
cd path\nms\bin
```

where *path* is the 5620 SAM main server installation location, typically C:\5620sam\server

- iii Enter the following:

```
nmsserver.bat appserver_status
```

The command displays a status message.

- iv The 5620 SAM main server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 2 iii. Do not proceed to the next step until the main server is stopped.

- v Close the console window.

- 3 Close the Services window.

## Export database

- 4 Perform the following steps to export the 5620 SAM database to a file set.
  - i Log in to the database station as a user with local administrator privileges.
  - ii If the directory that is to hold the exported database file set does not exist, create the directory.



**Note 1** — A 5620 SAM database export operation fails if the directory that is to contain the exported database file set does not exist.

**Note 2** — The directory must be a directory on the local file system.

- iii Open a console window.
- iv Enter the following:

```
path\Windows_dbExport.cmd database_export_directory ↵
```

where

*path* is the Windows\_dbExport.cmd script location, typically

C:\5620sam\samdb\install\config\samdb

*database\_export\_directory* is the absolute path of the directory that is to contain the exported database file set



**Note 1** — *database\_export\_directory* must be a directory on the local file system.

**Note 2** — The passwords that you enter are not displayed.

- v Specify the 5620 SAM database installation location at the following prompt; press Enter to accept the default:

```
Please enter the DB_INSTALL_BASE (installation_location):
```

where *installation\_location* is the default database installation directory

The following text is displayed:

```
Using ORACLE_SID = database_instance_name
```

```
Using ORACLE_HOME = Oracle_installation_directory
```

- vi Enter the SYS user password at the following prompt and press ↵:

```
Enter the password for the "sys" user (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- vii Press ↵ if you are sure that the password is entered correctly. Otherwise, enter n ↵ and go back to step 4 vi.
- viii Enter the 5620 SAM database username at the following prompt:

```
Enter the username for the SAM Database (user_name):
```

where *user\_name* is the default 5620 SAM database username, typically samuser

- ix** The following prompt is displayed if you enter a username other than the default:

```
Accept "user_name" [y/n/q]? (y):
```

Press **↵** if you have entered the name correctly. Otherwise, enter **n** **↵** and go back to step [4 viii](#).

- x** Enter the database user password at the following prompt:

```
Enter the password for user_name (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- xi** Press **↵** if you are sure that the password is entered correctly. Otherwise, enter **n** **↵** and go back to step [4 x](#).
- xii** Create a database export encryption password and record it for use in the following steps and during the database import operation.



**Note** — The password can be of any length and use any characters.

- xiii** Enter the created password at the following prompt:

```
Enter the export encryption password (terminal echo is off):
```

- xiv** Re-enter the password at the following prompt:

```
Confirm export encryption password (terminal echo is off):
```

- xv** If the passwords do not match, the script displays the following error message, and you must go back to step [4 xiii](#):

```
ERROR: Passwords do NOT match, Please enter it again
```

- xvi** Press **↵** at the following prompt to proceed with the database export:

```
Proceed with the export? [y/n/q] (y):
```

The script exports the 5620 SAM database to a file set in the directory specified in step [4 iv](#).

### Stop database

- 5 Perform the following steps on the Windows 5620 SAM database station to stop the database services.
  - i Click on Start→Settings→Control Panel→Administrative Tools→Services. The Services window opens.
  - ii Select the OracleService*instance\_name* entry  
where *instance\_name* is the name of the 5620 SAM database instance, typically samdb
  - iii Click on the Stop the service link.
  - iv Click on the OK button to acknowledge that stopping the OracleService*instance\_name* service also stops the 5620SAMOracleProxy service. The 5620 SAM database services are stopped.

### Install database

- 6 Perform steps 1 to 50 of Procedure 2-1 to install the 5620 SAM database software on the new database station.



**Note —** For the database installation, you must use the same usernames, passwords, database name, and database instance name specified for the existing database installation.

### Import database file set

- 7 Copy the exported data file set created in step 4 to the new database station.



**Note —** The directory to which you copy the file set must contain no other files.

- 8 Perform the following steps to import the exported 5620 SAM data file set.
  - i Log in to the primary database station as the Oracle management user.
  - ii Open a console window.

- iii Enter the following:

```
bash$ path/Solaris_dbMigration.sh -i
database_import_directory ↵
```

where

*path* is the Solaris\_dbMigration.sh script location, typically  
/opt/5620sam/samdb/install/config/samdb

*database\_import\_directory* is the absolute path of the directory that contains the exported database file set



**Note 1** – To view the migration script usage instructions, specify the -h switch, as follows:

```
Solaris_dbMigration.sh -h ↵
```

**Note 2** – The passwords that you enter are not displayed.

- iv Specify the 5620 SAM database installation location at the following prompt; press Enter to accept the default:

```
Please enter the DB_INSTALL_BASE (installation_location):
```

where *installation\_location* is the default database installation directory

The following text is displayed:

```
Using ORACLE_SID = database_instance_name
```

```
Using ORACLE_HOME = Oracle_installation_directory
```

- v Enter the SYS user password at the following prompt and press ↵:

```
Enter the password for the "sys" user (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- vi Press ↵ if you are sure that the password is entered correctly. Otherwise, enter n ↵ and go back to step 8 v.

- vii Enter the 5620 SAM database username at the following prompt:

```
Enter the username for the SAM Database (user_name):
```

where *user\_name* is the default 5620 SAM database username, typically samuser

- viii The following prompt is displayed if you enter a username other than the default:

```
Accept "user_name" [y/n/q]? (y):
```

Press ↵ if you have entered the name correctly. Otherwise, enter n ↵ and go back to step 8 vii.

- ix Enter the database user password at the following prompt:

```
Enter the password for user_name (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- x Press ☐ if you are sure that the password is entered correctly. Otherwise, enter n ☐ and go back to step 8 ix.

- xi Enter the database export encryption password at the following prompt:

```
Enter the export encryption password (terminal echo is off):
```



**Note** — This password is the password recorded in step 3 xii.

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- xii Press ☐ if you are sure that the password is entered correctly. Otherwise, enter n ☐ and go back to step 8 xi.

- xiii At the following prompt, specify how many CPUs are available for the import process:

```
In order to optimize the speed of this import, this script
needs to know how many CPUs are available on this machine and
how many data files there are to import.
```

```
This machine appears to have n CPUs
```

```
Is this correct? [y/n/q] (y):
```

where *n* is the number of CPUs that the script detects

- xiv Press ☐ at the following prompt if the number of data files to import is correct:

```
There appears to be n data files to import
```

```
Is this correct? [y/n/q] (y):
```

where *n* is the number of data files found by the script

- xv Press ☐ at the following prompt to proceed with the database import:

```
Log of import command will be written to log_file
```

```
Proceed with the import? [y/n/q] (y):
```

where *log\_file* is the name of a log file that the script creates

The script imports the 5620 SAM database from the directory specified in step 8 iii.

### Install server

- 9 Perform steps 51 to 86 of Procedure 2-1 to install the 5620 SAM main server software on the new main server station.

- 10 Log in to a newly installed client station.
- 11 Choose Administration→Database from the 5620 SAM main menu. The Database Manager (Edit) form opens.

Configure the following parameters, using the values entered during the Solaris database and main server installations:

- Scheduled Backup Location—"Online Backup Destination" value from Online Database Backup panel in main server installation
  - Manual Backup Location—Solaris file path; default is "Online Backup Destination" value
- 

### Procedure 5-3 To relocate a standalone 5620 SAM system from one Solaris platform to another

---

Perform this procedure to relocate a standalone 5620 SAM system on Solaris to a different Solaris platform type. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note** — You require the following user privileges to perform this procedure:

on the main server station:

- root
- samadmin

on the database station:

- root
- Oracle management

#### Stop server

- 1 Perform the following steps to stop the 5620 SAM main server application.

- i Log in to the main server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to stop the 5620 SAM server software:

```
bash$./nmsserver.bash stop ↵
```

- v Enter the following to display the 5620 SAM server status:

```
bash$./nmsserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5620 SAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and go back to step 1 v. Do not proceed to the next step until the server is stopped.

### Disable server daemon

- 2 Disable the 5620 SAM server startup daemon. This ensures that the 5620 SAM server does not automatically start in the event of a power disruption during the conversion.

- i Enter the following to switch to the root user:

```
bash$ su - ↵
```

- ii Enter the following to change to the /etc/rc3.d directory:

```
cd /etc/rc3.d ↵
```

- iii Enter the following to disable the 5620 SAM server daemon by renaming it:

```
mv S975620SAMServerWrapper
inactive.S975620SAMServerWrapper ↵
```

The next section of the procedure describes the exporting of the 5620 SAM database to a file set.

### Export database

- 3 Perform the following steps to export the 5620 SAM database to a file set.
  - i Log in to the database station as the Oracle management user.
  - ii If the directory that is to hold the exported database file set does not exist, create the directory.



**Note 1** — A 5620 SAM database export operation fails if the directory that is to contain the exported database file set does not exist.

**Note 2** — The directory must be a directory on the local file system.

- iii Open a console window.



- iv Enter the following:

```
bash$ path/Solaris_dbMigration.sh -e
database_export_directory ↵
```

where

*path* is the Solaris\_dbMigration.sh script location, typically  
/opt/5620sam/samdb/install/config/samdb

*database\_export\_directory* is the absolute path of the directory that is to contain the exported database file set



**Note 1** — *database\_export\_directory* must be a directory on the local file system.

**Note 2** — To view the migration script usage instructions, specify the -h switch, as follows:

```
Solaris_dbMigration.sh -h ↵
```

**Note 3** — The passwords that you enter are not displayed.

- v Specify the 5620 SAM database installation location at the following prompt; press Enter to accept the default:

```
Please enter the DB_INSTALL_BASE (installation_location):
```

where *installation\_location* is the default database installation directory

The following text is displayed:

```
Using ORACLE_SID = database_instance_name
```

```
Using ORACLE_HOME = Oracle_installation_directory
```

- vi Enter the SYS user password at the following prompt and press ↵:

```
Enter the password for the "sys" user (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- vii Press ↵ if you are sure that the password is entered correctly. Otherwise, enter n ↵ and go back to step 3 vi.

- viii Enter the 5620 SAM database username at the following prompt:

```
Enter the username for the SAM Database (user_name):
```

where *user\_name* is the default 5620 SAM database username, typically samuser

- ix The following prompt is displayed if you enter a username other than the default:

```
Accept "user_name" [y/n/q]? (y):
```

Press ↵ if you have entered the name correctly. Otherwise, enter n ↵ and go back to step 3 viii.

- x Enter the database user password at the following prompt:

Enter the password for user\_name (terminal echo is off):

The following prompt is displayed:

Accept value? [y/n/q] (y):

- xi** Press **↵** if you are sure that the password is entered correctly. Otherwise, enter **n** **↵** and go back to step **3 x**.
- xii** Create a database export encryption password and record it for use in the following steps and during the database import operation.



**Note** — The password can be of any length and use any characters.

- xiii** Enter the created password at the following prompt:

Enter the export encryption password (terminal echo is off):

- xiv** Re-enter the password at the following prompt:

Confirm export encryption password (terminal echo is off):

- xv** If the passwords do not match, the script displays the following error message, and you must go back to step **3 xiii**:

ERROR: Passwords do NOT match, Please enter it again

- xvi** Press **↵** at the following prompt to confirm that the 5620 SAM server is stopped:

This tool will shutdown the db listener disconnecting any connections to the database.

Have the SAM servers been shutdown? [y/n/q] (y):

- xvii** At the following prompt, specify how many CPUs are available for the export process:

To optimize the speed of the export this script will use as many CPUs as you allow it to.

How many CPUs are available for this export? (n):

where *n* is the number of CPUs that the script detects

- xviii** Press **↵** at the following prompt to direct the script to estimate the amount of disk space required for the database export:

Do you want to perform an export size estimate first? [y/n/q] (y):

- xix** Press **↵** at the following prompt to proceed with the database export:

Proceed with the export? [y/n/q] (y):

The script exports the 5620 SAM database to a file set in the directory specified in step 3 iv.

### Stop database

#### 4 Stop the 5620 SAM database application.

- i Log in to the database station as the root user.
- ii Open a console window.
- iii Enter the following to change to the /etc/rc3.d directory:

```
cd /etc/rc3.d ↵
```

- iv Enter the following to stop the Oracle proxy daemon:

```
./S965620SAMOracleProxyWrapper stop ↵
```

- v Enter the following to stop the 5620 SAM database daemon:

```
./S95db5620sam stop ↵
```

Do not proceed until the command displays the following text string:

```
Done
```

### Install database

#### 5 Perform steps 1 to 50 of Procedure 2-1 to install the 5620 SAM database software on the new database station.



**Note —** For the database installation, you must use the same usernames, passwords, database name, and database instance name specified for the existing database installation.

### Import database file set

#### 6 Copy the exported data file set created in step 3 to the new database station.



**Note —** The directory to which you copy the file set must contain no other files.

#### 7 Perform the following steps to import the exported 5620 SAM data file set.

- i Log in to the primary database station as the Oracle management user.
- ii Open a console window.

- iii Enter the following:

```
bash$ path/Solaris_dbMigration.sh -i
database_import_directory ↵
```

where

*path* is the Solaris\_dbMigration.sh script location, typically

/opt/5620sam/samdb/install/config/samdb

*database\_import\_directory* is the absolute path of the directory that contains the exported database file set



**Note 1** – To view the migration script usage instructions, specify the -h switch, as follows:

```
Solaris_dbMigration.sh -h ↵
```

**Note 2** – The passwords that you enter are not displayed.

- iv Specify the 5620 SAM database installation location at the following prompt; press Enter to accept the default:

```
Please enter the DB_INSTALL_BASE (installation_location):
```

where *installation\_location* is the default database installation directory

The following text is displayed:

```
Using ORACLE_SID = database_instance_name
```

```
Using ORACLE_HOME = Oracle_installation_directory
```

- v Enter the SYS user password at the following prompt and press ↵:

```
Enter the password for the "sys" user (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- vi Press ↵ if you are sure that the password is entered correctly. Otherwise, enter n ↵ and go back to step 7 v.

- vii Enter the 5620 SAM database username at the following prompt:

```
Enter the username for the SAM Database (user_name):
```

where *user\_name* is the default 5620 SAM database username, typically samuser

- viii The following prompt is displayed if you enter a username other than the default:

```
Accept "user_name" [y/n/q]? (y):
```

Press ↵ if you have entered the name correctly. Otherwise, enter n ↵ and go back to step 7 vii.

- ix Enter the database user password at the following prompt:

```
Enter the password for user_name (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- x** Press `↓` if you are sure that the password is entered correctly. Otherwise, enter `n ↓` and go back to step 7 ix.

- xi** Enter the database export encryption password at the following prompt:

```
Enter the export encryption password (terminal echo is off):
```



**Note —** This password is the password recorded in step 3 xii.

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- xii** Press `↓` if you are sure that the password is entered correctly. Otherwise, enter `n ↓` and go back to step 7 xi.

- xiii** At the following prompt, specify how many CPUs are available for the import process:

```
In order to optimize the speed of this import, this script
needs to know how many CPUs are available on this machine and
how many data files there are to import.
```

```
This machine appears to have n CPUs
```

```
Is this correct? [y/n/q] (y):
```

where *n* is the number of CPUs that the script detects

- xiv** Press `↓` at the following prompt if the number of data files to import is correct:

```
There appears to be n data files to import
```

```
Is this correct? [y/n/q] (y):
```

where *n* is the number of data files found by the script

- xv** Press `↓` at the following prompt to proceed with the database import:

```
Log of import command will be written to log_file
```

```
Proceed with the import? [y/n/q] (y):
```

where *log\_file* is the name of a log file that the script creates

The script imports the 5620 SAM database from the directory specified in step 7 iii.

**Install server**

- 8 Perform steps 51 to 86 of Procedure 2-1 to install the 5620 SAM main server software on the new main server station.
- 

## 5.6 Redundant 5620 SAM platform migration procedures

This section describes the migration of a redundant 5620 SAM system from one type of Solaris platform to another.

Procedure 5-4 describes how to relocate a redundant 5620 SAM system.



**Note** — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin and Oracle management users

Do not type the # symbol or bash\$ when you enter a command.

### Procedure 5-4 To relocate a redundant 5620 SAM system to a different platform

---

Perform this procedure to relocate a redundant 5620 SAM system on Solaris to a different platform type. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note** — You require the following user privileges to perform this procedure:

on each main server station:

- root
- samadmin

on each database station:

- root
- Oracle management

**Stop standby main server**

- 1 Perform the following steps to stop the standby 5620 SAM main server application.
  - i Log in to standby main server station as the samadmin user.
  - ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to stop the 5620 SAM server software:

```
bash$./nmsserver.bash stop ↵
```

- v Enter the following to display the 5620 SAM server status:

```
bash$./nmsserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5620 SAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and go back to step 1 v. Do not proceed to the next step until the server is stopped.

### Disable standby main server daemon

- 2 Disable the standby 5620 SAM main server startup daemon. This ensures that the 5620 SAM server does not automatically start in the event of a power disruption during the migration.

- i Enter the following to switch to the root user:

```
bash$ su - ↵
```

- ii Enter the following to change to the /etc/rc3.d directory:

```
cd /etc/rc3.d ↵
```

- iii Enter the following to disable the 5620 SAM server daemon by renaming it:

```
mv S975620SAMServerWrapper
inactive.S975620SAMServerWrapper ↵
```

The next section of the procedure describes the stopping of the primary 5620 SAM main server.

### Stop primary main server

- 3 Perform the following steps to stop the primary 5620 SAM main server application.

- i Log in to the primary main server station as the samadmin user.
- ii Open a console window.

- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- iv Enter the following to stop the 5620 SAM server software:

```
bash$./nmsserver.bash stop ↵
```

- v Enter the following to display the 5620 SAM server status:

```
bash$./nmsserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5620 SAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and go back to step 3 v. Do not proceed to the next step until the server is stopped.

#### Disable primary main server daemon

- 4 Disable the primary 5620 SAM main server startup daemon. This ensures that the 5620 SAM server does not automatically start in the event of a power disruption during the migration.

- i Enter the following to switch to the root user:

```
bash$ su - ↵
```

- ii Enter the following to change to the /etc/rc3.d directory:

```
cd /etc/rc3.d ↵
```

- iii Enter the following to disable the 5620 SAM server daemon by renaming it:

```
mv S975620SAMServerWrapper
inactive.S975620SAMServerWrapper ↵
```

The next section of the procedure describes the stopping of the standby 5620 SAM database.

#### Stop standby database

- 5 Stop the standby database application.

- i Log in to the standby database station as the root user.

- ii Open a console window.

- iii Enter the following to change to the /etc/rc3.d directory:

```
cd /etc/rc3.d ↵
```



- iv Enter the following to stop the Oracle proxy daemon:

```
./S965620SAMOracleProxyWrapper stop ↵
```

- v Enter the following to stop the 5620 SAM database daemon:

```
./S95db5620sam stop ↵
```

Do not proceed until the command displays the following text string:

```
Done
```

## Export database

- 6 Perform the following steps to export the primary 5620 SAM database to a file set.

- i Log in to the primary database station as the Oracle management user.
- ii Open a console window.
- iii If the directory that is to hold the exported database file set does not exist, create the directory.



**Note 1** – A 5620 SAM database export operation fails if the directory that is to contain the exported database file set does not exist.

**Note 2** – The directory must be a directory on the local file system.

- iv Enter the following:

```
bash$ path/Solaris_dbMigration.sh -e
database_export_directory ↵
```

where

*path* is the Solaris\_dbMigration.sh script location, typically  
/opt/5620sam/samdb/install/config/samdb

*database\_export\_directory* is the absolute path of the directory that is to contain the exported database file set



**Note 1** – *database\_export\_directory* must be a directory on the local file system.

**Note 2** – To view the migration script usage instructions, specify the -h switch, as follows:

```
Solaris_dbMigration.sh -h ↵
```

**Note 3** – The passwords that you enter are not displayed.

- v Specify the 5620 SAM database installation location at the following prompt; press Enter to accept the default:

```
Please enter the DB_INSTALL_BASE (installation_location):
```

where *installation\_location* is the default database installation directory

The following text is displayed:

```
Using ORACLE_SID = database_instance_name
```

```
Using ORACLE_HOME = Oracle_installation_directory
```

- vi** Enter the SYS user password at the following prompt and press **↵**:

```
Enter the password for the "sys" user (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- vii** Press **↵** if you are sure that the password is entered correctly. Otherwise, enter **n ↵** and go back to step **6 vi**.

- viii** Enter the 5620 SAM database username at the following prompt:

```
Enter the username for the SAM Database (user_name):
```

where *user\_name* is the default 5620 SAM database username, typically samuser

- ix** The following prompt is displayed if you enter a username other than the default:

```
Accept "user_name" [y/n/q]? (y):
```

Press **↵** if you have entered the name correctly. Otherwise, enter **n ↵** and go back to step **6 viii**.

- x** Enter the database user password at the following prompt:

```
Enter the password for user_name (terminal echo is off):
```

The following prompt is displayed:

```
Accept value? [y/n/q] (y):
```

- xi** Press **↵** if you are sure that the password is entered correctly. Otherwise, enter **n ↵** and go back to step **6 x**.

- xii** Create a database export encryption password and record it for use in the following steps and during the database import operation.



**Note** — The password can be of any length and use any characters.

- xiii** Enter the created password at the following prompt:

```
Enter the export encryption password (terminal echo is off):
```

- xiv** Re-enter the password at the following prompt:

```
Confirm export encryption password (terminal echo is off):
```

- xv** If the passwords do not match, the script displays the following error message, and you must go back to step **6 xiii**:

```
ERROR: Passwords do NOT match, Please enter it again
```

- xvi** Press `↵` at the following prompt to confirm that the 5620 SAM server is stopped:

```
This tool will shutdown the db listener disconnecting any
connections to the database.
```

```
Have the SAM servers been shutdown? [y/n/q] (y):
```

- xvii** At the following prompt, specify how many CPUs are available for the export process:

```
To optimize the speed of the export this script will use as
many CPUs as you allow it to.
```

```
How many CPUs are available for this export? (n):
```

where *n* is the number of CPUs that the script detects

- xviii** Press `↵` at the following prompt to direct the script to estimate the amount of disk space required for the database export:

```
Do you want to perform an export size estimate first? [y/n/q]
(y):
```

- xix** Press `↵` at the following prompt to proceed with the database export:

```
Proceed with the export? [y/n/q] (y):
```

The script exports the 5620 SAM database to a file set in the directory specified in step 6 iv.

### Stop primary database

- 7** Stop the 5620 SAM database application on the primary database station.

- i** Enter the following on the primary database station to switch to the root user:

```
bash$ su -
```

- ii** Enter the following to stop the Oracle proxy daemon:

```
/etc/rc3.d/S965620SAMOracleProxyWrapper stop ↵
```

- iii** Enter the following to stop the 5620 SAM database daemon:

```
./S95db5620sam stop ↵
```

Do not proceed until the command displays the following text string:

```
Done
```

### Install primary database

- 8 Perform steps 1 to 51 of Procedure 2-2 to install the 5620 SAM database software on the new primary database station.



**Note** — For the new primary database installation, you must use the same usernames, passwords, database name, and database instance name specified for the existing primary database installation.

### Import database file set to primary database

- 9 Copy the exported data file set created in step 6 to the new primary database station.



**Note** — The directory to which you copy the file set must contain no other files.

- 10 Perform the following steps to import the primary 5620 SAM data file set.
  - i Log in to the primary database station as the Oracle management user.
  - ii Open a console window.
  - iii Enter the following:

```
bash$ path/Solaris_dbMigration.sh -i
database_import_directory ↵
```

where

*path* is the Solaris\_dbMigration.sh script location, typically  
/opt/5620sam/samdb/install/config/samdb

*database\_import\_directory* is the absolute path of the directory that contains the exported database file set



**Note 1** — To view the migration script usage instructions, specify the -h switch, as follows:

```
Solaris_dbMigration.sh -h ↵
```

**Note 2** — The passwords that you enter are not displayed.

- iv Specify the 5620 SAM database installation location at the following prompt; press Enter to accept the default:

```
Please enter the DB_INSTALL_BASE (installation_location):
```

where *installation\_location* is the default database installation directory

The following text is displayed:

```
Using ORACLE_SID = database_instance_name
```

```
Using ORACLE_HOME = Oracle_installation_directory
```

- v Enter the SYS user password at the following prompt and press ↵:

Enter the password for the "sys" user (terminal echo is off):

The following prompt is displayed:

Accept value? [y/n/q] (y):

- vi Press ↵ if you are sure that the password is entered correctly. Otherwise, enter n ↵ and go back to step 10 v.

- vii Enter the 5620 SAM database username at the following prompt:

Enter the username for the SAM Database (*user\_name*):

where *user\_name* is the default 5620 SAM database username, typically samuser

- viii The following prompt is displayed if you enter a username other than the default:

Accept "*user\_name*" [y/n/q]? (y):

Press ↵ if you have entered the name correctly. Otherwise, enter n ↵ and go back to step 10 vii.

- ix Enter the database user password at the following prompt:

Enter the password for *user\_name* (terminal echo is off):

The following prompt is displayed:

Accept value? [y/n/q] (y):

- x Press ↵ if you are sure that the password is entered correctly. Otherwise, enter n ↵ and go back to step 10 ix.

- xi Enter the export password at the following prompt:

Enter the export encryption password (terminal echo is off):



**Note** — This password is the password recorded in step 6 xii.

The following prompt is displayed:

Accept value? [y/n/q] (y):

- xii Press ↵ if you are sure that the password is entered correctly. Otherwise, enter n ↵ and go back to step 10 xi.

- xiii At the following prompt, specify how many CPUs are available for the import process:

In order to optimize the speed of this import, this script needs to know how many CPUs are available on this machine and how many data files there are to import.

This machine appears to have  $n$  CPUs

Is this correct? [y/n/q] (y):

where  $n$  is the number of CPUs that the script detects

- xiv** Press **↵** at the following prompt if the number of data files to import is correct:

There appears to be  $n$  data files to import

Is this correct? [y/n/q] (y):

where  $n$  is the number of data files found by the script

- xv** Press **↵** at the following prompt to proceed with the database import:

Log of import command will be written to *log\_file*

Proceed with the import? [y/n/q] (y):

where *log\_file* is the name of a log file that the script creates

The script imports the 5620 SAM database from the directory specified in step 10 iii.

### Install standby database

- 11** Perform steps 52 to 92 of Procedure 2-2 to install the 5620 SAM database software on the new standby database station.



**Note —** For the new standby database installation, you must use the same usernames, passwords, database name, and database instance name specified for the existing standby database installation.

### Install primary main server

- 12** Perform steps 93 to 139 of Procedure 2-2 to install the 5620 SAM main server software on the new primary main server station.

### Install standby main server

- 13** Perform steps 144 to 186 of Procedure 2-2 to install the 5620 SAM main server software on the new standby main server station.
-

## **6 — 5620 SAM uninstallation**

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- 6.1 5620 SAM uninstallation overview 6-2**
- 6.2 5620 SAM uninstallation procedures list 6-2**
- 6.3 Workflow for 5620 SAM uninstallation 6-2**
- 6.4 5620 SAM uninstallation procedures 6-3**

## 6.1 5620 SAM uninstallation overview

This chapter contains information about uninstalling the 5620 SAM software components. 5620 SAM system uninstallation has the following requirements.

- No 5620 SAM software in the 5620 SAM system is running when the uninstallation begins.
- The order in which the 5620 SAM components are uninstalled is the reverse of the order in which they are installed.

## 6.2 5620 SAM uninstallation procedures list

Table 6-1 lists the 5620 SAM software uninstallation procedures.

**Table 6-1 5620 SAM uninstallation procedures list**

| Procedure                                                                                              | Purpose                                                     |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| To uninstall the 5620 SAM single-user client software on Solaris using a web browser                   | Remove the 5620 SAM client software from a Solaris station. |
| To uninstall the 5620 SAM client software on Solaris using the local client uninstaller                | Remove the 5620 SAM client software from a Solaris station. |
| To uninstall the 5620 SAM single-user client software on Windows using a web browser                   | Remove the 5620 SAM client software from a Windows station. |
| To uninstall the 5620 SAM single-user client software on Windows using the Add/Remove Programs utility | Remove the 5620 SAM client software from a Windows station. |
| To uninstall the 5620 SAM auxiliary server software                                                    | Remove the 5620 SAM auxiliary server software.              |
| To uninstall the 5620 SAM main server software                                                         | Remove the 5620 SAM main server software.                   |
| To uninstall the 5620 SAM database software                                                            | Remove the 5620 SAM database software.                      |

## 6.3 Workflow for 5620 SAM uninstallation

The following is the sequence of high-level actions required to uninstall the 5620 SAM client, server and database components that comprise a 5620 SAM system.

- 1 Uninstall the client. See Procedure 6-1, 6-2, 6-3, or 6-4 for more information.
- 2 Uninstall the auxiliary servers, if required. See Procedure 6-5 for more information.
- 3 Uninstall the main server. See Procedure 6-6 for more information.
- 4 Uninstall the database. See Procedure 6-7 for more information.



## 6.4 5620 SAM uninstallation procedures

The following procedures describe how to remove the software components of a 5620 SAM system. Procedures 6-1 and 6-2 describe how to uninstall the 5620 SAM client software on a Solaris station. Procedures 6-3 and 6-4 describe how to uninstall the 5620 SAM client software on a Windows station. Procedure 6-5 describes how to uninstall the 5620 SAM auxiliary server software. Procedure 6-6 describes how to uninstall the 5620 SAM main server software. Procedure 6-7 describes how to uninstall the 5620 SAM database software.



**Note** — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

### Procedure 6-1 To uninstall the 5620 SAM single-user client software on Solaris using a web browser

Perform this procedure to remove the 5620 SAM single-user client software from a Solaris station using a web browser.



**Note** — You require one of the following sets of user privileges on the client station to perform this procedure:

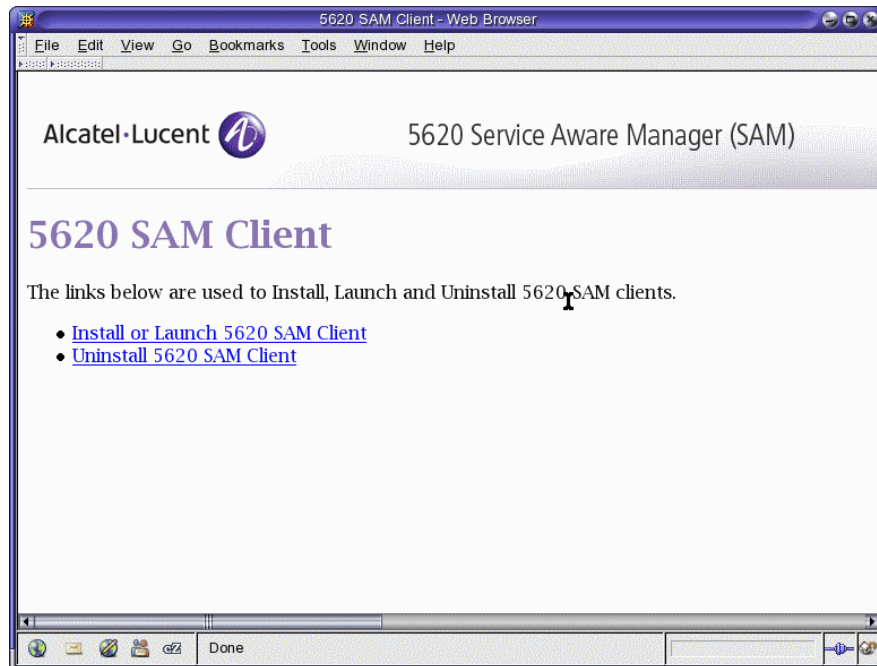
- the privileges of the user that installed the client software
- root

- 1 Stop the 5620 SAM client. From the 5620 SAM GUI main menu, choose Application→Exit.
- 2 Log in to the 5620 SAM client station as the root user, or as the user that installed the 5620 SAM client software.
- 3 Perform one of the following.
  - a If SSL security is not enabled on the client and main server, open the following page on the main server using a web browser on the client station:  
<http://server:8085/client>
  - b If SSL security is enabled on the client and main server, open the following page on the main server using a web browser on the client station:  
<https://server:8444/client>

where *server* is the IP address or hostname of the 5620 SAM main server

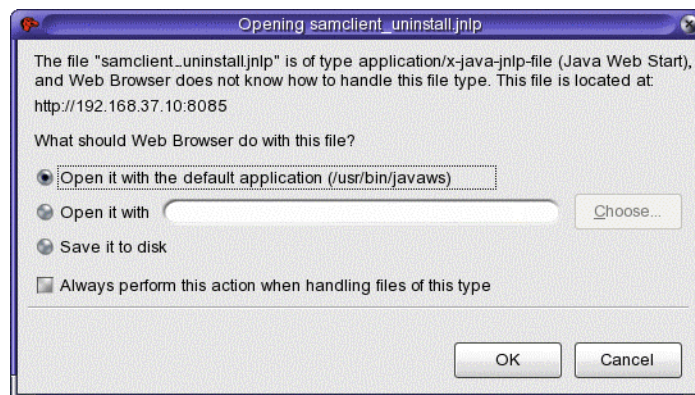
The page shown in Figure 6-1 is displayed.

Figure 6-1 5620 SAM client page



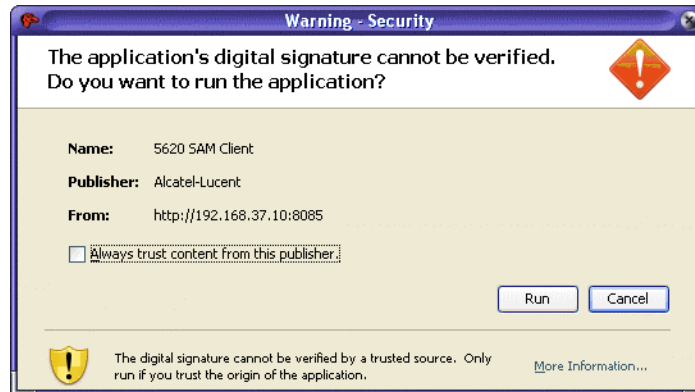
- 4 Click on the "Uninstall 5620 SAM Client" link. The form shown in Figure 6-2 is displayed. Ensure that "Open with" is selected, then click on the OK button.

Figure 6-2 Opening samclient\_uninstall.jnlp



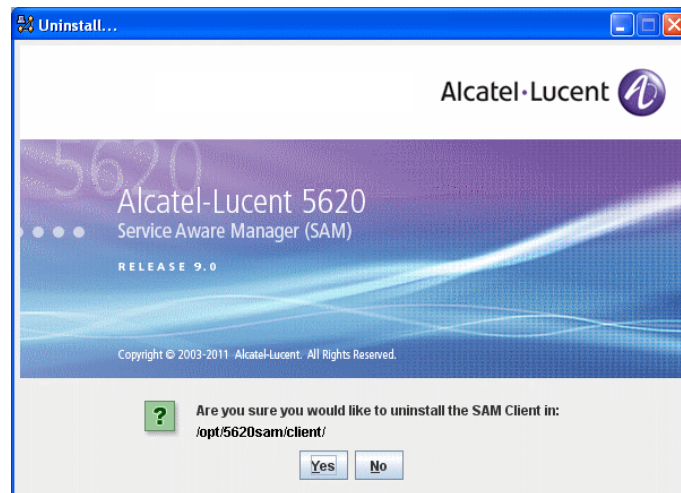
- 5 If a security warning like the one shown in Figure 6-3 is displayed, click on the Run button.

Figure 6-3 Warning - Security



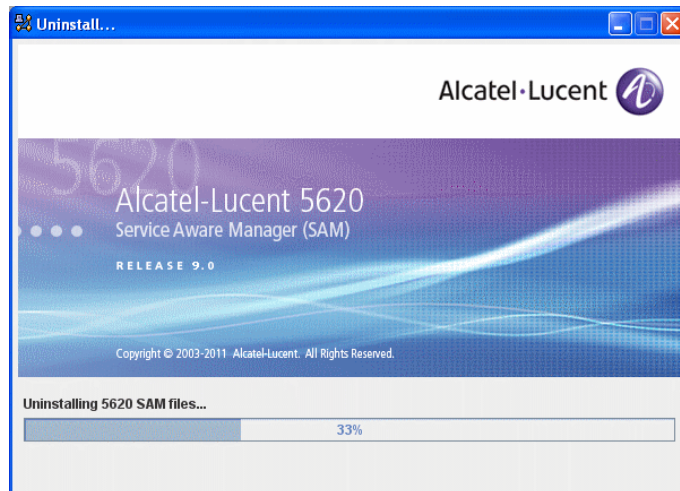
- 6 The client uninstaller opens, as shown in Figure 6-4. Click on the Yes button to begin the client uninstallation.

Figure 6-4 Uninstall...



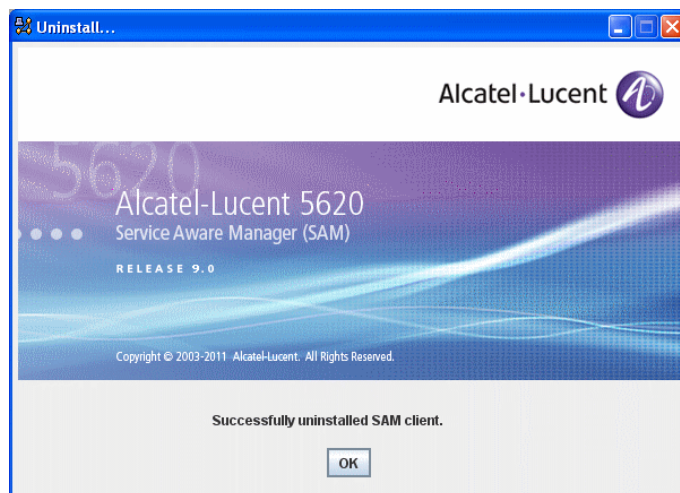
The panel Figure 6-5 opens. The panel displays the uninstallation progress.

**Figure 6-5 Uninstall...**



- 7 The client uninstallation is complete when the panel in Figure 6-6 is displayed. Click on the OK button to close the uninstaller.

**Figure 6-6 Uninstall...**



## Procedure 6-2 To uninstall the 5620 SAM client software on Solaris using the local client uninstaller

Perform this procedure to remove the 5620 SAM client software from a Solaris station using the uninstallation utility on the client station.



**Note** — You require one of the following sets of user privileges on the client station to perform this procedure:

- the privileges of the user that installed the client software
- root

- 1 Stop the 5620 SAM client. From the 5620 SAM GUI main menu, choose Application→Exit.
- 2 Log in to the 5620 SAM client station as the root user, or as the user that installed the 5620 SAM client software.
- 3 Open a console window.



**Note** — Ensure that the current working directory is not a directory below the 5620 SAM client installation directory, for example, below /opt/5620sam/client.

- 4 Enter the following to open the 5620 SAM client uninstaller:

```
path/Uninstaller/Uninstall_5620_SAM_Client ↵
```

where *path* is the 5620 SAM client installation location, typically /opt/5620sam/client

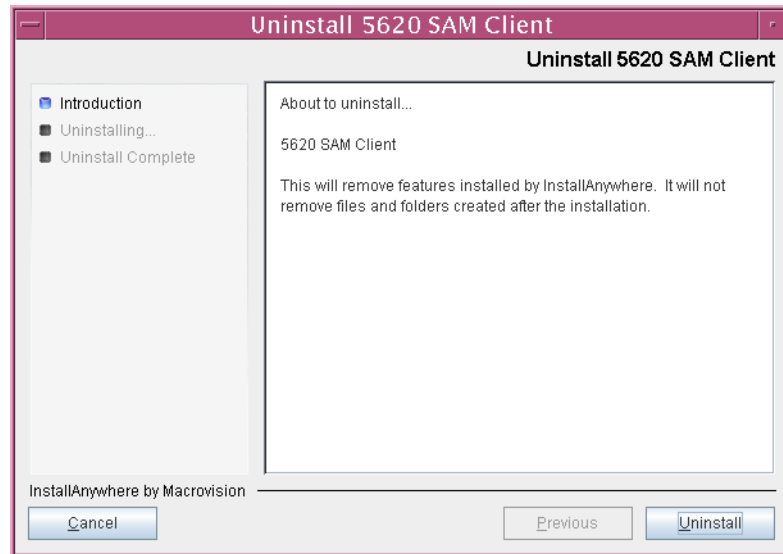
The splash screen shown in Figure 6-7 opens.

Figure 6-7 5620 SAM Uninstaller



- 5 The 5620 SAM client uninstaller opens, as shown in Figure 6-8. The left pane indicates uninstallation progress. The right pane indicates the operations that are to take place. Click on the Uninstall button to begin the uninstallation.

**Figure 6-8 Uninstall 5620 SAM Client**



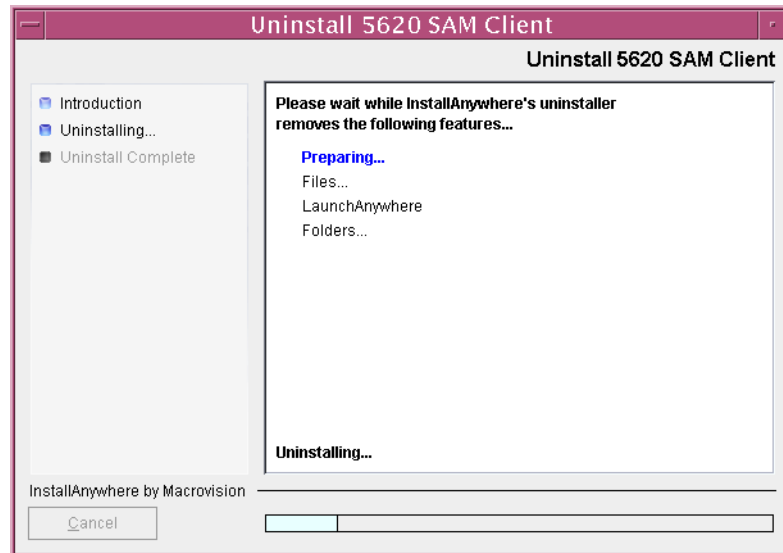
- 6 As shown in Figure 6-9, a warning appears. Ensure that the conditions are true. Click on the “Continue with the uninstall process” button to begin the uninstallation.

**Figure 6-9 Warning**



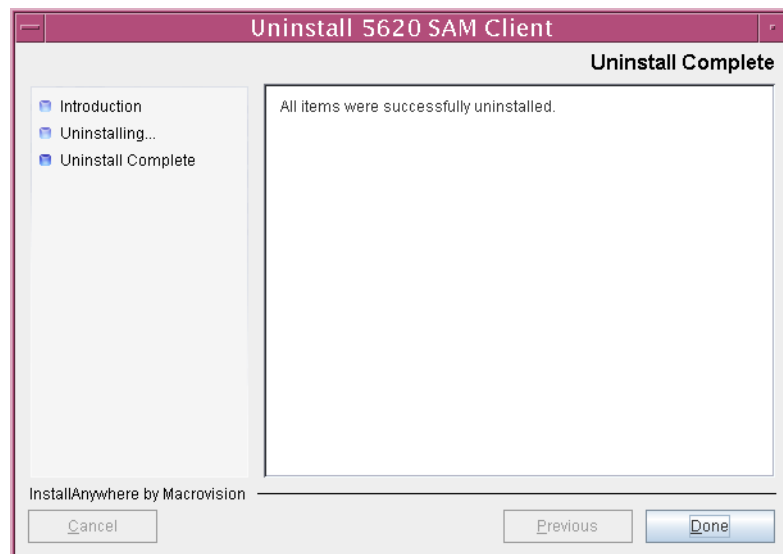
The uninstaller begins to remove 5620 SAM client files and directories, as shown in Figure 6-10.

Figure 6-10 Uninstall 5620 SAM Client



- 7 When the client uninstallation is complete, as shown in Figure 6-11, click on the Done button to close the client uninstaller.

Figure 6-11 Uninstall Complete





### Procedure 6-3 To uninstall the 5620 SAM single-user client software on Windows using a web browser

Perform this procedure to remove the 5620 SAM single-user client software from a Windows station using a web browser.



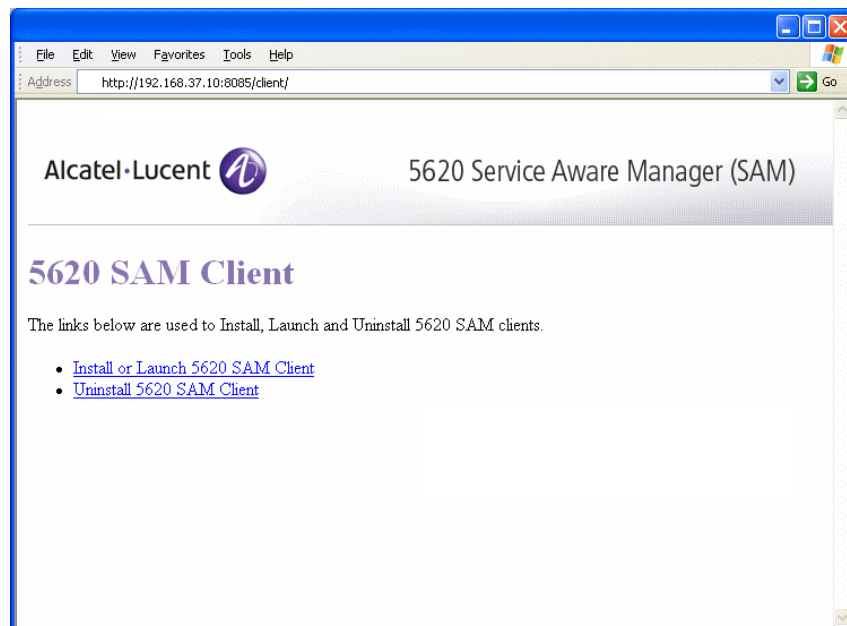
**Note** — The user that uninstalls the 5620 SAM client software must be a local administrator or the user that installed the 5620 SAM client software.

- 1 Log in to the 5620 SAM single-user client station as a local administrator, or as the user that installed the client software.
- 2 Close the client GUI, if it is open, by choosing Application→Exit from the 5620 SAM main menu.
- 3 Perform one of the following.
  - a If SSL security is not enabled on the client and main server, open the following page on the main server using a web browser on the client station:  
<http://server:8085/client>
  - b If SSL security is enabled on the client and main server, open the following page on the main server using a web browser on the client station:  
<https://server:8444/client>

where *server* is the IP address or hostname of the 5620 SAM main server

The page shown in Figure 6-12 is displayed.

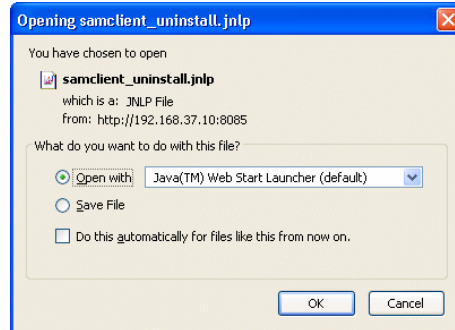
Figure 6-12 5620 SAM client page





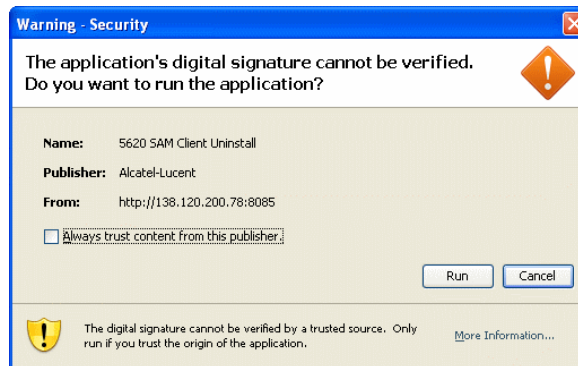
- Click on the “Uninstall 5620 SAM Client” link. The form shown in Figure 6-13 is displayed. Ensure that “Open with” is selected, then click on the OK button.

Figure 6-13 Opening samclient\_uninstall.jnlp



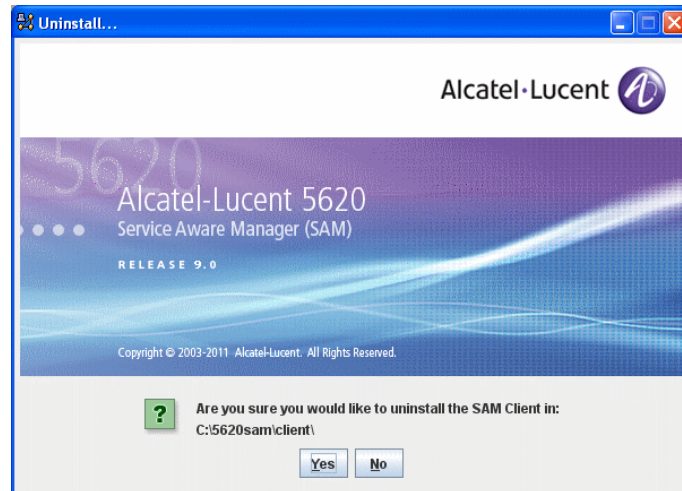
- If a security warning like the one shown in Figure 6-14 is displayed, click on the Run button.

Figure 6-14 Warning - Security



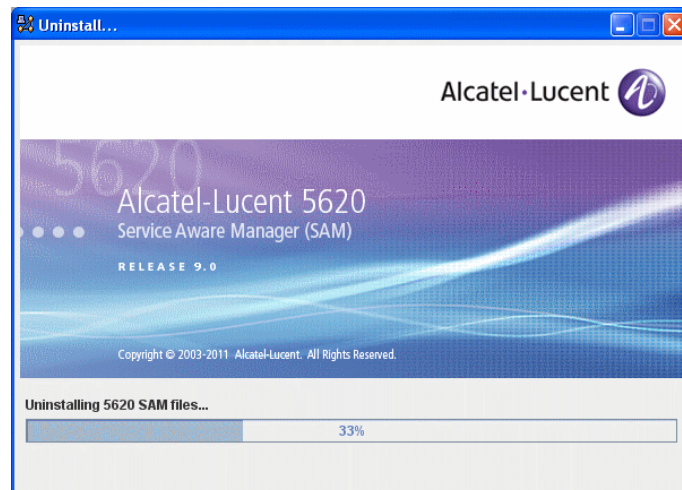
- 6 The client uninstaller opens, as shown in Figure 6-15. Click on the Yes button to begin the client uninstallation.

Figure 6-15 Uninstall...



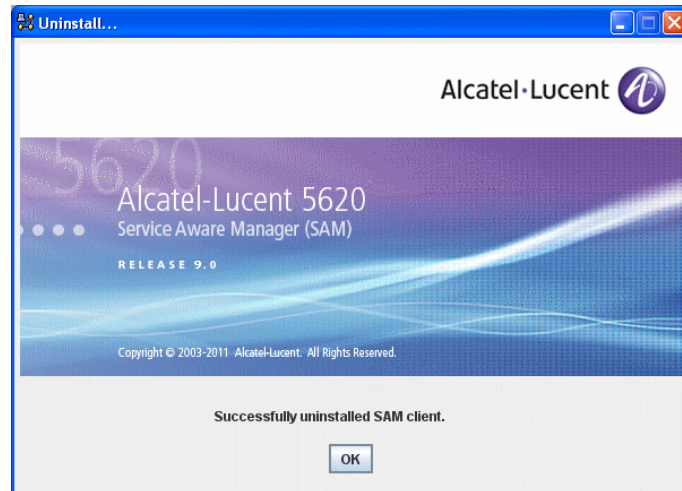
The panel Figure 6-16 opens. The panel displays the uninstallation progress.

Figure 6-16 Uninstall...



- 7 The client uninstallation is complete when the panel in Figure 6-17 is displayed. Click on the OK button to close the uninstaller.

Figure 6-17 Uninstall...



#### Procedure 6-4 To uninstall the 5620 SAM single-user client software on Windows using the Add/Remove Programs utility

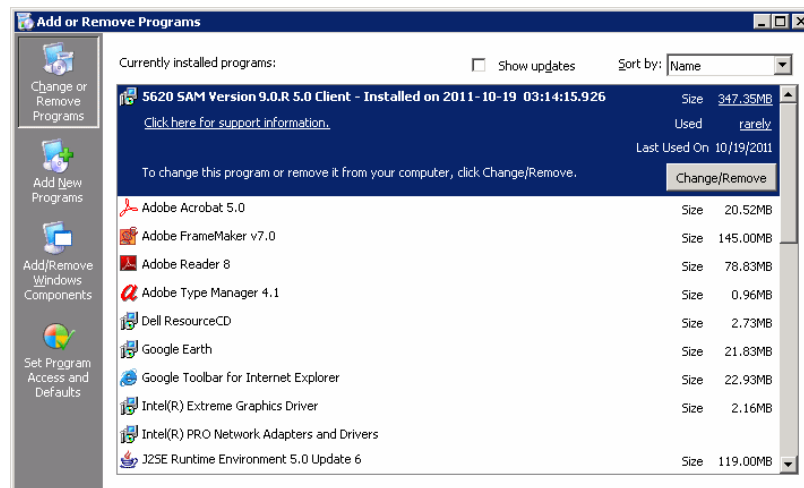
Perform this procedure to remove the 5620 SAM single-user client software from a Windows station using the Windows Add/Remove Programs utility.



**Note** — The Windows user that uninstalls the 5620 SAM client software must be a local administrator or the user that installed the 5620 SAM client software.

- 1 Log in to the 5620 SAM single-user client station as a local administrator or the user that installed the 5620 SAM client software.
- 2 Close the 5620 SAM client GUI, if it is open, by choosing Application→Exit from the 5620 SAM main menu.
- 3 Perform one of the following, based on the Windows release.
  - a Perform the following steps for Windows Vista.
    - i Click on Start→Control Panel. The Control Panel window opens.
    - ii Under the Programs category, click on Uninstall a Program. The Uninstall or change a program window opens.

- iii Right-click on 5620 SAM Client and select Uninstall/Change.
- iv If a security dialog box appears, click on the Continue button.
- b Perform the following steps for a Windows release other than Vista.
  - i Click on Start→Settings→Control Panel. The Control Panel window opens.
  - ii Double-click on Add or Remove Programs. The Add or Remove Programs window opens.
  - iii Select 5620 SAM Client, as shown in Figure 6-18. Click on the Change/Remove button to begin the uninstallation.

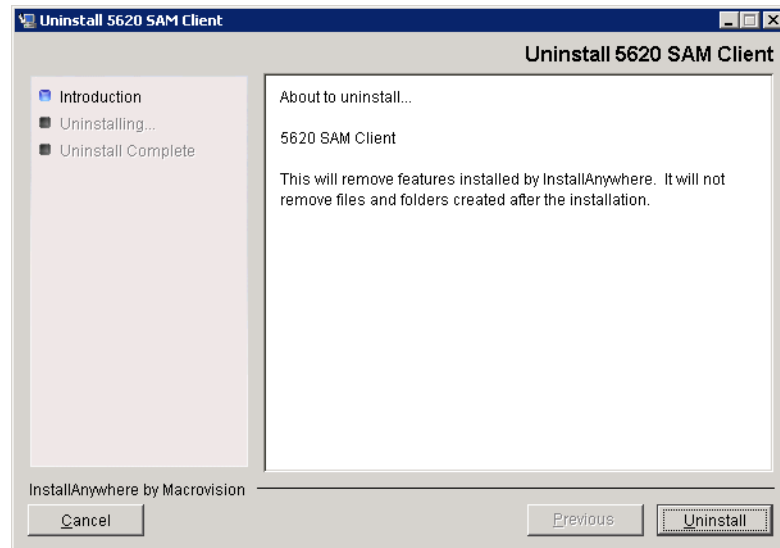
**Figure 6-18 Add or Remove Programs - client**

The splash screen shown in Figure 6-19 opens.

**Figure 6-19 5620 SAM uninstaller**

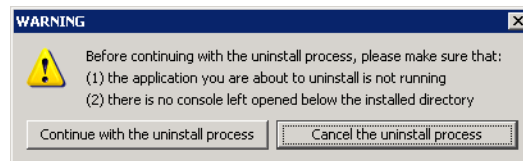
- 4 You are notified that the utility uninstalls the specified application but does not remove any files or directories added after the installation, as shown in Figure 6-20. Click on the Uninstall button to begin the uninstallation.

Figure 6-20 Uninstall 5620 SAM Client



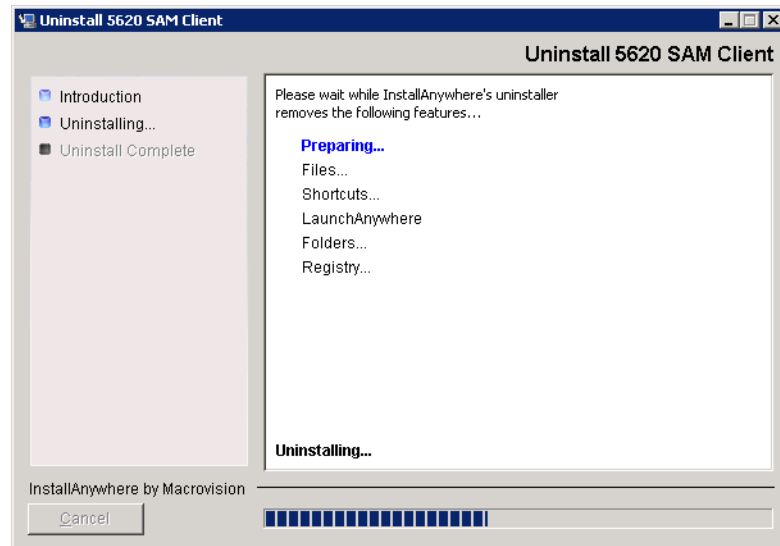
- 5 As shown in Figure 6-21, a warning appears. Ensure that the conditions are true, then click on the “Continue with the uninstall process” button.

Figure 6-21 Warning



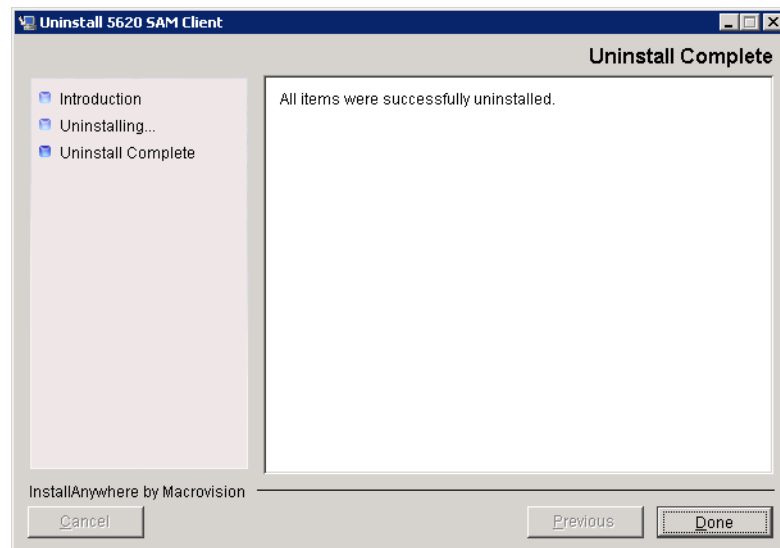
- 6 As shown in Figure 6-22, the uninstallation process removes the 5620 SAM client software.

Figure 6-22 Uninstall 5620 SAM Client



- 7 When the 5620 SAM client uninstallation is complete, as shown in Figure 6-23, click on the Done button to close the client uninstaller.

Figure 6-23 Uninstall Complete



- 8 Close the Add/Remove Programs window or the Uninstall or change a program window, as appropriate.
  - 9 Close the Control Panel window.
-

## Procedure 6-5 To uninstall the 5620 SAM auxiliary server software

Perform this procedure to remove the 5620 SAM auxiliary server software.



**Caution** — In a redundant 5620 SAM system, you must uninstall the auxiliary servers in the following order:

- reserved auxiliary server of primary main server
- preferred auxiliary server of primary main server



**Note** — You require the following user privileges on the auxiliary server station to perform this procedure:

- root
- samadmin

### Stop auxiliary server application

- 1 Perform the following steps to stop the 5620 SAM server application on the auxiliary server station.

- i Log in to the auxiliary server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/auxserver

- iv Enter the following to stop the 5620 SAM server software:

```
bash$./auxnmserver.bash auxstop ↵
```

- v Enter the following to display the 5620 SAM server status:

```
bash$./auxnmserver.bash auxappserver_status ↵
```

The command displays a status message.

- vi The server is stopped when the command displays the following status message:

```
Auxiliary Server is stopped
```

If the command displays a different message, wait 5m and repeat step 1 v. Do not proceed to the next step until the server is stopped.

### Uninstall server

- 2 Enter the following at the prompt to switch to the root user:

```
bash$ su - ↵
```

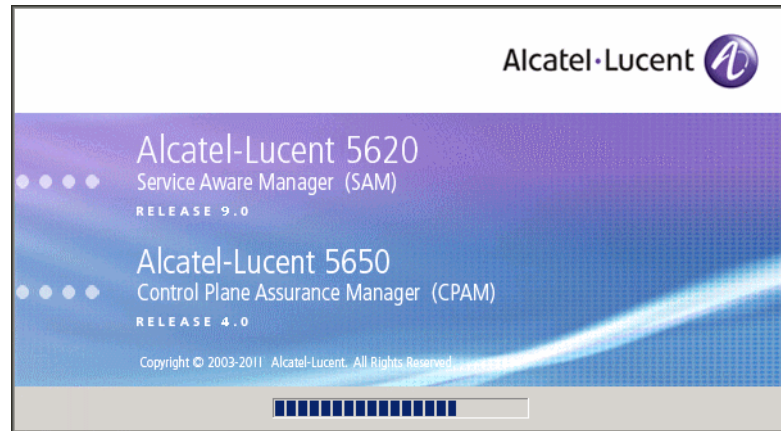
- 3 Enter the following to open the 5620 SAM server uninstaller:

```
path/Uninstaller/Uninstall_Server_Auxiliary ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/auxserver

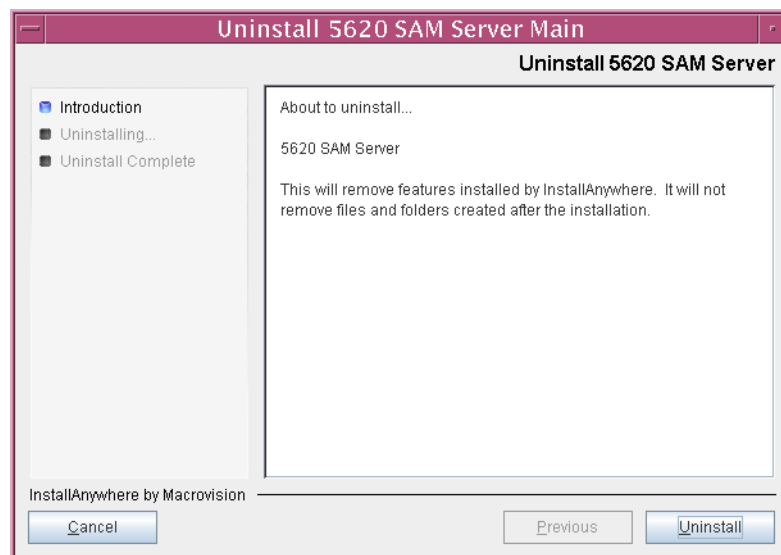
The splash screen shown in Figure 6-24 opens.

Figure 6-24 5620 SAM Uninstaller



- 4 The 5620 SAM server uninstaller opens, as shown in Figure 6-25. The left pane indicates uninstallation progress. The right pane indicates the operations that are to take place. Click on the Uninstall button to begin the uninstallation.

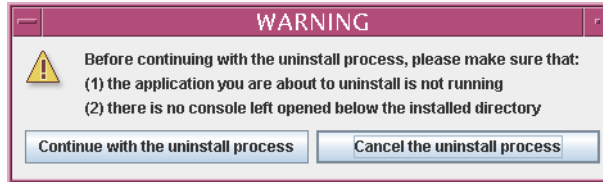
Figure 6-25 Uninstall 5620 SAM Server





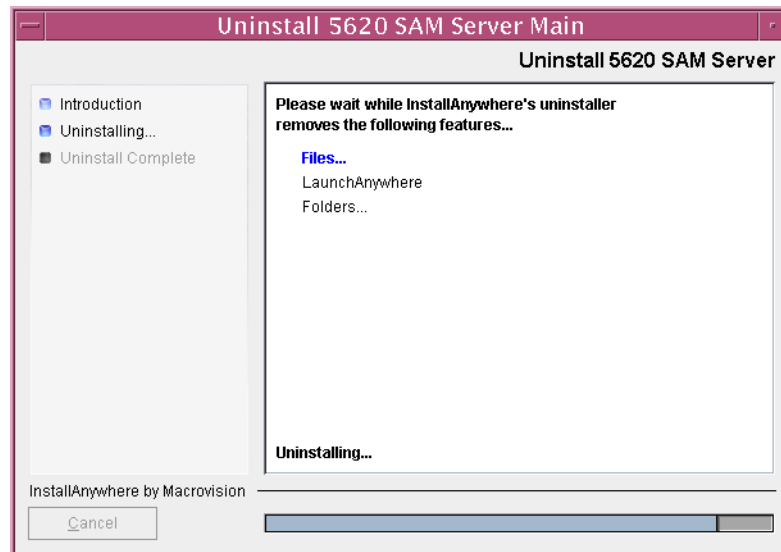
- 5 Read the warning shown in Figure 6-26. Click on the “Continue with the uninstall process” button to begin the uninstallation.

Figure 6-26 Warning



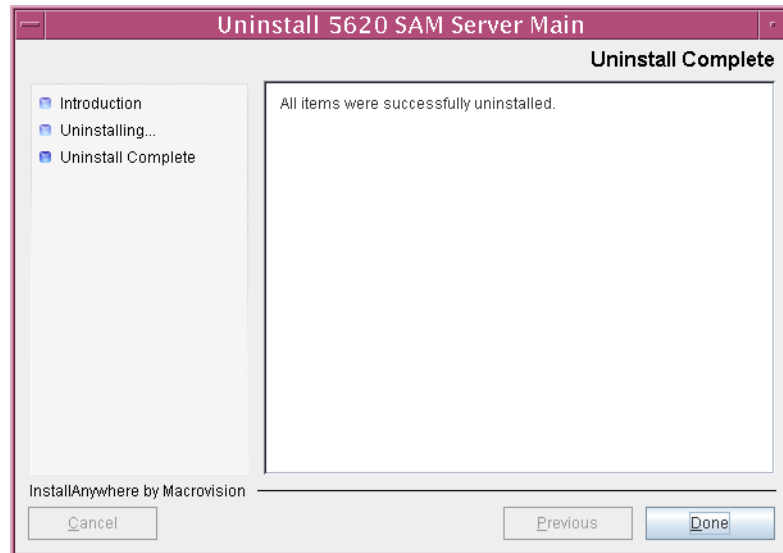
The uninstaller begins to remove 5620 SAM server files and directories, as shown in Figure 6-27.

Figure 6-27 Uninstall 5620 SAM Server



- 6 When the server uninstallation is complete, as shown in Figure 6-28, click on the Done button to close the server uninstaller.

**Figure 6-28 Uninstall Complete**



- 7 Enter the following to reboot the auxiliary server station:

```
shutdown -y -i6 -g0 ↵
```

The station reboots.

- 8 Remove any files and directories that remain in the auxiliary server installation directory.
- 

## Procedure 6-6 To uninstall the 5620 SAM main server software

---

Perform this procedure to remove the 5620 SAM main server software.



**Caution 1** — This procedure involves stopping the 5620 SAM server and database software. Ensure that you perform this procedure only during a scheduled maintenance period.

**Caution 2** — In a redundant 5620 SAM deployment, to avoid a server activity switch, you must uninstall the main servers in the following order:

- standby main server
- primary main server



**Note** — You require the following user privileges to perform this procedure:

on each main server station:

- root
- samadmin

on each database station:

- root
- Oracle management

### Stop server and database applications

1 Perform the following steps to stop the 5620 SAM main server application.

- Log in to the main server station as the samadmin user.
- Open a console window.
- Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

- Enter the following to stop the 5620 SAM server software:

```
bash$./nmsserver.bash stop ↵
```

- Enter the following to display the 5620 SAM server status:

```
bash$./nmsserver.bash appserver_status ↵
```

The command displays a status message.

- The 5620 SAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 1 v. Do not proceed to the next step until the server is stopped.

2 Stop the 5620 SAM database application.

- Log in to the database station as the root user.
- Open a console window.
- Enter the following to change to the /etc/rc3.d directory:

```
cd /etc/rc3.d ↵
```

- iv Enter the following to stop the Oracle proxy daemon:

```
./S965620SAMOracleProxyWrapper stop ↵
```

- v Enter the following to stop the 5620 SAM database daemon:

```
./S95db5620sam stop ↵
```

- vi Enter the following to verify that the 5620 SAM database is stopped:

```
ps -ef | grep oracle ↵
```

The command displays a list of processes that contain the term “oracle”.



**Note** — One of the list entries is the “grep oracle” command from this step. Disregard the “grep oracle” entry, as it is not an Oracle process.

- vii If the command displays lines of text other than “grep oracle”, the 5620 SAM database is not stopped. Repeat step 2 vi.

Do not proceed until the command displays only the single “grep oracle” entry.

The next phase involves the uninstallation of the 5620 SAM server software.

### Uninstall server

- 3 Log in to the 5620 SAM main server station as the root user.

- 4 Open a console window.

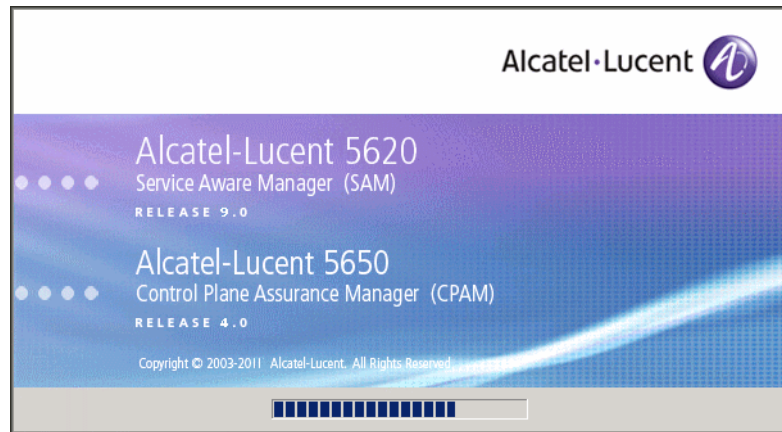
- 5 Enter the following to open the 5620 SAM server uninstaller:

```
path/Uninstaller/Uninstall_Server_Main ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

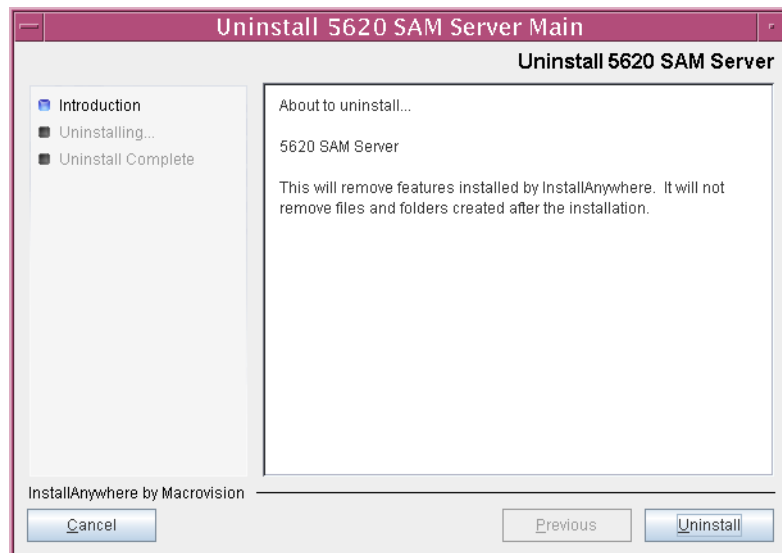
The splash screen shown in Figure 6-29 opens.

**Figure 6-29 5620 SAM Uninstaller**



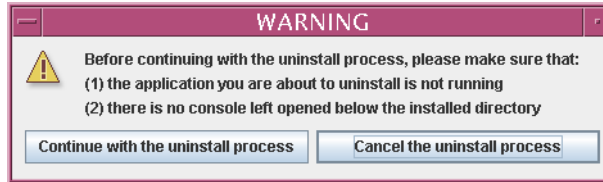
- 6 The 5620 SAM server uninstaller opens, as shown in Figure 6-30. The left pane indicates uninstallation progress. The right pane indicates the operations that are to take place. Click on the Uninstall button to begin the uninstallation.

**Figure 6-30 Uninstall 5620 SAM Server**



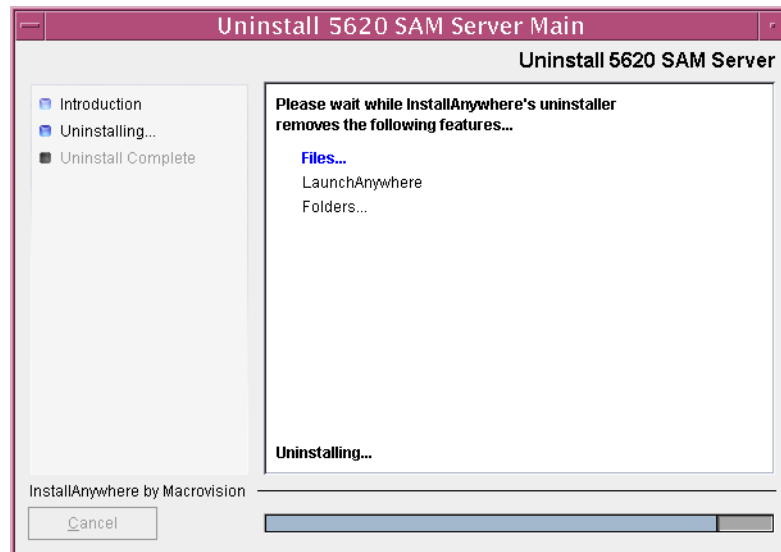
- 7 Read the warning shown in Figure 6-31. Click on the “Continue with the uninstall process” button to begin the uninstallation.

**Figure 6-31 Warning**



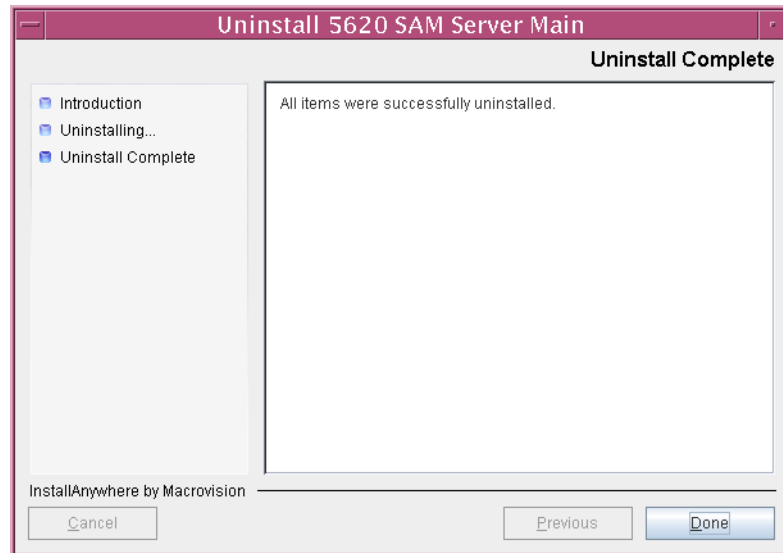
The uninstaller begins to remove 5620 SAM server files and directories, as shown in Figure 6-32.

**Figure 6-32 Uninstall 5620 SAM Server**



- 8 When the server uninstallation is complete, as shown in Figure 6-33, click on the Done button to close the server uninstaller.

Figure 6-33 Uninstall Complete



- 9 Enter the following to reboot the main server station:

```
bash$ shutdown -y -i6 -g0 ↵
```

The station reboots.

- 10 Remove any files and directories that remain in the main server installation directory.

## Procedure 6-7 To uninstall the 5620 SAM database software

Perform this procedure to remove the 5620 SAM database software.



**Note** — You require the following user privileges on the database station to perform this procedure:

- root
- Oracle management

- 1 Log in to the database station as the root user.
- 2 Open a console window.
- 3 Enter the following to switch to the Oracle management user:

```
su - Oracle_management_user_name ↵
```

where *Oracle\_management\_user\_name* is the name of the UNIX account with Oracle management privileges, typically oracle

- 4 Enter the following to open the 5620 SAM database uninstaller:

```
bash$
path/install/Uninstaller/Uninstall_5620_SAM_Database_Configurator
r ↵
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

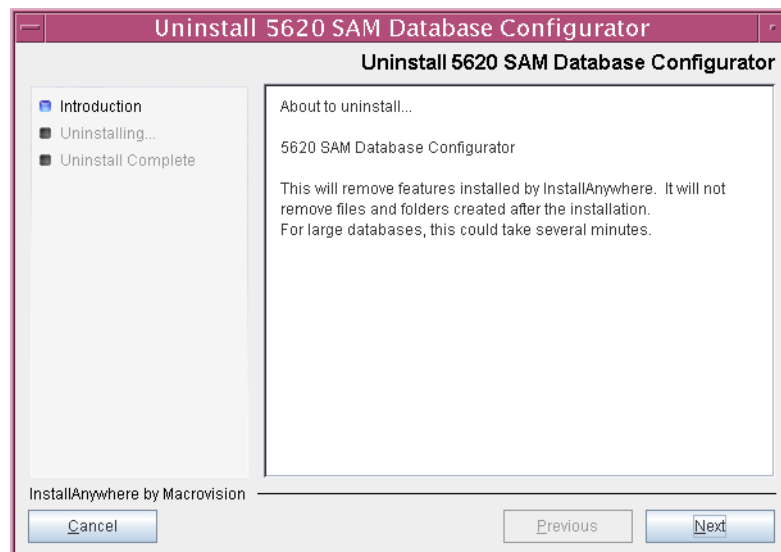
The splash screen shown in Figure 6-34 opens.

Figure 6-34 5620 SAM Uninstaller



- 5 The 5620 SAM database uninstaller opens, as shown in Figure 6-35. The left pane indicates uninstallation progress. The right pane indicates the operations that are to take place. Click on the Next button.

Figure 6-35 Uninstall 5620 SAM Database Configurator



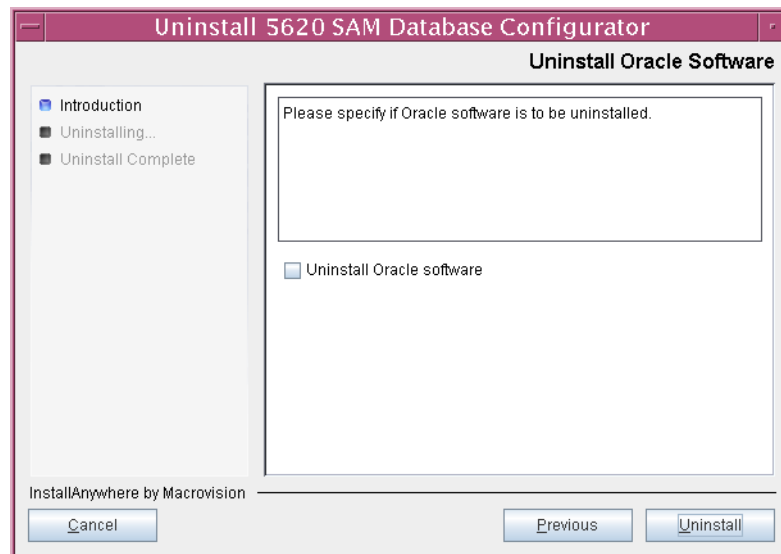


- 6 If required, select the “Uninstall Oracle software” parameter shown in Figure 6-36 to remove the Oracle software from the database station, then click on the Uninstall button to begin the uninstallation.



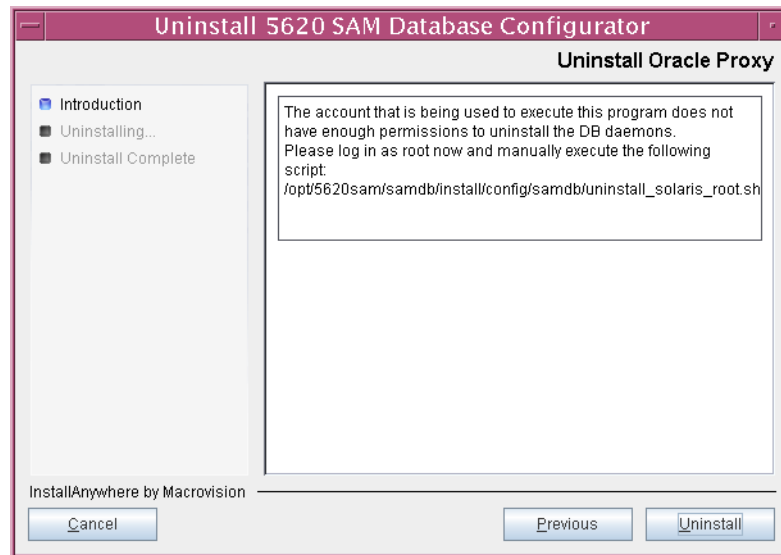
**Note** — When the installer removes the Oracle software, it does not delete the Oracle base installation directory, because this directory is typically the home directory of the Oracle management user.

Figure 6-36 Uninstall Oracle Software



- 7 Perform the following steps when the panel in Figure 6-37 is displayed.

Figure 6-37 Uninstall Oracle Proxy



- i Open a separate console window.
- ii Enter the following to switch to the root user:  

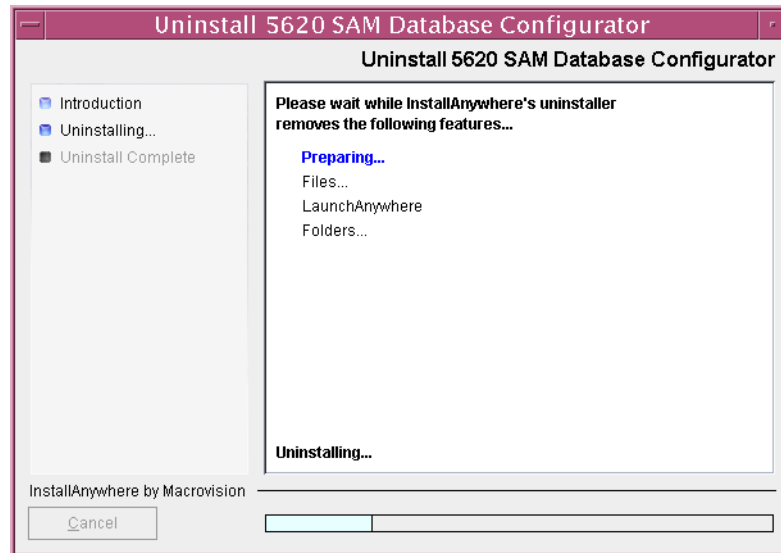
```
su -
```
- iii Enter the following to run the script named in the panel text:  

```
path/install/config/samdb/uninstall_solaris_root.sh
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb
- iv When the script execution is complete, close the console window.
- v Click on the Uninstall button.

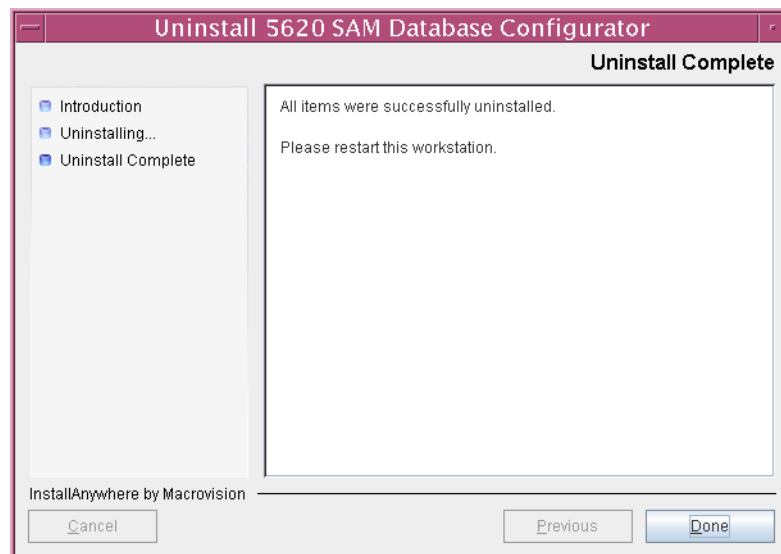
The uninstaller begins to remove 5620 SAM database files and directories, as shown in Figure 6-38.

**Figure 6-38 Uninstall 5620 SAM Database Configurator**



- 8 When database uninstallation is complete, as shown in Figure 6-39, click on the Done button to close the database uninstaller.

**Figure 6-39 Uninstall Complete**



- 9 Enter the following to reboot the database station:

```
bash$ shutdown -y -i6 -g0 ↵
```

The station reboots.

- 10 Remove any files and directories that remain in the Oracle installation directory and the database directories.
-

# ***5650 CPAM deployment***

---

- 7 – 5650 CPAM installation**
- 8 – 5650 CPAM upgrade**
- 9 – 5650 CPAM uninstallation**



## **7 — 5650 CPAM installation**

---

- 7.1 5650 CPAM installation overview 7-2
- 7.2 5650 CPAM installation procedures list 7-2
- 7.3 5650 CPAM installation procedures 7-3

## 7.1 5650 CPAM installation overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this guide and in the *5650 CPAM User Guide*.



**Caution** — Alcatel-Lucent supports 5650 CPAM software configuration only under the conditions described in chapter 1.



**Note** — The platform requirements for a 5650 CPAM server are the same as the requirements for a 5620 SAM server. Use the 5620 SAM main server guidelines in chapter 1 as the 5650 CPAM server guidelines.

See Appendix D for detailed 5650 CPAM installation parameter descriptions.

## 7.2 5650 CPAM installation procedures list

Table 7-1 lists the 5650 CPAM server software installation procedures.

**Table 7-1 5650 CPAM installation procedures list**

| Procedure                                                | Purpose                                                           |
|----------------------------------------------------------|-------------------------------------------------------------------|
| <a href="#">To install a standalone 5650 CPAM system</a> | Install the 5650 CPAM server software in a standalone deployment. |
| <a href="#">To install a redundant 5650 CPAM system</a>  | Install the 5650 CPAM server software in a redundant deployment.  |



## 7.3 5650 CPAM installation procedures

This section describes how to install the 5650 CPAM software in a standalone or redundant deployment. A 5650 CPAM software installation is typically performed as part of a 5620 SAM main server software installation. Procedure 7-1 describes how to install the 5650 CPAM server software in a standalone deployment. Procedure 7-2 describes how to install the 5650 CPAM server software in a redundant deployment.



**Warning** — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panels when you perform a procedure in this section:

- **5620 SAM/5650 CPAM Server Installer**
  - CPAM Server Configuration for Auxiliary Servers
  - CPAM Server Configuration for Peer Server



**Note 1** — The 5650 CPAM software is automatically installed when you install the 5620 SAM main server software, but is activated only after a valid 5650 CPAM license key is added to the 5650 CPAM configuration.

**Note 2** — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

The procedures in this section are for use only in the following situations:

- when the 5650 CPAM server is to be used without a 5620 SAM main server
- when the 5650 CPAM server is to be used with a 5620 SAM main server that is installed on a station other than the 5650 CPAM station

## Procedure 7-1 To install a standalone 5650 CPAM system

---

Perform this procedure to install the 5650 CPAM server software on a station in a standalone deployment. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note 1** — You require root user privileges on the 5650 CPAM station to perform this procedure.

**Note 2** — Command-line examples procedures use the # symbol to represent the Solaris CLI prompt. Do not type the leading # symbol when you enter a command.

- 1 Log in to the station that is to be the 5650 CPAM station as the root user.
- 2 Place the 5620 SAM | 5650 CPAM software DVD-ROM in a DVD-ROM drive.
- 3 Open a console window.
- 4 Navigate to the DVD-ROM drive.
- 5 Perform one of the following to open the 5620 SAM | 5650 CPAM server installer.

**a** On a SPARC station:

**i** Enter the following:

```
cd Solaris ↵
```

**ii** Enter the following:

```
./ServerInstall_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

**b** On an x86-based station:

**i** Enter the following:

```
cd Solarisx86 ↵
```

**ii** Enter the following:

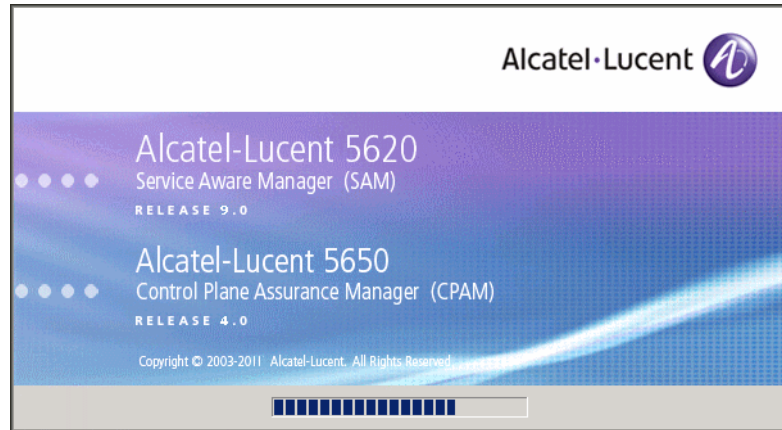
```
./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

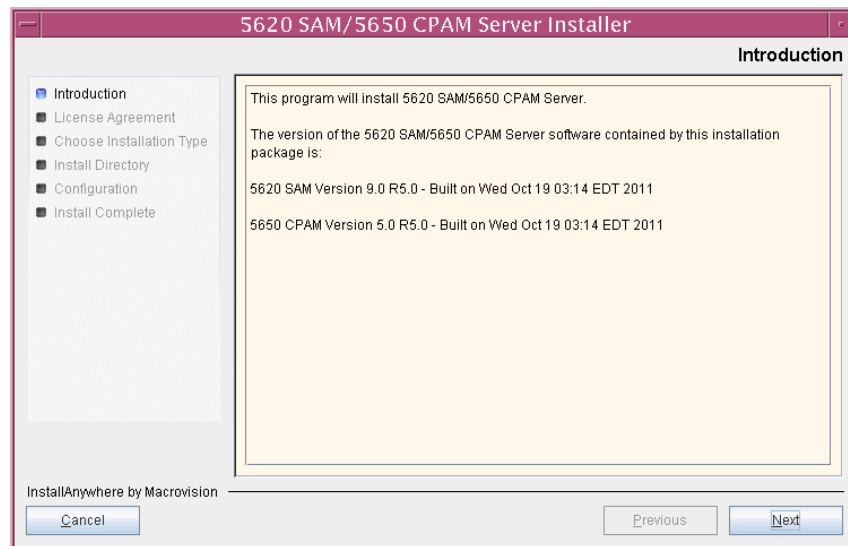
The splash screen shown in Figure 7-1 opens.

**Figure 7-1 5620 SAM | 5650 CPAM installer**



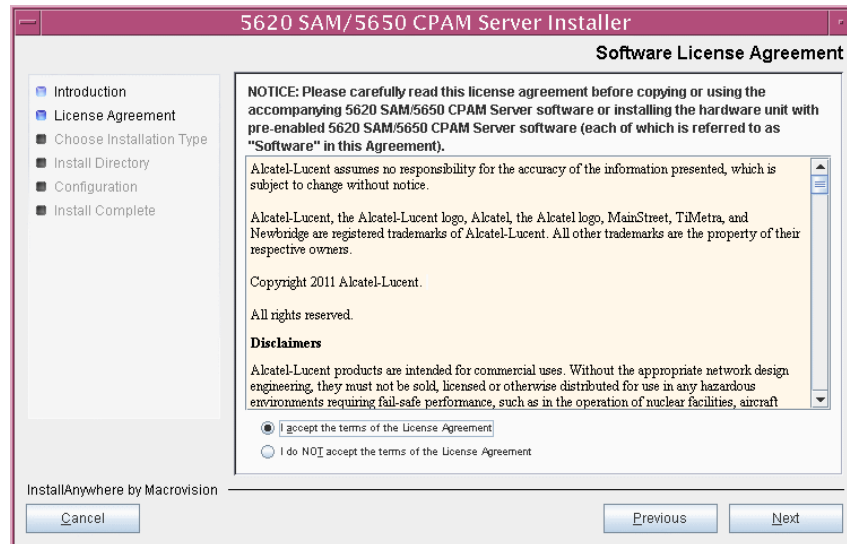
- 6 The 5650 CPAM server installer opens, as shown in Figure 7-2. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

**Figure 7-2 Introduction**



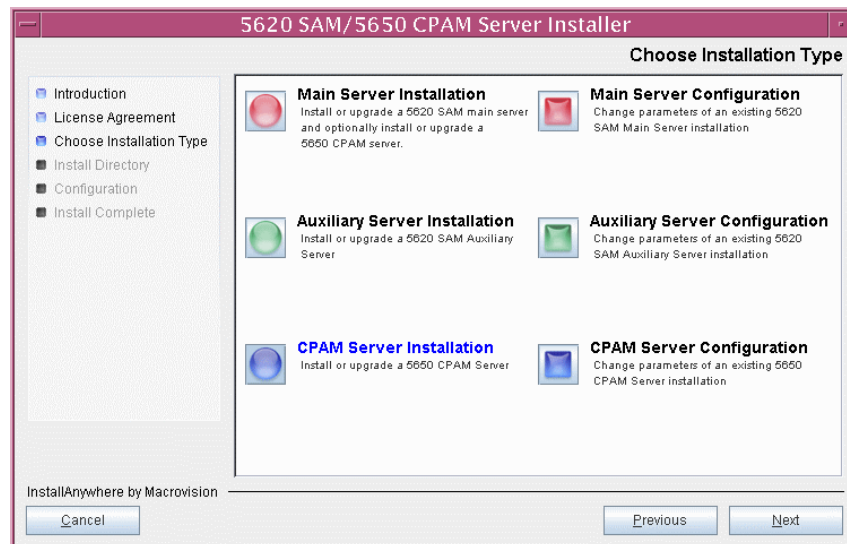
- 7 Review and accept the terms of the license agreement shown in Figure 7-3. Click on the Next button.

Figure 7-3 Software License Agreement



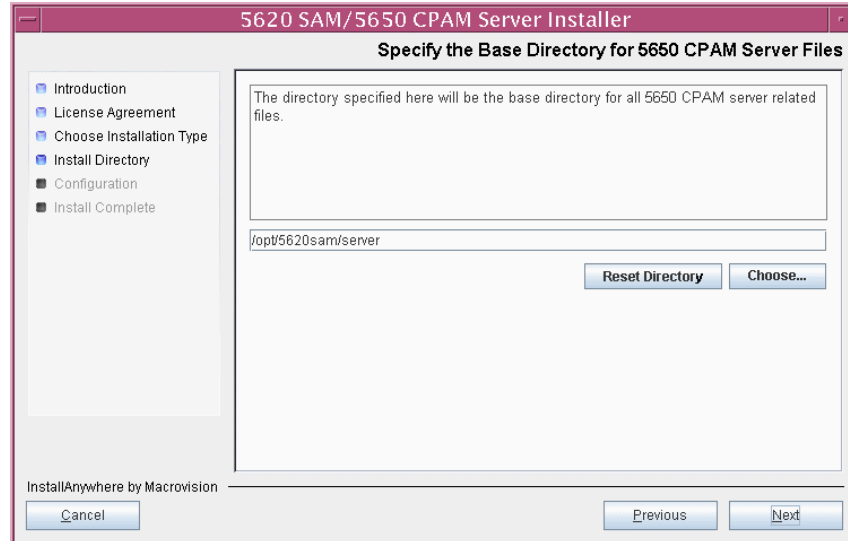
- 8 Select CPAM Server Installation, as shown in Figure 7-4. Click on the Next button.

Figure 7-4 Choose Installation Type



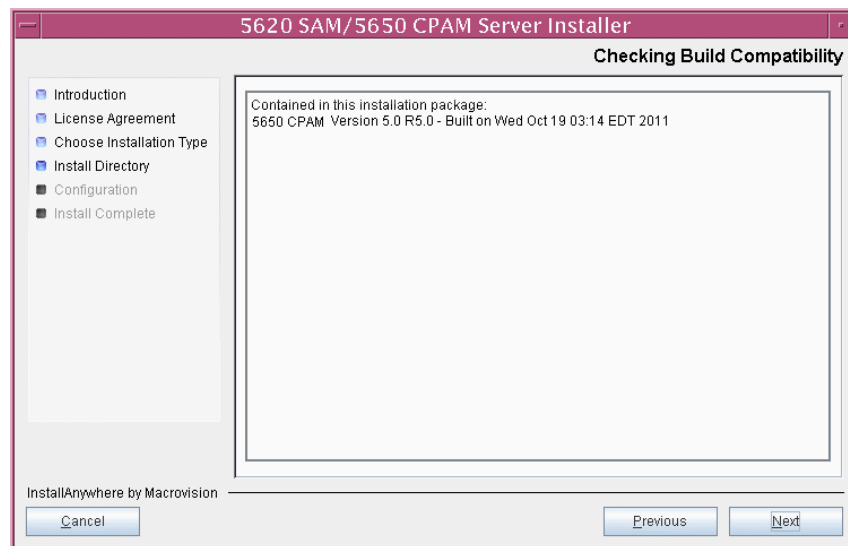
- 9 Specify a base directory in which to install the 5650 CPAM server software (typically /opt/5620sam/server), as shown in Figure 7-5. Click on the Next button.

**Figure 7-5 Specify the Base Directory for 5650 CPAM Server Files**



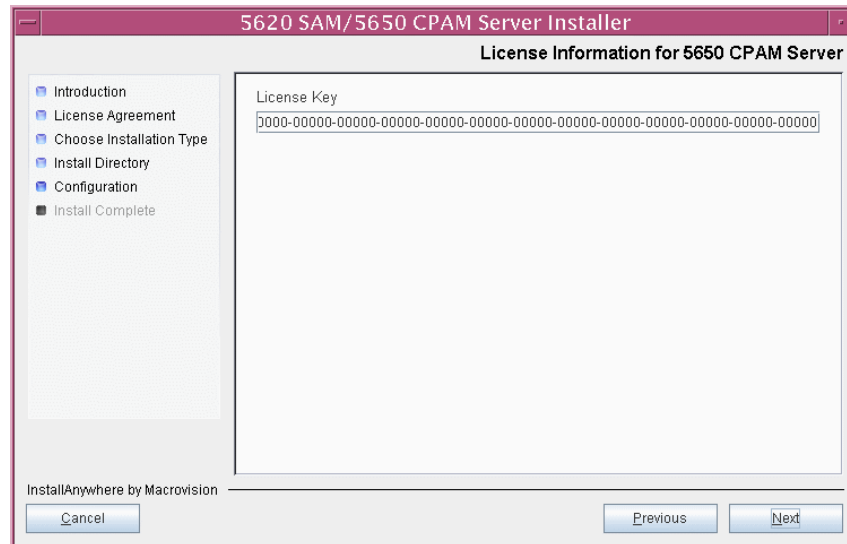
- 10 As shown in Figure 7-6, the installer indicates which release of 5650 CPAM software is to be installed. Verify the information. Click on the Next button.

**Figure 7-6 Checking Build Compatibility**



- 11 Enter the license key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 7-7. Click on the Next button.

**Figure 7-7 License Information for 5650 CPAM Server**



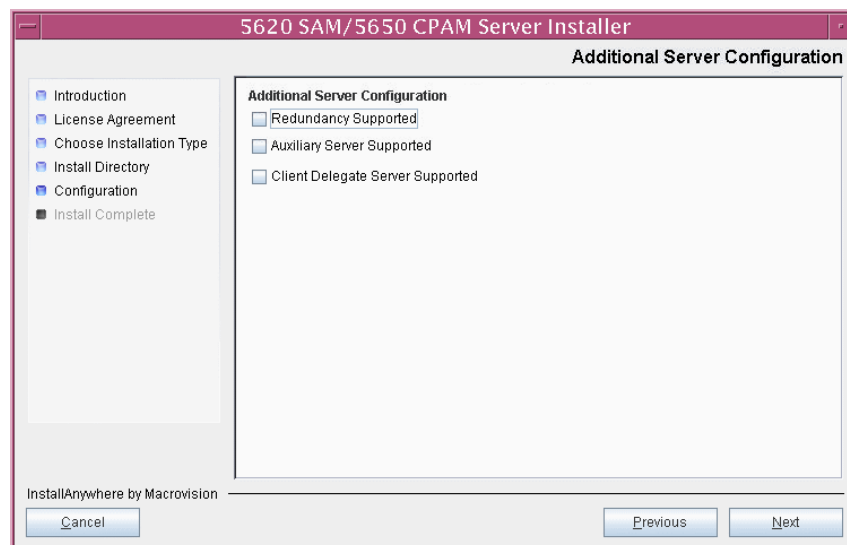
12 Configure the following parameters shown in Figure 7-8, then click on the Next button.

- Redundancy Supported
- Auxiliary Server Supported
- Client Delegate Server Supported



**Note** — You must leave the “Redundancy Supported” parameter unselected.

**Figure 7-8 Additional Server Configuration**



- 13 Configure the following parameters shown in Figure 7-9, then click on the Next button:
- Database Server IP Address
  - Database Instance Name (typically samdb)
  - Database Proxy Port (typically 9002)

**Figure 7-9 Database Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Database Configuration' tab selected. On the left is a navigation pane with options: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the 5620 SAM database's public IP address as known to the 5650 CPAM server.' Below this are three input fields: 'Database Server IP Address' (highlighted in yellow), 'Database Instance Name' (containing 'samdb'), and 'Database Proxy Port' (containing '9002'). At the bottom are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.



- 14 The panel in Figure 7-10 is displayed if you select the “Auxiliary Server Supported” parameter in step 12. Otherwise, go to step 16.

Perform the following steps.

- i Configure the following parameters shown in Figure 7-10:
  - NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5650 CPAM server and the 5620 SAM auxiliary servers.
  - Private IP (accessible only by this server)
  - Public IP (accessible to auxiliary)
  - Server Port (typically 12800)
  - Enable Stats Collection on Auxiliary Servers
  - Enable Call Trace Collection on Auxiliary Servers



**Note 1** — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

**Note 2** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 7-10 CPAM Server Configuration for Auxiliary Servers

- ii Click on the Next button.

- iii Click on the Add button shown in Figure 7-11 to specify an auxiliary server. The form shown in Figure 7-12 opens.



**Note 1** – Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

**Note 2** – Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

Figure 7-11 Auxiliary Servers

| IP Address | Port | Type |
|------------|------|------|
|------------|------|------|



**Note** – To minimize network latency between this 5650 CPAM server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

Figure 7-12 Auxiliary Server Configuration

IP Address:   
Port:   
Type:  ▼

- iv Configure the following parameters:
  - IP Address
  - Port (typically 12800)
  - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 14 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 14 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 7-11. Otherwise, go to step 15.
- viii The form shown in Figure 7-13 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 7-13 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

| Preferred Auxiliary Servers |       |
|-----------------------------|-------|
| IP Address                  | Port  |
| 10.1.1.1                    | 12800 |
| 10.1.1.2                    | 12800 |
| 10.1.1.3                    | 12800 |

| Reserved Auxiliary Servers |       |
|----------------------------|-------|
| IP Address                 | Port  |
| 10.2.2.1                   | 12800 |
| 10.2.2.2                   | 12801 |
| 10.2.2.3                   | 12800 |

| Server Pairs        |                    |
|---------------------|--------------------|
| Preferred Server IP | Reserved Server IP |

Make Pair from Selected      Remove Selected Pair      OK      Cancel

- ix Repeat step 14 viii to configure another call-trace auxiliary server pair, if required.
- 15 Click on the Next button.

**16** Perform the following steps.

- i Configure the following parameters shown in Figure 7-14:
  - **Server Domain Name** (typically 5620sam)  
This parameter uniquely identifies the 5620 SAM server cluster to which the 5650 CPAM server belongs.
  - **Use Hostname for Communication**  
Select this parameter if the 5650 CPAM server is to use multiple interfaces for GUI and OSS client communication.

**Figure 7-14 CPAM Server Configuration for Clients**

**5620 SAM/5650 CPAM Server Installer**

**CPAM Server Configuration for Clients**

Enter the network interface information that the GUI and OSS clients require to communicate with the 5650 CPAM server.

Server Domain Name

☐ Use Hostname for Communication

☒ NAT (network address translation) Used

Private IP (accessible only by this server)

Public IP (accessible to clients)

EJB JNDI Server port

EJB JMS Server port

InstallAnywhere by Macrovision

- ii If you select the “Use Hostname for Communication” parameter, go to step 16 vi.
- iii Configure the following parameters:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public IP (accessible to clients)
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 17.

vi Configure the following parameters shown in Figure 7-15:

- NAT (network address translation) Used
- Private IP (accessible only by this server)
- Public Hostname
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 7-15 CPAM Server Configuration for Clients

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Clients

Enter the network interface information that the GUI and OSS clients require to communicate with the 5650 CPAM server.

Server Domain Name

☒ Use Hostname for Communication

☒ NAT (network address translation) Used

Private IP (accessible only by this server)

Public Hostname

EJB JNDI Server port

EJB JMS Server port

InstallAnywhere by Macrovision

vii Click on the Next button.

17 Configure the following parameters shown in Figure 7-16, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

**Figure 7-16 CPAM Server Configuration for Clients (cont.)**

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Clients (cont.)

Introduction  
License Agreement  
Choose Installation Type  
Install Directory  
Configuration  
Install Complete

RMI Port 1098

RMI Object Port 4444

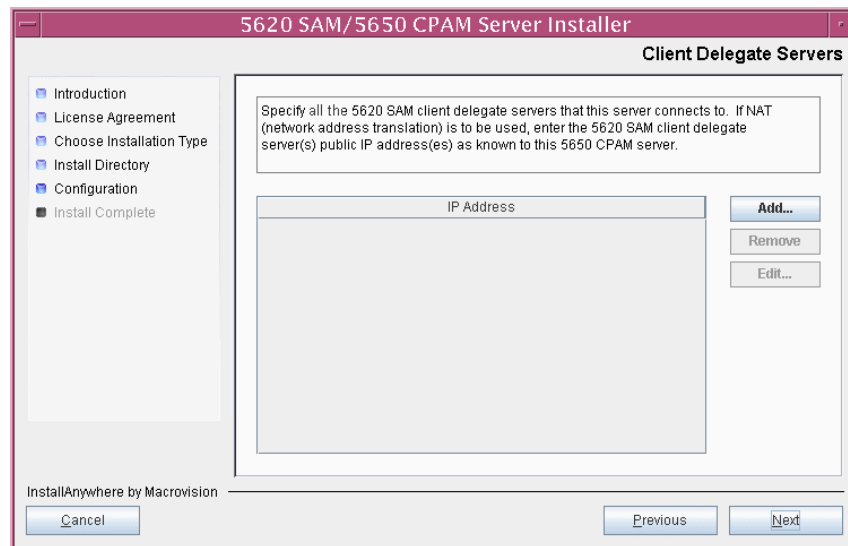
InstallAnywhere by Macrovision

Cancel Previous Next

- 18 The panel in Figure 7-17 is displayed if you select the “Client Delegate Server Supported” parameter in step 12. Otherwise, go to step 20.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5650 CPAM server and client delegate servers, specify the public IP address. Click on the Next button.

**Figure 7-17 Client Delegate Servers**



- 19 Perform the following steps to enable communication security between the 5650 CPAM server and clients, and between the 5650 CPAM and auxiliary servers. Otherwise, click on the Next button.



**Note** — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 7-18.

**Figure 7-18 SSL Configuration**

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password



**Note** — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The 5650 CPAM server copies the files, imports them into the 5650 CPAM server configuration, and transfers the keystore file to each client and auxiliary server.



20 Configure the following parameters shown in Figure 7-19, then click on the Next button:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5650 CPAM server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



**Note** — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 7-19.

Figure 7-19 SNMP Configuration

5620 SAM/5650 CPAM Server Installer

SNMP Configuration

If NAT (network address translation) is to be used, enter the 5650 CPAM server's public IP address as known to the devices within the managed network.

☐ NAT (network address translation) Used

☒ IPv6 Address Used

SNMP Trap Receiving IPv4 Address: 192.168.200.122

SNMP Trap Receiving IPv6 Address:

SNMP Trap Receiving Port: 162

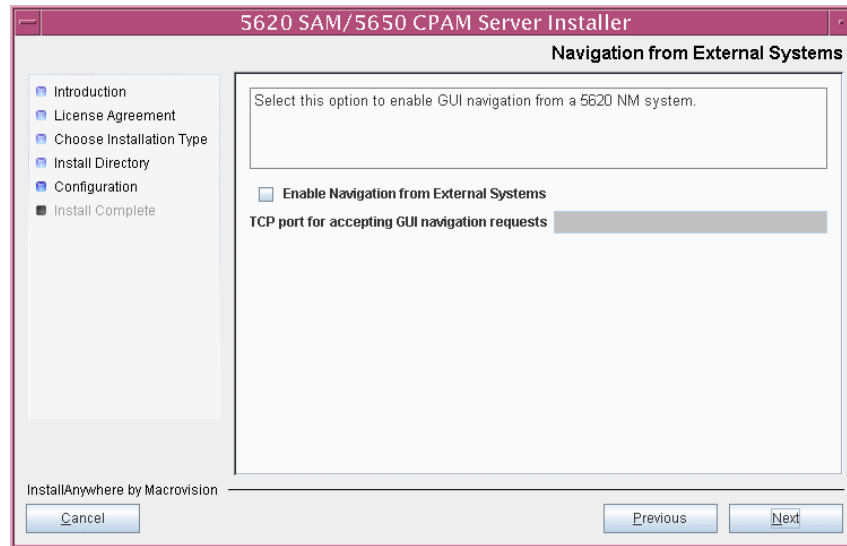
Trap Log Id: 98

InstallAnywhere by Macrovision

Cancel Previous Next

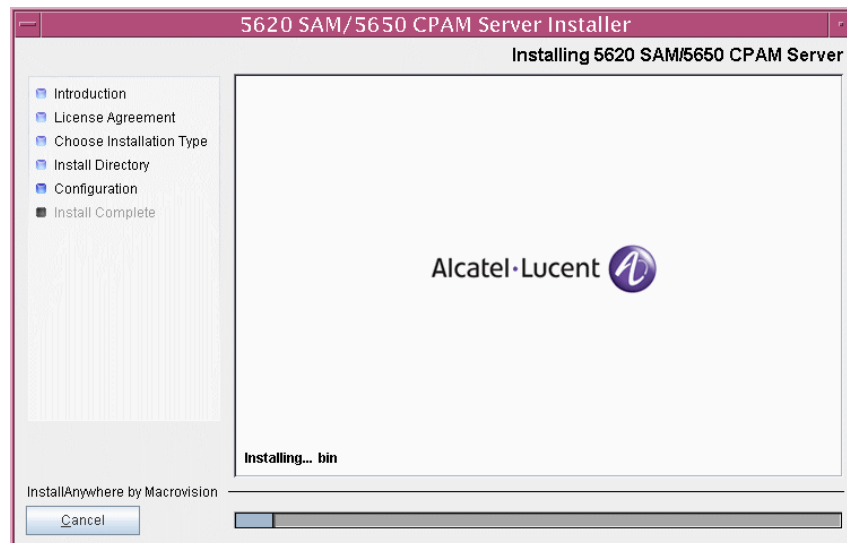
- 21 If you require 5650 CPAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 7-20 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to begin the server installation.

**Figure 7-20 Navigation from External Systems**



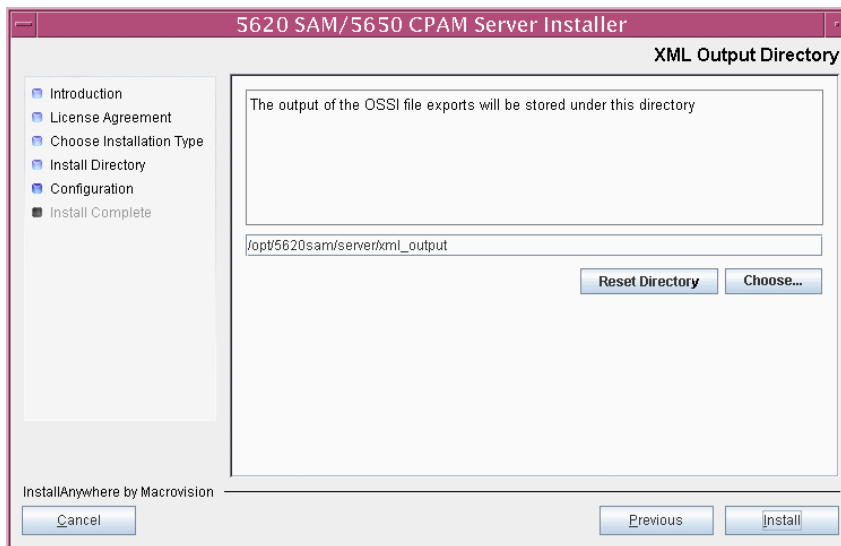
The next panel displays installation progress, as shown in Figure 7-21.

**Figure 7-21 Installing 5620 SAM/5650 CPAM Server**



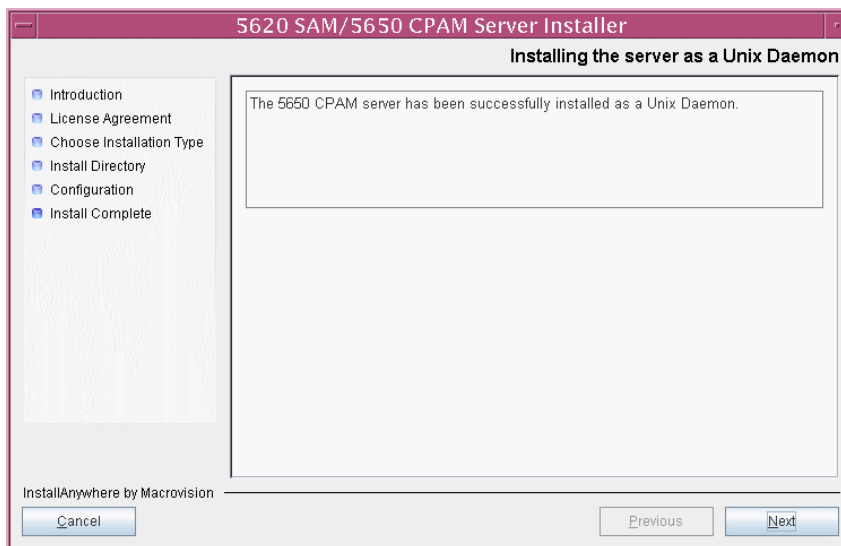
- 22 Specify an OSS XML output location (typically /opt/5620sam/server/xml\_output), as shown in Figure 7-22. Click on the Install button to begin the server installation.

Figure 7-22 XML Output Directory



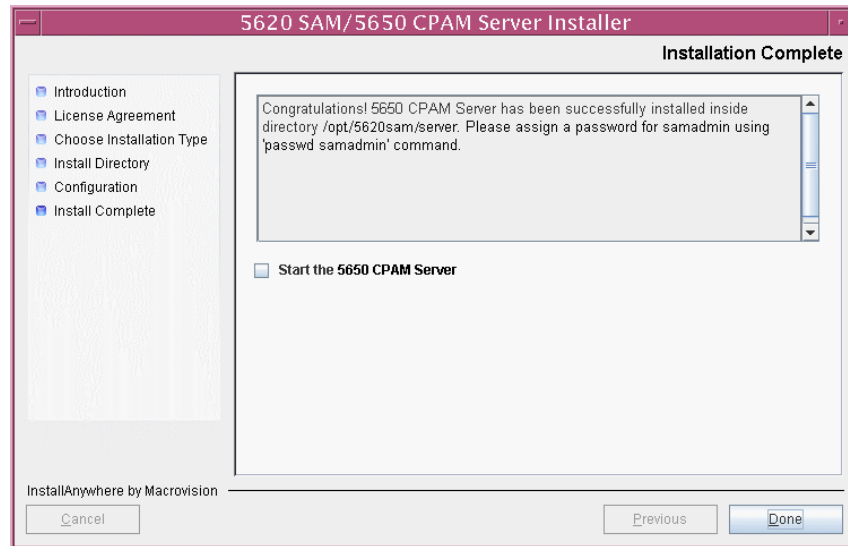
- 23 As shown in Figure 7-23, the 5650 CPAM server is installed as a UNIX daemon. Click on the Next button.

Figure 7-23 Installing the Server as a Unix Daemon



- 24 When the 5650 CPAM server installation is complete, as shown in Figure 7-24, configure the “Start the 5650 CPAM Server” parameter to specify whether you want the server to start immediately after the installation.

Figure 7-24 Installation Complete



- 25 Click on the Done button to close the server installer. If you specified that the 5650 CPAM server is to start after installation, the server starts. Initial server startup can take twenty minutes or more.
- 26 The installer creates a user account called samadmin that is required for 5650 CPAM system administration. You must assign a new password to this user account.

Perform the following steps to assign a new samadmin password.



**Note** — The samadmin password must not contain the @ symbol, or eNodeB device management may be compromised.

- i Enter the following:

```
passwd samadmin
```

The following prompt is displayed:

```
New Password:
```

- ii Enter the new password and press ↵.

The following prompt is displayed:

```
Confirm New Password:
```

- iii Enter the new password again and press ↵. The password is changed.
  - iv Record the new password and store it in a secure location.
- 27 Restart each currently open 5620 SAM GUI client that connects to the 5620 SAM/5650 CPAM server.



**Note** — The 5650 CPAM functionality is not visible in a client GUI until the client is restarted.

---

## Procedure 7-2 To install a redundant 5650 CPAM system

---

Perform this procedure to install the 5650 CPAM server software on a station in a redundant deployment. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note 1** — You must perform this procedure on each 5650 CPAM station in the redundant deployment.

**Note 2** — You require root user privileges on each 5650 CPAM server station to perform this procedure:

**Note 3** — Command-line examples use the # symbol to represent the Solaris CLI prompt. Do not type the leading # symbol when you enter a command.

- 1 Log in to the station that is to be the 5650 CPAM station as the root user.
- 2 Place the 5620 SAM | 5650 CPAM software DVD-ROM in a DVD-ROM drive.
- 3 Open a console window.
- 4 Navigate to the DVD-ROM drive.

5 Perform one of the following to open the 5620 SAM | 5650 CPAM server installer.

a On a SPARC station:

i Enter the following:

```
cd Solaris ↵
```

ii Enter the following:

```
./ServerInstall_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
cd Solarisx86 ↵
```

ii Enter the following:

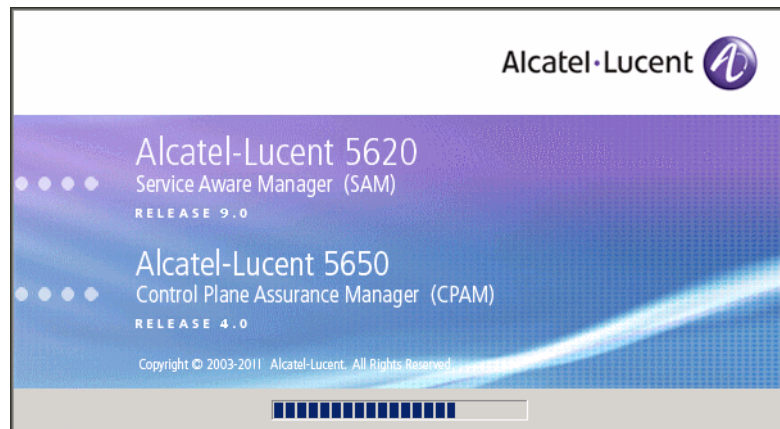
```
./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

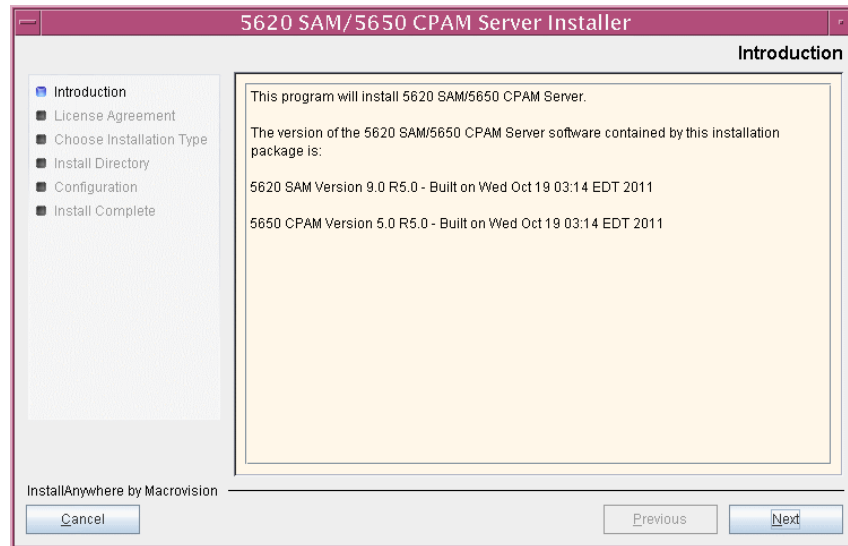
The splash screen shown in Figure 7-25 opens

Figure 7-25 5620 SAM | 5650 CPAM installer



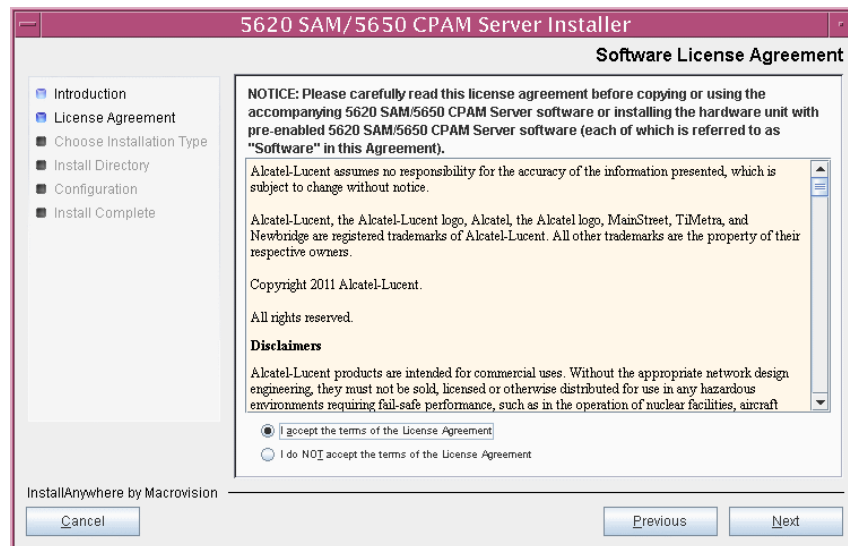
- 6 The 5650 CPAM server installer opens, as shown in Figure 7-26. The left pane indicates installation progress. The right pane displays release information about the software. Click on the Next button.

Figure 7-26 Introduction



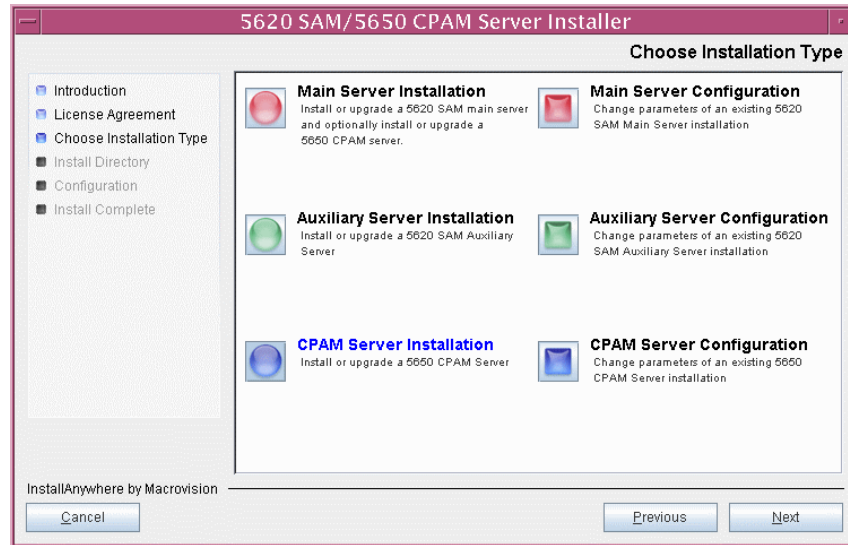
- 7 Review and accept the terms of the license agreement shown in Figure 7-27. Click on the Next button.

Figure 7-27 Software License Agreement



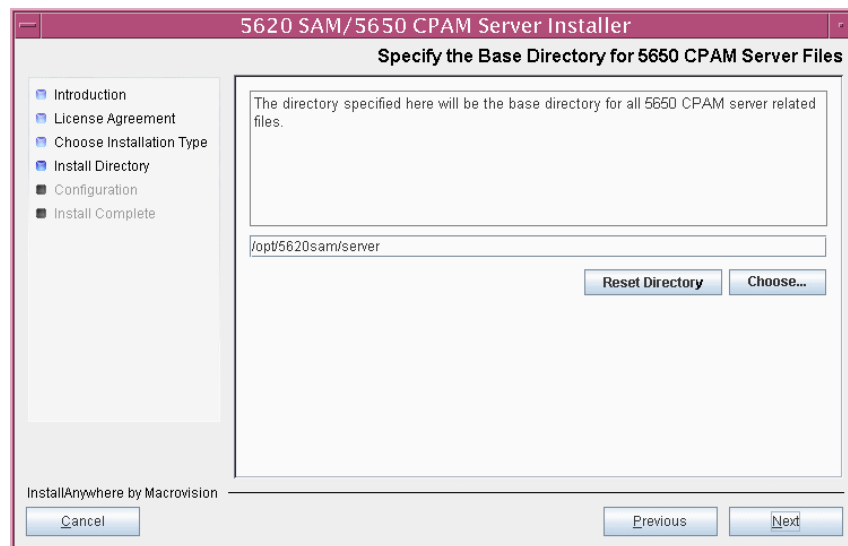
- 8 Select CPAM Server Installation, as shown in Figure 7-28. Click on the Next button.

Figure 7-28 Choose Installation Type



- 9 Specify a base directory in which to install the 5650 CPAM server software (typically /opt/5620sam/server), as shown in Figure 7-29. Click on the Next button.

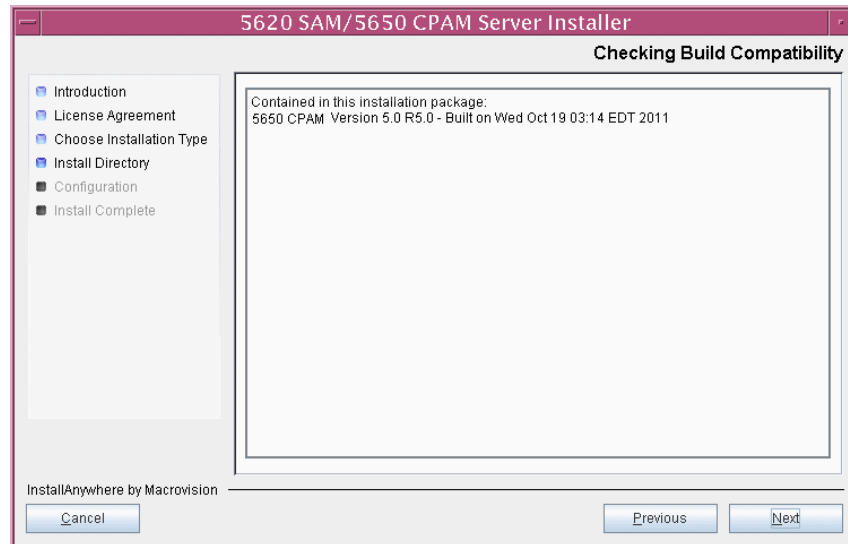
Figure 7-29 Specify the Base Directory for 5650 CPAM Server Files





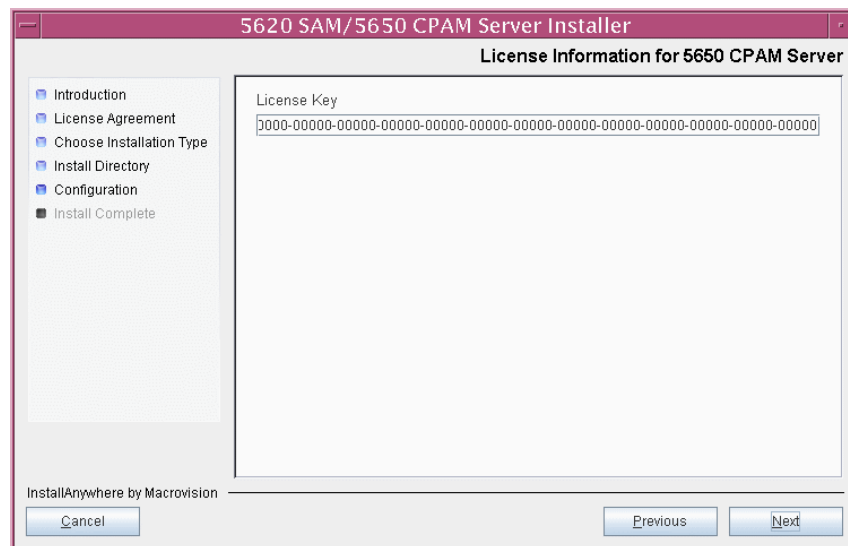
- 10 As shown in Figure 7-30, the installer indicates which release of 5650 CPAM software is to be installed. Verify the information. Click on the Next button.

**Figure 7-30 Checking Build Compatibility**



- 11 Enter the license key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 7-31. Click on the Next button.

**Figure 7-31 License Information for 5650 CPAM Server**



- 12 Configure the following parameters shown in Figure 7-32, then click on the Next button.

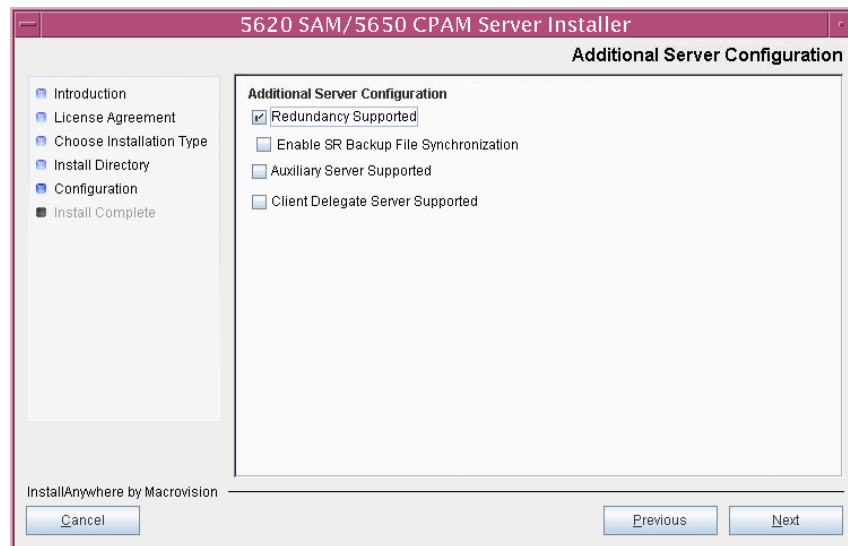
- Redundancy Supported
- Enable SR Backup File Synchronization
- Auxiliary Server Supported
- Client Delegate Server Supported



**Note 1** – You must select the “Redundancy Supported” parameter.

**Note 2** – The “Enable SR Backup File Synchronization” parameter is configurable when the “Redundancy Supported” parameter is enabled.

**Figure 7-32 Additional Server Configuration**



13 Configure the following parameters shown in Figure 7-33. Click on the Next button.

- Primary Database Server IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

**Figure 7-33 Primary Database Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Primary Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the primary 5620 SAM database's public IP address as known to the 5650 CPAM server.' Below this are six input fields: 'Primary Database Server IP Address' (highlighted in yellow), 'Primary Database Server Port' (1523), 'Primary Database Instance Name' (samdb1), 'Database User Name' (samuser), 'Database User Password' (masked with asterisks), and 'Primary Database Proxy Port' (9002). At the bottom, there is a 'Cancel' button, a 'Previous' button, and a 'Next' button. The footer text reads 'InstallAnywhere by Macrovision'.

- 14 Configure the following parameters shown in Figure 7-34, then click on the Next button:
- Database Server IP Address
  - Database Instance Name (typically samdb2)
  - Database Proxy Port (typically 9002)

**Figure 7-34 Standby Database Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Standby Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box with the instruction: 'If NAT (network address translation) is to be used, enter the standby 5620 SAM database's public IP address as known to the 5650 CPAM server.' Below this are three input fields: 'Database Server IP Address' (empty), 'Database Instance Name' (containing 'samdb2'), and 'Database Proxy Port' (containing '9002'). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

- 15 The panel in Figure 7-35 is displayed if you select the “Auxiliary Server Supported” parameter in step 12. Otherwise, go to step 17.

Perform the following steps.

- i Configure the following parameters shown in Figure 7-35:
  - NAT (network address translation) Used  
Select this parameter only if NAT is to be used between this 5650 CPAM server and the 5620 SAM auxiliary servers.
  - Private IP (accessible only by this server)
  - Public IP (accessible to auxiliary)
  - Server Port (typically 12800)
  - Enable Stats Collection on Auxiliary Servers
  - Enable Call Trace Collection on Auxiliary Servers



**Note 1** — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

**Note 2** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 7-35 CPAM Server Configuration for Auxiliary Servers

- ii Click on the Next button.

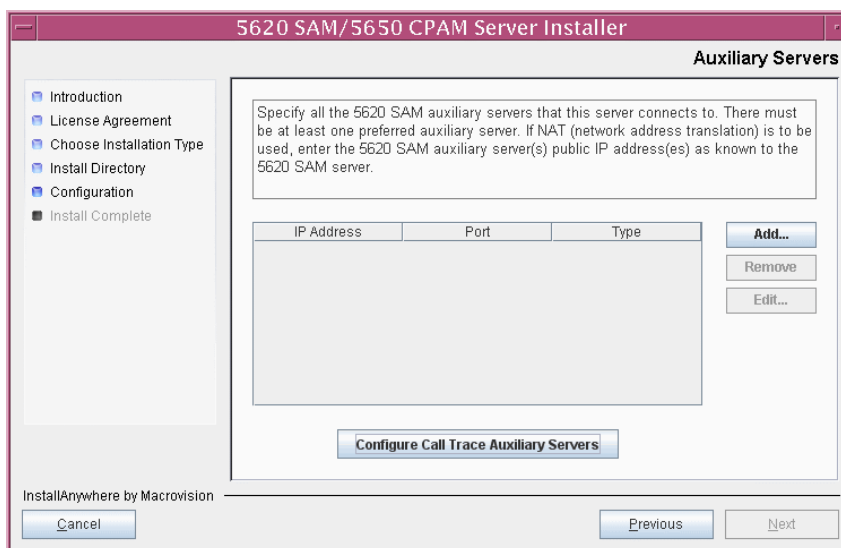
- iii Click on the Add button shown in Figure 7-36 to specify an auxiliary server. The form shown in Figure 7-37 opens.



**Note 1** – Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

**Note 2** – Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

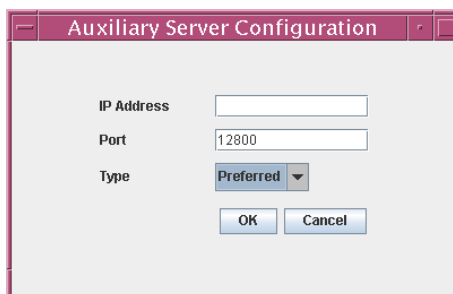
**Figure 7-36 Auxiliary Servers**



**Note 1** – The Preferred auxiliary server of the primary 5650 CPAM server must be the Reserved auxiliary server of the standby 5650 CPAM server. Conversely, the Reserved auxiliary server of the primary 5650 CPAM server must be the Preferred auxiliary server of the standby 5650 CPAM server.

**Note 2** – To minimize network latency between this 5650 CPAM server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

**Figure 7-37 Auxiliary Server Configuration**



- iv Configure the following parameters:
  - IP Address
  - Port (typically 12800)
  - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 15 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 15 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 7-37. Otherwise, go to step 16.
- viii The form shown in Figure 7-38 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 7-38 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

| Preferred Auxiliary Servers |       |
|-----------------------------|-------|
| IP Address                  | Port  |
| 10.1.1.1                    | 12800 |
| 10.1.1.2                    | 12800 |
| 10.1.1.3                    | 12800 |

| Reserved Auxiliary Servers |       |
|----------------------------|-------|
| IP Address                 | Port  |
| 10.2.2.1                   | 12800 |
| 10.2.2.2                   | 12801 |
| 10.2.2.3                   | 12800 |

| Server Pairs        |                    |
|---------------------|--------------------|
| Preferred Server IP | Reserved Server IP |

Make Pair from Selected      Remove Selected Pair      OK      Cancel

- ix Repeat step 15 viii to configure another call-trace auxiliary server pair, if required.
- 16 Click on the Next button.

- 17 If you select the “Enable Database Alignment” parameter shown in Figure 7-39, you must specify the preferred database of this 5650 CPAM server, then click on the Next button.

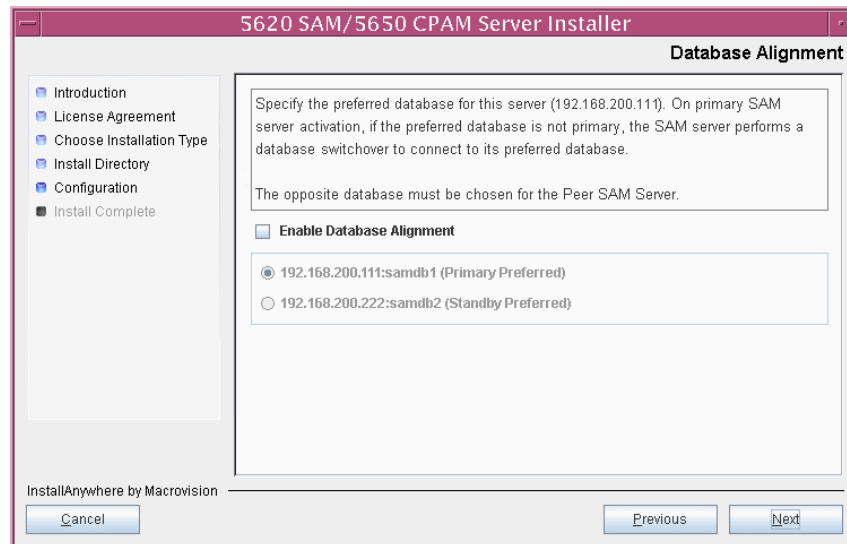
Database alignment associates each server with the database to which it is most directly connected in terms of network latency. This database is the preferred database of the server. For example, in a 5620 SAM complex that is geographically dispersed, the preferred database of a server is the database in the same physical facility; typically, the primary server and database are in one facility, and the standby server and database are in another.

When a primary server starts, it verifies that the database to which it connects is the preferred database. If this database is not the preferred database, the server performs a database switchover to reverse the primary and standby database roles. If the switchover is successful, the servers and databases in the 5620 SAM/5650 CPAM complex are aligned. If the switchover fails, each database reverts to the former role, and the server raises an alarm about the failed switchover.

When database alignment is enabled and you perform a database switchover, the primary server does not attempt database realignment, because a switchover is a manual operation that is considered to be a purposeful act.

When database alignment is enabled and you perform a server activity switch, the primary server performs an automatic database switchover to maintain alignment with the preferred database.

Figure 7-39 Database Alignment





18 Perform the following steps.

- i Configure the following parameters shown in Figure 7-40:
  - Server Domain Name (typically 5620sam)  
This parameter uniquely identifies the 5620 SAM server cluster to which the 5650 CPAM server belongs.
  - Use Hostname for Communication  
Select this parameter if the 5650 CPAM server is to use multiple interfaces for GUI and OSS client communication.

Figure 7-40 CPAM Server Configuration for Clients

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Clients

Enter the network interface information that the GUI and OSS clients require to communicate with the 5650 CPAM server.

Server Domain Name

☐ Use Hostname for Communication

☒ NAT (network address translation) Used

Private IP (accessible only by this server)

Public IP (accessible to clients)

EJB JNDI Server port

EJB JMS Server port

InstallAnywhere by Macrovision

- ii If you select the “Use Hostname for Communication” parameter, go to step 18 vi.
- iii Configure the following parameters:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public IP (accessible to clients)
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 19.

vi Configure the following parameters shown in Figure 7-41:

- NAT (network address translation) Used
- Private IP (accessible only by this server)
- Public Hostname
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 7-41 CPAM Server Configuration for Clients

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Clients

Enter the network interface information that the GUI and OSS clients require to communicate with the 5650 CPAM server.

Server Domain Name

☒ Use Hostname for Communication

☒ NAT (network address translation) Used

Private IP (accessible only by this server)

Public Hostname

EJB JNDI Server port

EJB JMS Server port

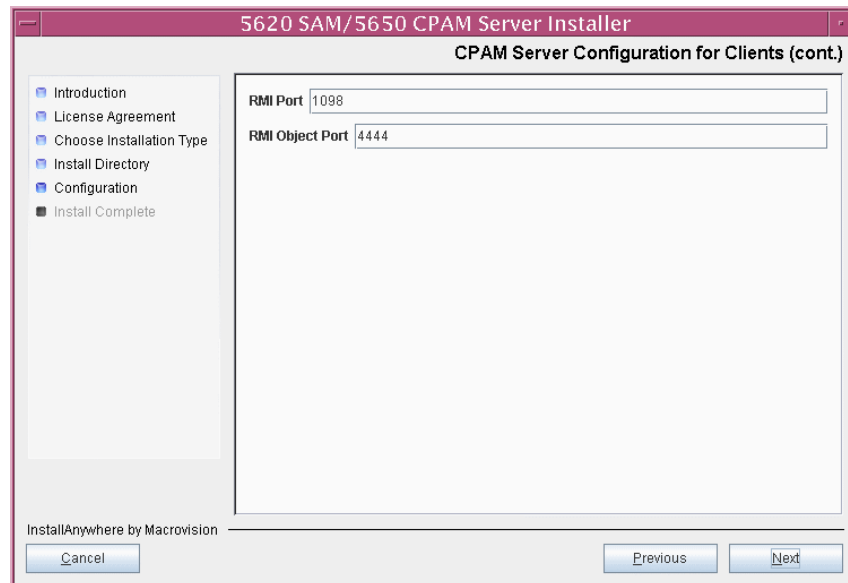
InstallAnywhere by Macrovision

vii Click on the Next button.

19 Configure the following parameters shown in Figure 7-42, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

Figure 7-42 CPAM Server Configuration for Clients (cont.)



20 Click on the Next button.

**21** Configure the following parameters shown in Figure 7-43:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between this 5650 CPAM server and the peer 5650 CPAM server.
- Private IP (accessible only by this server)
- Public IP (accessible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 7-43 CPAM Server Configuration for Peer Server**

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Peer Server

Enter the network interface information that this 5650 CPAM server requires to communicate with the peer server.

☒ NAT (network address translation) Used

Private IP (accessible only by this server) 192.168.200.111

Public IP (accessible to peer server)

High Available JNDI Port 1100

TCP Port Cluster Number 11800

InstallAnywhere by Macrovision

Cancel Previous Next

22 Configure the following parameters shown in Figure 7-44, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer server)
- Peer Public IP (accessible to this server)



**Note** — The “Public IP (accessible to peer server)” and “Peer Public IP (accessible to this server)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

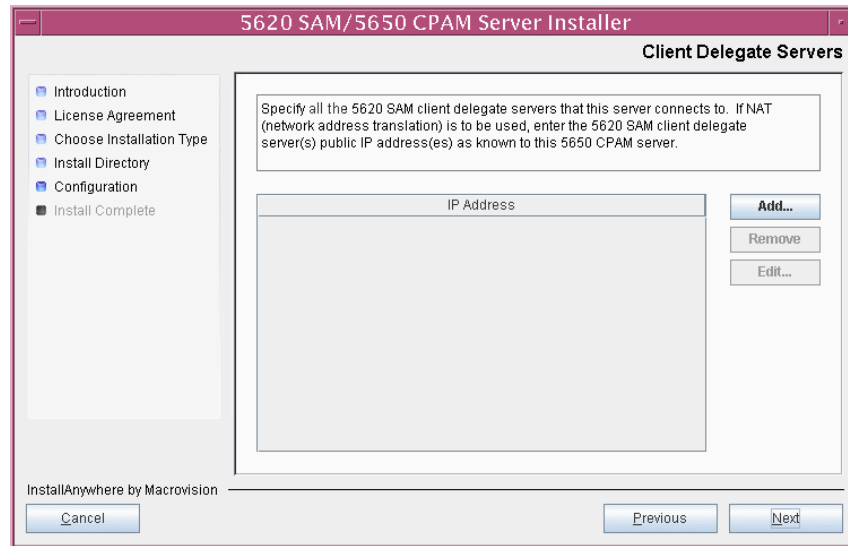
Figure 7-44 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM main servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath the checkbox are two input fields: 'Public IP (accessible to peer server)' and 'Peer Public IP (accessible to this server)'. At the bottom of the window, there are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 23 The panel in Figure 7-45 is displayed if you select the “Client Delegate Server Supported” parameter in step 12. Otherwise, go to step 25.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5650 CPAM server and client delegate servers, specify the public IP address. Click on the Next button.

**Figure 7-45 Client Delegate Servers**



- 24 Perform the following steps to enable communication security between the 5650 CPAM server and clients, and between the 5650 CPAM and auxiliary servers. Otherwise, click on the Next button.



**Note** — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 7-18.

**Figure 7-46 SSL Configuration**

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password



**Note** — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The 5650 CPAM server copies the files, imports them into the 5650 CPAM server configuration, and transfers the keystore file to each client and auxiliary server.

25 Configure the following parameters shown in Figure 7-47, then click on the Next button:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5650 CPAM server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



**Note** — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 7-47.

Figure 7-47 SNMP Configuration



26 Configure the following parameters shown in Figure 7-48, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IPv4 Address
- Peer Server SNMP Trap Receiving IPv6 Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)



**Note** — The “Peer Server SNMP Trap Receiving IPv6 Address” parameter is configurable only if you select the “IPv6 Address Used” parameter in step 25.

Figure 7-48 Peer CPAM Server Configurations

5620 SAM/5650 CPAM Server Installer

Peer CPAM Server Configurations

If NAT (network address translation) is to be used, enter the 5650 CPAM peer server's public IP address as known to the 5650 CPAM server. Also enter the 5650 CPAM peer server's public IP address as known to the devices within the managed network.

Peer Server IP Address

Peer Server Trap Log Id 98

Peer Server SNMP Trap Receiving IPv4 Address

Peer Server SNMP Trap Receiving IPv6 Address

Peer Server SNMP Trap Receiving Port 162

Peer Server TCP Port Cluster Number 11800

InstallAnywhere by Macrovision

Cancel Previous Next

27 If the “Use Hostname for Communication” parameter in step 18 is selected, go to step 30.

**28** Configure the following parameters shown in Figure 7-49, then click on the Next button:

- Peer Server IP Address
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

**Figure 7-49 Peer CPAM Server Configurations (cont.)**

The screenshot shows a window titled "5620 SAM/5650 CPAM Server Installer". On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area is titled "Peer CPAM Server Configurations (cont.)" and contains the following text: "Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5650 CPAM clients." and "If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field." Below this text are three input fields: "Peer Server IP Address" (highlighted in yellow), "JNDI High Available Peer Server Port" (containing the value 1100), and "JNDI Peer Server Port" (containing the value 1099). At the bottom left of the window is the text "InstallAnywhere by Macrovision" and a "Cancel" button. At the bottom right are "Previous" and "Next" buttons.

**29** Go to step 31.

30 Configure the following parameters shown in Figure 7-50, then click on the Next button:

- Peer Server Hostname
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

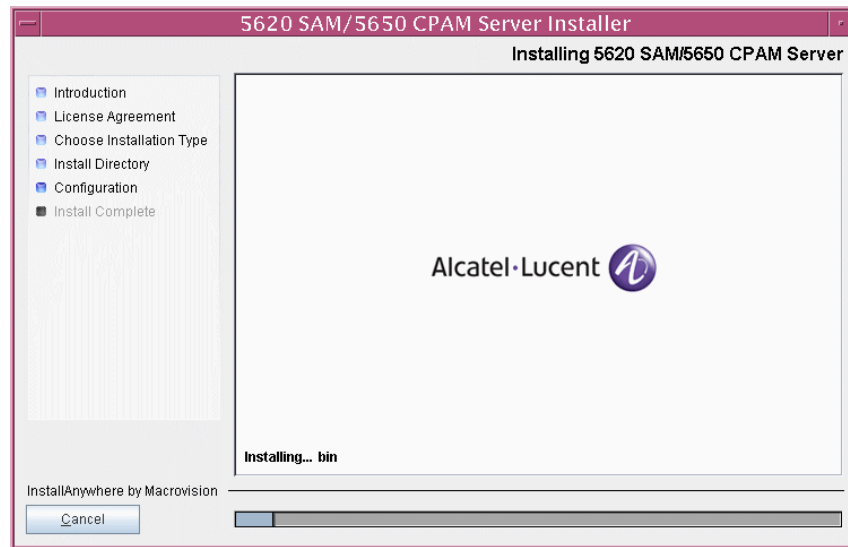
Figure 7-50 Peer CPAM Server Configurations (cont.)

31 If you require 5650 CPAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 7-51 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to begin the server installation.

Figure 7-51 Navigation from External Systems

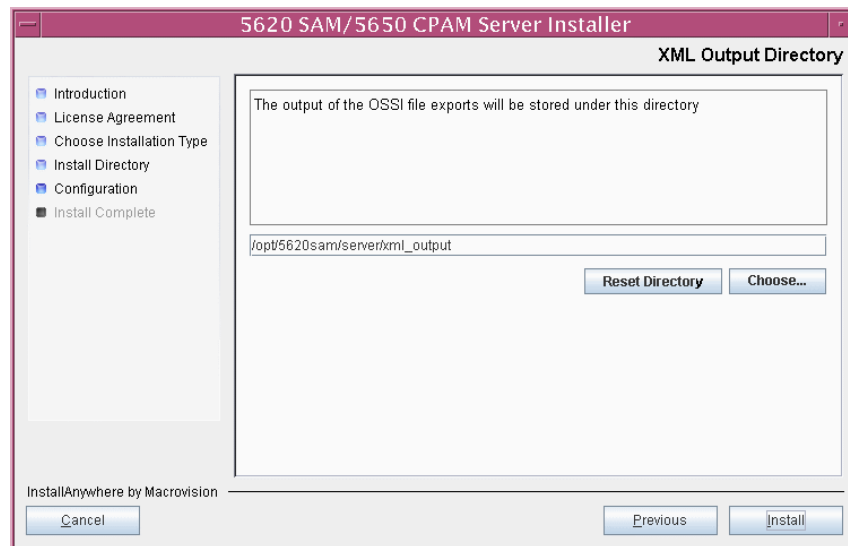
The next panel displays installation progress, as shown in Figure 7-52.

**Figure 7-52 Installing 5620 SAM/5650 CPAM Server**



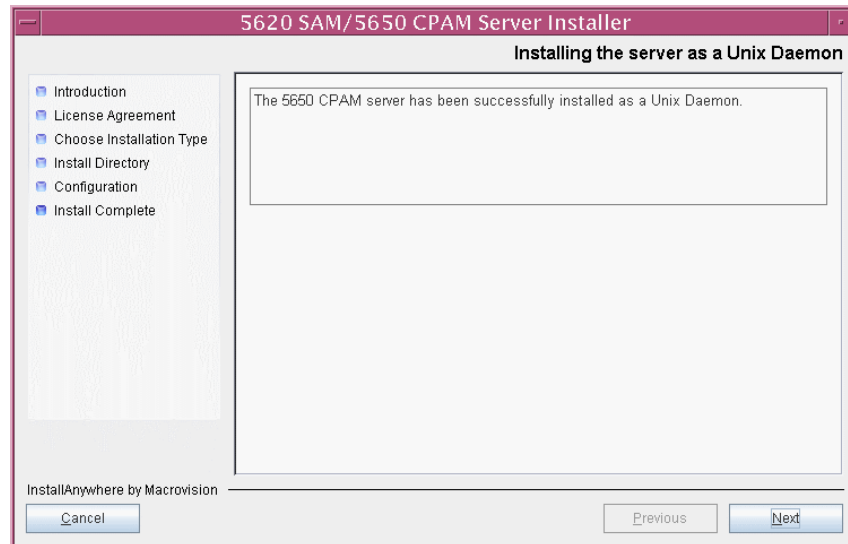
- 32 Specify an OSS XML output location (typically /opt/5620sam/server/xml\_output), as shown in Figure 7-53. Click on the Install button to begin the server installation.

**Figure 7-53 XML Output Directory**



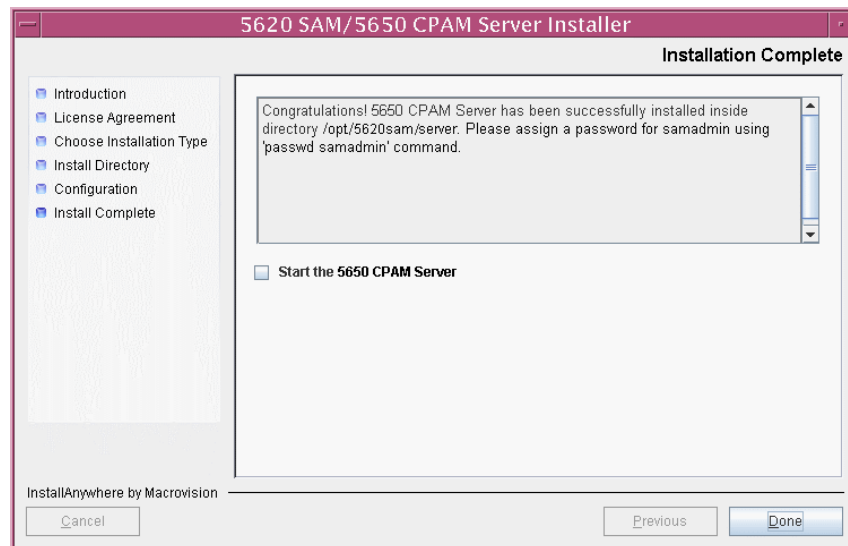
- 33 As shown in Figure 7-54, the 5650 CPAM server is installed as a UNIX daemon. Click on the Next button.

**Figure 7-54 Installing the Server as a Unix Daemon**



- 34 When the 5650 CPAM server installation is complete, as shown in Figure 7-55, configure the “Start the 5650 CPAM Server” parameter to specify whether you want the server to start immediately after the installation.

**Figure 7-55 Installation Complete**



- 35 Click on the Done button to close the server installer. If you specified that the 5650 CPAM server is to start after installation, the server starts. Initial server startup can take twenty minutes or more.

- 36** The installer creates a user account called samadmin that is required for 5650 CPAM system administration. You must assign a new password to this user account.

Perform the following steps to assign a new samadmin password.



**Note** — The samadmin password must not contain the @ symbol, or eNodeB device management may be compromised.

- i** Enter the following:

```
passwd samadmin
```

The following prompt is displayed:

```
New Password:
```

- ii** Enter the new password and press ↵.

The following prompt is displayed:

```
Confirm New Password:
```

- iii** Enter the new password again and press ↵. The password is changed.

- iv** Record the new password and store it in a secure location.

- 37** Restart each currently open 5620 SAM GUI client that connects to the 5620 SAM/5650 CPAM server.



**Note** — The 5650 CPAM functionality is not visible in a client GUI until the client is restarted.

## **8 — 5650 CPAM upgrade**

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- 8.1 5650 CPAM upgrade overview 8-2**
- 8.2 5650 CPAM upgrade procedures list 8-2**
- 8.3 5650 CPAM upgrade procedures 8-3**

## 8.1 5650 CPAM upgrade overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this guide and in the *5650 CPAM User Guide*.



**Caution** — Alcatel-Lucent supports 5650 CPAM software configuration only under the conditions described in chapter 1.



**Note** — The platform requirements for a 5650 CPAM server are the same as the requirements for a 5620 SAM server. Use the 5620 SAM main server guidelines in chapter 1 as the 5650 CPAM server guidelines.

See Appendix D for detailed 5650 CPAM upgrade parameter descriptions.

## 8.2 5650 CPAM upgrade procedures list

Table 8-1 lists the 5650 CPAM server software upgrade procedures.

**Table 8-1 5650 CPAM upgrade procedures list**

| Procedure                                                | Purpose                                                           |
|----------------------------------------------------------|-------------------------------------------------------------------|
| <a href="#">To upgrade a standalone 5650 CPAM system</a> | Upgrade the 5650 CPAM server software in a standalone deployment. |
| <a href="#">To upgrade a redundant 5650 CPAM system</a>  | Upgrade the 5650 CPAM server software in a redundant deployment.  |



## 8.3 5650 CPAM upgrade procedures

This section describes how to upgrade the 5650 CPAM software in a standalone or redundant deployment. A 5650 CPAM software upgrade is typically performed as part of a 5620 SAM main server software upgrade. Procedure 8-1 describes how to upgrade the 5650 CPAM server software in a standalone deployment. Procedure 8-2 describes how to upgrade the 5650 CPAM server software in a redundant deployment.



**Warning** — Alcatel-Lucent is deprecating the support for NAT between 5620 SAM main servers, auxiliary servers, and databases. NAT is supported only between the following:

- main server and single-user client or client delegate server
- main or auxiliary server and OSS client
- main or auxiliary server and managed network

Do not enable the NAT (network address translation) Used parameter in the following installer panels when you perform a procedure in this section:

- **5620 SAM/5650 CPAM Server Installer**  
CPAM Server Configuration for Auxiliary Servers  
CPAM Server Configuration for Peer Server



**Note 1** — The 5650 CPAM software is automatically upgraded when you upgrade the 5620 SAM main server software, but is activated only after a valid 5650 CPAM license key is added to the 5650 CPAM configuration.

**Note 2** — If you are performing a procedure in this section from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

The procedures in this section are for use only in the following situations:

- when the 5650 CPAM server is to be used without a 5620 SAM main server
- when the 5650 CPAM server is to be used with a 5620 SAM main server that is installed on a station other than the 5650 CPAM station

The 5650 CPAM and the 7701 CPAA can function only when the software versions are compatible, for example, 5650 CPAM, Release 5.0 R1 and 7701 CPAA, Release 5.0 R1. If you upgrade one component, you must upgrade the other component. See the current 5650 CPAM release notice for product compatibility information.



**Note 1** – When you perform a 5620 SAM upgrade, the 5650 CPAM software is upgraded automatically.

**Note 2** – You can use the 5650 CPAM to upgrade the 7701 CPAA, or you can upgrade the 7701 CPAA during a 5620 SAM upgrade to save time.

---

### Procedure 8-1 To upgrade a standalone 5650 CPAM system

---

Perform this procedure to upgrade the 5650 CPAM server software on a station in a standalone deployment. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note 1** – You require the following user privileges on the 5650 CPAM server station to perform this procedure:

- root
- samadmin

**Note 2** – Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin user

Do not type the # symbol or bash\$ when you enter a command.

- 1 Use the 5650 CPAM to set a reference for each IGP routing domain, for example, OSPF areas, and IS-IS Level 1 and Level 2 domains. See the *5650 CPAM User Guide* for information about setting a reference.
- 2 Use the 5650 CPAM to set a checkpoint for each IGP routing domain, for example, OSPF areas, and IS-IS Level 1 and Level 2 domains. See the *5650 CPAM User Guide* for information about setting a checkpoint.
- 3 Ensure that each 7701 CPAA TCP connection to the 5650 CPAM is administratively and operationally up.
- 4 Use the 5650 CPAM to back up the 7701 CPAA configuration. See the *5650 CPAM User Guide* for information about backing up a 7701 CPAA configuration.

5 Stop the 5650 CPAM server application.



**Note** — When you stop the 5650 CPAM server application, you also stop the 5620 SAM server application.

- i Log in to the server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5650 CPAM server installation location, typically /opt/5620sam/server

- iv Enter the following to stop the 5650 CPAM server software:

```
bash$./nmsserver.bash stop ↵
```

- v Enter the following to display the 5650 CPAM server status:

```
bash$./nmsserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5650 CPAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 5 v. Do not proceed to the next step until the server is stopped.

6 Perform one of the following.

- a Upgrade the 5650 CPAM server as part of a 5620 SAM system upgrade.
  - i Perform the appropriate 5620 SAM upgrade procedures in chapter 3.
  - ii Perform step 35 in this procedure.
- b Upgrade the 5650 CPAM server using this procedure.

7 Log in to the 5650 CPAM station as the root user.

8 Place the new 5620 SAM | 5650 CPAM software DVD-ROM in a DVD-ROM drive.

9 Open a console window.

10 Navigate to the DVD-ROM drive.

11 Perform one of the following to open the 5620 SAM | 5650 CPAM server installer.

a On a SPARC station:

i Enter the following:

```
cd Solaris ↵
```

ii Enter the following:

```
./ServerInstall_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
cd Solarisx86 ↵
```

ii Enter the following:

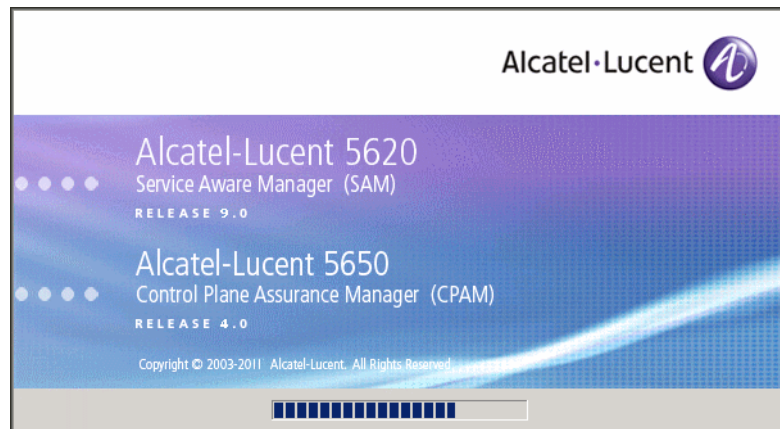
```
./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

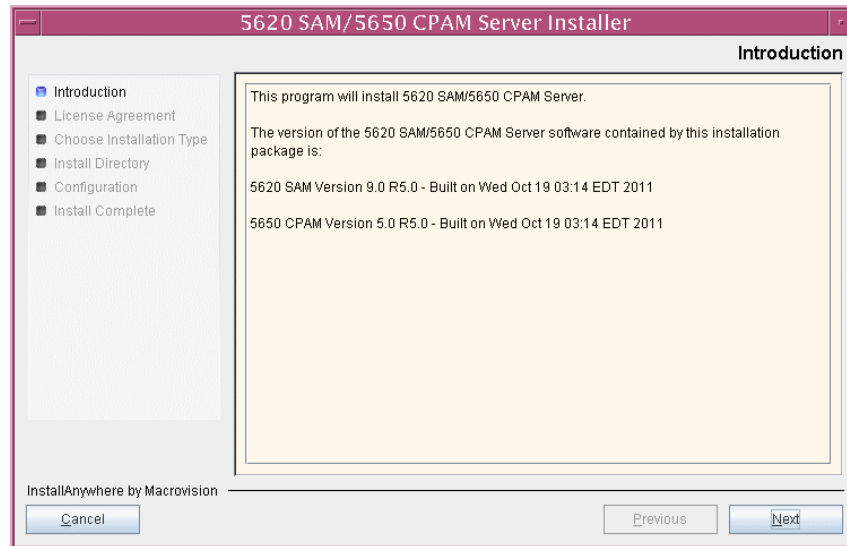
The splash screen shown in Figure 8-1 opens.

Figure 8-1 5620 SAM | 5650 CPAM installer



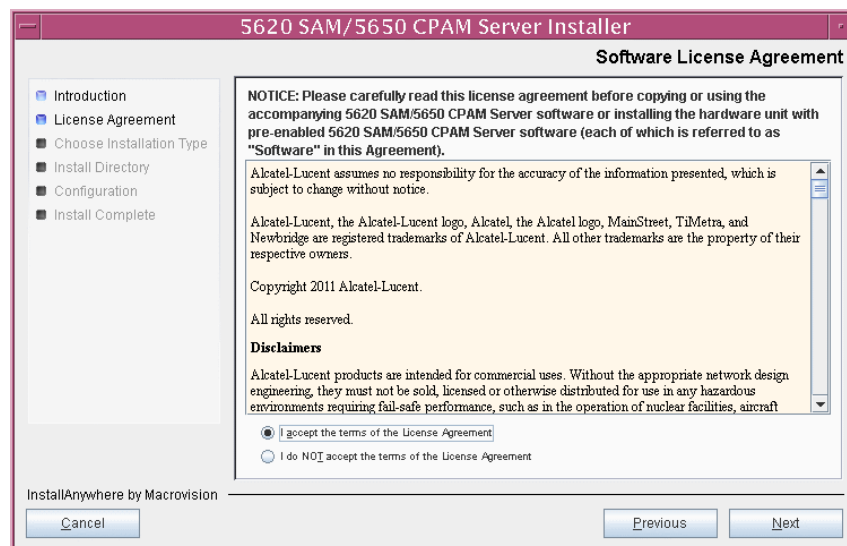
- 12 The 5650 CPAM server installer opens, as shown in Figure 8-2. The left pane indicates upgrade progress. The right pane displays release information about the software. Click on the Next button.

Figure 8-2 Introduction



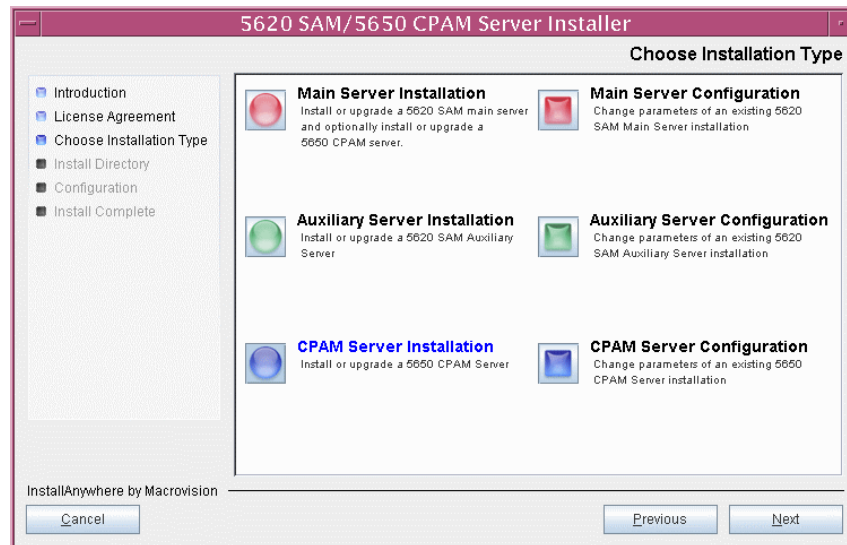
- 13 Review and accept the terms of the license agreement shown in Figure 8-3. Click on the Next button.

Figure 8-3 Software License Agreement



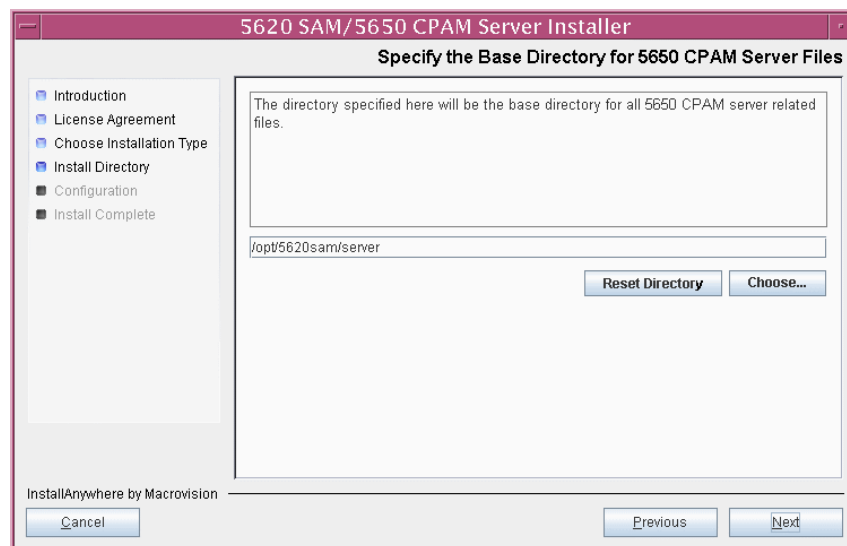
- 14 Select CPAM Server Installation, as shown in Figure 8-4. Click on the Next button.

Figure 8-4 Choose Installation Type



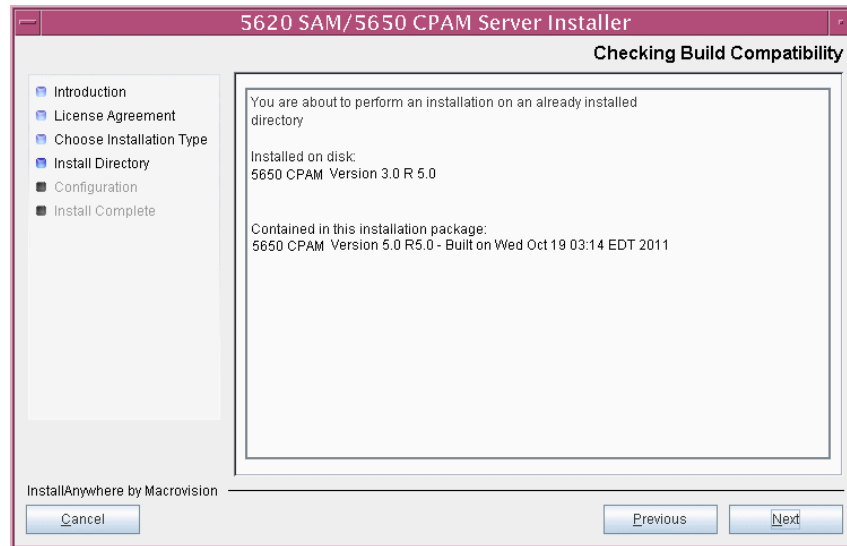
- 15 Specify a base directory in which to install the 5650 CPAM server software (typically /opt/5620sam/server), as shown in Figure 8-5. Click on the Next button.

Figure 8-5 Specify the Base Directory for 5650 CPAM Server Files



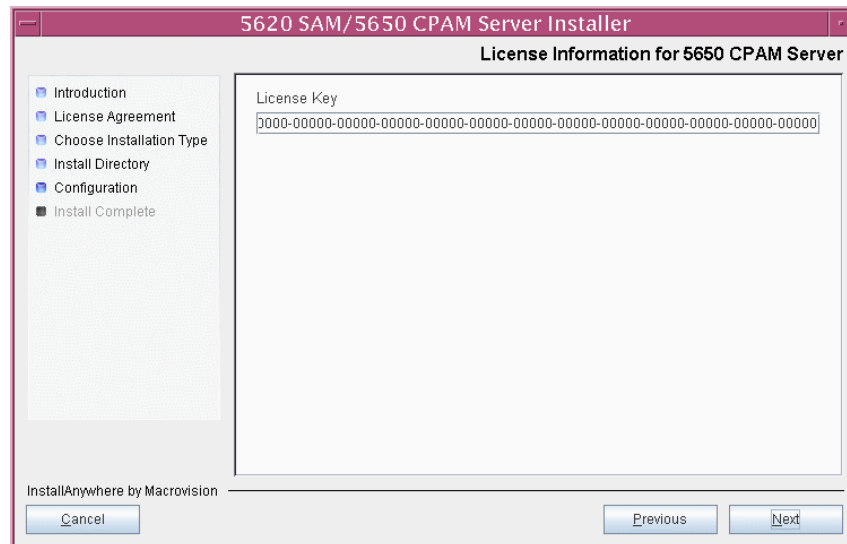
- 16 As shown in Figure 8-6, the installer indicates which release of 5650 CPAM software is currently installed and the release to which it is to be upgraded. Verify the information. Click on the Next button.

**Figure 8-6 Checking Build Compatibility**



- 17 The 5620 SAM installer displays the existing license key. Enter the license key for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 8-7. Click on the Next button.

**Figure 8-7 License Information for 5650 CPAM Server**



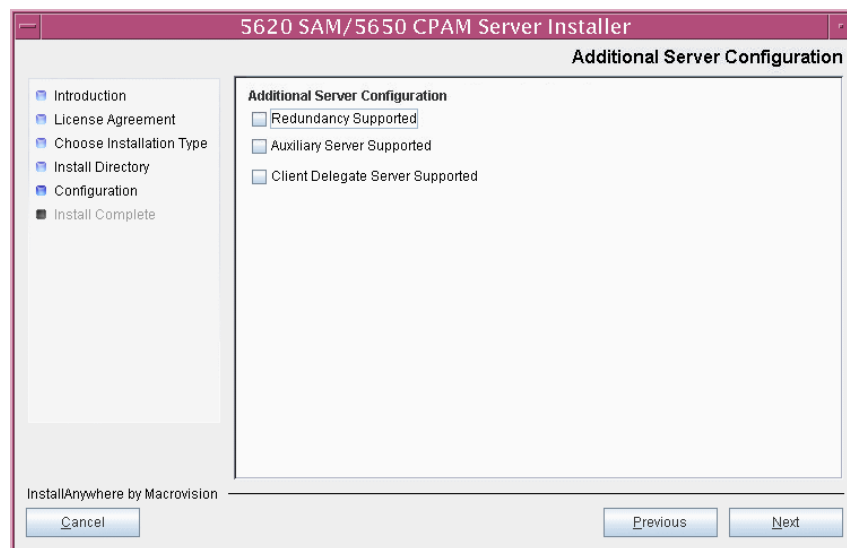
18 Configure the following parameters shown in Figure 8-8, then click on the Next button.

- Redundancy Supported
- Auxiliary Server Supported
- Client Delegate Server Supported



**Note** — You must leave the “Redundancy Supported” parameter unselected.

**Figure 8-8 Additional Server Configuration**





- 19 Configure the following parameters shown in Figure 8-9, then click on the Next button:
- Database Server IP Address
  - Database Instance Name (typically samdb)
  - Database Proxy Port (typically 9002)

**Figure 8-9 Database Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box with the instruction: 'If NAT (network address translation) is to be used, enter the 5620 SAM database's public IP address as known to the 5650 CPAM server.' Below this are three input fields: 'Database Server IP Address' (empty), 'Database Instance Name' (containing 'samdb'), and 'Database Proxy Port' (containing '9002'). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

- 20 The panel in Figure 8-10 is displayed if you select the “Auxiliary Server Supported” parameter in step 18. Otherwise, go to step 22.

Perform the following steps.

- i Configure the following parameters shown in Figure 8-10:
  - NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5650 CPAM server and the 5620 SAM auxiliary servers.
  - Private IP (accessible only by this server)
  - Public IP (accessible to auxiliary)
  - Server Port (typically 12800)
  - Enable Stats Collection on Auxiliary Servers
  - Enable Call Trace Collection on Auxiliary Servers



**Note 1** — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

**Note 2** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 8-10 CPAM Server Configuration for Auxiliary Servers**

- ii Click on the Next button.

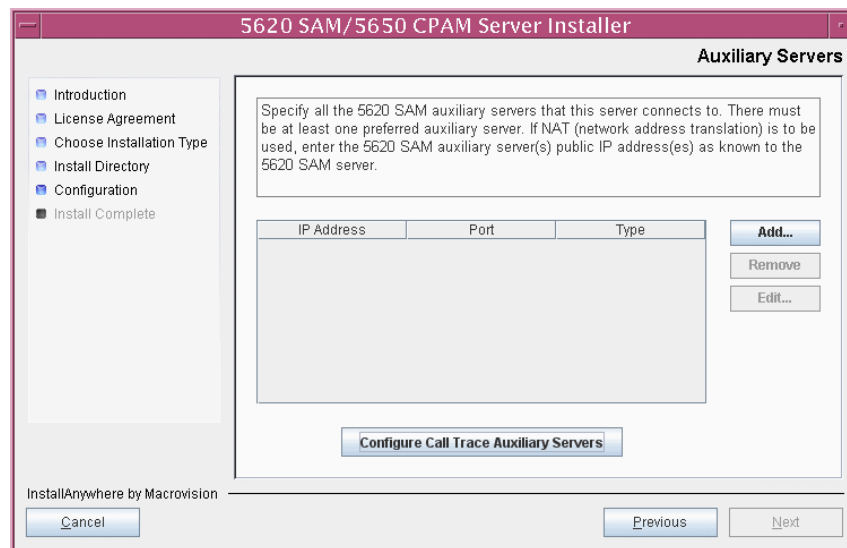
- iii Click on the Add button shown in Figure 8-11 to specify an auxiliary server. The form shown in Figure 8-12 opens.



**Note 1** — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

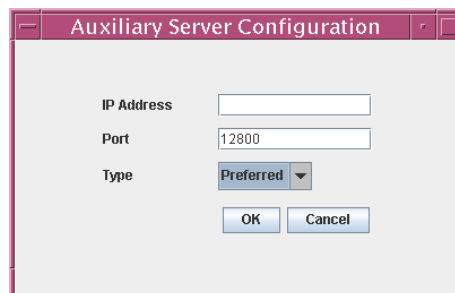
**Note 2** — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

**Figure 8-11 Auxiliary Servers**



**Note** — To minimize network latency between this 5650 CPAM server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

**Figure 8-12 Auxiliary Server Configuration**



- iv Configure the following parameters:
  - IP Address
  - Port (typically 12800)
  - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 20 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 20 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 8-11. Otherwise, go to step 21.
- viii The form shown in Figure 8-13 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 8-13 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

| Preferred Auxiliary Servers |       |
|-----------------------------|-------|
| IP Address                  | Port  |
| 10.1.1.1                    | 12800 |
| 10.1.1.2                    | 12800 |
| 10.1.1.3                    | 12800 |

| Reserved Auxiliary Servers |       |
|----------------------------|-------|
| IP Address                 | Port  |
| 10.2.2.1                   | 12800 |
| 10.2.2.2                   | 12801 |
| 10.2.2.3                   | 12800 |

| Server Pairs        |                    |
|---------------------|--------------------|
| Preferred Server IP | Reserved Server IP |

Make Pair from Selected      Remove Selected Pair      OK      Cancel

- ix Repeat step 20 viii to configure another call-trace auxiliary server pair, if required.
- 21 Click on the Next button.

## 22 Perform the following steps.

- i Configure the following parameters shown in Figure 8-14:
  - **Server Domain Name** (typically 5620sam)  
This parameter uniquely identifies the 5620 SAM server cluster to which the 5650 CPAM server belongs.
  - **Use Hostname for Communication**  
Select this parameter if the 5650 CPAM server is to use multiple interfaces for GUI and OSS client communication.

**Figure 8-14 CPAM Server Configuration for Clients**

- ii If you select the “Use Hostname for Communication” parameter, go to step 22 vi.
- iii Configure the following parameters:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public IP (accessible to clients)
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 23.

vi Configure the following parameters shown in Figure 8-15:

- NAT (network address translation) Used
- Private IP (accessible only by this server)
- Public Hostname
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 8-15 CPAM Server Configuration for Clients

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Clients

Enter the network interface information that the GUI and OSS clients require to communicate with the 5650 CPAM server.

Server Domain Name

☒ Use Hostname for Communication

☒ NAT (network address translation) Used

Private IP (accessible only by this server)

Public Hostname

EJB JNDI Server port

EJB JMS Server port

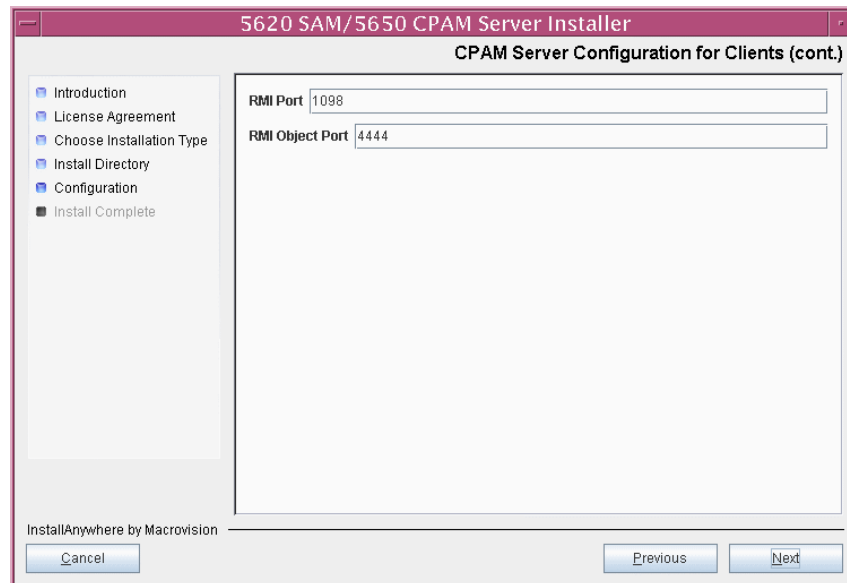
InstallAnywhere by Macrovision

vii Click on the Next button.

23 Configure the following parameters shown in Figure 8-16, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

Figure 8-16 CPAM Server Configuration for Clients (cont.)

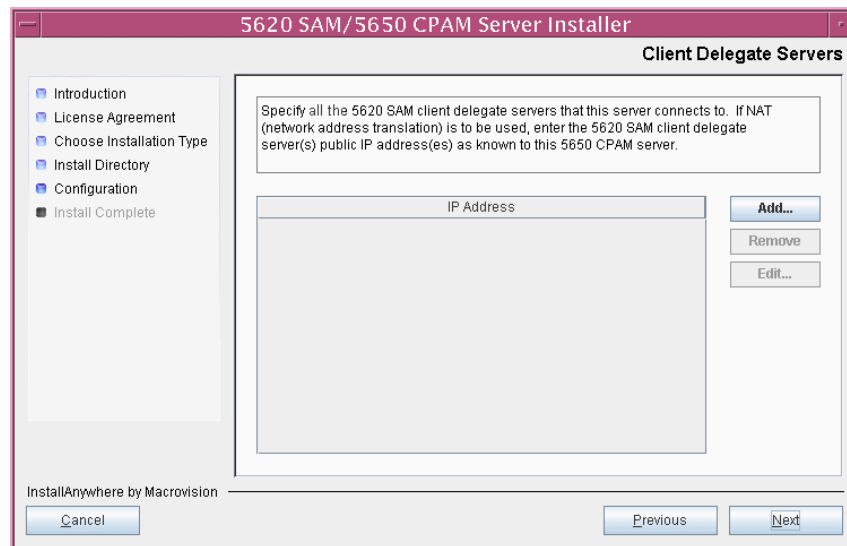


24 Click on the Next button.

- 25 The panel in Figure 8-17 is displayed if you select the “Client Delegate Server Supported” parameter in step 18. Otherwise, go to step 26.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5650 CPAM server and client delegate servers, specify the public IP address. Click on the Next button.

**Figure 8-17 Client Delegate Servers**





- 26 Perform the following steps to enable communication security between the 5650 CPAM server and clients, and between the 5650 CPAM and auxiliary servers. Otherwise, click on the Next button.



**Note** — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 8-18.

**Figure 8-18 SSL Configuration**

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password



**Note** — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The 5650 CPAM server copies the files, imports them into the 5650 CPAM server configuration, and transfers the keystore file to each client and auxiliary server.

27 Configure the following parameters shown in Figure 8-19, then click on the Next button:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between the 5650 CPAM server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

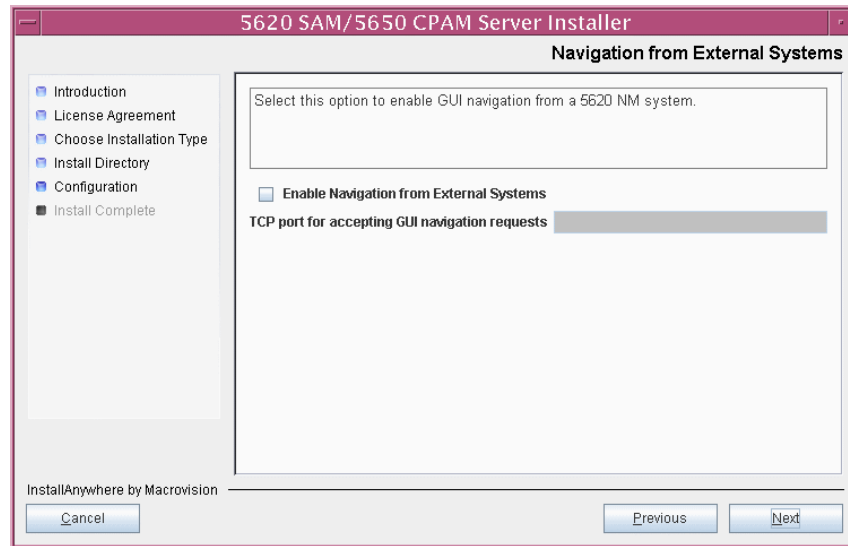


**Note** — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 8-19.

Figure 8-19 SNMP Configuration

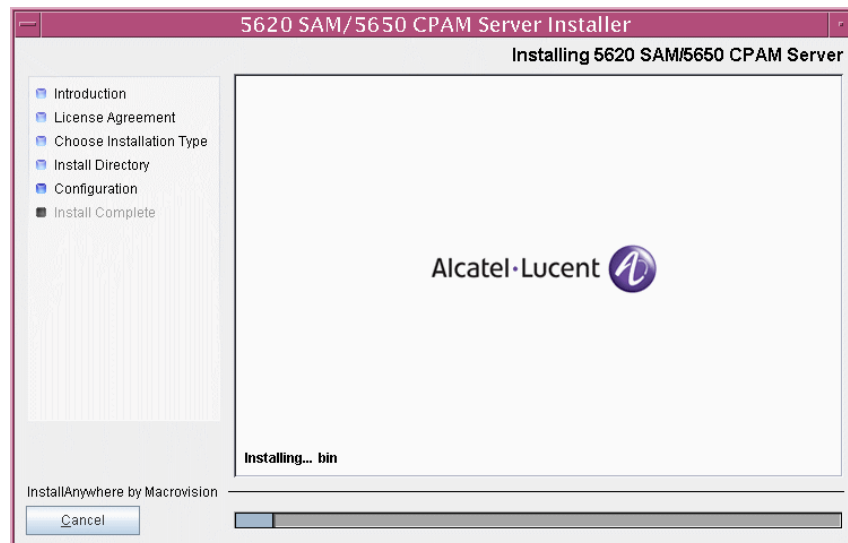
- 28 If you require 5650 CPAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 8-20 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to begin the server upgrade.

**Figure 8-20 Navigation from External Systems**



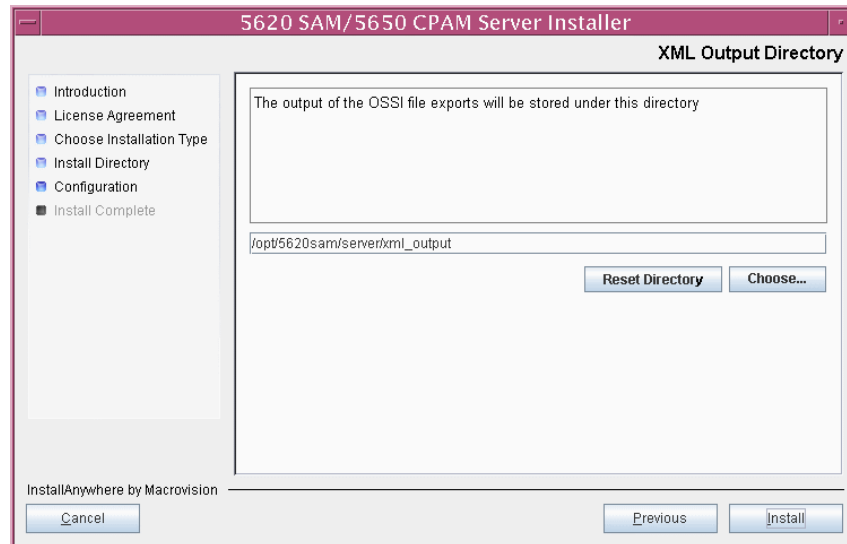
The next panel displays upgrade progress, as shown in Figure 8-21.

**Figure 8-21 Installing 5620 SAM/5650 CPAM Server**



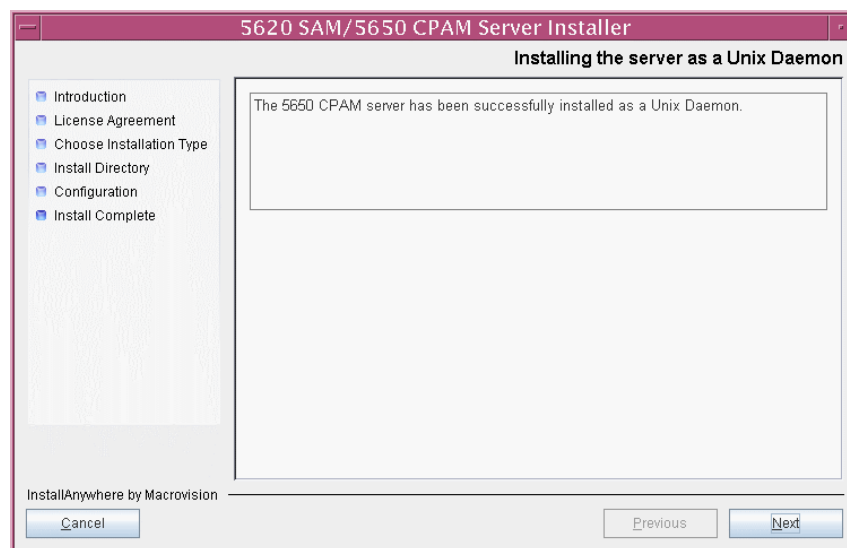
- 29 Specify an OSS XML output location (typically /opt/5620sam/server/xml\_output), as shown in Figure 8-22. Click on the Install button to begin the server upgrade.

Figure 8-22 XML Output Directory



- 30 As shown in Figure 8-23, the 5650 CPAM server is installed as a UNIX daemon. Click on the Next button.

Figure 8-23 Installing the Server as a Unix Daemon

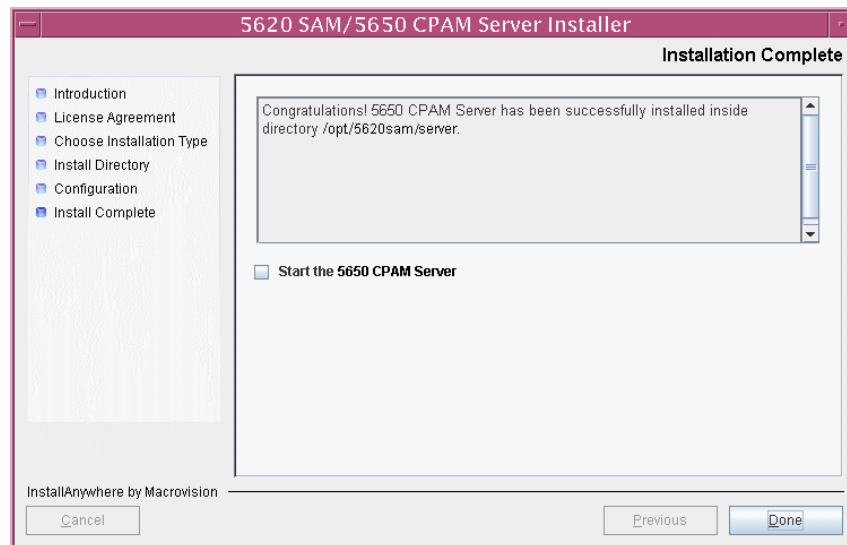


- 31 When the 5650 CPAM server upgrade is complete, as shown in Figure 8-24, configure the “Start the 5650 CPAM Server” parameter to specify whether you want the server to start immediately after the upgrade.



**Caution** — Alcatel-Lucent recommends that you do not configure the server to start immediately after an upgrade.

**Figure 8-24 Installation Complete**



- 32 Click on the Done button to close the server installer. If you specified that the 5650 CPAM server is to start after the upgrade, the server starts. Initial server startup can take twenty minutes or more.
- 33 Restart each currently open 5620 SAM GUI client that connects to the 5620 SAM/5650 CPAM server.



**Note** — The new 5650 CPAM functionality is not visible in a client GUI until the client is restarted.

**34 Upgrade the 7701 CPAA.**

**Note** — You can use the 5650 CPAM or the 5620 SAM to upgrade the 7701 CPAA, or you can upgrade the CPAA independently during a 5620 SAM upgrade to save time.

- 35** Use the upgraded 5650 CPAM to administratively turn up each 7701 CPAA TCP connection to the 5650 CPAM. After this step, each TCP connection between the 5650 CPAM and each 7701 CPAA is operationally up.
- 

---

**Procedure 8-2 To upgrade a redundant 5650 CPAM system**

---

Perform this procedure to upgrade the 5650 CPAM server software on a station in a redundant deployment. Ensure that you record the information that you specify during this procedure, for example, directory names, passwords, and IP addresses.



**Note 1** — You must perform this procedure on each 5650 CPAM station in the redundant deployment.

**Note 2** — You require the following user privileges on each 5650 CPAM server station to perform this procedure:

- root
- samadmin

**Note 3** — Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin user

Do not type the # symbol or bash\$ when you enter a command.

- 1** Use the 5650 CPAM to set a reference for each IGP routing domain, for example, OSPF areas, and IS-IS Level 1 and Level 2 domains. See the *5650 CPAM User Guide* for information about setting a reference.
- 2** Use the 5650 CPAM to set a checkpoint for each IGP routing domain, for example, OSPF areas, and IS-IS Level 1 and Level 2 domains. See the *5650 CPAM User Guide* for information about setting a checkpoint.
- 3** Ensure that each 7701 CPAA TCP connection to the 5650 CPAM is administratively and operationally up.
- 4** Use the 5650 CPAM to back up the 7701 CPAA configuration. See the *5650 CPAM User Guide* for information about backing up a 7701 CPAA configuration.

5 Stop the 5650 CPAM server application.



**Note** — When you stop the 5650 CPAM server application, you also stop the 5620 SAM server application.

- i Log in to the server station as the samadmin user.
- ii Open a console window.
- iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5650 CPAM server installation location, typically /opt/5620sam/server

- iv Enter the following to stop the 5650 CPAM server software:

```
bash$./nmsserver.bash stop ↵
```

- v Enter the following to display the 5650 CPAM server status:

```
bash$./nmsserver.bash appserver_status ↵
```

The command displays a status message.

- vi The 5650 CPAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

If the command displays a different message, wait 5m and repeat step 5 v. Do not proceed to the next step until the server is stopped.

6 Perform one of the following.

- a Upgrade the 5650 CPAM server as part of a 5620 SAM system upgrade.
  - i Perform the appropriate 5620 SAM upgrade procedures in chapter 3.
  - ii Perform step 44 in this procedure.
- b Upgrade the 5650 CPAM server using this procedure.

7 Log in to the 5650 CPAM station as the root user.

8 Place the new 5620 SAM | 5650 CPAM software DVD-ROM in a DVD-ROM drive.

9 Open a console window.

10 Navigate to the DVD-ROM drive.

11 Perform one of the following to open the 5620 SAM | 5650 CPAM server installer.

a On a SPARC station:

i Enter the following:

```
cd Solaris ↵
```

ii Enter the following:

```
./ServerInstall_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

b On an x86-based station:

i Enter the following:

```
cd Solarisx86 ↵
```

ii Enter the following:

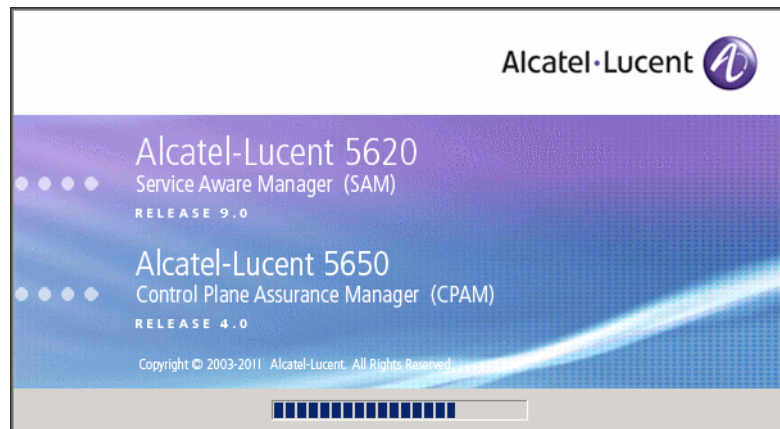
```
./ServerInstall_x86_SAM_9_0_revision.bin ↵
```

where

*revision* is the revision identifier, such as R1, R3, or another descriptor

The splash screen shown in Figure 8-25 opens.

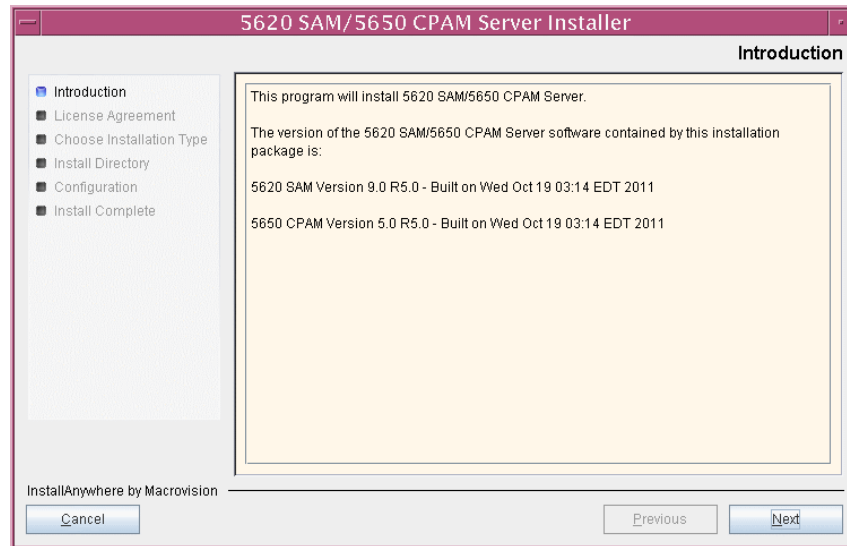
Figure 8-25 5620 SAM | 5650 CPAM installer





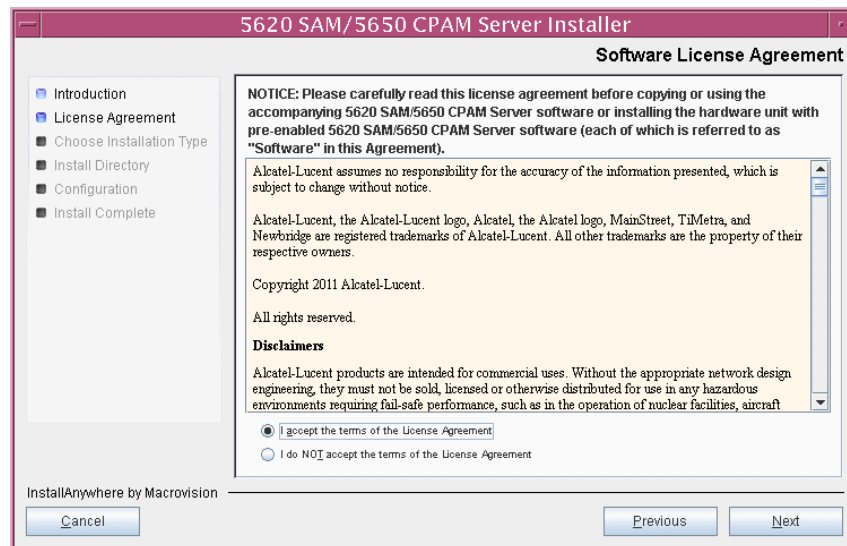
- 12 The 5650 CPAM server installer opens, as shown in Figure 8-26. The left pane indicates upgrade progress. The right pane displays release information about the software. Click on the Next button.

Figure 8-26 Introduction



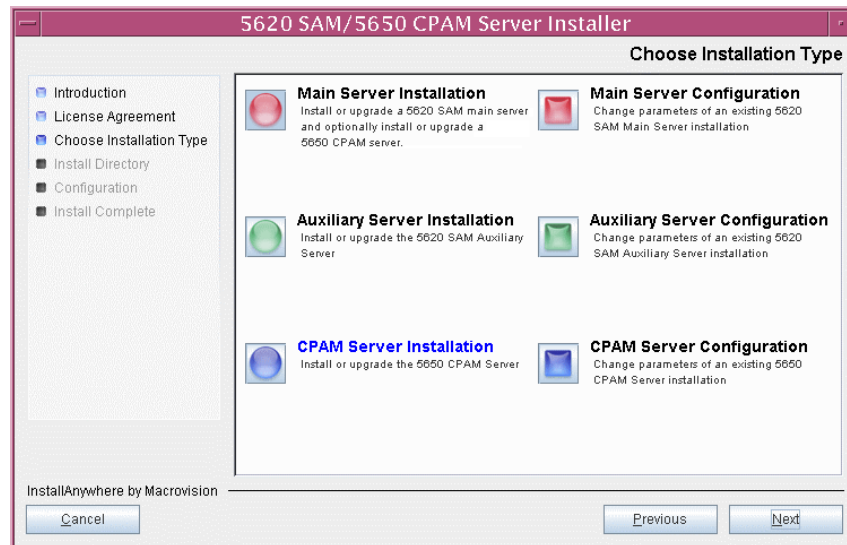
- 13 Review and accept the terms of the license agreement shown in Figure 8-27. Click on the Next button.

Figure 8-27 Software License Agreement



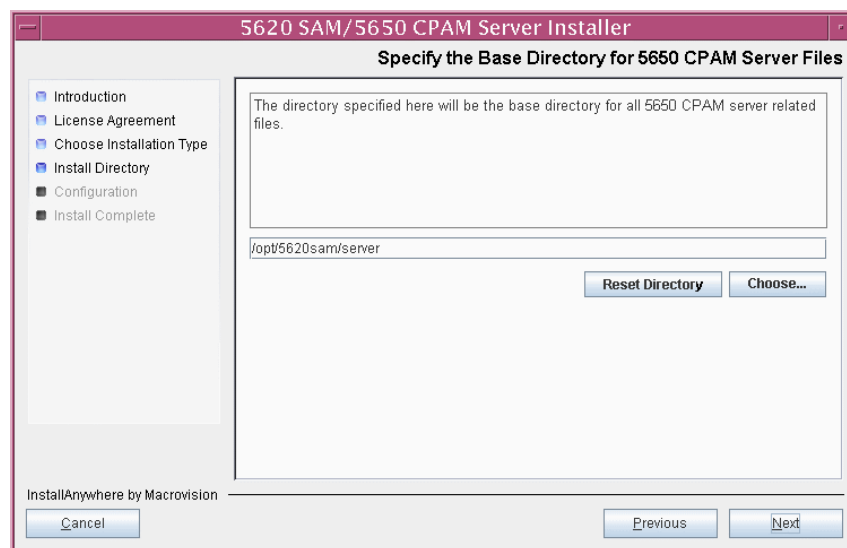
- 14 Select CPAM Server Installation, as shown in Figure 8-28. Click on the Next button.

Figure 8-28 Choose Installation Type



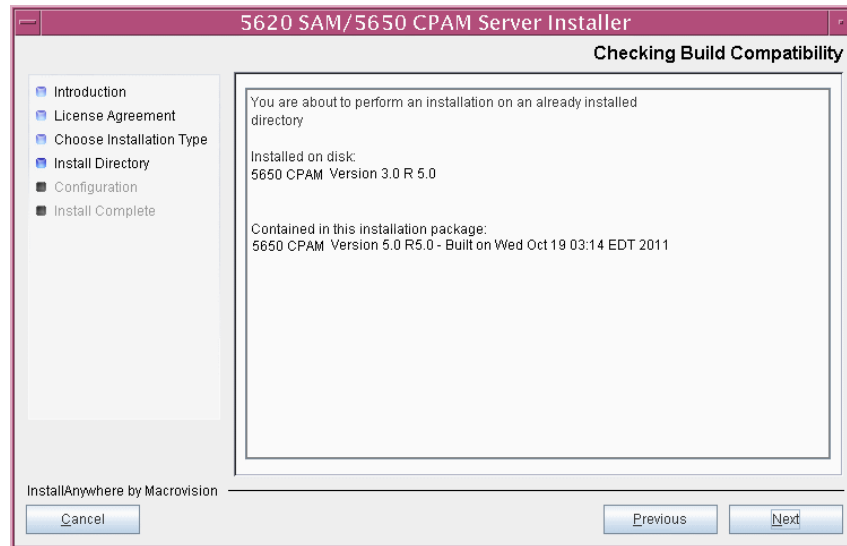
- 15 Specify a base directory in which to install the 5650 CPAM server software (typically /opt/5620sam/server), as shown in Figure 8-29. Click on the Next button.

Figure 8-29 Specify the Base Directory for 5650 CPAM Server Files



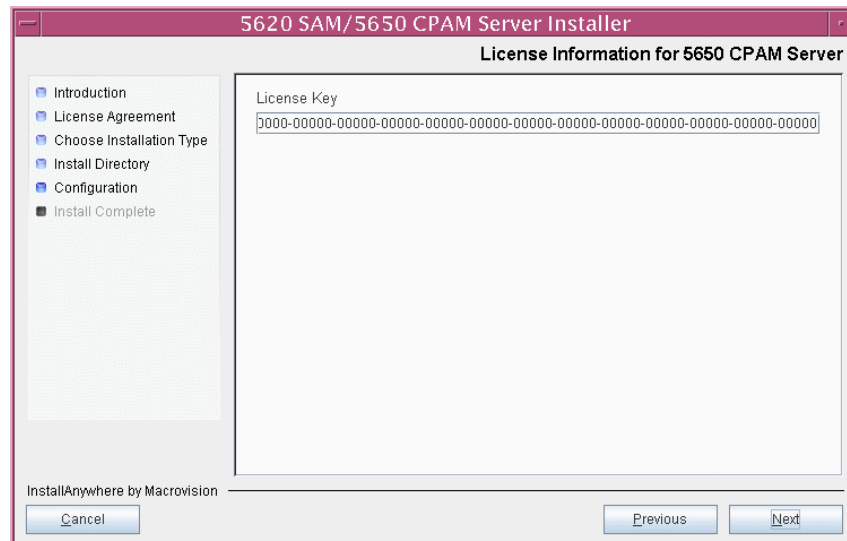
- 16 As shown in Figure 8-30, the installer indicates which release of 5650 CPAM software is currently installed and the release to which it is to be upgraded. Verify the information. Click on the Next button.

**Figure 8-30 Checking Build Compatibility**



- 17 The 5620 SAM installer displays the existing license key. Enter the license key for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 8-31. Click on the Next button.

**Figure 8-31 License Information for 5650 CPAM Server**



18 Configure the following parameters shown in Figure 8-32, then click on the Next button.

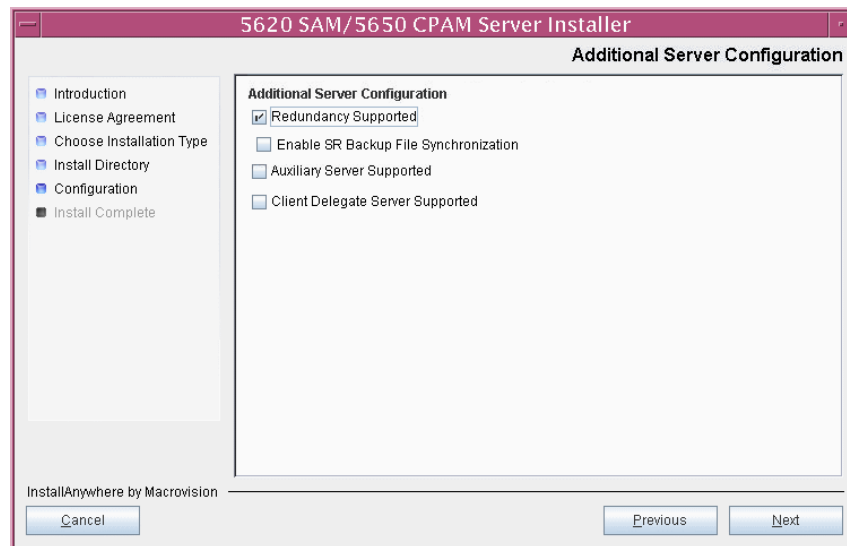
- Redundancy Supported
- Enable SR Backup File Synchronization
- Auxiliary Server Supported
- Client Delegate Server Supported



**Note 1** — You must select the “Redundancy Supported” parameter.

**Note 2** — The “Enable SR Backup File Synchronization” parameter is configurable when the “Redundancy Supported” parameter is enabled.

**Figure 8-32 Additional Server Configuration**



19 Configure the following parameters shown in Figure 8-33. Click on the Next button.

- Primary Database Server IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

**Figure 8-33 Primary Database Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Primary Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the primary 5620 SAM database's public IP address as known to the 5650 CPAM server.' Below this are six input fields: 'Primary Database Server IP Address' (highlighted in yellow), 'Primary Database Server Port' (1523), 'Primary Database Instance Name' (samdb1), 'Database User Name' (samuser), 'Database User Password' (masked with asterisks), and 'Primary Database Proxy Port' (9002). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

- 20 Configure the following parameters shown in Figure 8-34, then click on the Next button:
- Database Server IP Address
  - Database Instance Name (typically samdb2)
  - Database Proxy Port (typically 9002)

**Figure 8-34 Standby Database Configuration**

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Standby Database Configuration' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area contains a text box with the instruction: 'If NAT (network address translation) is to be used, enter the standby 5620 SAM database's public IP address as known to the 5650 CPAM server.' Below this are three input fields: 'Database Server IP Address' (highlighted in yellow), 'Database Instance Name' (containing 'samdb2'), and 'Database Proxy Port' (containing '9002'). At the bottom left is the text 'InstallAnywhere by Macrovision' and a 'Cancel' button. At the bottom right are 'Previous' and 'Next' buttons.

- 21 The panel in Figure 8-35 is displayed if you select the “Auxiliary Server Supported” parameter in step 18. Otherwise, go to step 23.

Perform the following steps.

- i Configure the following parameters shown in Figure 8-35:
  - NAT (network address translation) Used  
Select this parameter only if NAT is to be used between this 5650 CPAM server and the 5620 SAM auxiliary servers.
  - Private IP (accessible only by this server)
  - Public IP (accessible to auxiliary)
  - Server Port (typically 12800)
  - Enable Stats Collection on Auxiliary Servers
  - Enable Call Trace Collection on Auxiliary Servers



**Note 1** — An auxiliary server can perform statistics collection or call-trace data collection, but not both.

**Note 2** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 8-35 CPAM Server Configuration for Auxiliary Servers

- ii Click on the Next button.

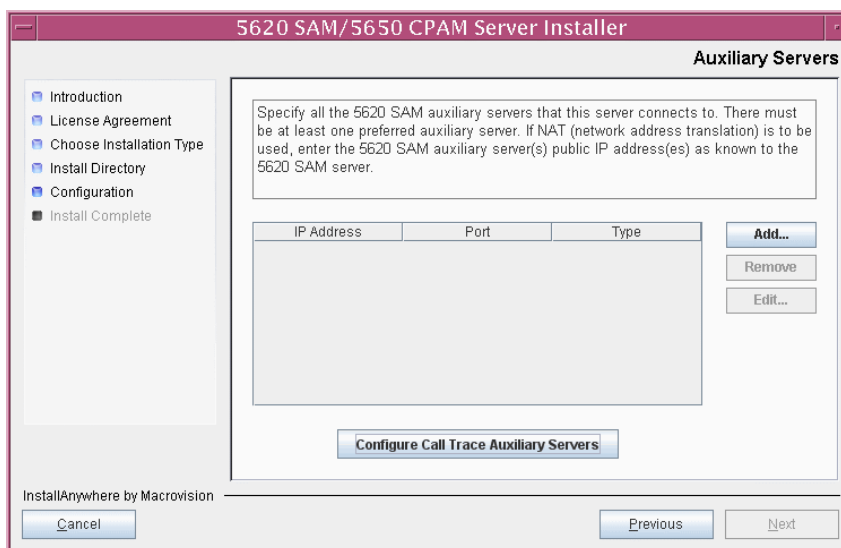
- iii Click on the Add button shown in Figure 8-36 to specify an auxiliary server. The form shown in Figure 8-37 opens.



**Note 1** — Statistics data collection requires only a preferred auxiliary server; a reserved auxiliary server is optional.

**Note 2** — Call-trace data collection requires at least one preferred and reserved auxiliary server pair.

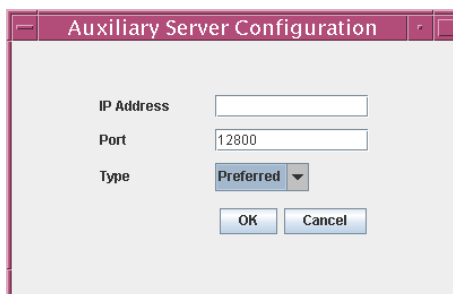
**Figure 8-36 Auxiliary Servers**



**Note 1** — The Preferred auxiliary server of the primary 5650 CPAM server must be the Reserved auxiliary server of the standby 5650 CPAM server. Conversely, the Reserved auxiliary server of the primary 5650 CPAM server must be the Preferred auxiliary server of the standby 5650 CPAM server.

**Note 2** — To minimize network latency between this 5650 CPAM server and a Preferred auxiliary server, specify an auxiliary server in the local network rather than an auxiliary server that is geographically remote.

**Figure 8-37 Auxiliary Server Configuration**





- iv Configure the following parameters:
  - IP Address
  - Port (typically 12800)
  - Type (Preferred or Reserved)
- v Click on the OK button to save the information and close the form.
- vi Repeat steps 21 iii to v to specify an additional auxiliary server, if required.
- vii If “Enable Call Trace Collection on Auxiliary Servers” is selected in step 21 i, click on the “Configure Call Trace Auxiliary Servers” button shown in Figure 8-36. Otherwise, go to step 22.
- viii The form shown in Figure 8-38 opens. Select a preferred auxiliary server in the upper left panel and the associated reserved auxiliary server in the lower left panel, and click on the “Make Pair from Selected” button. The auxiliary servers move to the list on the right side of the form.

Figure 8-38 Configure Call Trace Auxiliary Servers

Select one preferred server and one reserved server from the left side. Add those servers to the right side using the 'Make Pair from Selected' button.

| Preferred Auxiliary Servers |       |
|-----------------------------|-------|
| IP Address                  | Port  |
| 10.1.1.1                    | 12800 |
| 10.1.1.2                    | 12800 |
| 10.1.1.3                    | 12800 |

| Reserved Auxiliary Servers |       |
|----------------------------|-------|
| IP Address                 | Port  |
| 10.2.2.1                   | 12800 |
| 10.2.2.2                   | 12801 |
| 10.2.2.3                   | 12800 |

| Server Pairs        |                    |
|---------------------|--------------------|
| Preferred Server IP | Reserved Server IP |

Make Pair from Selected      Remove Selected Pair      OK      Cancel

- ix Repeat step 21 viii to configure another call-trace auxiliary server pair, if required.
- 22 Click on the Next button.

- 23 If you select the “Enable Database Alignment” parameter shown in Figure 8-39, you must specify the preferred database of this 5650 CPAM server, then click on the Next button.

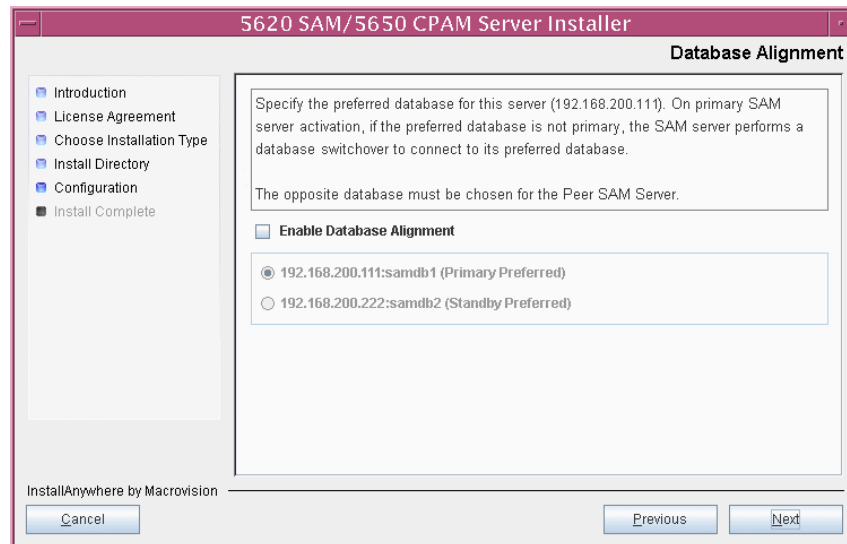
Database alignment associates each server with the database to which it is most directly connected in terms of network latency. This database is the preferred database of the server. For example, in a 5620 SAM complex that is geographically dispersed, the preferred database of a server is the database in the same physical facility; typically, the primary server and database are in one facility, and the standby server and database are in another.

When a primary server starts, it verifies that the database to which it connects is the preferred database. If this database is not the preferred database, the server performs a database switchover to reverse the primary and standby database roles. If the switchover is successful, the servers and databases in the 5620 SAM/5650 CPAM complex are aligned. If the switchover fails, each database reverts to the former role, and the server raises an alarm about the failed switchover.

When database alignment is enabled and you perform a database switchover, the primary server does not attempt database realignment, because a switchover is a manual operation that is considered to be a purposeful act.

When database alignment is enabled and you perform a server activity switch, the primary server performs an automatic database switchover to maintain alignment with the preferred database.

Figure 8-39 Database Alignment



24 Perform the following steps.

- i Configure the following parameters shown in Figure 8-40:
  - Server Domain Name (typically 5620sam)  
This parameter uniquely identifies the 5620 SAM server cluster to which the 5650 CPAM server belongs.
  - Use Hostname for Communication  
Select this parameter if the 5650 CPAM server is to use multiple interfaces for GUI and OSS client communication.

Figure 8-40 CPAM Server Configuration for Clients

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Clients

Enter the network interface information that the GUI and OSS clients require to communicate with the 5650 CPAM server.

Server Domain Name

☐ Use Hostname for Communication

☒ NAT (network address translation) Used

Private IP (accessible only by this server)

Public IP (accessible to clients)

EJB JNDI Server port

EJB JMS Server port

InstallAnywhere by Macrovision

- ii If you select the “Use Hostname for Communication” parameter, go to step 24 vi.
- iii Configure the following parameters:
  - NAT (network address translation) Used
  - Private IP (accessible only by this server)
  - Public IP (accessible to clients)
  - EJB JNDI Server port (typically 1099)
  - EJB JMS Server port (typically 8093)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

- iv Click on the Next button.
- v Go to step 25.

vi Configure the following parameters shown in Figure 8-41:

- NAT (network address translation) Used
- Private IP (accessible only by this server)
- Public Hostname
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

Figure 8-41 CPAM Server Configuration for Clients

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Clients

Enter the network interface information that the GUI and OSS clients require to communicate with the 5650 CPAM server.

Server Domain Name

☒ Use Hostname for Communication

☒ NAT (network address translation) Used

Private IP (accessible only by this server)

Public Hostname

EJB JNDI Server port

EJB JMS Server port

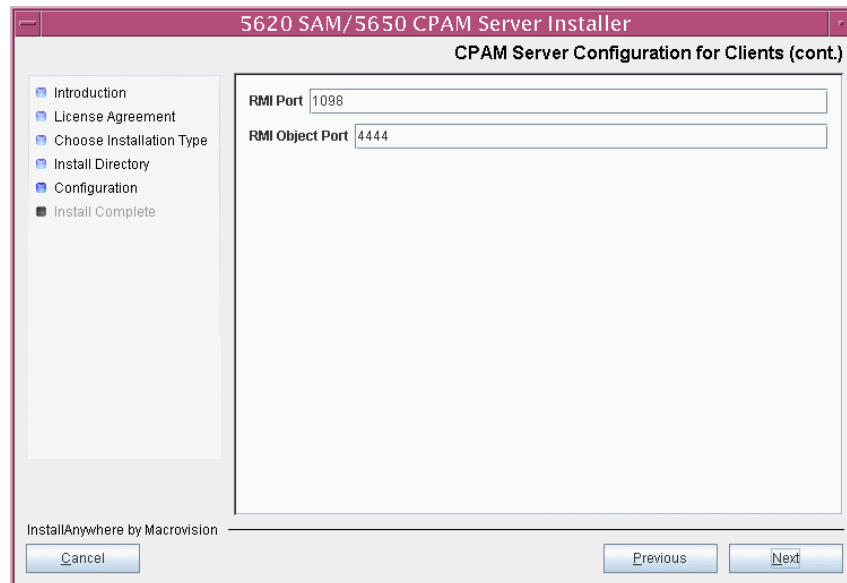
InstallAnywhere by Macrovision

vii Click on the Next button.

25 Configure the following parameters shown in Figure 8-42, then click on the Next button:

- RMI Port (typically 1098)
- RMI Object Port (typically 4444)

Figure 8-42 CPAM Server Configuration for Clients (cont.)



26 Click on the Next button.

**27** Configure the following parameters shown in Figure 8-43:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between this 5650 CPAM server and the peer 5650 CPAM server.
- Private IP (accessible only by this server)
- Public IP (accessible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)



**Note** — The “Private IP (accessible only by this server)” parameter is configurable when the “NAT (network address translation) Used” parameter is selected.

**Figure 8-43 CPAM Server Configuration for Peer Server**

5620 SAM/5650 CPAM Server Installer

CPAM Server Configuration for Peer Server

Enter the network interface information that this 5650 CPAM server requires to communicate with the peer server.

☒ NAT (network address translation) Used

Private IP (accessible only by this server) 192.168.200.111

Public IP (accessible to peer server)

High Available JNDI Port 1100

TCP Port Cluster Number 11800

InstallAnywhere by Macrovision

Cancel Previous Next

28 Configure the following parameters shown in Figure 8-44, then click on the Next button:

- Enable Synchronization of Data
- Public IP (accessible to peer server)
- Peer Public IP (accessible to this server)



**Note** — The “Public IP (accessible to peer server)” and “Peer Public IP (accessible to this server)” parameters are configurable only when the “Enable Synchronization of Data” parameter is enabled.

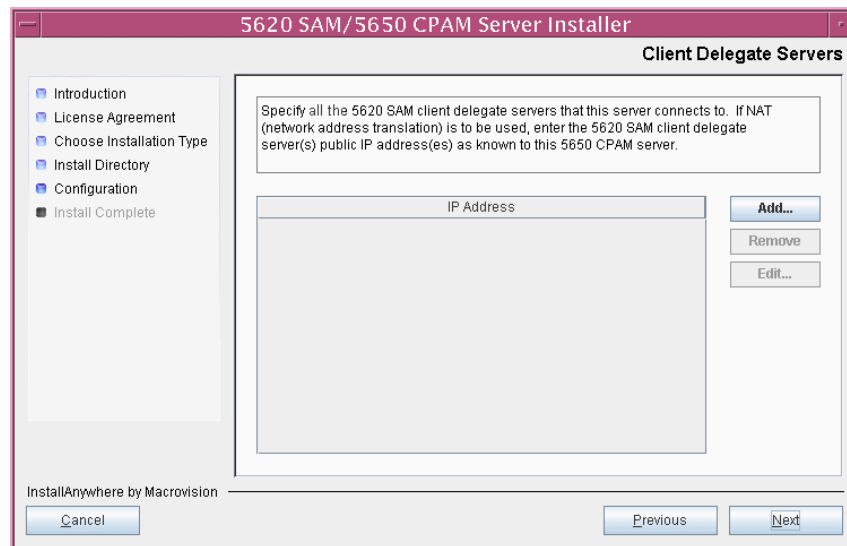
Figure 8-44 Synchronization of Data

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'Synchronization of Data' tab selected. On the left is a navigation pane with the following items: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration, and Install Complete. The main area contains a text box stating: 'If synchronization is enabled, the collected data will be available on both 5620 SAM main servers.' Below this is a checkbox labeled 'Enable Synchronization of Data' which is checked. Underneath are two input fields: 'Public IP (accessible to peer server)' and 'Peer Public IP (accessible to this server)'. At the bottom of the window are three buttons: 'Cancel', 'Previous', and 'Next'. The text 'InstallAnywhere by Macrovision' is visible in the bottom left corner of the window frame.

- 29 The panel in Figure 8-45 is displayed if you select the “Client Delegate Server Supported” parameter in step 18. Otherwise, go to step 30.

Click on the Add button to specify the client delegate server IP addresses, as required. If NAT is used between the 5650 CPAM server and client delegate servers, specify the public IP address. Click on the Next button.

**Figure 8-45 Client Delegate Servers**





- 30 Perform the following steps to enable communication security between the 5650 CPAM server and clients, and between the 5650 CPAM and auxiliary servers. Otherwise, click on the Next button.



**Note** — See the 5620 SAM SSL security chapter of the *5620 SAM User Guide* for information about creating SSL keystore and truststore files, and for general 5620 SAM SSL configuration information.

- i Select the “Enable Secure Communication” parameter shown in Figure 8-46.

**Figure 8-46 SSL Configuration**

- ii Configure the following parameters:

- Keystore File
- Keystore Password
- Truststore File
- Truststore Password



**Note** — The default keystore and truststore files use an autosigned SSL certificate. If you want to use a certificate signed by a root CA, and the CA is not named in the default truststore file, you must specify a truststore file that includes the root CA.

- iii Copy the truststore file to the same location on each client and auxiliary server station.
- iv Click on the Next button. The 5650 CPAM server copies the files, imports them into the 5650 CPAM server configuration, and transfers the keystore file to each client and auxiliary server.

31 Configure the following parameters shown in Figure 8-47, then click on the Next button:

- NAT (network address translation) Used  
Select this parameter only if NAT is to be used between this 5650 CPAM server and the managed network.
- IPv6 Address Used
- SNMP Trap Receiving IPv4 Address
- SNMP Trap Receiving IPv6 Address
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)



**Note** — The “SNMP Trap Receiving IPv6 Address” parameter is configurable only when the “IPv6 Address Used” parameter is selected, as shown in Figure 8-47.

Figure 8-47 SNMP Configuration

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window with the 'SNMP Configuration' tab selected. On the left, a navigation pane lists: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (selected), and Install Complete. The main area contains a text box stating: 'If NAT (network address translation) is to be used, enter the 5650 CPAM server's public IP address as known to the devices within the managed network.' Below this are two checkboxes: 'NAT (network address translation) Used' (unchecked) and 'IPv6 Address Used' (checked). Under the 'IPv6 Address Used' section, there are four input fields: 'SNMP Trap Receiving IPv4 Address' (containing '192.168.200.122'), 'SNMP Trap Receiving IPv6 Address' (empty), 'SNMP Trap Receiving Port' (containing '162'), and 'Trap Log Id' (containing '98'). At the bottom, there is a 'Cancel' button, a 'Previous' button, and a 'Next' button. The footer text reads 'InstallAnywhere by Macrovision'.

32 Configure the following parameters shown in Figure 8-48, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IPv4 Address
- Peer Server SNMP Trap Receiving IPv6 Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)



**Note** — The “Peer Server SNMP Trap Receiving IPv6 Address” parameter is configurable only if you select the “IPv6 Address Used” parameter in step 31.

Figure 8-48 Peer CPAM Server Configurations

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. On the left is a navigation pane with the following steps: Introduction, License Agreement, Choose Installation Type, Install Directory, Configuration (highlighted), and Install Complete. The main area is titled 'Peer CPAM Server Configurations'. It contains a text box with instructions: 'If NAT (network address translation) is to be used, enter the 5650 CPAM peer server's public IP address as known to the 5650 CPAM server. Also enter the 5650 CPAM peer server's public IP address as known to the devices within the managed network.' Below this are six input fields: 'Peer Server IP Address' (empty), 'Peer Server Trap Log Id' (98), 'Peer Server SNMP Trap Receiving IPv4 Address' (empty), 'Peer Server SNMP Trap Receiving IPv6 Address' (empty), 'Peer Server SNMP Trap Receiving Port' (162), and 'Peer Server TCP Port Cluster Number' (11800). At the bottom are 'Cancel', 'Previous', and 'Next' buttons. The footer text reads 'InstallAnywhere by Macrovision'.

33 If the “Use Hostname for Communication” parameter in step 24 is selected, go to step 36.

- 34 Configure the following parameters shown in Figure 8-49, then click on the Next button:
- Peer Server IP Address
  - JNDI High Available Peer Server Port (typically 1100)
  - JNDI Peer Server Port (typically 1099)

Figure 8-49 Peer CPAM Server Configurations (cont.)

The screenshot shows the '5620 SAM/5650 CPAM Server Installer' window. The title bar is purple with the text '5620 SAM/5650 CPAM Server Installer'. The main window has a light gray background. On the left, there is a vertical list of steps: 'Introduction', 'License Agreement', 'Choose Installation Type', 'Install Directory', 'Configuration', and 'Install Complete'. The 'Configuration' step is currently selected and highlighted in blue. The main area of the window is titled 'Peer CPAM Server Configurations (cont.)'. It contains a text box with instructions: 'Enter the IP address of the network interface the GUI and OSS clients require to communicate with the peer server. If NAT (network address translation) is to be used, specify the public IP address as known to the 5650 CPAM clients.' Below this, there is a note: 'If multiple addresses are to be used for communication with GUI clients, OSS clients, and auxiliary servers, a hostname must be provided for the Peer Server Hostname field.' There are three input fields: 'Peer Server IP Address' (highlighted in yellow), 'JNDI High Available Peer Server Port' (with the value '1100'), and 'JNDI Peer Server Port' (with the value '1099'). At the bottom left, it says 'InstallAnywhere by Macrovision'. At the bottom right, there are three buttons: 'Cancel', 'Previous', and 'Next'.

- 35 Go to step 37.

36 Configure the following parameters shown in Figure 8-50, then click on the Next button:

- Peer Server Hostname
- JNDI High Available Peer Server Port (typically 1100)
- JNDI Peer Server Port (typically 1099)

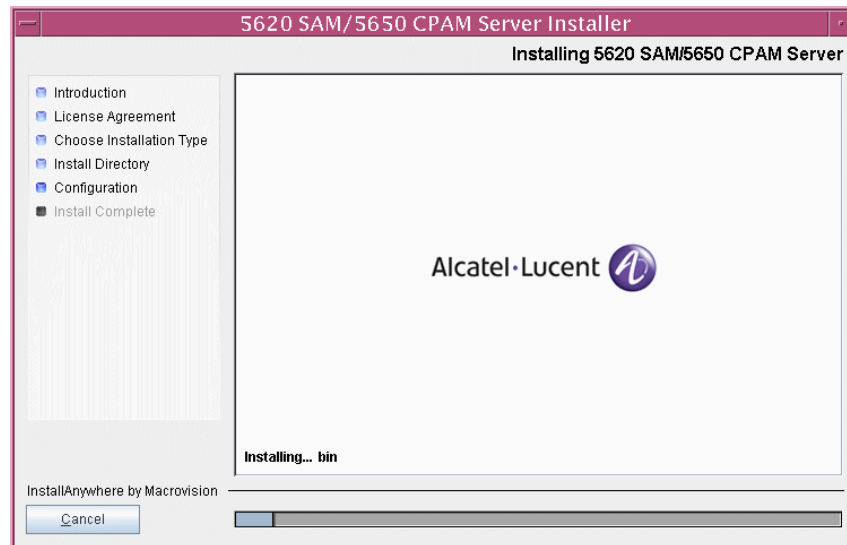
Figure 8-50 Peer CPAM Server Configurations (cont.)

37 If you require 5650 CPAM client navigation from a 5620 NM system, select the “Enable Navigation from External Systems” parameter shown in Figure 8-51 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to begin the server upgrade.

Figure 8-51 Navigation from External Systems

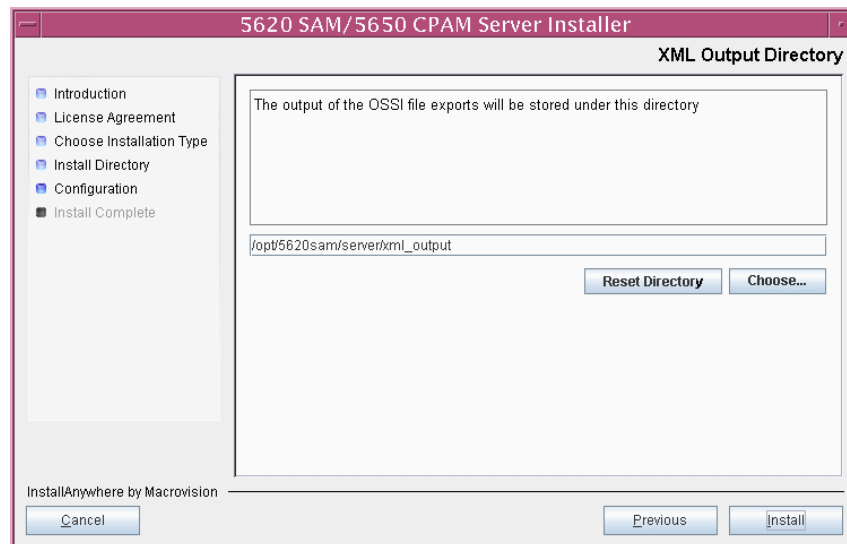
The next panel displays upgrade progress, as shown in Figure 8-52.

**Figure 8-52 Installing 5620 SAM/5650 CPAM Server**



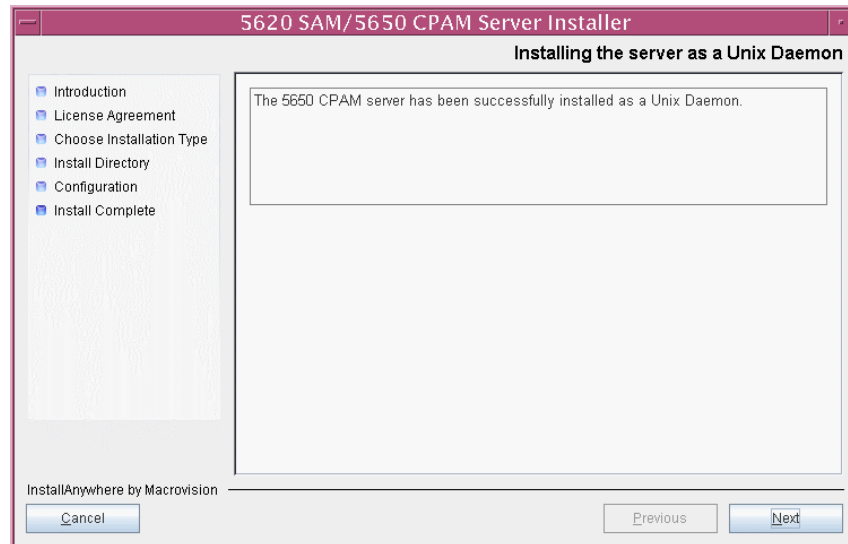
- 38 Specify an OSS XML output location (typically /opt/5620sam/server/xml\_output), as shown in Figure 8-53. Click on the Install button to begin the server upgrade.

**Figure 8-53 XML Output Directory**



- 39 As shown in Figure 8-54, the 5650 CPAM server is installed as a UNIX daemon. Click on the Next button.

**Figure 8-54 Installing the Server as a Unix Daemon**

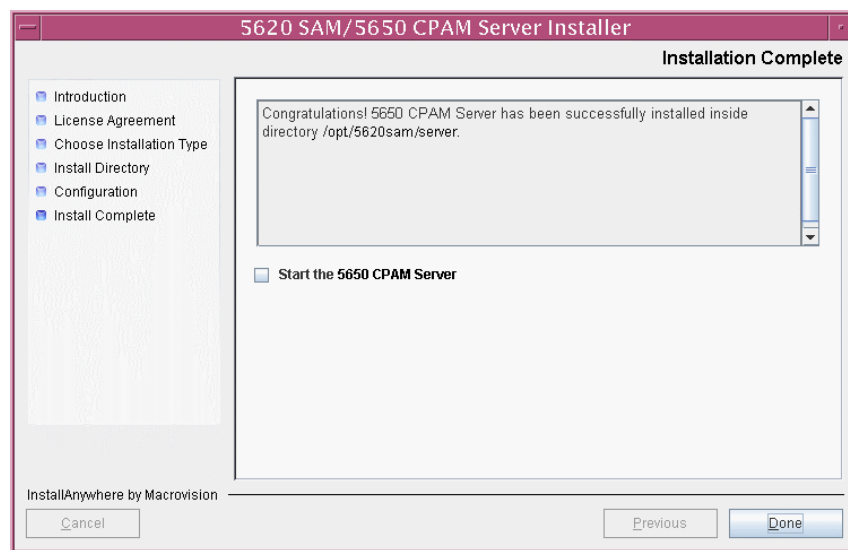


- 40 When the 5650 CPAM server upgrade is complete, as shown in Figure 8-55, configure the “Start the 5650 CPAM Server” parameter to specify whether you want the server to start immediately after the upgrade.



**Caution** — Alcatel-Lucent recommends that you do not configure the server to start immediately after an upgrade.

**Figure 8-55 Installation Complete**



- 41 Click on the Done button to close the server installer. If you specified that the 5650 CPAM server is to start after the upgrade, the server starts. Initial server startup can take twenty minutes or more.
- 42 Restart each currently open 5620 SAM GUI client that connects to the 5620 SAM/5650 CPAM server.



**Note** — The new 5650 CPAM functionality is not visible in a client GUI until the client is restarted.

- 43 Upgrade the 7701 CPAA.



**Note** — You can use the 5650 CPAM or the 5620 SAM to upgrade the 7701 CPAA, or you can upgrade the CPAA independently during a 5620 SAM upgrade to save time.

- 44 Use the upgraded 5650 CPAM to administratively turn up each 7701 CPAA TCP connection to the 5650 CPAM. After this step, each TCP connection between the 5650 CPAM and each 7701 CPAA is operationally up.
-



## **9 — 5650 CPAM uninstallation**

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- 9.1 5650 CPAM uninstallation overview 9-2**
- 9.2 5650 CPAM uninstallation procedures list 9-2**
- 9.3 5650 CPAM uninstallation 9-2**

## 9.1 5650 CPAM uninstallation overview

This chapter contains information about uninstalling the 5650 CPAM software. 5650 CPAM uninstallation requires that no 5650 CPAM software is running when the uninstallation begins.

## 9.2 5650 CPAM uninstallation procedures list

Table 9-1 lists the 5650 CPAM software uninstallation procedures.

Table 9-1 5650 CPAM uninstallation procedures list

| Procedure                                           | Purpose                               |
|-----------------------------------------------------|---------------------------------------|
| <a href="#">To uninstall the 5650 CPAM software</a> | Remove the 5650 CPAM server software. |

## 9.3 5650 CPAM uninstallation

The following procedure describes how to remove the 5650 CPAM software from a station in a standalone or redundant deployment.



**Caution —** This procedure involves stopping the 5650 CPAM server application, which also stops the 5620 SAM server application. Ensure that you perform this procedure only during a scheduled maintenance period.



**Note 1 —** You require the following user privileges on the 5650 CPAM server station to perform this procedure:

- root
- samadmin

**Note 2 —** Command-line examples use the following to represent the Solaris CLI prompts:

- #—represents the prompt for the root user
- bash\$—represents the prompt for the samadmin user

Do not type the # symbol or bash\$ when you enter a command.

**Note 3 —** If you are performing this procedure from a remote terminal, you must ensure the following:

- that the Solaris DISPLAY environment variable is correctly set for display redirection
- that the remote system allows access for display terminal support

Otherwise, the 5620 SAM installer GUI does not open.

## Procedure 9-1 To uninstall the 5650 CPAM software

---

Perform this procedure to remove the 5650 CPAM software from a station.

- 1 Stop the 5650 CPAM/5620 SAM server application.
  - i Log in to the server station as the samadmin user:
  - ii Open a console window.
  - iii Enter the following to change to the server binary directory:

```
bash$ cd path/nms/bin ↵
```

where *path* is the 5650 CPAM server installation location, typically /opt/5620sam/server
  - iv Enter the following to stop the 5650 CPAM server software:

```
bash$./nmsserver.bash stop ↵
```
  - v Enter the following to display the 5650 CPAM server status:

```
bash$./nmsserver.bash appserver_status ↵
```

The command displays a status message.
  - vi The 5650 CPAM server is stopped when the command displays the following status message:

```
Application Server is stopped
```

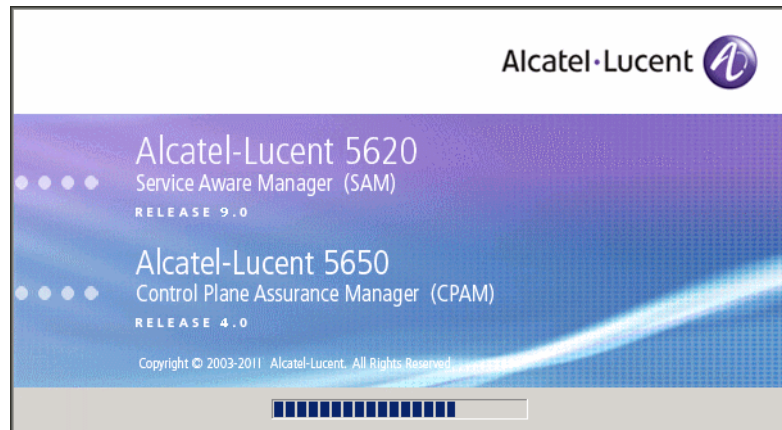
If the command displays a different message, wait 5m and repeat step 1 v. Do not proceed to the next step until the server is stopped.
- 2 Log in to the 5650 CPAM server station as the root user.
- 3 Open a console window.
- 4 Enter the following to open the 5650 CPAM server uninstaller:

```
path/Uninstall/Uninstall_5650_CPAM_Server ↵
```

where *path* is the 5650 CPAM server installation location, typically /opt/5620sam/server

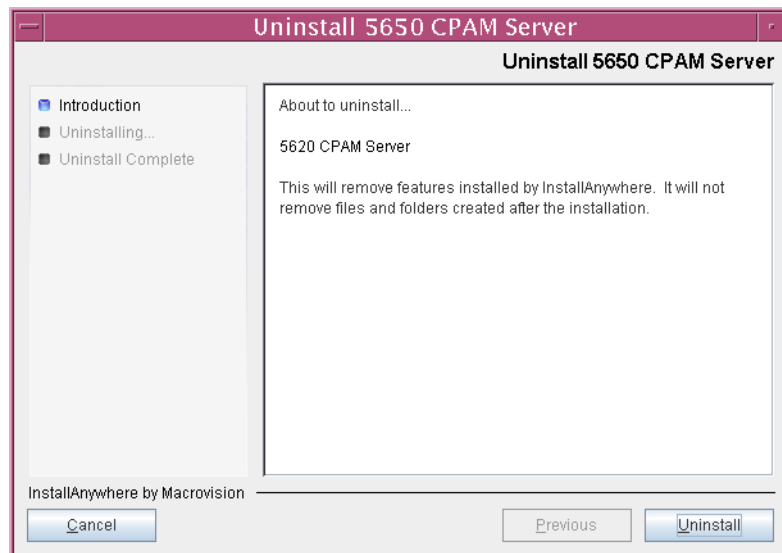
The splash screen shown in Figure 9-1 opens.

**Figure 9-1 5620 SAM | 5650 CPAM uninstaller**



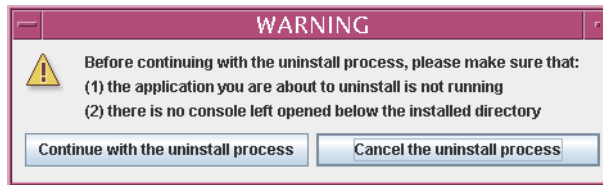
- 5 The 5650 CPAM server uninstaller opens, as shown in Figure 9-2. The left pane indicates uninstallation progress. The right pane indicates the operations that are to take place. Click on the Uninstall button to begin the uninstallation.

**Figure 9-2 Uninstall 5650 CPAM Server**



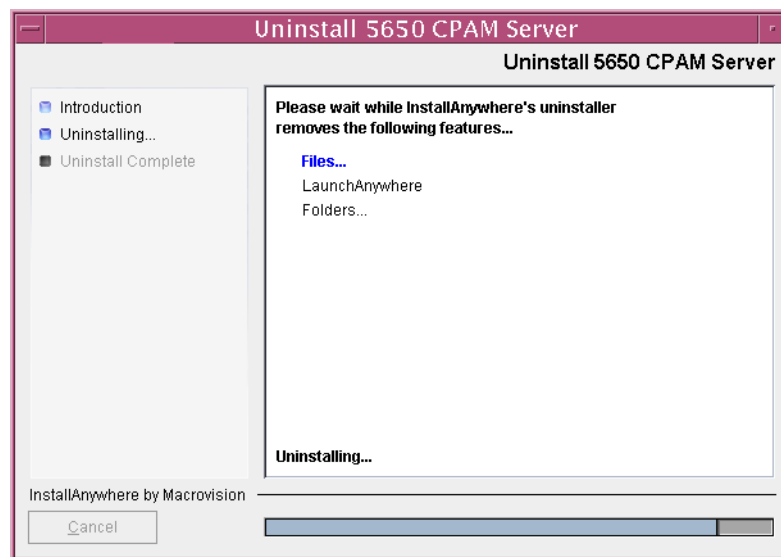
- 6 Read the warning shown in Figure 9-3. Click on the “Continue with the uninstall process” button to begin the uninstallation.

Figure 9-3 Warning



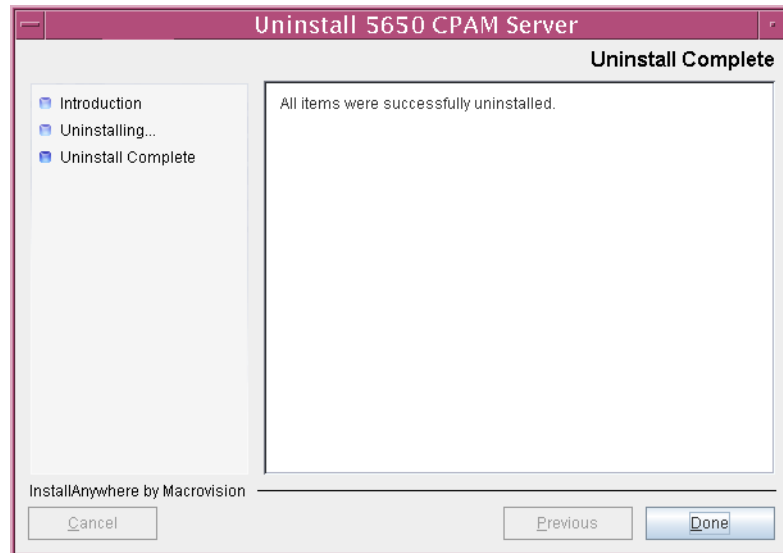
The uninstaller begins to remove 5650 CPAM components, as shown in Figure 9-4.

Figure 9-4 Uninstall 5650 CPAM Server



- 7 When the 5650 CPAM server uninstallation is complete, as shown in Figure 9-5, click on the Done button to close the server uninstaller.

**Figure 9-5 Uninstall Complete**



- 8 Close the console window.
- 9 Restart each currently open 5620 SAM GUI client that connects to the 5650 CPAM server.



**Note —** The 5650 CPAM functions remain in a 5620 SAM client GUI until the client is restarted.

# ***Appendices***

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- A. 5620 SAM installation parameters    ***A-1***
- B. 5620 SAM upgrade parameters    ***B-1***
- C. 5620 SAM conversion to redundancy parameters    ***C-1***
- D. 5650 CPAM installation parameters    ***D-1***
- E. 5650 CPAM upgrade parameters    ***E-1***





## **A.            *5620 SAM installation parameters***

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- A.1 Standalone database and main server installation parameters    A-2**
- A.2 Redundant database and main server installation parameters    A-10**
- A.3 Auxiliary server installation parameters    A-30**
- A.4 Single-user client and client delegate server installation parameters    A-33**

## A.1 Standalone database and main server installation parameters

Tables A-1 and A-2 list and describe the configurable parameters for a standalone 5620 SAM database and main server installation. The tables are presented in an order that follows the standalone installation workflow in chapter 2. The parameters in each table are grouped by installer panel in the order that the panels are displayed.

**Table A-1 Standalone database installation parameters**

| Panel and parameters                                          | Description                                                                                                                                                              |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                             |                                                                                                                                                                          |
| I accept the terms of the License Agreement                   | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                    |
| I do NOT accept the terms of the License Agreement (default)  | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                |
| <b>Choose Installation Type</b>                               |                                                                                                                                                                          |
| Install & Configure a Standalone Database (default)           | Installs a standalone database<br>You must choose this option.                                                                                                           |
| Restore a Database                                            | Restores a database using a backup file set                                                                                                                              |
| Upgrade a Database                                            | Upgrades a database                                                                                                                                                      |
| Install & Configure Primary/Standby Database                  | Installs a primary or standby database for a redundant 5620 SAM deployment                                                                                               |
| <b>Install Oracle Software</b>                                |                                                                                                                                                                          |
| Install Oracle Software (default)                             | Installs the Oracle software                                                                                                                                             |
| Do not install Oracle Software                                | Does not install the Oracle software                                                                                                                                     |
| <b>Specify the Base Directory for 5620 SAM Database Files</b> |                                                                                                                                                                          |
| Unlabeled field                                               | The directory in which the database files are to be installed<br>Default: /opt/5620sam/samdb/install                                                                     |
| <b>Specify the Base Directory for Oracle Software</b>         |                                                                                                                                                                          |
| Unlabeled field                                               | The directory in which the Oracle files are to be installed<br>Default: /opt/5620sam/oracle11r2                                                                          |
| <b>General Database Configuration Info</b>                    |                                                                                                                                                                          |
| NAT (network address translation) Used                        | If selected, specifies that NAT is used between this database and the main server                                                                                        |
| Public IP (accessible to servers)                             | The IP address that the main server must use to reach this database<br>Default: IP address of primary network interface                                                  |
| Private IP                                                    | The IP address that the NAT router uses to reach this database<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected. |

(1 of 4)

| Panel and parameters                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Database Name                               | <p>The name of the database</p> <p>The name must:</p> <ul style="list-style-type: none"><li>• contain 8 or fewer characters</li><li>• consist of ASCII characters only</li><li>• have a letter as the first character</li><li>• not be an Oracle restricted database name; see the appropriate Oracle documentation for more information</li></ul> <p>Default: samdb</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Instance Name                               | <p>The name that the Oracle software associates with the database processes</p> <p>The name must:</p> <ul style="list-style-type: none"><li>• contain 8 or fewer characters</li><li>• consist of ASCII characters only</li><li>• have a letter as the first character</li></ul> <p>Default: samdb</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| User Name                                   | <p>The database username</p> <p>Default: samuser</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| User Password                               | <p>The database password, which can be set only during installation</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Confirm User Password                       | <p>The password value that you specify must meet the following criteria:</p> <ul style="list-style-type: none"><li>• The password must be between 4 and 30 characters long.</li><li>• The password must contain at least three of the following:<ul style="list-style-type: none"><li>• lower-case alphabetic character</li><li>• upper-case alphabetic character</li><li>• numeric character</li><li>• special character, which is one of the following:<br/># \$ _</li></ul></li><li>• The password must not contain four or more of the same character type in sequence.</li><li>• The password must not be the same as the user name or its reverse.</li><li>• The password must not contain a space character.</li></ul> <p>Ensure that you record the password for future use.</p> <p>Default: available from Alcatel-Lucent technical support</p> |
| General Database Configuration Info (cont.) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Database Listener Port                      | <p>The TCP port on this station that the Oracle database listener is to use to communicate with the main server</p> <p>Default: 1523</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Database Proxy Port                         | <p>The TCP port on this station that the main server is to use for non-JDBC operations</p> <p>Default: 9002</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Oracle SYS Password                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

(2 of 4)

## A. 5620 SAM installation parameters

| Panel and parameters                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYS Password                                           | The password that Oracle requires to start the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Confirm SYS Password                                   | <p>The password value that you specify must meet the following criteria:</p> <ul style="list-style-type: none"> <li>The password must be between 4 and 30 characters long.</li> <li>The password must contain at least three of the following: <ul style="list-style-type: none"> <li>lower-case alphabetic character</li> <li>upper-case alphabetic character</li> <li>numeric character</li> <li>special character, which is one of the following:<br/># \$ _</li> </ul> </li> <li>The password must not contain four or more of the same character type in sequence.</li> <li>The password must not be the same as the user name or its reverse.</li> <li>The password must not contain a space character.</li> </ul> <p>Default: available from Alcatel-Lucent technical support</p> |
| <b>Determine Memory Requirements</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Database co-exists with a 5620 SAM Server              | <p>If selected, specifies that the database and main server are to be collocated on this station</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Main Server IP Validation</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Enable SAM Server IP Validation                        | <p>If selected, allows only the main server specified by the “SAM Server IP Address” parameter to connect to the database</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SAM Server IP Address                                  | <p>The IP address of the only main server that is allowed to connect to the database</p> <p>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.</p> <p>Default: —</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Auxiliary Servers</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IP Address                                             | <p>The IP address or hostname of the auxiliary server</p> <p>Default: —</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Archive Log Destination</b>                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Unlabeled field                                        | <p>The directory in which the database is to store the archive logs</p> <p>Database transactions are stored in the archive log directory until a database backup is performed. Alcatel-Lucent recommends that you regularly back up the database to avoid filling the partition that contains the archive log directory.</p> <p>Default: /opt/5620sam/samdb/archivelog</p>                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Staging Destination</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Unlabeled field                                        | <p>The directory that the database is to use for the continuous statistics tablespace backup</p> <p>Default: /opt/5620sam/dbbackup/staging</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Choose the Redo Log Directory</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Unlabeled field                                        | <p>The directory in which the database is to store the redo logs</p> <p>Default: /opt/5620sam/samdb/redolog</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Accounting Statistics Database Retention Period</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Accounting Statistics Data Retention Period            | <p>The length of time, in days, that the database is to retain statistics records</p> <p>Default: 1</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Data Layout Option</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Panel and parameters                                                 | Description                                                                                                                      |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Multiple Tablespace mapping of Stats and Alarm tablespaces (default) | Separate tablespaces for the statistics and alarm data, and one tablespace for other data                                        |
| Multiple Tablespace mapping of all tablespaces                       | Separate tablespaces for the statistics and alarm data, and multiple tablespaces for other data                                  |
| <b>Accounting Statistics Data File Directory</b>                     |                                                                                                                                  |
| Unlabeled field                                                      | The directory that is to contain the accounting statistics tablespace files<br>Default: /opt/5620sam/samdb/tablespace/statstbs01 |

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Table A-2 Standalone main server installation parameters

| Panel and parameters                                             | Description                                                                                                                                                                                                |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                                |                                                                                                                                                                                                            |
| I accept the terms of the License Agreement                      | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                      |
| I do NOT accept the terms of the License Agreement (default)     | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                  |
| <b>Choose Installation Type</b>                                  |                                                                                                                                                                                                            |
| Main Server Installation (default)                               | Installs the main server software<br>You must choose this option.                                                                                                                                          |
| Main Server Configuration                                        | Configures the main server software                                                                                                                                                                        |
| Auxiliary Server Installation                                    | Installs the auxiliary server software                                                                                                                                                                     |
| Auxiliary Server Configuration                                   | Configures the auxiliary server software                                                                                                                                                                   |
| CPAM Server Installation                                         | Installs the 5650 CPAM server software                                                                                                                                                                     |
| CPAM Server Configuration                                        | Configures the 5650 CPAM server software                                                                                                                                                                   |
| <b>Specify the Base Directory for 5620 SAM Main Server Files</b> |                                                                                                                                                                                                            |
| Unlabeled field                                                  | The directory in which the main server files are to be installed<br>Default: /opt/5620sam/server                                                                                                           |
| <b>License Information for 5620 SAM Main Server</b>              |                                                                                                                                                                                                            |
| License Key                                                      | The 5620 SAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>Default: — |
| <b>Additional Server Configuration</b>                           |                                                                                                                                                                                                            |
| Redundancy Supported                                             | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration<br>You must leave this parameter unselected.<br>Default: unselected                                               |
| Auxiliary Server Supported                                       | If selected, specifies that the 5620 SAM deployment includes one or more auxiliary servers<br>Default: unselected                                                                                          |

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## A. 5620 SAM installation parameters

| Panel and parameters                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Client Delegate Server Supported                       | If selected, specifies that the 5620 SAM deployment includes one or more client delegate servers<br>Default: unselected                                                                                                                                                                                                                                                                                                                             |
| <b>Database Configuration</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Database Server IP Address                             | The IP address that the main server must use to reach the database station<br>The value must match the “Public IP (accessible to servers)” value specified on the “General Database Configuration Info (cont.)” panel during the database installation.<br>Default: –                                                                                                                                                                               |
| Database Server Port                                   | The TCP port on the database station that the main server must use to reach the database<br>The value must match the “Database Listener Port” value specified on the “General Database Configuration Info (cont.)” panel during the database installation.<br>Default: 1523                                                                                                                                                                         |
| Database Instance Name                                 | The name that the Oracle software associates with the database processes<br>The value must match the “Instance Name” value specified on the “General Database Configuration Info” panel during the database installation.<br>Default: samdb                                                                                                                                                                                                         |
| Database User Name                                     | The database username<br>The value must match the “User Name” value specified on the “General Database Configuration Info” panel during the database installation.<br>Default: samuser                                                                                                                                                                                                                                                              |
| Database User Password                                 | The database password<br>The value must match the “User Password” value specified on the “General Database Configuration Info” panel during the database installation.<br>Default: available from Alcatel-Lucent technical support                                                                                                                                                                                                                  |
| Database Proxy Port                                    | The TCP port on the database station that the main server is to use for non-JDBC operations<br>The value must match the “Database Proxy Port” value specified on the “General Database Configuration Info (cont.)” panel during the database installation.<br>Default: 9002                                                                                                                                                                         |
| <b>Online Database Backup</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Online Backup Interval (Hours)                         | How often, in hours, the 5620 SAM is to back up the database<br>Default: 24                                                                                                                                                                                                                                                                                                                                                                         |
| Online Backup Destination                              | The backup directory on the database station<br>Alcatel-Lucent recommends that you do the following: <ul style="list-style-type: none"> <li>Specify an Online Backup Destination that can hold at least five times the expected database size.</li> <li>Ensure that the available space in the Online Backup Destination is sufficient to accommodate the database growth associated with network growth.</li> </ul> Default: /opt/5620sam/dbbackup |
| Number Of Backup Sets                                  | The number of database backup sets that the 5620 SAM is to retain<br>The 5620 SAM creates a separate directory for each backup set. For example, if the Online Backup Destination is /opt/5620sam/dbbackup and the Number Of Backup Sets is 3, the /opt/5620sam/dbbackup directory contains the backupset_1, backupset_2, and backupset_3 subdirectories.<br>Default: 3                                                                             |
| <b>Main Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| Panel and parameters                              | Description                                                                                                                                                                                                                                |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAT (network address translation) Used            | If selected, specifies that NAT is used between the main server and the auxiliary servers<br>Default: unselected                                                                                                                           |
| Private IP (accessible only by this server)       | The IP address that the NAT router uses to reach the main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface             |
| Public IP (accessible to auxiliary)               | The IP address that the auxiliary servers must use to reach the main server<br>Default: —                                                                                                                                                  |
| Server Port                                       | The TCP port on this station that the auxiliary servers must use to reach the main server<br>Default: 12800                                                                                                                                |
| Enable Stats Collection on Auxiliary Servers      | If selected, specifies that at least one auxiliary server is to be used for statistics collection<br>Default: unselected                                                                                                                   |
| Enable Call Trace Collection on Auxiliary Servers | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection<br>Default: unselected                                                                                                            |
| <b>Auxiliary Server Configuration</b>             |                                                                                                                                                                                                                                            |
| IP Address                                        | The IP address that the main server must use to reach the auxiliary server<br>Default: —                                                                                                                                                   |
| Port                                              | The TCP port on the auxiliary server station that the main server must use to reach the auxiliary server<br>Default: 12800                                                                                                                 |
| Type                                              | Preferred—specifies that the main server uses this auxiliary server under normal conditions<br>Reserved—specifies that the main server uses this auxiliary server when the Preferred auxiliary server is unavailable<br>Default: Preferred |
| <b>Main Server Configuration For Clients</b>      |                                                                                                                                                                                                                                            |
| Server Domain Name                                | The unique identifier of the 5620 SAM server cluster<br>Default: 5620sam                                                                                                                                                                   |
| Use Hostname for Communication                    | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach the main server<br>Default: unselected                                                                 |
| NAT (network address translation) Used            | If selected, specifies that NAT is used between the main server and the GUI clients, OSS clients, and auxiliary servers<br>Default: unselected                                                                                             |
| Private IP (accessible only by this server)       | The IP address that the NAT router uses to reach the main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface             |
| Public Hostname                                   | The hostname that the GUI and OSS clients must use to reach the main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.<br>Default: —                                                |

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## A. 5620 SAM installation parameters

| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public IP (accessible to clients)                    | The IP address that the GUI and OSS clients must use to reach the main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.<br>Default: —                                                                                                                                                                      |
| EJB JNDI Server port                                 | The TCP port on this station that the GUI clients are to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the main server.</li> </ul> Default: 1099 |
| EJB JMS Server port                                  | The TCP port on this station that the GUI clients are to use for EJB JMS messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the main server.</li> </ul> Default: 8093  |
| Enable 5670 RAM                                      | If selected, specifies that a 5670 RAM is to be integrated with the 5620 SAM system<br>Default: unselected                                                                                                                                                                                                                                                           |
| Enable 3GPP OSS Interface                            | If selected, specifies that the 5620 SAM 3GPP OSS interface is to be enabled<br>Default: unselected                                                                                                                                                                                                                                                                  |
| <b>Main Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                      |
| RMI Port                                             | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the main server<br>Default: 1098                                                                                                                                                                                     |
| RMI Object Port                                      | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations<br>Default: 4444                                                                                                                                                                                                                           |
| <b>Server Configuration for OSS Clients</b>          |                                                                                                                                                                                                                                                                                                                                                                      |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between the main server and the OSS clients<br>Default: unselected                                                                                                                                                                                                                                                           |
| Public IP (accessible to OSS clients)                | The IP address that the OSS clients must use to reach the main server<br>Default: IP address of primary network interface                                                                                                                                                                                                                                            |
| <b>SSL Configuration</b>                             |                                                                                                                                                                                                                                                                                                                                                                      |
| Enable Secure Communication                          | If selected, specifies that SSL communication security is to be used between the main server and clients, and between the main and auxiliary servers                                                                                                                                                                                                                 |
| Keystore File                                        | The SSL keystore file that the main server imports to the main server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/samserver.keystore                                                                                    |
| Keystore Password                                    | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                                                                                          |

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| Panel and parameters                            | Description                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Truststore File                                 | The SSL truststore file that the main server imports to the main server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/cacerts.trustStore                                                                                                    |
| Truststore Password                             | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                                               |
| <b>License Information for 5650 CPAM Server</b> |                                                                                                                                                                                                                                                                                                                             |
| Include 5650 CPAM Server License Information    | If selected, specifies that a 5650 CPAM is to be integrated with the 5620 SAM system<br>Default: unselected                                                                                                                                                                                                                 |
| Unlabeled field                                 | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>The parameter is configurable when the “Include 5650 CPAM Server License Information” parameter is selected.<br>Default: — |
| <b>SNMP Configuration</b>                       |                                                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used          | If selected, specifies that NAT is used between the main server and the managed NEs                                                                                                                                                                                                                                         |
| IPv6 Address Used                               | If selected, specifies that the main server uses IPv6 to manage one or more NEs                                                                                                                                                                                                                                             |
| SNMP Trap Receiving IPv4 Address                | The IPv4 address that the managed NEs must use to reach the main server<br>Default: IP address of primary network interface                                                                                                                                                                                                 |
| SNMP Trap Receiving IPv6 Address                | The IPv6 address that the managed NEs use to reach the main server<br>The parameter is configurable when the “IPv6 Address Used parameter” is selected.<br>Default: —                                                                                                                                                       |
| SNMP Trap Receiving Port                        | The TCP port on this station that the managed NEs must use to reach the main server<br>Default: 162                                                                                                                                                                                                                         |
| Trap Log Id                                     | The SNMP trap log ID that is associated with the main server<br>Default: 98                                                                                                                                                                                                                                                 |
| <b>Navigation from External Systems</b>         |                                                                                                                                                                                                                                                                                                                             |
| Enable Navigation from External Systems         | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM<br>Default: unselected                                                                                                                                                                                                                     |
| TCP port for accepting GUI navigation requests  | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.<br>Default: —                                                                                                                         |
| <b>XML Output Directory</b>                     |                                                                                                                                                                                                                                                                                                                             |
| Unlabeled field                                 | The directory that is to contain the output of OSSI file export operations<br>Default: /opt/5620sam/server/xml_output                                                                                                                                                                                                       |
| <b>Installation Complete</b>                    |                                                                                                                                                                                                                                                                                                                             |
| Start the 5620 SAM Main Server                  | If selected, specifies that the main server is to start automatically after the installation<br>Default: unselected                                                                                                                                                                                                         |

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## A.2 Redundant database and main server installation parameters

Tables A-3 to A-6 list and describe the configurable parameters for a redundant 5620 SAM database and main server installation. The tables are presented in an order that follows the redundant installation workflow in chapter 2. The parameters in each table are grouped by installer panel in the order that the panels are displayed.

**Table A-3 Primary database installation parameters**

| Panel and parameters                                          | Description                                                                                                               |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                             |                                                                                                                           |
| I accept the terms of the License Agreement                   | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.     |
| I do NOT accept the terms of the License Agreement (default)  | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected. |
| <b>Choose Installation Type</b>                               |                                                                                                                           |
| Install & Configure a Standalone Database (default)           | Installs a standalone database                                                                                            |
| Restore a Database                                            | Restores a database using a backup file set                                                                               |
| Upgrade a Database                                            | Upgrades a database                                                                                                       |
| Install & Configure Primary/Standby Database                  | Installs a primary or standby database for a redundant 5620 SAM deployment<br>You must choose this option.                |
| <b>Install &amp; Configure Primary/Standby Database</b>       |                                                                                                                           |
| Primary Database Install (default)                            | Installs the primary database in a redundant deployment<br>You must choose this option.                                   |
| Convert Standalone Database to Primary                        | Converts a standalone database to the primary database in a redundant deployment                                          |
| Standby Database Install                                      | Installs the standby database in a redundant deployment                                                                   |
| <b>Install Oracle Software</b>                                |                                                                                                                           |
| Install Oracle Software (default)                             | Installs the Oracle software<br>You must choose this option.                                                              |
| Do not install Oracle Software                                | Does not install the Oracle software                                                                                      |
| <b>Specify the Base Directory for 5620 SAM Database Files</b> |                                                                                                                           |
| Unlabeled field                                               | The directory in which the database files are to be installed<br>Default: /opt/5620sam/samdb/install                      |
| <b>Specify the Base Directory for Oracle Software</b>         |                                                                                                                           |
| Unlabeled field                                               | The directory in which the Oracle files are to be installed<br>Default: /opt/5620sam/oracle11r2                           |
| <b>Primary Database Configuration Info</b>                    |                                                                                                                           |
| NAT (network address translation) Used                        | If selected, specifies that NAT is used between this database and this main server                                        |

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| Panel and parameters                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public IP (accessible to servers)           | The IP address that the main servers must use to reach this database<br>Default: IP address of primary network interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Private IP                                  | The IP address that the NAT router uses to reach this database<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Database Name                               | The name of the database<br>The name must: <ul style="list-style-type: none"><li>• contain 8 or fewer characters</li><li>• consist of ASCII characters only</li><li>• have a letter as the first character</li><li>• not be an Oracle restricted database name; see the appropriate Oracle documentation for more information</li></ul> Default: samdb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Instance Name                               | The name that the Oracle software associates with the database processes on this station<br>The name must: <ul style="list-style-type: none"><li>• contain 8 or fewer characters</li><li>• consist of ASCII characters only</li><li>• have a letter as the first character</li></ul> Default: samdb1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| User Name                                   | The database username<br>Default: samuser                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| User Password                               | The database password, which can be set only during installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Confirm User Password                       | The password value that you specify must meet the following criteria: <ul style="list-style-type: none"><li>• The password must be between 4 and 30 characters long.</li><li>• The password must contain at least three of the following:<ul style="list-style-type: none"><li>• lower-case alphabetic character</li><li>• upper-case alphabetic character</li><li>• numeric character</li><li>• special character, which is one of the following:<br/># \$ _</li></ul></li><li>• The password must not contain four or more of the same character type in sequence.</li><li>• The password must not be the same as the user name or its reverse.</li><li>• The password must not contain a space character.</li></ul> Ensure that you record the password for future use.<br>Default: available from Alcatel-Lucent technical support |
| Primary Database Configuration Info (cont.) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Database Listener Port                      | The TCP port on this station that the Oracle database listener is to use to communicate with the main servers<br>Default: 1523                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Database Proxy Port                         | The TCP port on this station that each main server is to use for non-JDBC operations<br>Default: 9002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Database File Server Port                   | The TCP port on this station that the database is to use for file transfers to and from the peer database station<br>Default: 9003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Oracle SYS Password                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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## A. 5620 SAM installation parameters

| Panel and parameters                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYS Password                              | The password that Oracle requires to start the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Confirm SYS Password                      | <p>The password value that you specify must meet the following criteria:</p> <ul style="list-style-type: none"> <li>The password must be between 4 and 30 characters long.</li> <li>The password must contain at least three of the following: <ul style="list-style-type: none"> <li>lower-case alphabetic character</li> <li>upper-case alphabetic character</li> <li>numeric character</li> <li>special character, which is one of the following:<br/># \$ _</li> </ul> </li> <li>The password must not contain four or more of the same character type in sequence.</li> <li>The password must not be the same as the user name or its reverse.</li> <li>The password must not contain a space character.</li> </ul> <p>Default: available from Alcatel-Lucent technical support</p> |
| <b>Determine Memory Requirements</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Database co-exists with a 5620 SAM Server | <p>If selected, specifies that the database and a main server are to be collocated on this station</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Main Server IP Validation</b>          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Enable SAM Server IP Validation           | <p>If selected, allows only the main servers specified by the “Server One IP Address” and “Server Two IP Address” parameters to connect to the database</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Server One IP Address                     | <p>The IP address of the primary main server that is allowed to connect to this database instance</p> <p>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.</p> <p>Default: —</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Server Two IP Address                     | <p>The IP address of the standby main server that is allowed to connect to this database instance</p> <p>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.</p> <p>Default: —</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Auxiliary Servers</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IP Address                                | <p>The IP address or hostname of the auxiliary server</p> <p>Default: —</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Archive Log Destination</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Unlabeled field                           | <p>The directory on this station in which the database is to store the archive logs</p> <p>Database transactions are stored in the archive log directory until a database backup is performed. Alcatel-Lucent recommends that you regularly back up the database to avoid filling the partition that contains the archive log directory.</p> <p>Default: /opt/5620sam/samdb/archivelog</p>                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Staging Destination</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Unlabeled field                           | <p>The directory that the database is to use for the continuous statistics tablespace backup</p> <p>Default: /opt/5620sam/dbbackup/staging</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Choose the Redo Log Directory</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Unlabeled field                           | <p>The directory in which the database is to store the redo logs</p> <p>Default: /opt/5620sam/samdb/redolog</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Panel and parameters                                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Accounting Statistics Database Retention Period</b>               |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Accounting Statistics Data Retention Period                          | The length of time, in days, that the database is to retain statistics records<br>Default: 1                                                                                                                                                                                                                                                                                                                              |
| <b>Data Layout Option</b>                                            |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Multiple Tablespace mapping of Stats and Alarm tablespaces (default) | Separate tablespaces for the statistics and alarm data, and one tablespace for other data                                                                                                                                                                                                                                                                                                                                 |
| Multiple Tablespace mapping of all tablespaces                       | Separate tablespaces for the statistics and alarm data, and multiple tablespaces for other data                                                                                                                                                                                                                                                                                                                           |
| <b>Accounting Statistics Data File Directory</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Unlabeled field                                                      | The directory that is to contain the accounting statistics tablespace files<br>Default: /opt/5620sam/samdb/tablespace/statstbs01                                                                                                                                                                                                                                                                                          |
| <b>Standby Database Info</b>                                         |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Standby IP Address                                                   | The IP address that each main server and this database must use to reach the peer database<br>Default: —                                                                                                                                                                                                                                                                                                                  |
| Standby Instance Name                                                | The name that the Oracle software associates with the peer database processes<br>The name must: <ul style="list-style-type: none"> <li>• contain 8 or fewer characters</li> <li>• consist of ASCII characters only</li> <li>• have a letter as the first character</li> </ul> Default: samdb2                                                                                                                             |
| Standby Oracle Home                                                  | The directory on the peer database station in which the Oracle files are to be installed<br>Default: the directory specified in the “Specify the Base Directory for Oracle Software” panel                                                                                                                                                                                                                                |
| Standby Archive Log Destination                                      | The directory on the peer database station in which the database is to store the archive logs<br>Database transactions are stored in the archive log directory until a database backup is performed. Alcatel-Lucent recommends that you regularly back up the database to avoid filling the partition that contains the archive log directory.<br>Default: the directory specified in the “Archive Log Destination” panel |

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Table A-4 Standby database installation parameters

| Panel and parameters                                         | Description                                                                                                               |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                            |                                                                                                                           |
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.     |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected. |
| <b>Choose Installation Type</b>                              |                                                                                                                           |
| Install & Configure a Standalone Database (default)          | Installs a standalone database                                                                                            |

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## A. 5620 SAM installation parameters

| Panel and parameters                                          | Description                                                                                                                                                                 |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Restore a Database                                            | Restores a database using a backup file set                                                                                                                                 |
| Upgrade a Database                                            | Upgrades a database                                                                                                                                                         |
| Install & Configure Primary/Standby Database                  | Installs a primary or standby database for a redundant 5620 SAM deployment<br>You must choose this option.                                                                  |
| <b>Install &amp; Configure Primary/Standby Database</b>       |                                                                                                                                                                             |
| Primary Database Install (default)                            | Installs the primary database in a redundant deployment                                                                                                                     |
| Convert Standalone Database to Primary                        | Converts a standalone database to the primary database in a redundant deployment                                                                                            |
| Standby Database Install                                      | Installs the standby database in a redundant deployment<br>You must choose this option.                                                                                     |
| <b>Install Oracle Software</b>                                |                                                                                                                                                                             |
| Install Oracle Software (default)                             | Installs the Oracle software<br>You must choose this option.                                                                                                                |
| Do not install Oracle Software                                | Does not install the Oracle software                                                                                                                                        |
| <b>Specify the Base Directory for 5620 SAM Database Files</b> |                                                                                                                                                                             |
| Unlabeled field                                               | The directory in which the database files are to be installed<br>Default: /opt/5620sam/samdb/install                                                                        |
| <b>Specify the Base Directory for Oracle Software</b>         |                                                                                                                                                                             |
| Unlabeled field                                               | The directory in which the Oracle files are to be installed<br>Default: /opt/5620sam/oracle11r2                                                                             |
| <b>Standby Database Configuration Info</b>                    |                                                                                                                                                                             |
| NAT (network address translation) Used                        | If selected, specifies that NAT is used between this database and each main server                                                                                          |
| Public IP (accessible to servers)                             | The IP address that each main server must use to reach this database<br>Default: IP address of primary network interface                                                    |
| Private IP                                                    | The IP address that the NAT router uses to reach this database<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.    |
| Database Proxy Port                                           | The TCP port on this station that each main server is to use for non-JDBC operations<br>Default: 9002                                                                       |
| Database File Server Port                                     | The TCP port on this station that the database is to use for file transfers to and from the peer database station<br>Default: 9003                                          |
| <b>Determine Memory Requirements</b>                          |                                                                                                                                                                             |
| Database co-exists with a 5620 SAM Server                     | If selected, specifies that the database and a main server are to be collocated on this station<br>Default: unselected                                                      |
| <b>Main Server IP Validation</b>                              |                                                                                                                                                                             |
| Enable SAM Server IP Validation                               | If selected, allows only the main servers specified by the “Server One IP Address” and “Server Two IP Address” parameters to connect to the database<br>Default: unselected |

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| Panel and parameters           | Description                                                                                                                                                                                                     |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Server One IP Address          | The IP address of the primary main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.<br>Default: — |
| Server Two IP Address          | The IP address of the standby main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.<br>Default: — |
| <b>Auxiliary Servers</b>       |                                                                                                                                                                                                                 |
| IP Address                     | The IP address or hostname of the auxiliary server<br>Default: —                                                                                                                                                |
| <b>Primary Database Info</b>   |                                                                                                                                                                                                                 |
| Primary IP Address             | The IP address of the peer database<br>Default: —                                                                                                                                                               |
| Primary Instance Name          | The name that the Oracle software associates with the peer database processes<br>Default: samdb1                                                                                                                |
| Primary SYS Password           | The password that Oracle requires to start the peer database instance<br>The value must match the “SYS Password” value specified on the “Oracle SYS Password” panel during the primary database installation.   |
| Primary Database Listener Port | The TCP port on the peer database station that the Oracle database listener is to use to communicate with the main servers<br>Default: 1523                                                                     |
| Primary Database Proxy Port    | The TCP port on the peer database station that each main server is to use for non-JDBC operations<br>Default: 9002                                                                                              |

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Table A-5 Primary main server installation parameters

| Panel and parameters                                         | Description                                                                                                               |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                            |                                                                                                                           |
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.     |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected. |
| <b>Choose Installation Type</b>                              |                                                                                                                           |
| Main Server Installation (default)                           | Installs the main server software<br>You must choose this option.                                                         |
| Main Server Configuration                                    | Configures the main server software                                                                                       |
| Auxiliary Server Installation                                | Installs the auxiliary server software                                                                                    |

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## A. 5620 SAM installation parameters

| Panel and parameters                                             | Description                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Auxiliary Server Configuration                                   | Configures the auxiliary server software                                                                                                                                                                                                                                                     |
| CPAM Server Installation                                         | Installs the 5650 CPAM server software                                                                                                                                                                                                                                                       |
| CPAM Server Configuration                                        | Configures the 5650 CPAM server software                                                                                                                                                                                                                                                     |
| <b>Specify the Base Directory for 5620 SAM Main Server Files</b> |                                                                                                                                                                                                                                                                                              |
| Unlabeled field                                                  | The directory in which the main server files are to be installed<br>Default: /opt/5620sam/server                                                                                                                                                                                             |
| <b>License Information for 5620 SAM Main Server</b>              |                                                                                                                                                                                                                                                                                              |
| License Key                                                      | The 5620 SAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>Default: —                                                                                   |
| <b>Additional Server Configuration</b>                           |                                                                                                                                                                                                                                                                                              |
| Redundancy Supported                                             | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration<br>You must select this parameter.<br>Default: unselected                                                                                                                                           |
| Enable SR Backup File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the NE configuration backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: unselected                                                           |
| Enable LTE Stats File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the LTE statistics files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected                                                                      |
| Enable LTE Backup File Synchronization                           | If selected, specifies that the 5620 SAM main servers synchronize the LTE backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected                                                                          |
| Auxiliary Server Supported                                       | If selected, specifies that the 5620 SAM deployment includes one or more auxiliary servers<br>Default: unselected                                                                                                                                                                            |
| Client Delegate Server Supported                                 | If selected, specifies that the 5620 SAM deployment includes one or more client delegate servers<br>Default: unselected                                                                                                                                                                      |
| <b>Primary Database Configuration</b>                            |                                                                                                                                                                                                                                                                                              |
| Primary Database Server IP Address                               | The IP address that this main server must use to reach the primary database station<br>The value must match the “Public IP (accessible to servers)” value specified on the “Primary Database Configuration Info” panel during the primary database installation.<br>Default: —               |
| Primary Database Server Port                                     | The TCP port on the primary database station that this main server must use to reach the database<br>The value must match the “Database Listener Port” value specified on the “Primary Database Configuration Info (cont.)” panel during the primary database installation.<br>Default: 1523 |

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| Panel and parameters                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Database Instance Name              | The name that the Oracle software associates with the database processes on this station<br>The value must match the “Instance Name” value specified on the “Primary Database Configuration Info” panel during the primary database installation.<br>Default: samdb1                                                                                                                                                                                        |
| Database User Name                          | The database username<br>The value must match the “User Name” value specified on the “Primary Database Configuration Info” panel during the primary database installation.<br>Default: samuser                                                                                                                                                                                                                                                              |
| Database User Password                      | The database password<br>The value must match the “User Password” value specified on the “Primary Database Configuration Info” panel during the primary database installation.<br>Default: available from Alcatel-Lucent technical support                                                                                                                                                                                                                  |
| Primary Database Proxy Port                 | The TCP port on the primary database station that this main server is to use for non-JDBC operations<br>The value must match the “Database Proxy Port” value specified on the “Primary Database Configuration Info (cont.)” panel during the primary database installation.<br>Default: 9002                                                                                                                                                                |
| <b>Online Database Backup</b>               |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Online Backup Interval (Hours)              | How often, in hours, the 5620 SAM is to back up the database<br>Default: 24                                                                                                                                                                                                                                                                                                                                                                                 |
| Online Backup Destination                   | The backup directory on the database station<br>Alcatel-Lucent recommends that you do the following: <ul style="list-style-type: none"> <li>Specify an Online Backup Destination that can hold at least five times the expected database size.</li> <li>Ensure that the available space in the Online Backup Destination is sufficient to accommodate the database growth associated with network growth.</li> </ul> Default: /opt/5620sam/dbbackup         |
| Number Of Backup Sets                       | The number of database backup sets that the 5620 SAM is to retain<br>The 5620 SAM creates a separate directory for each backup set. For example, if the Online Backup Destination is /opt/5620sam/dbbackup and the Number Of Backup Sets is 3, the /opt/5620sam/dbbackup directory contains the backupset_1, backupset_2, and backupset_3 subdirectories.<br>Default: 3                                                                                     |
| <b>Standby Database Configuration</b>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Database Server IP Address                  | The IP address that this main server must use to reach the standby database station<br>Default: —                                                                                                                                                                                                                                                                                                                                                           |
| Database Instance Name                      | The name that the Oracle software associates with the standby database processes<br>Default: samdb2                                                                                                                                                                                                                                                                                                                                                         |
| Database Proxy Port                         | The TCP port on the standby database station that this main server is to use for non-JDBC operations<br>Default: 9002                                                                                                                                                                                                                                                                                                                                       |
| Enable Database Backup File Synchronization | If selected, specifies that each 5620 SAM database backup file set is copied to the peer database after the backup completes<br>You must configure this parameter the same on each main server.<br>You must ensure that there is sufficient network bandwidth between the database stations before you enable this parameter. See the <i>5620 SAM Planning Guide</i> for information about the bandwidth required for database backup file synchronization. |

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## A. 5620 SAM installation parameters

| Panel and parameters                                            | Description                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Main Server Configuration for Auxiliary Servers</b>          |                                                                                                                                                                                                                                              |
| NAT (network address translation) Used                          | If selected, specifies that NAT is used between this main server and the auxiliary servers<br>Default: unselected                                                                                                                            |
| Private IP (accessible only by this server)                     | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface              |
| Public IP (accessible to auxiliary)                             | The IP address that the auxiliary servers must use to reach this main server<br>Default: —                                                                                                                                                   |
| Server Port                                                     | The TCP port on this station that the auxiliary servers must use to reach this main server<br>Default: 12800                                                                                                                                 |
| Enable Stats Collection on Auxiliary Servers                    | If selected, specifies that at least one auxiliary server is to be used for statistics collection<br>Default: unselected                                                                                                                     |
| Enable Call Trace Collection on Auxiliary Servers               | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection<br>Default: unselected                                                                                                              |
| <b>Auxiliary Server Configuration</b>                           |                                                                                                                                                                                                                                              |
| IP Address                                                      | The IP address that this main server must use to reach the auxiliary server<br>Default: —                                                                                                                                                    |
| Port                                                            | The TCP port on the auxiliary server station that this main server must use to reach the auxiliary server<br>Default: 12800                                                                                                                  |
| Type                                                            | Preferred—specifies that this main server uses this auxiliary server under normal conditions<br>Reserved—specifies that this main server uses this auxiliary server when the Preferred auxiliary server is unavailable<br>Default: Preferred |
| <b>Database Alignment</b>                                       |                                                                                                                                                                                                                                              |
| Enable Database Alignment                                       | If selected, enables automatic database alignment<br>Default: unselected                                                                                                                                                                     |
| <i>IP_address_1:instance_name</i> (Primary Preferred) (default) | If selected, specifies that the database that is the designated primary database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.           |
| <i>IP_address_2:instance_name</i> (Standby Preferred)           | If selected, specifies that the database that is the designated standby database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.           |
| <b>Auto Re-Instantiation After Database Failover</b>            |                                                                                                                                                                                                                                              |
| Enable Auto Re-Instantiation of Standby Database                | If selected, enables automatic reinstantiation of the primary database on the standby database station after a database failover<br>Default: unselected                                                                                      |

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| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delay Time After Database Failover (minutes)         | The time, in m, that is to elapse between database failover completion and the standby database reinstantiation<br>The parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.<br>Default: 60                                                                                                                   |
| <b>Main Server Configuration For Clients</b>         |                                                                                                                                                                                                                                                                                                                                                                      |
| Server Domain Name                                   | The unique identifier of the 5620 SAM server cluster<br>Default: 5620sam                                                                                                                                                                                                                                                                                             |
| Use Hostname for Communication                       | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach this main server<br>Default: unselected                                                                                                                                                                                          |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between this main server and the GUI clients, OSS clients, and auxiliary servers<br>Default: unselected                                                                                                                                                                                                                      |
| Private IP (accessible only by this server)          | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                                                                                                                                      |
| Public Hostname                                      | The hostname that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.<br>Default: —                                                                                                                                                                         |
| Public IP (accessible to clients)                    | The IP address that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.<br>Default: —                                                                                                                                                                     |
| EJB JNDI Server port                                 | The TCP port on this station that the GUI clients are to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the main server.</li> </ul> Default: 1099 |
| EJB JMS Server port                                  | The TCP port on this station that the GUI clients are to use for EJB JMS messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the main server.</li> </ul> Default: 8093  |
| Enable 5670 RAM                                      | If selected, specifies that a 5670 RAM is to be integrated with the 5620 SAM system<br>Default: unselected                                                                                                                                                                                                                                                           |
| Enable 3GPP OSS Interface                            | If selected, specifies that the 5620 SAM 3GPP OSS interface is to be enabled<br>Default: unselected                                                                                                                                                                                                                                                                  |
| <b>Main Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                      |

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## A. 5620 SAM installation parameters

| Panel and parameters                             | Description                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RMI Port                                         | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the main server<br>In a redundant 5620 SAM deployment, the main servers use this port to share information about the objects and functions that are available to clients.<br>Default: 1098 |
| RMI Object Port                                  | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations<br>Default: 4444                                                                                                                                                                                                 |
| <b>Server Configuration for OSS Clients</b>      |                                                                                                                                                                                                                                                                                                                                            |
| NAT (network address translation) Used           | If selected, specifies that NAT is used between this main server and the OSS clients<br>Default: unselected                                                                                                                                                                                                                                |
| Public IP (accessible to OSS clients)            | The IP address that the OSS clients must use to reach this main server<br>Default: IP address of primary network interface                                                                                                                                                                                                                 |
| <b>Main Server Configuration for Peer Server</b> |                                                                                                                                                                                                                                                                                                                                            |
| NAT (network address translation) Used           | If selected, specifies that NAT is used between this main server and the peer main server<br>Default: unselected                                                                                                                                                                                                                           |
| Private IP (accessible only by this server)      | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                                                                                                            |
| Public IP (accessible to peer server)            | The IP address that the peer main server must use to reach this main server<br>Default: —                                                                                                                                                                                                                                                  |
| High Available JNDI Port                         | The TCP port on this station that the peer main server is to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value.<br>Default: 1100                                                                                                                                                                   |
| TCP Port Cluster Number                          | The TCP port on this station that is used to communicate with the other 5620 SAM server cluster members<br>Alcatel-Lucent recommends that you accept the default value.<br>Default: 11800                                                                                                                                                  |
| <b>Synchronization of Data</b>                   |                                                                                                                                                                                                                                                                                                                                            |
| Enable Synchronization of Data                   | If selected, specifies that the collected data on this main server is synchronized with the data on the other main server<br>Default: selected                                                                                                                                                                                             |
| Public IP (accessible to peer server)            | The IPv4 address that the other main server uses to reach this main server<br>Default: IP address of primary network interface                                                                                                                                                                                                             |
| Peer Public IP (accessible to this server)       | The IPv4 address that this main server uses to reach the other main server<br>Default: —                                                                                                                                                                                                                                                   |
| <b>SSL Configuration</b>                         |                                                                                                                                                                                                                                                                                                                                            |
| Enable Secure Communication                      | If selected, specifies that SSL communication security is to be used between the main servers and clients, and between the main and auxiliary servers                                                                                                                                                                                      |
| Keystore File                                    | The SSL keystore file that the main server imports to the main server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/samserver.keystore                                                          |

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| Panel and parameters                            | Description                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Keystore Password                               | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                                                 |
| Truststore File                                 | The SSL truststore file that the main server imports to the main server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/cacerts.trustStore                                                                                                    |
| Truststore Password                             | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                                               |
| <b>License Information for 5650 CPAM Server</b> |                                                                                                                                                                                                                                                                                                                             |
| Include 5650 CPAM Server License Information    | If selected, specifies that a 5650 CPAM is to be integrated with the 5620 SAM system<br>Default: unselected                                                                                                                                                                                                                 |
| Unlabeled field                                 | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>The parameter is configurable when the “Include 5650 CPAM Server License Information” parameter is selected.<br>Default: — |
| <b>SNMP Configuration</b>                       |                                                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used          | If selected, specifies that NAT is used between this main server and the managed NEs                                                                                                                                                                                                                                        |
| IPv6 Address Used                               | If selected, specifies that this main server uses IPv6 to manage one or more NEs                                                                                                                                                                                                                                            |
| SNMP Trap Receiving IPv4 Address                | The IPv4 address that the managed NEs must use to reach this main server<br>Default: IP address of primary network interface                                                                                                                                                                                                |
| SNMP Trap Receiving IPv6 Address                | The IPv6 address that the managed NEs use to reach this main server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.<br>Default: —                                                                                                                                                      |
| SNMP Trap Receiving Port                        | The TCP port on this station that the managed NEs must use to reach this main server<br>Default: 162                                                                                                                                                                                                                        |
| Trap Log Id                                     | The SNMP trap log ID that is associated with this main server<br>Default: 98                                                                                                                                                                                                                                                |
| <b>Peer Main Server Configurations</b>          |                                                                                                                                                                                                                                                                                                                             |
| Peer Server IP Address                          | The IP address that this main server must use to reach the peer main server<br>Default: —                                                                                                                                                                                                                                   |
| Peer Server Trap Log Id                         | The SNMP trap log ID that is associated with the peer main server<br>Default: 98                                                                                                                                                                                                                                            |
| Peer Server SNMP Trap Receiving IPv4 Address    | The IPv4 address that the managed NEs must use to reach the peer main server<br>Default: —                                                                                                                                                                                                                                  |
| Peer Server SNMP Trap Receiving IPv6 Address    | The IPv6 address that the managed NEs use to reach the peer main server<br>The parameter is configurable when the “IPv6 Address Used” parameter on the “SNMP Configuration” panel is selected.<br>Default: —                                                                                                                |

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## A. 5620 SAM installation parameters

| Panel and parameters                           | Description                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Peer Server SNMP Trap Receiving Port           | The TCP port on the peer main server station that the managed NEs must use to reach the peer main server<br>Default: 162                                                                                                                                                                                                                                                          |
| Peer Server TCP Port Cluster Number            | The TCP port on the peer main server station that the 5620 SAM server cluster members must use to reach the peer main server<br>Default: 11800                                                                                                                                                                                                                                    |
| <b>Peer Main Server Configurations (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                                   |
| Peer Server Hostname                           | The hostname that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is selected.<br>Default: —                                                                                                 |
| Peer Server IP Address                         | The IP address that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is unselected.<br>Default: —                                                                                             |
| JNDI High Available Peer Server Port           | The TCP port on the peer main server station that this main server is to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"><li>• Another application uses the port.</li><li>• There is a firewall between the clients and the main server.</li></ul> Default: 1100 |
| JNDI Peer Server Port                          | The TCP port on the peer main server station that the GUI clients are to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"><li>• Another application uses the port.</li><li>• There is a firewall between the clients and the main server.</li></ul> Default: 1099 |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                                                                                                                                                                   |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM<br>Default: unselected                                                                                                                                                                                                                                                                           |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.<br>Default: —                                                                                                                                                                               |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                                                                                                                                                                   |
| Unlabeled field                                | The directory that is to contain the output of OSS file export operations<br>Default: /opt/5620sam/server/xml_output                                                                                                                                                                                                                                                              |
| <b>Installation Complete</b>                   |                                                                                                                                                                                                                                                                                                                                                                                   |
| Start the 5620 SAM Main Server                 | If selected, specifies that the main server is to start automatically after the installation<br>Default: unselected                                                                                                                                                                                                                                                               |

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Table A-6 Standby main server installation parameters

| Panel and parameters                                             | Description                                                                                                                                                                                                                        |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                                |                                                                                                                                                                                                                                    |
| I accept the terms of the License Agreement                      | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                                              |
| I do NOT accept the terms of the License Agreement (default)     | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                                          |
| <b>Choose Installation Type</b>                                  |                                                                                                                                                                                                                                    |
| Main Server Installation (default)                               | Installs the main server software<br>You must choose this option.                                                                                                                                                                  |
| Main Server Configuration                                        | Configures the main server software                                                                                                                                                                                                |
| Auxiliary Server Installation                                    | Installs the auxiliary server software                                                                                                                                                                                             |
| Auxiliary Server Configuration                                   | Configures the auxiliary server software                                                                                                                                                                                           |
| CPAM Server Installation                                         | Installs the 5650 CPAM server software                                                                                                                                                                                             |
| CPAM Server Configuration                                        | Configures the 5650 CPAM server software                                                                                                                                                                                           |
| <b>Specify the Base Directory for 5620 SAM Main Server Files</b> |                                                                                                                                                                                                                                    |
| Unlabeled field                                                  | The directory in which the main server files are to be installed<br>Default: /opt/5620sam/server                                                                                                                                   |
| <b>License Information for 5620 SAM Main Server</b>              |                                                                                                                                                                                                                                    |
| License Key                                                      | The 5620 SAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>Default: —                         |
| <b>Additional Server Configuration</b>                           |                                                                                                                                                                                                                                    |
| Redundancy Supported                                             | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration<br>You must select this parameter.<br>Default: unselected                                                                                 |
| Enable SR Backup File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the NE configuration backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: unselected |
| Enable LTE Stats File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the LTE statistics files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected            |
| Enable LTE Backup File Synchronization                           | If selected, specifies that the 5620 SAM main servers synchronize the LTE backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected                |

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## A. 5620 SAM installation parameters

| Panel and parameters                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Auxiliary Server Supported            | If selected, specifies that the 5620 SAM deployment includes one or more auxiliary servers<br>Default: unselected                                                                                                                                                                                                                                                                                                                                   |
| Client Delegate Server Supported      | If selected, specifies that the 5620 SAM deployment includes one or more client delegate servers<br>Default: unselected                                                                                                                                                                                                                                                                                                                             |
| <b>Primary Database Configuration</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Primary Database Server IP Address    | The IP address that this main server must use to reach the primary database station<br>The value must match the “Public IP (accessible to servers)” value specified on the “Primary Database Configuration Info” panel during the primary database installation.<br>Default: —                                                                                                                                                                      |
| Primary Database Server Port          | The TCP port on the primary database station that this main server must use to reach the database<br>The value must match the “Database Listener Port” value specified on the “Primary Database Configuration Info (cont.)” panel during the primary database installation.<br>Default: 1523                                                                                                                                                        |
| Primary Database Instance Name        | The name that the Oracle software associates with the primary database processes<br>The value must match the “Instance Name” value specified on the “Primary Database Configuration Info” panel during the primary database installation.<br>Default: samdb1                                                                                                                                                                                        |
| Database User Name                    | The database username<br>The value must match the “User Name” value specified on the “Primary Database Configuration Info” panel during the primary database installation.<br>Default: samuser                                                                                                                                                                                                                                                      |
| Database User Password                | The database password<br>The value must match the “User Password” value specified on the “Primary Database Configuration Info” panel during the primary database installation.<br>Default: available from Alcatel-Lucent technical support                                                                                                                                                                                                          |
| Primary Database Proxy Port           | The TCP port on the primary database station that this main server is to use for non-JDBC operations<br>The value must match the “Database Proxy Port” value specified on the “Primary Database Configuration Info (cont.)” panel during the primary database installation.<br>Default: 9002                                                                                                                                                        |
| <b>Online Database Backup</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Online Backup Interval (Hours)        | How often, in hours, the 5620 SAM is to back up the database<br>Default: 24                                                                                                                                                                                                                                                                                                                                                                         |
| Online Backup Destination             | The backup directory on the database station<br>Alcatel-Lucent recommends that you do the following: <ul style="list-style-type: none"> <li>Specify an Online Backup Destination that can hold at least five times the expected database size.</li> <li>Ensure that the available space in the Online Backup Destination is sufficient to accommodate the database growth associated with network growth.</li> </ul> Default: /opt/5620sam/dbbackup |

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| Panel and parameters                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number Of Backup Sets                                  | The number of database backup sets that the 5620 SAM is to retain<br>The 5620 SAM creates a separate directory for each backup set. For example, if the Online Backup Destination is /opt/5620sam/dbbackup and the Number Of Backup Sets is 3, the /opt/5620sam/dbbackup directory contains the backupset_1, backupset_2, and backupset_3 subdirectories.<br>Default: 3                                                                                     |
| <b>Standby Database Configuration</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Database Server IP Address                             | The IP address that this main server must use to reach the standby database station<br>Default: —                                                                                                                                                                                                                                                                                                                                                           |
| Database Instance Name                                 | The name that the Oracle software associates with the standby database processes<br>Default: samdb2                                                                                                                                                                                                                                                                                                                                                         |
| Database Proxy Port                                    | The TCP port on the standby database station that this main server is to use for non-JDBC operations<br>Default: 9002                                                                                                                                                                                                                                                                                                                                       |
| Enable Database Backup File Synchronization            | If selected, specifies that each 5620 SAM database backup file set is copied to the peer database after the backup completes<br>You must configure this parameter the same on each main server.<br>You must ensure that there is sufficient network bandwidth between the database stations before you enable this parameter. See the <i>5620 SAM Planning Guide</i> for information about the bandwidth required for database backup file synchronization. |
| <b>Main Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between this main server and the auxiliary servers<br>Default: unselected                                                                                                                                                                                                                                                                                                                                           |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                                                                                                                                                                                                                             |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach this main server<br>Default: —                                                                                                                                                                                                                                                                                                                                                                  |
| Server Port                                            | The TCP port on this station that the auxiliary servers must use to reach this main server<br>Default: 12800                                                                                                                                                                                                                                                                                                                                                |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection<br>Default: unselected                                                                                                                                                                                                                                                                                                                                    |
| Enable Call Trace Collection on Auxiliary Servers      | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection<br>Default: unselected                                                                                                                                                                                                                                                                                                                             |
| <b>Auxiliary Server Configuration</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP Address                                             | The IP address that this main server must use to reach the auxiliary server<br>Default: —                                                                                                                                                                                                                                                                                                                                                                   |
| Port                                                   | The TCP port on the auxiliary server station that this main server must use to reach the auxiliary server<br>Default: 12800                                                                                                                                                                                                                                                                                                                                 |

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## A. 5620 SAM installation parameters

| Panel and parameters                                               | Description                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                                               | Preferred—specifies that this main server uses this auxiliary server under normal conditions<br>Reserved—specifies that this main server uses this auxiliary server when the Preferred auxiliary server is unavailable<br>Default: Preferred       |
| <b>Database Alignment</b>                                          |                                                                                                                                                                                                                                                    |
| Enable Database Alignment                                          | If selected, enables automatic database alignment<br>Default: unselected                                                                                                                                                                           |
| <i>IP_address_1:instance_name</i><br>(Primary Preferred)           | If selected, specifies that the database that is the designated primary database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                 |
| <i>IP_address_2:instance_name</i><br>(Standby Preferred) (default) | If selected, specifies that the database that is the designated standby database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                 |
| <b>Auto Re-Instantiation After Database Failover</b>               |                                                                                                                                                                                                                                                    |
| Enable Auto Re-Instantiation of Standby Database                   | If selected, enables automatic reinstantiation of the primary database on the standby database station after a database failover<br>Default: unselected                                                                                            |
| Delay Time After Database Failover (minutes)                       | The time, in m, that is to elapse between database failover completion and the standby database reinstantiation<br>The parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.<br>Default: 60 |
| <b>Main Server Configuration For Clients</b>                       |                                                                                                                                                                                                                                                    |
| Server Domain Name                                                 | The unique identifier of the 5620 SAM server cluster<br>Default: 5620sam                                                                                                                                                                           |
| Use Hostname for Communication                                     | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach the main server<br>Default: unselected                                                                         |
| NAT (network address translation) Used                             | If selected, specifies that NAT is used between this main server and the GUI clients, OSS clients, and auxiliary servers<br>Default: unselected                                                                                                    |
| Private IP (accessible only by this server)                        | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                    |
| Public Hostname                                                    | The hostname that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.<br>Default: —                                                       |
| Public IP (accessible to clients)                                  | The IP address that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.<br>Default: —                                                   |

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| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EJB JNDI Server port                                 | <p>The TCP port on this station that the GUI clients are to use for EJB JNDI messaging. Alcatel-Lucent recommends that you accept the default value unless one of the following is true:</p> <ul style="list-style-type: none"> <li>Another application uses the port.</li> <li>There is a firewall between the clients and the main server.</li> </ul> <p>Default: 1099</p> |
| EJB JMS Server port                                  | <p>The TCP port on this station that the GUI clients are to use for EJB JMS messaging. Alcatel-Lucent recommends that you accept the default value unless one of the following is true:</p> <ul style="list-style-type: none"> <li>Another application uses the port.</li> <li>There is a firewall between the clients and the main server.</li> </ul> <p>Default: 8093</p>  |
| Enable 5670 RAM                                      | <p>If selected, specifies that a 5670 RAM is to be integrated with the 5620 SAM system.</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                       |
| Enable 3GPP OSS Interface                            | <p>If selected, specifies that the 5620 SAM 3GPP OSS interface is to be enabled.</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                              |
| <b>Main Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                              |
| RMI Port                                             | <p>The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the main server. In a redundant 5620 SAM deployment, the main servers use this port to share information about the objects and functions that are available to clients.</p> <p>Default: 1098</p>                          |
| RMI Object Port                                      | <p>The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations.</p> <p>Default: 4444</p>                                                                                                                                                                                                                       |
| <b>Server Configuration for OSS Clients</b>          |                                                                                                                                                                                                                                                                                                                                                                              |
| NAT (network address translation) Used               | <p>If selected, specifies that NAT is used between this main server and the OSS clients.</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                      |
| Public IP (accessible to OSS clients)                | <p>The IP address that the OSS clients must use to reach this main server.</p> <p>Default: IP address of primary network interface</p>                                                                                                                                                                                                                                       |
| <b>Main Server Configuration for Peer Server</b>     |                                                                                                                                                                                                                                                                                                                                                                              |
| NAT (network address translation) Used               | <p>If selected, specifies that NAT is used between this main server and the peer main server.</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                 |
| Private IP (accessible only by this server)          | <p>The IP address that the NAT router uses to reach this main server. The parameter is configurable when the "NAT (network address translation) Used" parameter is selected.</p> <p>Default: IP address of primary network interface</p>                                                                                                                                     |
| Public IP (accessible to peer server)                | <p>The IP address that the peer main server must use to reach this main server.</p> <p>Default: —</p>                                                                                                                                                                                                                                                                        |

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## A. 5620 SAM installation parameters

| Panel and parameters                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High Available JNDI Port                        | <p>The TCP port on this station that the peer main server is to use for EJB JNDI messaging. Alcatel-Lucent recommends that you accept the default value unless one of the following is true:</p> <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the peer main server and this main server.</li> </ul> <p>Default: 1100</p>                                                  |
| TCP Port Cluster Number                         | <p>The TCP port on this station that is used to communicate with the other 5620 SAM server cluster members</p> <p>Default: 11800</p>                                                                                                                                                                                                                                                                                                            |
| <b>Synchronization of Data</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Enable Synchronization of Data                  | <p>If selected, specifies that the collected data on this main server is synchronized with the data on the other main server</p> <p>Default: selected</p>                                                                                                                                                                                                                                                                                       |
| Public IP (accessible to peer server)           | <p>The IPv4 address that the other main server uses to reach this main server</p> <p>Default: IP address of primary network interface</p>                                                                                                                                                                                                                                                                                                       |
| Peer Public IP (accessible to this server)      | <p>The IPv4 address that this main server uses to reach the other main server</p> <p>Default: —</p>                                                                                                                                                                                                                                                                                                                                             |
| <b>SSL Configuration</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Enable Secure Communication                     | <p>If selected, specifies that SSL communication security is to be used between the main server and clients, and between the main and auxiliary servers</p>                                                                                                                                                                                                                                                                                     |
| Keystore File                                   | <p>The SSL keystore file that the main server imports to the main server configuration, and transfers to each client and auxiliary server station</p> <p>The parameter is configurable when the “Enable Secure Communication” parameter is selected.</p> <p>This value must match the “Keystore File” value specified in the “SSL Configuration” panel during the primary main server installation.</p> <p>Default: /opt/samserver.keystore</p> |
| Keystore Password                               | <p>The SSL keystore file password</p> <p>The parameter is configurable when the “Enable Secure Communication” parameter is selected.</p> <p>This value must match the “Keystore Password” value specified in the “SSL Configuration” panel during the primary main server installation.</p> <p>Default: —</p>                                                                                                                                   |
| Truststore File                                 | <p>The SSL truststore file that the main server imports to the main server configuration</p> <p>The parameter is configurable when the “Enable Secure Communication” parameter is selected.</p> <p>This value must match the “Truststore File” value specified in the “SSL Configuration” panel during the primary main server installation.</p> <p>Default: /opt/cacerts.trustStore</p>                                                        |
| Truststore Password                             | <p>The SSL truststore file password</p> <p>The parameter is configurable when the “Enable Secure Communication” parameter is selected.</p> <p>This value must match the “Truststore Password” value specified in the “SSL Configuration” panel during the primary main server installation.</p> <p>Default: —</p>                                                                                                                               |
| <b>License Information for 5650 CPAM Server</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| Panel and parameters                           | Description                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Include 5650 CPAM Server License Information   | If selected, specifies that a 5650 CPAM is to be integrated with the 5620 SAM system<br>Default: unselected                                                                                                                                                                                                                 |
| Unlabeled field                                | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>The parameter is configurable when the “Include 5650 CPAM Server License Information” parameter is selected.<br>Default: — |
| <b>SNMP Configuration</b>                      |                                                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used         | If selected, specifies that NAT is used between this main server and the managed NEs                                                                                                                                                                                                                                        |
| IPv6 Address Used                              | If selected, specifies that this main server uses IPv6 to manage one or more NEs                                                                                                                                                                                                                                            |
| SNMP Trap Receiving IPv4 Address               | The IPv4 address that the managed NEs must use to reach this main server<br>Default: IP address of primary network interface                                                                                                                                                                                                |
| SNMP Trap Receiving IPv6 Address               | The IPv6 address that the managed NEs use to reach this main server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.<br>Default: —                                                                                                                                                      |
| SNMP Trap Receiving Port                       | The TCP port on this station that the managed NEs must use to reach this main server<br>Default: 162                                                                                                                                                                                                                        |
| Trap Log Id                                    | The SNMP trap log ID that is associated with this main server<br>Default: 98                                                                                                                                                                                                                                                |
| <b>Peer Main Server Configurations</b>         |                                                                                                                                                                                                                                                                                                                             |
| Peer Server IP Address                         | The IP address that this main server must use to reach the peer main server<br>Default: —                                                                                                                                                                                                                                   |
| Peer Server Trap Log Id                        | The SNMP trap log ID that is associated with the peer main server<br>Default: 98                                                                                                                                                                                                                                            |
| Peer Server SNMP Trap Receiving IPv4 Address   | The IPv4 address that the managed NEs must use to reach the peer main server<br>Default: —                                                                                                                                                                                                                                  |
| Peer Server SNMP Trap Receiving IPv6 Address   | The IPv6 address that the managed NEs use to reach the peer main server<br>The parameter is configurable when the “IPv6 Address Used” parameter on the “SNMP Configuration” panel is selected.<br>Default: —                                                                                                                |
| Peer Server SNMP Trap Receiving Port           | The TCP port on the peer main server station that the managed NEs must use to reach the peer main server<br>Default: 162                                                                                                                                                                                                    |
| Peer Server TCP Port Cluster Number            | The TCP port on the peer main server station that the 5620 SAM server cluster members must use to reach the peer main server<br>Default: 11800                                                                                                                                                                              |
| <b>Peer Main Server Configurations (cont.)</b> |                                                                                                                                                                                                                                                                                                                             |
| Peer Server Hostname                           | The hostname that the GUI and OSS clients must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is selected.<br>Default: —                                                                       |

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## A. 5620 SAM installation parameters

| Panel and parameters                           | Description                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Peer Server IP Address                         | The IP address that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is unselected.<br>Default: —                                                                                             |
| JNDI High Available Peer Server Port           | The TCP port on the peer main server station that this main server is to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"><li>• Another application uses the port.</li><li>• There is a firewall between the clients and the main server.</li></ul> Default: 1100 |
| JNDI Peer Server Port                          | The TCP port on the peer main server station that the GUI clients are to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"><li>• Another application uses the port.</li><li>• There is a firewall between the clients and the main server.</li></ul> Default: 1099 |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                                                                                                                                                                   |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM<br>Default: unselected                                                                                                                                                                                                                                                                           |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.<br>Default: —                                                                                                                                                                               |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                                                                                                                                                                   |
| Unlabeled field                                | The directory that is to contain the output of OSS file export operations<br>Default: /opt/5620sam/server/xml_output                                                                                                                                                                                                                                                              |
| <b>Installation Complete</b>                   |                                                                                                                                                                                                                                                                                                                                                                                   |
| Start the 5620 SAM Main Server                 | If selected, specifies that the main server is to start automatically after the installation<br>Default: unselected                                                                                                                                                                                                                                                               |

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## A.3 Auxiliary server installation parameters

Table A-7 lists and describes the parameters that are configurable during a 5620 SAM auxiliary server installation. The parameters are grouped by installer panel in the order that the panels are displayed.

Table A-7 Auxiliary server installation parameters

| Panel and parameters       | Description |
|----------------------------|-------------|
| Software License Agreement |             |

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| Panel and parameters                                                  | Description                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I accept the terms of the License Agreement                           | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                                                |
| I do NOT accept the terms of the License Agreement (default)          | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                                            |
| <b>Choose Installation Type</b>                                       |                                                                                                                                                                                                                                      |
| Main Server Installation (default)                                    | Installs the main server software                                                                                                                                                                                                    |
| Main Server Configuration                                             | Configures the main server software                                                                                                                                                                                                  |
| Auxiliary Server Installation                                         | Installs the auxiliary server software<br>You must choose this option.                                                                                                                                                               |
| Auxiliary Server Configuration                                        | Configures the auxiliary server software                                                                                                                                                                                             |
| CPAM Server Installation                                              | Installs the 5650 CPAM server software                                                                                                                                                                                               |
| CPAM Server Configuration                                             | Configures the 5650 CPAM server software                                                                                                                                                                                             |
| <b>Specify the Base Directory for 5620 SAM Auxiliary Server Files</b> |                                                                                                                                                                                                                                      |
| Unlabeled field                                                       | The directory in which the auxiliary server files are to be installed<br>Default: /opt/5620sam/auxserver                                                                                                                             |
| <b>Auxiliary Server Address Configuration</b>                         |                                                                                                                                                                                                                                      |
| Server Domain Name                                                    | The unique identifier of the 5620 SAM server cluster<br>Default: 5620sam                                                                                                                                                             |
| NAT (network address translation) Used                                | If selected, specifies that NAT is used between this auxiliary server and the main servers<br>Default: unselected                                                                                                                    |
| Private IP (accessible only by this server)                           | The IP address that the NAT router uses to reach this auxiliary server<br>The parameter is configurable when the "NAT (network address translation) Used" parameter is selected.<br>Default: IP address of primary network interface |
| Public IP (accessible to servers)                                     | The IP address that each main server must use to reach this auxiliary server<br>Default: —                                                                                                                                           |
| Server Port                                                           | The TCP port on this station that this auxiliary server is to use to communicate with the main servers<br>Default: 12800                                                                                                             |
| Redundancy Supported On the 5620 SAM Main Server                      | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration<br>Default: unselected                                                                                                                      |
| Enable Stats Service                                                  | If selected, specifies that the 5620 SAM auxiliary server is to be used for statistics data collection<br>Default: selected                                                                                                          |
| Enable Call Trace Service                                             | If selected, specifies that the 5620 SAM auxiliary server is to be used for call-trace data collection<br>Default: unselected                                                                                                        |
| <b>Main Server Configuration</b>                                      |                                                                                                                                                                                                                                      |

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## A. 5620 SAM installation parameters

| Panel and parameters                             | Description                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Server IP Address                                | The IP address that this auxiliary server must use to reach the main server in a standalone deployment<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is unselected.<br>Default: —                                   |
| Server Port                                      | The TCP port on the main server station in a standalone deployment that this auxiliary server must use to reach the main server<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is unselected.<br>Default: 12800      |
| Server One IP Address                            | The IP address that this auxiliary server must use to reach the primary main server in a redundant deployment<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is selected.<br>Default: —                              |
| Server One Port                                  | The TCP port on the primary main server station in a redundant deployment that this auxiliary server must use to reach the main server<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is selected.<br>Default: 12800 |
| Server Two IP Address                            | The IP address that this auxiliary server must use to reach the standby main server in a redundant deployment<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is selected.<br>Default: —                              |
| Server Two Port                                  | The TCP port on the standby main server station in a redundant deployment that this auxiliary server must use to reach the main server<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is selected.<br>Default: 12800 |
| <b>Server Configuration for OSS Clients</b>      |                                                                                                                                                                                                                                                                                                                                    |
| NAT (network address translation) Used           | If selected, specifies that NAT is used between the auxiliary server and the OSS clients<br>Default: unselected                                                                                                                                                                                                                    |
| Public IP (accessible to OSS clients)            | The IP address that the OSS clients must use to reach the auxiliary server<br>Default: IP address of primary network interface                                                                                                                                                                                                     |
| <b>Auxiliary Server Call Trace Configuration</b> |                                                                                                                                                                                                                                                                                                                                    |
| IPv6 Address Used                                | If selected, specifies that an IPv6 address on the auxiliary server, in addition to an IPv4 address, is used for call-trace data collection<br>Default: unselected                                                                                                                                                                 |
| Call Trace Receiving IPv4 Address                | The IPv4 address that the managed devices must use to reach this auxiliary server; if NAT is used, this is a public address<br>Default: IP address of primary network interface                                                                                                                                                    |
| Call Trace Receiving IPv6 Address                | The IPv6 address that the managed devices use to reach this auxiliary server; if NAT is used, this is a public address<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.<br>Default: —                                                                                                          |
| Call Trace Receiving Directory                   | The local directory in which call-trace data is stored<br>Default: /opt/5620sam/calltrace                                                                                                                                                                                                                                          |

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| Panel and parameters                          | Description                                                                                                                                                                                                                                                              |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Debug Trace Receiving Directory               | The local directory in which debug trace data is stored<br>Default: /opt/5620sam/debugtrace                                                                                                                                                                              |
| <b>Synchronization of Data</b>                |                                                                                                                                                                                                                                                                          |
| Enable Synchronization of Data                | If selected, specifies that the collected data on this auxiliary server is synchronized with the data on the other auxiliary server in the auxiliary server pair<br>Default: selected                                                                                    |
| Public IP (accessible to peer auxiliary)      | The IPv4 address that the other auxiliary server in the auxiliary server pair uses to reach this auxiliary server<br>Default: IP address of primary network interface                                                                                                    |
| Peer Public IP (accessible to this auxiliary) | The IPv4 address that this auxiliary server uses to reach the other auxiliary server in the auxiliary server pair<br>Default: —                                                                                                                                          |
| <b>SSL Configuration</b>                      |                                                                                                                                                                                                                                                                          |
| Enable Secure Communication                   | If selected, specifies that SSL communication security is to be used between the auxiliary and main servers                                                                                                                                                              |
| Truststore File                               | The SSL truststore file that the auxiliary server imports to the auxiliary server configuration<br>This value must match the “Truststore File” value specified in the “SSL Configuration” panel during the main server installation.<br>Default: /opt/cacerts.trustStore |
| Truststore Password                           | The SSL truststore file password<br>This value must match the “Truststore Password” value specified in the “SSL Configuration” panel during the main server installation.<br>Default: —                                                                                  |
| <b>XML Output Directory</b>                   |                                                                                                                                                                                                                                                                          |
| Unlabeled field                               | The directory that is to contain the output of OSSl file export operations<br>Default: /opt/5620sam/auxserver/xml_output                                                                                                                                                 |
| <b>Installation Complete</b>                  |                                                                                                                                                                                                                                                                          |
| Start the 5620 SAM Auxiliary Server           | If selected, specifies that the auxiliary server is to start automatically after the installation<br>Default: unselected                                                                                                                                                 |

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## A.4 Single-user client and client delegate server installation parameters

Table A-8 lists and describes the parameters that are configurable during a 5620 SAM single-user client or client delegate server installation. The parameters are grouped by installer panel in the order that the panels are displayed.

**Table A-8 Single-user client and client delegate server installation parameters**

| Panel and parameters              | Description |
|-----------------------------------|-------------|
| <b>Software License Agreement</b> |             |

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## A. 5620 SAM installation parameters

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| Panel and parameters                                         | Description                                                                                                                                                                                                                 |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                                       |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                                   |
| <b>Choose Installation Type</b>                              |                                                                                                                                                                                                                             |
| Client Installation and Configuration (default)              | Installs the single-user client software                                                                                                                                                                                    |
| Client Delegate Installation and Configuration               | Installs the client delegate server software                                                                                                                                                                                |
| Client Configuration                                         | Configures the single-user client or client delegate server software                                                                                                                                                        |
| <b>Specify the Base Directory for 5620 SAM Client Files</b>  |                                                                                                                                                                                                                             |
| Unlabeled field                                              | The directory in which the client files are to be installed<br>Default: /opt/5620sam/client                                                                                                                                 |
| <b>Main Server Configuration</b>                             |                                                                                                                                                                                                                             |
| Server IP Address/Hostname                                   | The IP address or hostname that the client software must use to reach the main server in a standalone deployment, or the primary main server in a redundant deployment<br>Default: —                                        |
| Redundancy Support                                           | If selected, specifies that the 5620 SAM system is a redundant deployment<br>Default: unselected                                                                                                                            |
| Server Two IP Address/Hostname                               | The IP address or hostname that the client software must use to reach the standby main server in a redundant deployment<br>The parameter is configurable when the “Redundancy Support” parameter is selected.<br>Default: — |
| Enable Secure Communication                                  | If selected, specifies that SSL communication security is to be used between the client and each main server                                                                                                                |
| <b>Installation Complete</b>                                 |                                                                                                                                                                                                                             |
| Start the 5620 SAM Client                                    | If selected, specifies that the client software is to start automatically after the installation<br>Default: selected                                                                                                       |

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## ***B. 5620 SAM upgrade parameters***

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- B.1 Standalone database and main server upgrade parameters    *B-2***
- B.2 Redundant database and main server upgrade parameters    *B-7***
- B.3 Auxiliary server upgrade parameters    *B-22***

## B.1 Standalone database and main server upgrade parameters

Tables B-1 and B-2 list and describe the configurable parameters for a standalone 5620 SAM database and main server upgrade. The tables are presented in an order that follows the standalone upgrade workflow in chapter 3. The parameters in each table are grouped by installer panel in the order that the panels are displayed.



**Note** — Unless stated, the default value for a parameter is the value specified during the previous upgrade or installation.

**Table B-1 Standalone database upgrade parameters**

| Panel and parameters                                                    | Description                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                                       |                                                                                                                                                                                                                                                                                                                      |
| I accept the terms of the License Agreement                             | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                                                                                                                                |
| I do NOT accept the terms of the License Agreement (default)            | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                                                                                                                            |
| <b>Choose Installation Type</b>                                         |                                                                                                                                                                                                                                                                                                                      |
| Install & Configure a Standalone Database (default)                     | Installs a standalone database                                                                                                                                                                                                                                                                                       |
| Restore a Database                                                      | Restores a database using a backup file set                                                                                                                                                                                                                                                                          |
| Upgrade a Database                                                      | Upgrades a database<br>You must choose this option.                                                                                                                                                                                                                                                                  |
| Install & Configure Primary/Standby Database                            | Installs a primary or standby database for a redundant 5620 SAM deployment                                                                                                                                                                                                                                           |
| <b>Specify the Installation Root Directory of the 5620 SAM Database</b> |                                                                                                                                                                                                                                                                                                                      |
| Unlabeled field                                                         | The directory in which the database files are installed                                                                                                                                                                                                                                                              |
| <b>Locate Old Oracle Software Directory</b>                             |                                                                                                                                                                                                                                                                                                                      |
| Unlabeled field                                                         | The base installation location of the existing Oracle software                                                                                                                                                                                                                                                       |
| Keep Old Oracle Directory Contents after Upgrade                        | If selected, specifies that the 5620 SAM database installer is to delete the files and subdirectories in the specified directory; the installer deletes the directory itself only if the directory is not specified as the Oracle management user home directory during the OracleSw_PreInstall.sh script execution. |
| <b>Get Upgrade Database Info</b>                                        |                                                                                                                                                                                                                                                                                                                      |
| NAT (network address translation) Used                                  | If selected, specifies that NAT is used between the database and the main server                                                                                                                                                                                                                                     |
| Public IP (accessible to servers)                                       | The IP address that the main server must use to reach the database                                                                                                                                                                                                                                                   |
| Private IP                                                              | The IP address that the NAT router uses to reach this database<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                             |
| Database Name                                                           | The name of the database                                                                                                                                                                                                                                                                                             |

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| Panel and parameters                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Instance Name                                          | The name that the Oracle software associates with the database processes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| User Name                                              | The database username                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| User Password                                          | <p>The database password, which is set during installation</p> <p>If you modify the “User Password” parameter, the value that you specify must meet the following criteria:</p> <ul style="list-style-type: none"> <li>The password must be between 4 and 30 characters long.</li> <li>The password must contain at least three of the following: <ul style="list-style-type: none"> <li>lower-case alphabetic character</li> <li>upper-case alphabetic character</li> <li>numeric character</li> <li>special character, which is one of the following:<br/># \$ _</li> </ul> </li> <li>The password must not contain four or more of the same character type in sequence.</li> <li>The password must not be the same as the user name or its reverse.</li> <li>The password must not contain a space character.</li> </ul> |
| <b>Get Upgrade Database Info (cont.)</b>               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Database Listener Port                                 | The TCP port on this station that the Oracle database listener uses to communicate with the main server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Database Proxy Port                                    | The TCP port on this station that the main server is to use for non-JDBC operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Determine Memory Requirements</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Database co-exists with a 5620 SAM Server              | If selected, specifies that the database and main server are collocated on this station                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Main Server IP Validation</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Enable SAM Server IP Validation                        | If selected, allows only the main server specified by the “SAM Server IP Address” parameter to connect to the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SAM Server IP Address                                  | <p>The IP address of the only main server that is allowed to connect to the database</p> <p>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Auxiliary Servers</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP Address                                             | The IP address or hostname of the auxiliary server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Staging Destination</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Unlabeled field                                        | The directory that the database is to use for the continuous statistics tablespace backup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Accounting Statistics Database Retention Period</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Accounting Statistics Data Retention Period            | The length of time, in days, that the database is to retain statistics records                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Purge Statistics</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Purge All Accounting Statistics                        | <p>Permanently delete the accounting statistics data from the database to reduce the time required for the database upgrade</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Purge All MIB Statistics                               | <p>Permanently delete the MIB statistics data from the database to reduce the time required for the database upgrade</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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Table B-2 Standalone main server upgrade parameters

| Panel and parameters                                             | Description                                                                                                                                                                                                                             |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                                |                                                                                                                                                                                                                                         |
| I accept the terms of the License Agreement                      | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                                                   |
| I do NOT accept the terms of the License Agreement (default)     | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                                               |
| <b>Choose Installation Type</b>                                  |                                                                                                                                                                                                                                         |
| Main Server Installation (default)                               | Installs the main server software<br>You must choose this option.                                                                                                                                                                       |
| Main Server Configuration                                        | Configures the main server software                                                                                                                                                                                                     |
| Auxiliary Server Installation                                    | Installs the auxiliary server software                                                                                                                                                                                                  |
| Auxiliary Server Configuration                                   | Configures the auxiliary server software                                                                                                                                                                                                |
| CPAM Server Installation                                         | Installs the 5650 CPAM server software                                                                                                                                                                                                  |
| CPAM Server Configuration                                        | Configures the 5650 CPAM server software                                                                                                                                                                                                |
| <b>Specify the Base Directory for 5620 SAM Main Server Files</b> |                                                                                                                                                                                                                                         |
| Unlabeled field                                                  | The directory in which the main server files are installed<br>Default: /opt/5620sam/server                                                                                                                                              |
| <b>License Information for 5620 SAM Main Server</b>              |                                                                                                                                                                                                                                         |
| License Key                                                      | The 5620 SAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.                                            |
| <b>Additional Server Configuration</b>                           |                                                                                                                                                                                                                                         |
| Redundancy Supported                                             | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration<br>You must leave this parameter unselected.                                                                                                   |
| Auxiliary Server Supported                                       | If selected, specifies that the 5620 SAM deployment includes one or more auxiliary servers.                                                                                                                                             |
| Client Delegate Server Supported                                 | If selected, specifies that the 5620 SAM deployment includes one or more client delegate servers.                                                                                                                                       |
| <b>Database Configuration</b>                                    |                                                                                                                                                                                                                                         |
| Database Server IP Address                                       | The IP address that the main server must use to reach the database station<br>The value must match the “Public IP (accessible to servers)” value specified on the “Get Upgrade Database Info” panel during the database upgrade.        |
| Database Server Port                                             | The TCP port on the database station that the main server uses to reach the database<br>The value must match the “Database Listener Port” value specified on the “Get Upgrade Database Info (cont.)” panel during the database upgrade. |
| Database Instance Name                                           | The name that the Oracle software associates with the database processes<br>The value must match the “Instance Name” value specified on the “Get Upgrade Database Info” panel during the database upgrade.                              |
| Database User Name                                               | The database username<br>The value must match the “User Name” value specified on the “Get Upgrade Database Info” panel during the database upgrade.                                                                                     |

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| Panel and parameters                                   | Description                                                                                                                                                                                                                                 |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Database User Password                                 | The database password<br>The value must match the “User Password” value specified on the “Get Upgrade Database Info” panel during the database upgrade.                                                                                     |
| Database Proxy Port                                    | The TCP port on the database station that the main server is to use for non-JDBC operations<br>The value must match the “Database Proxy Port” value specified on the “Get Upgrade Database Info (cont.)” panel during the database upgrade. |
| <b>Online Database Backup</b>                          |                                                                                                                                                                                                                                             |
| Online Backup Interval (Hours)                         | How often, in hours, the 5620 SAM is to back up the database                                                                                                                                                                                |
| Online Backup Destination                              | The backup directory on the database station                                                                                                                                                                                                |
| Number Of Backup Sets                                  | The number of database backup sets that the 5620 SAM is to retain                                                                                                                                                                           |
| <b>Main Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                             |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between the main server and the auxiliary servers                                                                                                                                                   |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach the main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                  |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach the main server                                                                                                                                                                 |
| Server Port                                            | The TCP port on this station that the auxiliary servers use to reach the main server                                                                                                                                                        |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                                           |
| Enable Call Trace Collection on Auxiliary Servers      | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                                    |
| <b>Auxiliary Server Configuration</b>                  |                                                                                                                                                                                                                                             |
| IP Address                                             | The IP address that the main server must use to reach the auxiliary server                                                                                                                                                                  |
| Port                                                   | The TCP port on the auxiliary server station that the main server must use to reach the auxiliary server                                                                                                                                    |
| Type                                                   | Preferred—specifies that the main server uses this auxiliary server under normal conditions<br>Reserved—specifies that the main server uses this auxiliary server when the Preferred auxiliary server is unavailable                        |
| <b>Main Server Configuration For Clients</b>           |                                                                                                                                                                                                                                             |
| Server Domain Name                                     | The unique identifier of the 5620 SAM server cluster                                                                                                                                                                                        |
| Use Hostname for Communication                         | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach the main server                                                                                         |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between the main server and the GUI clients, OSS clients, and auxiliary servers                                                                                                                     |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach the main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                  |
| Public Hostname                                        | The hostname that the GUI and OSS clients must use to reach the main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.                                                               |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public IP (accessible to clients)                    | The IP address that the GUI and OSS clients must use to reach the main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.                                                                                                                             |
| EJB JNDI Server port                                 | The TCP port on this station that the GUI clients use for EJB JNDI messaging                                                                                                                                                                                                                                  |
| EJB JMS Server port                                  | The TCP port on this station that the GUI clients use for EJB JMS messaging                                                                                                                                                                                                                                   |
| Enable 5670 RAM                                      | If selected, specifies that a 5670 RAM is to be integrated with the 5620 SAM system                                                                                                                                                                                                                           |
| Enable 3GPP OSS Interface                            | If selected, specifies that the 5620 SAM 3GPP OSS interface is to be enabled                                                                                                                                                                                                                                  |
| <b>Main Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                               |
| RMI Port                                             | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the main server                                                                                                                                               |
| RMI Object Port                                      | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations                                                                                                                                                                                     |
| <b>Server Configuration for OSS Clients</b>          |                                                                                                                                                                                                                                                                                                               |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between the main server and the OSS clients                                                                                                                                                                                                                           |
| Public IP (accessible to OSS clients)                | The IP address that the OSS clients must use to reach the main server                                                                                                                                                                                                                                         |
| <b>SSL Configuration</b>                             |                                                                                                                                                                                                                                                                                                               |
| Enable Secure Communication                          | If selected, specifies that SSL communication security is to be used between the main server and clients, and between the main and auxiliary servers                                                                                                                                                          |
| Keystore File                                        | The SSL keystore file that the main server imports to the main server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                 |
| Keystore Password                                    | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                                                                                 |
| Truststore File                                      | The SSL truststore file that the main server imports to the main server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                          |
| Truststore Password                                  | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                                                                               |
| <b>License Information for 5650 CPAM Server</b>      |                                                                                                                                                                                                                                                                                                               |
| Include 5650 CPAM Server License Information         | If selected, specifies that a 5650 CPAM is to be integrated with the 5620 SAM system                                                                                                                                                                                                                          |
| Unlabeled field                                      | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>The parameter is configurable when the “Include 5650 CPAM Server License Information” parameter is selected. |
| <b>SNMP Configuration</b>                            |                                                                                                                                                                                                                                                                                                               |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between the main server and the managed NEs                                                                                                                                                                                                                           |
| IPv6 Address Used                                    | If selected, specifies that the main server uses IPv6 to manage one or more NEs                                                                                                                                                                                                                               |

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| Panel and parameters                           | Description                                                                                                                                                                           |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNMP Trap Receiving IPv4 Address               | The IPv4 address that the managed NEs must use to reach the main server                                                                                                               |
| SNMP Trap Receiving IPv6 Address               | The IPv6 address that the managed NEs use to reach the main server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.                               |
| SNMP Trap Receiving Port                       | The TCP port that the managed NEs use to reach the main server                                                                                                                        |
| Trap Log Id                                    | The SNMP trap log ID that is associated with the main server                                                                                                                          |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                       |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM                                                                                                      |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected. |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                       |
| Unlabeled field                                | The directory that is to contain the output of OSSl file export operations                                                                                                            |
| <b>Installation Complete</b>                   |                                                                                                                                                                                       |
| Start the 5620 SAM Main Server                 | If selected, specifies that the main server is to start automatically after the upgrade<br>Default: unselected                                                                        |

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## B.2 Redundant database and main server upgrade parameters

Tables B-3 to B-6 list and describe the configurable parameters for a redundant 5620 SAM database and main server upgrade. The tables are presented in an order that follows the redundant upgrade workflow in chapter 3. The parameters in each table are grouped by installer panel in the order that the panels are displayed.



**Note** — Unless stated, the default value for a parameter is the value specified during the previous upgrade or installation.

**Table B-3 Standby database upgrade parameters**

| Panel and parameters                                         | Description                                                                                                               |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                            |                                                                                                                           |
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.     |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected. |
| <b>Choose Installation Type</b>                              |                                                                                                                           |
| Install & Configure a Standalone Database (default)          | Installs a standalone database                                                                                            |
| Restore a Database                                           | Restores a database using a backup file set                                                                               |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                                                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Upgrade a Database                                                      | Upgrades a database<br>You must choose this option.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Install & Configure Primary/Standby Database                            | Installs a primary or standby database for a redundant 5620 SAM deployment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Specify the Installation Root Directory of the 5620 SAM Database</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Unlabeled field                                                         | The directory in which the database files are installed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Locate Old Oracle Software Directory</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Unlabeled field                                                         | The base installation location of the existing Oracle software                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Keep Old Oracle Directory Contents after Upgrade                        | If selected, specifies that the 5620 SAM database installer is to delete the files and subdirectories in the specified directory; the installer deletes the directory itself only if the directory is not specified as the Oracle management user home directory during the OracleSw_PreInstall.sh script execution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Specify the Base Directory for Oracle Software</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Unlabeled field                                                         | The directory in which the Oracle files are installed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Get Upgrade Database Info</b>                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NAT (network address translation) Used                                  | If selected, specifies that NAT is used between this database and the main servers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Public IP (accessible to servers)                                       | The IP address that the main servers must use to reach this database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Private IP                                                              | The IP address that the NAT router uses to reach this database<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Database Name                                                           | The name of the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Instance Name                                                           | The name that the Oracle software associates with the database processes on this station                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| User Name                                                               | The database username                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| User Password                                                           | The database password, which is set during installation<br>If you modify the “User Password” parameter, the value that you specify must meet the following criteria: <ul style="list-style-type: none"> <li>The password must be between 4 and 30 characters long.</li> <li>The password must contain at least three of the following: <ul style="list-style-type: none"> <li>lower-case alphabetic character</li> <li>upper-case alphabetic character</li> <li>numeric character</li> <li>special character, which is one of the following:<br/># \$ _</li> </ul> </li> <li>The password must not contain four or more of the same character type in sequence.</li> <li>The password must not be the same as the user name or its reverse.</li> <li>The password must not contain a space character.</li> </ul> |
| <b>Get Upgrade Database Info (cont.)</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Database Listener Port                                                  | The TCP port on this station that the Oracle database listener uses to communicate with the main servers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Database Proxy Port                                                     | The TCP port on this station that the main servers are to use for non-JDBC operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Database File Server Port                                               | The TCP port on this station that the database is to use for file transfers to and from the peer database station                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| Panel and parameters                                   | Description                                                                                                                                                                                       |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Primary Database Info</b>                           |                                                                                                                                                                                                   |
| Primary IP Address                                     | The IP address that the main servers use to reach the peer database instance                                                                                                                      |
| Primary Instance Name                                  | The name that the Oracle software associates with the database processes on the peer database station                                                                                             |
| <b>Determine Memory Requirements</b>                   |                                                                                                                                                                                                   |
| Database co-exists with a 5620 SAM Server              | If selected, specifies that this database and a main server are collocated on this station                                                                                                        |
| <b>Main Server IP Validation</b>                       |                                                                                                                                                                                                   |
| Enable SAM Server IP Validation                        | If selected, allows only the main servers specified by the “Server One IP Address” and “Server Two IP Address” parameters to connect to this database instance                                    |
| Server One IP Address                                  | The IP address of the primary main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected. |
| Server Two IP Address                                  | The IP address of the standby main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected. |
| <b>Auxiliary Servers</b>                               |                                                                                                                                                                                                   |
| IP Address                                             | The IP address or hostname of the auxiliary server                                                                                                                                                |
| <b>Staging Destination</b>                             |                                                                                                                                                                                                   |
| Unlabeled field                                        | The directory that the database is to use for the continuous statistics tablespace backup                                                                                                         |
| <b>Accounting Statistics Database Retention Period</b> |                                                                                                                                                                                                   |
| Accounting Statistics Data Retention Period            | The length of time, in days, that the database is to retain statistics records                                                                                                                    |
| <b>Purge Statistics</b>                                |                                                                                                                                                                                                   |
| Purge All Accounting Statistics                        | Permanently delete the accounting statistics data from the database to reduce the time required for the database upgrade                                                                          |
| Purge All MIB Statistics                               | Permanently delete the MIB statistics data from the database to reduce the time required for the database upgrade                                                                                 |

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Table B-4 Standby main server upgrade parameters

| Panel and parameters                                         | Description                                                                                                               |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                            |                                                                                                                           |
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.     |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected. |
| <b>Choose Installation Type</b>                              |                                                                                                                           |
| Main Server Installation (default)                           | Installs the main server software<br>You must choose this option.                                                         |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                                             | Description                                                                                                                                                                                                                                              |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main Server Configuration                                        | Configures the main server software                                                                                                                                                                                                                      |
| Auxiliary Server Installation                                    | Installs the auxiliary server software                                                                                                                                                                                                                   |
| Auxiliary Server Configuration                                   | Configures the auxiliary server software                                                                                                                                                                                                                 |
| CPAM Server Installation                                         | Installs the 5650 CPAM server software                                                                                                                                                                                                                   |
| CPAM Server Configuration                                        | Configures the 5650 CPAM server software                                                                                                                                                                                                                 |
| <b>Specify the Base Directory for 5620 SAM Main Server Files</b> |                                                                                                                                                                                                                                                          |
| Unlabeled field                                                  | The directory in which the main server files are installed                                                                                                                                                                                               |
| <b>License Information for 5620 SAM Main Server</b>              |                                                                                                                                                                                                                                                          |
| License Key                                                      | The 5620 SAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.                                                             |
| <b>Additional Server Configuration</b>                           |                                                                                                                                                                                                                                                          |
| Redundancy Supported                                             | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration<br>You must select this parameter.                                                                                                                              |
| Enable SR Backup File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the NE configuration backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.                                              |
| Enable LTE Stats File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the LTE statistics files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.                                                       |
| Enable LTE Backup File Synchronization                           | If selected, specifies that the 5620 SAM main servers synchronize the LTE backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected                                      |
| Auxiliary Server Supported                                       | If selected, specifies that the 5620 SAM deployment includes one or more auxiliary servers.                                                                                                                                                              |
| Client Delegate Server Supported                                 | If selected, specifies that the 5620 SAM deployment includes one or more client delegate servers.                                                                                                                                                        |
| <b>Primary Database Configuration</b>                            |                                                                                                                                                                                                                                                          |
| Primary Database Server IP Address                               | The IP address that this main server must use to reach the primary database station<br>The value must match the “Public IP (accessible to servers)” value specified on the “Get Upgrade Database Info” panel during the standby database upgrade.        |
| Primary Database Server Port                                     | The TCP port on the primary database station that this main server uses to reach the database<br>The value must match the “Database Listener Port” value specified on the “Get Upgrade Database Info (cont.)” panel during the standby database upgrade. |
| Primary Database Instance Name                                   | The name that the Oracle software associates with the primary database processes<br>The value must match the “Instance Name” value specified on the “Get Upgrade Database Info” panel during the standby database upgrade.                               |
| Database User Name                                               | The database username<br>The value must match the “User Name” value specified on the “Get Upgrade Database Info” panel during the standby database upgrade.                                                                                              |

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| Panel and parameters                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Database User Password                                 | The database password<br>The value must match the “User Password” value specified on the “Get Upgrade Database Info” panel during the standby database upgrade.                                                                                                                                                                                                                                                                                             |
| Primary Database Proxy Port                            | The TCP port on the primary database station that this main server is to use for non-JDBC operations<br>The value must match the “Database Proxy Port” value specified on the “Get Upgrade Database Info (cont.)” panel during the standby database upgrade.                                                                                                                                                                                                |
| <b>Online Database Backup</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Online Backup Interval (Hours)                         | How often, in hours, the 5620 SAM is to back up the database                                                                                                                                                                                                                                                                                                                                                                                                |
| Online Backup Destination                              | The backup directory on the database station                                                                                                                                                                                                                                                                                                                                                                                                                |
| Number Of Backup Sets                                  | The number of database backup sets that the 5620 SAM is to retain                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Standby Database Configuration</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Database Server IP Address                             | The IP address that this main server must use to reach the standby database station                                                                                                                                                                                                                                                                                                                                                                         |
| Database Instance Name                                 | The name that the Oracle software associates with the standby database processes                                                                                                                                                                                                                                                                                                                                                                            |
| Database Proxy Port                                    | The TCP port on the standby database station that this main server is to use for non-JDBC operations                                                                                                                                                                                                                                                                                                                                                        |
| Enable Database Backup File Synchronization            | If selected, specifies that each 5620 SAM database backup file set is copied to the peer database after the backup completes<br>You must configure this parameter the same on each main server.<br>You must ensure that there is sufficient network bandwidth between the database stations before you enable this parameter. See the <i>5620 SAM Planning Guide</i> for information about the bandwidth required for database backup file synchronization. |
| <b>Main Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between this main server and the auxiliary servers                                                                                                                                                                                                                                                                                                                                                                  |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                                                                                                                                                                 |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach this main server                                                                                                                                                                                                                                                                                                                                                                                |
| Server Port                                            | The TCP port on this station that the auxiliary servers use to reach this main server                                                                                                                                                                                                                                                                                                                                                                       |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                                                                                                                                                                                                                                                           |
| Enable Call Trace Collection on Auxiliary Servers      | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                                                                                                                                                                                                                                                    |
| <b>Auxiliary Server Configuration</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP Address                                             | The IP address that this main server must use to reach the auxiliary server                                                                                                                                                                                                                                                                                                                                                                                 |
| Port                                                   | The TCP port on the auxiliary server station that this main server must use to reach the auxiliary server                                                                                                                                                                                                                                                                                                                                                   |
| Type                                                   | Preferred—specifies that this main server uses this auxiliary server under normal conditions<br>Reserved—specifies that this main server uses this auxiliary server when the Preferred auxiliary server is unavailable                                                                                                                                                                                                                                      |
| <b>Database Alignment</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                                     | Description                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable Database Alignment                                | If selected, enables automatic database alignment<br>Default: unselected                                                                                                                                                                                                                                                  |
| <i>IP_address_1:instance_name</i><br>(Primary Preferred) | If selected, specifies that the database that is the designated primary database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                        |
| <i>IP_address_2:instance_name</i><br>(Standby Preferred) | If selected, specifies that the database that is the designated standby database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                        |
| <b>Auto Re-Instantiation After Database Failover</b>     |                                                                                                                                                                                                                                                                                                                           |
| Enable Auto Re-Instantiation of Standby Database         | If selected, enables automatic reinstantiation of the primary database on the standby database station after a database failover                                                                                                                                                                                          |
| Delay Time After Database Failover (minutes)             | The time, in m, that is to elapses between database failover completion and the standby database reinstantiation<br>The parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.                                                                                      |
| <b>Main Server Configuration For Clients</b>             |                                                                                                                                                                                                                                                                                                                           |
| Server Domain Name                                       | The unique identifier of the 5620 SAM server cluster                                                                                                                                                                                                                                                                      |
| Use Hostname for Communication                           | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach this main server                                                                                                                                                                      |
| NAT (network address translation) Used                   | If selected, specifies that NAT is used between this main server and the GUI clients, OSS clients, and auxiliary servers                                                                                                                                                                                                  |
| Private IP (accessible only by this server)              | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                               |
| Public Hostname                                          | The hostname that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.                                                                                                                                            |
| Public IP (accessible to clients)                        | The IP address that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.                                                                                                                                        |
| EJB JNDI Server port                                     | The TCP port on this station that the GUI clients use for EJB JNDI messaging                                                                                                                                                                                                                                              |
| EJB JMS Server port                                      | The TCP port on this station that the GUI clients use for EJB JMS messaging                                                                                                                                                                                                                                               |
| Enable 5670 RAM                                          | If selected, specifies that a 5670 RAM is to be integrated with the 5620 SAM system                                                                                                                                                                                                                                       |
| Enable 3GPP OSS Interface                                | If selected, specifies that the 5620 SAM 3GPP OSS interface is to be enabled                                                                                                                                                                                                                                              |
| <b>Main Server Configuration for Clients (cont.)</b>     |                                                                                                                                                                                                                                                                                                                           |
| RMI Port                                                 | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the main server<br>In a redundant 5620 SAM deployment, the main servers use this port to share information about the objects and functions that are available to clients. |
| RMI Object Port                                          | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations                                                                                                                                                                                                 |
| <b>Server Configuration for OSS Clients</b>              |                                                                                                                                                                                                                                                                                                                           |
| NAT (network address translation) Used                   | If selected, specifies that NAT is used between this main server and the OSS clients                                                                                                                                                                                                                                      |

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| Panel and parameters                             | Description                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public IP (accessible to OSS clients)            | The IP address that the OSS clients must use to reach this main server                                                                                                                                                                                                                                        |
| <b>Main Server Configuration for Peer Server</b> |                                                                                                                                                                                                                                                                                                               |
| NAT (network address translation) Used           | If selected, specifies that NAT is used between this main server and the peer main server                                                                                                                                                                                                                     |
| Private IP (accessible only by this server)      | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                   |
| Public IP (accessible to peer server)            | The IP address that the peer main server must use to reach this main server                                                                                                                                                                                                                                   |
| High Available JNDI Port                         | The TCP port on this station that the peer main server is to use for EJB JNDI messaging                                                                                                                                                                                                                       |
| TCP Port Cluster Number                          | The TCP port on this station that is used to communicate with the other 5620 SAM server cluster members                                                                                                                                                                                                       |
| <b>Synchronization of Data</b>                   |                                                                                                                                                                                                                                                                                                               |
| Enable Synchronization of Data                   | If selected, specifies that the collected data on this main server is synchronized with the data on the other main server                                                                                                                                                                                     |
| Public IP (accessible to peer server)            | The IPv4 address that the other main server uses to reach this main server                                                                                                                                                                                                                                    |
| Peer Public IP (accessible to this server)       | The IPv4 address that this main server uses to reach the other main server                                                                                                                                                                                                                                    |
| <b>SSL Configuration</b>                         |                                                                                                                                                                                                                                                                                                               |
| Enable Secure Communication                      | If selected, specifies that SSL communication security is to be used between the main servers and clients, and between the main and auxiliary servers                                                                                                                                                         |
| Keystore File                                    | The SSL keystore file that the main server imports to the main server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                 |
| Keystore Password                                | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                                                                                 |
| Truststore File                                  | The SSL truststore file that the main server imports to the main server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                          |
| Truststore Password                              | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                                                                               |
| <b>License Information for 5650 CPAM Server</b>  |                                                                                                                                                                                                                                                                                                               |
| Include 5650 CPAM Server License Information     | If selected, specifies that a 5650 CPAM is to be integrated with the 5620 SAM system                                                                                                                                                                                                                          |
| Unlabeled field                                  | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>The parameter is configurable when the “Include 5650 CPAM Server License Information” parameter is selected. |
| <b>SNMP Configuration</b>                        |                                                                                                                                                                                                                                                                                                               |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                           | Description                                                                                                                                                                                                                                                        |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAT (network address translation) Used         | If selected, specifies that NAT is used between this main server and the managed NEs                                                                                                                                                                               |
| IPv6 Address Used                              | If selected, specifies that this main server uses IPv6 to manage one or more NEs                                                                                                                                                                                   |
| SNMP Trap Receiving IPv4 Address               | The IPv4 address that the managed NEs must use to reach this main server                                                                                                                                                                                           |
| SNMP Trap Receiving IPv6 Address               | The IPv6 address that the managed NEs use to reach this main server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.                                                                                                           |
| SNMP Trap Receiving Port                       | The TCP port on this station that the managed NEs must use to reach this main server                                                                                                                                                                               |
| Trap Log Id                                    | The SNMP trap log ID that is associated with this main server                                                                                                                                                                                                      |
| <b>Peer Main Server Configurations</b>         |                                                                                                                                                                                                                                                                    |
| Peer Server IP Address                         | The IP address that this main server uses to reach the peer main server                                                                                                                                                                                            |
| Peer Server Trap Log Id                        | The SNMP trap log ID that is associated with the peer main server                                                                                                                                                                                                  |
| Peer Server SNMP Trap Receiving IPv4 Address   | The IPv4 address that the managed NEs must use to reach the peer main server                                                                                                                                                                                       |
| Peer Server SNMP Trap Receiving IPv6 Address   | The IPv6 address that the managed NEs use to reach the peer main server<br>The parameter is configurable when the “IPv6 Address Used” parameter on the “SNMP Configuration” panel is selected.                                                                     |
| Peer Server SNMP Trap Receiving Port           | The TCP port on the peer main server station that the managed NEs must use to reach the peer main server                                                                                                                                                           |
| Peer Server TCP Port Cluster Number            | The TCP port on the peer main server station that the 5620 SAM server cluster members use to reach the peer main server                                                                                                                                            |
| <b>Peer Main Server Configurations (cont.)</b> |                                                                                                                                                                                                                                                                    |
| Peer Server Hostname                           | The hostname that the GUI clients, OSS clients, and auxiliary servers use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is selected.     |
| Peer Server IP Address                         | The IP address that the GUI clients, OSS clients, and auxiliary servers use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is unselected. |
| JNDI High Available Peer Server Port           | The TCP port on the peer main server station that this main server uses for EJB JNDI messaging                                                                                                                                                                     |
| JNDI Peer Server Port                          | The TCP port on the peer main server station that the GUI clients use for EJB JNDI messaging                                                                                                                                                                       |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                                                    |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM                                                                                                                                                                                   |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.                                                                              |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                                                    |
| Unlabeled field                                | The directory that is to contain the output of OSSl file export operations                                                                                                                                                                                         |
| <b>Installation Complete</b>                   |                                                                                                                                                                                                                                                                    |

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| Panel and parameters           | Description                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------|
| Start the 5620 SAM Main Server | If selected, specifies that the main server is to start automatically after the upgrade<br>Default: unselected |

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Table B-5 New standby database installation parameters

| Panel and parameters                                          | Description                                                                                                               |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                             |                                                                                                                           |
| I accept the terms of the License Agreement                   | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.     |
| I do NOT accept the terms of the License Agreement (default)  | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected. |
| <b>Choose Installation Type</b>                               |                                                                                                                           |
| Install & Configure a Standalone Database (default)           | Installs a standalone database                                                                                            |
| Restore a Database                                            | Restores a database using a backup file set                                                                               |
| Upgrade a Database                                            | Upgrades a database                                                                                                       |
| Install & Configure Primary/Standby Database                  | Installs a primary or standby database for a redundant 5620 SAM deployment<br>You must choose this option.                |
| <b>Install &amp; Configure Primary/Standby Database</b>       |                                                                                                                           |
| Primary Database Install (default)                            | Installs the primary database in a redundant deployment                                                                   |
| Convert Standalone Database to Primary                        | Converts a standalone database to the primary database in a redundant deployment                                          |
| Standby Database Install                                      | Installs the standby database in a redundant deployment<br>You must choose this option.                                   |
| <b>Install Oracle Software</b>                                |                                                                                                                           |
| Install Oracle Software (default)                             | Installs the Oracle software<br>You must choose this option.                                                              |
| Do not install Oracle Software                                | Does not install the Oracle software                                                                                      |
| <b>Specify the Base Directory for 5620 SAM Database Files</b> |                                                                                                                           |
| Unlabeled field                                               | The directory in which the database files are to be installed<br>Default: /opt/5620sam/samdb/install                      |
| <b>Specify the Base Directory for Oracle Software</b>         |                                                                                                                           |
| Unlabeled field                                               | The directory in which the Oracle files are to be installed<br>Default: /opt/5620sam/oracle11r2                           |
| <b>Standby Database Configuration Info</b>                    |                                                                                                                           |
| NAT (network address translation) Used                        | If selected, specifies that NAT is used between this database and the main servers                                        |
| Public IP (accessible to servers)                             | The IP address that the main servers must use to reach this database                                                      |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                      | Description                                                                                                                                                                                                                  |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Private IP                                | The IP address that the NAT router uses to reach this database<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface |
| Database Proxy Port                       | The TCP port on this station that the main servers are to use for non-JDBC operations<br>Default: 9002                                                                                                                       |
| Database File Server Port                 | The TCP port on this station that the database is to use for file transfers to and from the peer database station<br>Default: 9003                                                                                           |
| <b>Determine Memory Requirements</b>      |                                                                                                                                                                                                                              |
| Database co-exists with a 5620 SAM Server | If selected, specifies that this database and a main server are collocated on this station<br>Default: unselected                                                                                                            |
| <b>Main Server IP Validation</b>          |                                                                                                                                                                                                                              |
| Enable SAM Server IP Validation           | If selected, allows only the main servers specified by the “Server One IP Address” and “Server Two IP Address” parameters to connect to this database instance<br>Default: unselected                                        |
| Server One IP Address                     | The IP address of the primary main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.                            |
| Server Two IP Address                     | The IP address of the standby main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.                            |
| <b>Auxiliary Servers</b>                  |                                                                                                                                                                                                                              |
| IP Address                                | The IP address or hostname of the auxiliary server<br>Default: —                                                                                                                                                             |
| <b>Primary Database Info</b>              |                                                                                                                                                                                                                              |
| Primary IP Address                        | The IP address of the peer database<br>Default: —                                                                                                                                                                            |
| Primary Instance Name                     | The name that the Oracle software associates with the peer database processes                                                                                                                                                |
| Primary SYS Password                      | The password that Oracle requires to start the peer database instance<br>The value must match the “SYS Password” value specified on the “Oracle SYS Password” panel during the original standby database installation.       |
| Primary Database Listener Port            | The TCP port on the peer database station that the Oracle database listener is to use to communicate with the main server<br>Default: 1523                                                                                   |
| Primary Database Proxy Port               | The TCP port on the peer database station that the main servers are to use for non-JDBC operations<br>Default: 9002                                                                                                          |

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Table B-6 Original primary main server upgrade parameters

| Panel and parameters                                             | Description                                                                                                                                                                                                                                           |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                                |                                                                                                                                                                                                                                                       |
| I accept the terms of the License Agreement                      | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                                                                 |
| I do NOT accept the terms of the License Agreement (default)     | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                                                             |
| <b>Choose Installation Type</b>                                  |                                                                                                                                                                                                                                                       |
| Main Server Installation (default)                               | Installs the main server software<br>You must choose this option.                                                                                                                                                                                     |
| Main Server Configuration                                        | Configures the main server software                                                                                                                                                                                                                   |
| Auxiliary Server Installation                                    | Installs the auxiliary server software                                                                                                                                                                                                                |
| Auxiliary Server Configuration                                   | Configures the auxiliary server software                                                                                                                                                                                                              |
| CPAM Server Installation                                         | Installs the 5650 CPAM server software                                                                                                                                                                                                                |
| CPAM Server Configuration                                        | Configures the 5650 CPAM server software                                                                                                                                                                                                              |
| <b>Specify the Base Directory for 5620 SAM Main Server Files</b> |                                                                                                                                                                                                                                                       |
| Unlabeled field                                                  | The directory in which the main server files are installed                                                                                                                                                                                            |
| <b>License Information for 5620 SAM Main Server</b>              |                                                                                                                                                                                                                                                       |
| License Key                                                      | The 5620 SAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.                                                          |
| <b>Additional Server Configuration</b>                           |                                                                                                                                                                                                                                                       |
| Redundancy Supported                                             | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration<br>You must select this parameter.                                                                                                                           |
| Enable SR Backup File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the NE configuration backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.                                           |
| Enable LTE Stats File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the LTE statistics files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.                                                    |
| Enable LTE Backup File Synchronization                           | If selected, specifies that the 5620 SAM main servers synchronize the LTE backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.                                                        |
| Auxiliary Server Supported                                       | If selected, specifies that the 5620 SAM deployment includes one or more auxiliary servers.                                                                                                                                                           |
| Client Delegate Server Supported                                 | If selected, specifies that the 5620 SAM deployment includes one or more client delegate servers.                                                                                                                                                     |
| <b>Primary Database Configuration</b>                            |                                                                                                                                                                                                                                                       |
| Primary Database Server IP Address                               | The IP address that this main server must use to reach the new primary database station<br>The value must match the “Public IP (accessible to servers)” value specified on the “Get Upgrade Database Info” panel during the standby database upgrade. |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Database Server Port                           | The TCP port on the new primary database station that this main server uses to reach the database<br>The value must match the “Database Listener Port” value specified on the “Get Upgrade Database Info (cont.)” panel during the standby database upgrade.                                                                                                                                                                                                |
| Primary Database Instance Name                         | The name that the Oracle software associates with the database processes on the new primary database station<br>The value must match the “Instance Name” value specified on the “Get Upgrade Database Info” panel during the standby database upgrade.                                                                                                                                                                                                      |
| Database User Name                                     | The database username<br>The value must match the “User Name” value specified on the “Get Upgrade Database Info” panel during the standby database upgrade.                                                                                                                                                                                                                                                                                                 |
| Database User Password                                 | The database password<br>The value must match the “User Password” value specified on the “Get Upgrade Database Info” panel during the standby database upgrade.                                                                                                                                                                                                                                                                                             |
| Primary Database Proxy Port                            | The TCP port on the new primary database station that the main servers are to use for non-JDBC operations<br>The value must match the “Database Proxy Port” value specified on the “Get Upgrade Database Info (cont.)” panel during the standby database upgrade.                                                                                                                                                                                           |
| <b>Online Database Backup</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Online Backup Interval (Hours)                         | How often, in hours, the 5620 SAM is to back up the database                                                                                                                                                                                                                                                                                                                                                                                                |
| Online Backup Destination                              | The backup directory on the database station                                                                                                                                                                                                                                                                                                                                                                                                                |
| Number Of Backup Sets                                  | The number of database backup sets that the 5620 SAM is to retain                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Standby Database Configuration</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Database Server IP Address                             | The IP address that this main server must use to reach the new standby database station                                                                                                                                                                                                                                                                                                                                                                     |
| Database Instance Name                                 | The name that the Oracle software associates with the database processes on the new standby database station                                                                                                                                                                                                                                                                                                                                                |
| Database Proxy Port                                    | The TCP port on the new standby database station that the main servers are to use for non-JDBC operations                                                                                                                                                                                                                                                                                                                                                   |
| Enable Database Backup File Synchronization            | If selected, specifies that each 5620 SAM database backup file set is copied to the peer database after the backup completes<br>You must configure this parameter the same on each main server.<br>You must ensure that there is sufficient network bandwidth between the database stations before you enable this parameter. See the <i>5620 SAM Planning Guide</i> for information about the bandwidth required for database backup file synchronization. |
| <b>Main Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between this main server and the auxiliary servers                                                                                                                                                                                                                                                                                                                                                                  |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                                                                                                                                                                 |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach this main server                                                                                                                                                                                                                                                                                                                                                                                |
| Server Port                                            | The TCP port on this station that the auxiliary servers are to use to reach this main server                                                                                                                                                                                                                                                                                                                                                                |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                                                                                                                                                                                                                                                           |

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| Panel and parameters                                     | Description                                                                                                                                                                                                                         |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable Call Trace Collection on Auxiliary Servers        | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                            |
| <b>Auxiliary Server Configuration</b>                    |                                                                                                                                                                                                                                     |
| IP Address                                               | The IP address that this main server must use to reach the auxiliary server                                                                                                                                                         |
| Port                                                     | The TCP port on the auxiliary server station that this main server must use to reach the auxiliary server                                                                                                                           |
| Type                                                     | Preferred—specifies that this main server uses this auxiliary server under normal conditions<br>Reserved—specifies that this main server uses this auxiliary server when the Preferred auxiliary server is unavailable              |
| <b>Database Alignment</b>                                |                                                                                                                                                                                                                                     |
| Enable Database Alignment                                | If selected, enables automatic database alignment                                                                                                                                                                                   |
| <i>IP_address_1:instance_name</i><br>(Primary Preferred) | If selected, specifies that the database that is the designated primary database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.  |
| <i>IP_address_2:instance_name</i><br>(Standby Preferred) | If selected, specifies that the database that is the designated standby database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.  |
| <b>Auto Re-Instantiation After Database Failover</b>     |                                                                                                                                                                                                                                     |
| Enable Auto Re-Instantiation of Standby Database         | If selected, enables automatic reinstantiation of the primary database on the standby database station after a database failover                                                                                                    |
| Delay Time After Database Failover (minutes)             | The time, in m, that is to elapse between database failover completion and the standby database reinstantiation<br>The parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected. |
| <b>Main Server Configuration For Clients</b>             |                                                                                                                                                                                                                                     |
| Server Domain Name                                       | The unique identifier of the 5620 SAM server cluster                                                                                                                                                                                |
| Use Hostname for Communication                           | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach this main server                                                                                |
| NAT (network address translation) Used                   | If selected, specifies that NAT is used between this main server and the GUI clients, OSS clients, and auxiliary servers                                                                                                            |
| Private IP (accessible only by this server)              | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                         |
| Public Hostname                                          | The hostname that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.                                                      |
| Public IP (accessible to clients)                        | The IP address that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.                                                  |
| EJB JNDI Server port                                     | The TCP port on this station that the GUI clients use for EJB JNDI messaging                                                                                                                                                        |
| EJB JMS Server port                                      | The TCP port on this station that the GUI clients use for EJB JMS messaging                                                                                                                                                         |
| Enable 5670 RAM                                          | If selected, specifies that a 5670 RAM is to be integrated with the 5620 SAM system                                                                                                                                                 |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable 3GPP OSS Interface                            | If selected, specifies that the 5620 SAM 3GPP OSS interface is to be enabled                                                                                                                                                                                                                                                                                                                 |
| <b>Main Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                                              |
| RMI Port                                             | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the main server<br>In a redundant 5620 SAM deployment, the main servers use this port to share information about the objects and functions that are available to clients.                                                                    |
| RMI Object Port                                      | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations                                                                                                                                                                                                                                                                    |
| <b>Server Configuration for OSS Clients</b>          |                                                                                                                                                                                                                                                                                                                                                                                              |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between this main server and the OSS clients                                                                                                                                                                                                                                                                                                         |
| Public IP (accessible to OSS clients)                | The IP address that the OSS clients must use to reach this main server                                                                                                                                                                                                                                                                                                                       |
| <b>Main Server Configuration for Peer Server</b>     |                                                                                                                                                                                                                                                                                                                                                                                              |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between this main server and the peer main server                                                                                                                                                                                                                                                                                                    |
| Private IP (accessible only by this server)          | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                                                                                                  |
| Public IP (accessible to peer server)                | The IP address that the peer main server must use to reach this main server                                                                                                                                                                                                                                                                                                                  |
| High Available JNDI Port                             | The TCP port on this station that the peer main server is to use for EJB JNDI messaging                                                                                                                                                                                                                                                                                                      |
| TCP Port Cluster Number                              | The TCP port on this station that is used to communicate with the other 5620 SAM server cluster members                                                                                                                                                                                                                                                                                      |
| <b>Synchronization of Data</b>                       |                                                                                                                                                                                                                                                                                                                                                                                              |
| Enable Synchronization of Data                       | If selected, specifies that the collected data on this main server is synchronized with the data on the other main server                                                                                                                                                                                                                                                                    |
| Public IP (accessible to peer server)                | The IPv4 address that the other main server uses to reach this main server                                                                                                                                                                                                                                                                                                                   |
| Peer Public IP (accessible to this server)           | The IPv4 address that this main server uses to reach the other main server                                                                                                                                                                                                                                                                                                                   |
| <b>SSL Configuration</b>                             |                                                                                                                                                                                                                                                                                                                                                                                              |
| Enable Secure Communication                          | If selected, specifies that SSL communication security is to be used between the main servers and clients, and between the main and auxiliary servers                                                                                                                                                                                                                                        |
| Keystore File                                        | The SSL keystore file that the main server imports to the main server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>This value must match the “Keystore File” value specified in the “SSL Configuration” panel during the original standby main server upgrade. |
| Keystore Password                                    | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>This value must match the “Keystore Password” value specified in the “SSL Configuration” panel during the original standby main server upgrade.                                                                                                             |

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| Panel and parameters                            | Description                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Truststore File                                 | The SSL truststore file that the main server imports to the main server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>This value must match the “Truststore File” value specified in the “SSL Configuration” panel during the original standby main server upgrade. |
| Truststore Password                             | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>This value must match the “Truststore Password” value specified in the “SSL Configuration” panel during the original standby main server upgrade.                                                  |
| <b>License Information for 5650 CPAM Server</b> |                                                                                                                                                                                                                                                                                                                                       |
| Include 5650 CPAM Server License Information    | If selected, specifies that a 5650 CPAM is to be integrated with the 5620 SAM system                                                                                                                                                                                                                                                  |
| Unlabeled field                                 | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>The parameter is configurable when the “Include 5650 CPAM Server License Information” parameter is selected.                         |
| <b>SNMP Configuration</b>                       |                                                                                                                                                                                                                                                                                                                                       |
| NAT (network address translation) Used          | If selected, specifies that NAT is used between this main server and the managed NEs                                                                                                                                                                                                                                                  |
| IPv6 Address Used                               | If selected, specifies that this main server uses IPv6 to manage one or more NEs                                                                                                                                                                                                                                                      |
| SNMP Trap Receiving IPv4 Address                | The IPv4 address that the managed NEs must use to reach this main server                                                                                                                                                                                                                                                              |
| SNMP Trap Receiving IPv6 Address                | The IPv6 address that the managed NEs use to reach this main server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.                                                                                                                                                                              |
| SNMP Trap Receiving Port                        | The TCP port on this station that the managed NEs must use to reach this main server                                                                                                                                                                                                                                                  |
| Trap Log Id                                     | The SNMP trap log ID that is associated with this main server                                                                                                                                                                                                                                                                         |
| <b>Peer Main Server Configurations</b>          |                                                                                                                                                                                                                                                                                                                                       |
| Peer Server IP Address                          | The IP address that this main server must use to reach the peer main server                                                                                                                                                                                                                                                           |
| Peer Server Trap Log Id                         | The SNMP trap log ID that is associated with the peer main server                                                                                                                                                                                                                                                                     |
| Peer Server SNMP Trap Receiving IPv4 Address    | The IPv4 address that the managed NEs must use to reach the peer main server                                                                                                                                                                                                                                                          |
| Peer Server SNMP Trap Receiving IPv6 Address    | The IPv6 address that the managed NEs use to reach the peer main server<br>The parameter is configurable when the “IPv6 Address Used” parameter on the “SNMP Configuration” panel is selected.                                                                                                                                        |
| Peer Server SNMP Trap Receiving Port            | The TCP port on the peer main server station that the managed NEs use to reach the peer main server                                                                                                                                                                                                                                   |
| Peer Server TCP Port Cluster Number             | The TCP port on the peer main server station that the 5620 SAM server cluster members use to reach the peer main server                                                                                                                                                                                                               |
| <b>Peer Main Server Configurations (cont.)</b>  |                                                                                                                                                                                                                                                                                                                                       |
| Peer Server Hostname                            | The hostname that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is selected.                                                                   |

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| Panel and parameters                           | Description                                                                                                                                                                                                                                                             |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Peer Server IP Address                         | The IP address that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is unselected. |
| JNDI High Available Peer Server Port           | The TCP port on the peer main server station that this main server uses for EJB JNDI messaging                                                                                                                                                                          |
| JNDI Peer Server Port                          | The TCP port on the peer main server station that the GUI clients use for EJB JNDI messaging                                                                                                                                                                            |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                                                         |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM                                                                                                                                                                                        |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.                                                                                   |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                                                         |
| Unlabeled field                                | The directory that is to contain the output of OSS file export operations                                                                                                                                                                                               |
| <b>Installation Complete</b>                   |                                                                                                                                                                                                                                                                         |
| Start the 5620 SAM Main Server                 | If selected, specifies that the main server is to start automatically after the upgrade<br>Default: unselected                                                                                                                                                          |

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## B.3 Auxiliary server upgrade parameters

Table B-7 lists and describes the parameters that are configurable during a 5620 SAM auxiliary server upgrade. The parameters are grouped by installer panel in the order that the panels are displayed.



**Note** — Unless stated, the default value for a parameter is the value specified during the previous upgrade or installation.

**Table B-7 Auxiliary server upgrade parameters**

| Panel and parameters                                         | Description                                                                                                               |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                            |                                                                                                                           |
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.     |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected. |
| <b>Choose Installation Type</b>                              |                                                                                                                           |
| Main Server Installation (default)                           | Installs the main server software                                                                                         |
| Main Server Configuration                                    | Configures the main server software                                                                                       |

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| Panel and parameters                                                  | Description                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Auxiliary Server Installation                                         | Installs the auxiliary server software<br>You must choose this option.                                                                                                                                                                                                                                           |
| Auxiliary Server Configuration                                        | Configures the auxiliary server software                                                                                                                                                                                                                                                                         |
| CPAM Server Installation                                              | Installs the 5650 CPAM server software                                                                                                                                                                                                                                                                           |
| CPAM Server Configuration                                             | Configures the 5650 CPAM server software                                                                                                                                                                                                                                                                         |
| <b>Specify the Base Directory for 5620 SAM Auxiliary Server Files</b> |                                                                                                                                                                                                                                                                                                                  |
| Unlabeled field                                                       | The directory in which the auxiliary server files are installed                                                                                                                                                                                                                                                  |
| <b>Auxiliary Server Address Configuration</b>                         |                                                                                                                                                                                                                                                                                                                  |
| Server Domain Name                                                    | The unique identifier of the 5620 SAM server cluster                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used                                | If selected, specifies that NAT is used between this auxiliary server and the main servers                                                                                                                                                                                                                       |
| Private IP (accessible only by this server)                           | The IP address that the NAT router uses to reach this auxiliary server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                 |
| Public IP (accessible to servers)                                     | The IP address that each main server must use to reach this auxiliary server                                                                                                                                                                                                                                     |
| Server Port                                                           | The TCP port on this station that the auxiliary server uses to communicate with the main servers                                                                                                                                                                                                                 |
| Redundancy Supported On the 5620 SAM Main Server                      | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration                                                                                                                                                                                                                         |
| Enable Stats Service                                                  | If selected, specifies that the 5620 SAM auxiliary server is used for statistics data collection                                                                                                                                                                                                                 |
| Enable Call Trace Service                                             | If selected, specifies that the 5620 SAM auxiliary server is used for call-trace data collection                                                                                                                                                                                                                 |
| <b>Main Server Configuration</b>                                      |                                                                                                                                                                                                                                                                                                                  |
| Server IP Address                                                     | The IP address that this auxiliary server must use to reach the main server in a standalone deployment<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is unselected.                               |
| Server Port                                                           | The TCP port on the main server station in a standalone deployment that this auxiliary server uses to reach the main server<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is unselected.          |
| Server One IP Address                                                 | The IP address that this auxiliary server must use to reach the primary main server in a redundant deployment<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is selected.                          |
| Server One Port                                                       | The TCP port on the primary main server station in a redundant deployment that this auxiliary server must use to reach the main server<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is selected. |
| Server Two IP Address                                                 | The IP address that this auxiliary server must use to reach the standby main server in a redundant deployment<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is selected.                          |

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## B. 5620 SAM upgrade parameters

| Panel and parameters                             | Description                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Server Two Port                                  | The TCP port on the standby main server station in a redundant deployment that this auxiliary server must use to reach the main server<br>The parameter is configurable when the “Redundancy Supported On the 5620 SAM Main Server” parameter on the “Auxiliary Server Address Configuration” panel is selected. |
| <b>Server Configuration for OSS Clients</b>      |                                                                                                                                                                                                                                                                                                                  |
| NAT (network address translation) Used           | If selected, specifies that NAT is used between the auxiliary server and the OSS clients                                                                                                                                                                                                                         |
| Public IP (accessible to OSS clients)            | The IP address that the OSS clients must use to reach the auxiliary server                                                                                                                                                                                                                                       |
| <b>Auxiliary Server Call Trace Configuration</b> |                                                                                                                                                                                                                                                                                                                  |
| IPv6 Address Used                                | If selected, specifies that an IPv6 address on the auxiliary server, in addition to an IPv4 address, is used for call-trace data collection                                                                                                                                                                      |
| Call Trace Receiving IPv4 Address                | The IPv4 address that the managed devices must use to reach this auxiliary server; if NAT is used, this is a public address                                                                                                                                                                                      |
| Call Trace Receiving IPv6 Address                | The IPv6 address that the managed devices use to reach this auxiliary server; if NAT is used, this is a public address<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.                                                                                                      |
| Call Trace Receiving Directory                   | The local directory in which call-trace data is stored                                                                                                                                                                                                                                                           |
| Debug Trace Receiving Directory                  | The local directory in which debug trace data is stored                                                                                                                                                                                                                                                          |
| <b>Synchronization of Data</b>                   |                                                                                                                                                                                                                                                                                                                  |
| Enable Synchronization of Data                   | If selected, specifies that the collected data on this auxiliary server is synchronized with the data on the other auxiliary server in the auxiliary server pair                                                                                                                                                 |
| Public IP (accessible to peer auxiliary)         | The IPv4 address that the other auxiliary server in the auxiliary server pair uses to reach this auxiliary server                                                                                                                                                                                                |
| Peer Public IP (accessible to this auxiliary)    | The IPv4 address that this auxiliary server uses to reach the other auxiliary server in the auxiliary server pair                                                                                                                                                                                                |
| <b>SSL Configuration</b>                         |                                                                                                                                                                                                                                                                                                                  |
| Enable Secure Communication                      | If selected, specifies that SSL communication security is to be used between the auxiliary and main servers                                                                                                                                                                                                      |
| Truststore File                                  | The SSL truststore file that the auxiliary server imports to the auxiliary server configuration<br>This value must match the “Truststore File” value specified in the “SSL Configuration” panel during the main server upgrade.                                                                                  |
| Truststore Password                              | The SSL truststore file password<br>This value must match the “Truststore Password” value specified in the “SSL Configuration” panel during the main server upgrade.                                                                                                                                             |
| <b>XML Output Directory</b>                      |                                                                                                                                                                                                                                                                                                                  |
| Unlabeled field                                  | The directory that is to contain the output of OSSl file export operations                                                                                                                                                                                                                                       |
| <b>Installation Complete</b>                     |                                                                                                                                                                                                                                                                                                                  |
| Start the 5620 SAM Auxiliary Server              | If selected, specifies that the auxiliary server is to start automatically after the upgrade<br>Default: unselected                                                                                                                                                                                              |

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## **C.            *5620 SAM conversion to redundancy parameters***

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### **C.1 5620 SAM conversion to redundancy parameters    C-2**

## C.1 5620 SAM conversion to redundancy parameters

Tables C-1 to C-4 list and describe the configurable parameters for the conversion of a standalone 5620 SAM database and main on Solaris to redundancy. The tables are presented in an order that follows the conversion workflow in chapter 4. The parameters in each table are grouped by installer panel in the order that the panels are displayed.



**Note** — Unless stated, the default value for a parameter is the value specified during the previous upgrade or installation.

**Table C-1 Standalone database conversion parameters**

| Panel and parameters                                          | Description                                                                                                               |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                             |                                                                                                                           |
| I accept the terms of the License Agreement                   | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.     |
| I do NOT accept the terms of the License Agreement (default)  | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected. |
| <b>Choose Installation Type</b>                               |                                                                                                                           |
| Install & Configure a Standalone Database (default)           | Installs a standalone database                                                                                            |
| Restore a Database                                            | Restores a database using a backup file set                                                                               |
| Upgrade a Database                                            | Upgrades a database                                                                                                       |
| Install & Configure Primary/Standby Database                  | Installs a primary or standby database for a redundant 5620 SAM deployment<br>You must choose this option.                |
| <b>Install &amp; Configure Primary/Standby Database</b>       |                                                                                                                           |
| Primary Database Install (default)                            | Installs the primary database in a redundant deployment                                                                   |
| Convert Standalone Database to Primary                        | Converts a standalone database to the primary database in a redundant deployment<br>You must choose this option.          |
| Standby Database Install                                      | Installs the standby database in a redundant deployment                                                                   |
| <b>Install Oracle Software</b>                                |                                                                                                                           |
| Install Oracle Software (default)                             | Installs the Oracle software                                                                                              |
| Do not install Oracle Software                                | Does not install the Oracle software<br>You must choose this option.                                                      |
| <b>Specify the Base Directory for 5620 SAM Database Files</b> |                                                                                                                           |
| Unlabeled field                                               | The directory in which the database files are installed                                                                   |
| <b>Specify the Base Directory for Oracle Software</b>         |                                                                                                                           |
| Unlabeled field                                               | The directory in which the Oracle files are installed                                                                     |
| <b>Standalone Database Info</b>                               |                                                                                                                           |

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| Panel and parameters                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAT (network address translation) Used    | If selected, specifies that NAT is used between this database and the main servers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Public IP (accessible to servers)         | The IP address that the main servers must use to reach this database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Private IP                                | The IP address that the NAT router uses to reach this database<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Database Name                             | The name of the database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Instance Name                             | The name that the Oracle software associates with the database processes on this station                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| User Name                                 | The database username                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| User Password                             | The database password, which is set during installation<br>If you modify the “User Password” parameter, the value that you specify must meet the following criteria: <ul style="list-style-type: none"> <li>• The password must be between 4 and 30 characters long.</li> <li>• The password must contain at least three of the following: <ul style="list-style-type: none"> <li>• lower-case alphabetic character</li> <li>• upper-case alphabetic character</li> <li>• numeric character</li> <li>• special character, which is one of the following:<br/># \$ _</li> </ul> </li> <li>• The password must not contain four or more of the same character type in sequence.</li> <li>• The password must not be the same as the user name or its reverse.</li> <li>• The password must not contain a space character.</li> </ul> |
| <b>Standalone Database Info (cont.)</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Database Listener Port                    | The TCP port on this station that the Oracle database listener is to use to communicate with each main server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Database Proxy Port                       | The TCP port on this station that the main servers are to use for non-JDBC operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Database File Server Port                 | The TCP port on this station that the database is to use for file transfers to and from the peer database station                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Determine Memory Requirements</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Database co-exists with a 5620 SAM Server | If selected, specifies that this database and a main server are to be collocated on this station                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Main Server IP Validation</b>          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Enable SAM Server IP Validation           | If selected, allows only the main servers specified by the “Server One IP Address” and “Server Two IP Address” parameters to connect to this database instance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Server One IP Address                     | The IP address of the primary main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Server Two IP Address                     | The IP address of the standby main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Standby Database Info</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| Panel and parameters            | Description                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standby IP Address              | The IP address that each main server and this database instance must use to reach the peer database instance<br>Default: —                                                                                                                                                                                                                                                                |
| Standby Instance Name           | The name that the Oracle software associates with the database processes on the peer database station<br>The name must: <ul style="list-style-type: none"> <li>contain 8 or fewer characters</li> <li>consist of ASCII characters only</li> <li>have a letter as the first character</li> </ul> Default: samdb2                                                                           |
| Standby Oracle Home             | The directory on the peer database station in which the Oracle files are to be installed<br>Default: /opt/5620sam/oracle11r2                                                                                                                                                                                                                                                              |
| Standby Archive Log Destination | The directory on the peer database station in which the database is to store the archive logs<br>Database transactions are stored in the archive log directory until a database backup is performed. Alcatel-Lucent recommends that you regularly back up the database to avoid filling the partition that contains the archive log directory.<br>Default: /opt/5620sam/samdb/archive.log |

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Table C-2 Standalone main server conversion parameters

| Panel and parameters                                             | Description                                                                                                                                                                                  |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                                |                                                                                                                                                                                              |
| I accept the terms of the License Agreement                      | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                        |
| I do NOT accept the terms of the License Agreement (default)     | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                    |
| <b>Choose Installation Type</b>                                  |                                                                                                                                                                                              |
| Main Server Installation (default)                               | Installs the main server software                                                                                                                                                            |
| Main Server Configuration                                        | Configures the main server software<br>You must choose this option.                                                                                                                          |
| Auxiliary Server Installation                                    | Installs the auxiliary server software                                                                                                                                                       |
| Auxiliary Server Configuration                                   | Configures the auxiliary server software                                                                                                                                                     |
| CPAM Server Installation                                         | Installs the 5650 CPAM server software                                                                                                                                                       |
| CPAM Server Configuration                                        | Configures the 5650 CPAM server software                                                                                                                                                     |
| <b>Specify the Base Directory for 5620 SAM Main Server Files</b> |                                                                                                                                                                                              |
| Unlabeled field                                                  | The directory in which the main server files are installed                                                                                                                                   |
| <b>License Information for 5620 SAM Main Server</b>              |                                                                                                                                                                                              |
| License Key                                                      | The 5620 SAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter. |

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| Panel and parameters                   | Description                                                                                                                                                                                                                                                         |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Additional Server Configuration</b> |                                                                                                                                                                                                                                                                     |
| Redundancy Supported                   | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration. You must select this parameter.<br>Default: unselected                                                                                                                    |
| Enable SR Backup File Synchronization  | If selected, specifies that the 5620 SAM main servers synchronize the NE configuration backup files with each other.<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: unselected                                 |
| Enable LTE Stats File Synchronization  | If selected, specifies that the 5620 SAM main servers synchronize the LTE statistics files with each other.<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected                                            |
| Enable LTE Backup File Synchronization | If selected, specifies that the 5620 SAM main servers synchronize the LTE backup files with each other.<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected                                                |
| Auxiliary Server Supported             | If selected, specifies that the 5620 SAM deployment includes one or more auxiliary servers                                                                                                                                                                          |
| Client Delegate Server Supported       | If selected, specifies that the 5620 SAM deployment includes one or more client delegate servers                                                                                                                                                                    |
| <b>Primary Database Configuration</b>  |                                                                                                                                                                                                                                                                     |
| Primary Database Server IP Address     | The IP address that this main server must use to reach the primary database station. The value must match the “Public IP (accessible to servers)” value specified on the “Standalone Database Info” panel during the standalone database conversion.                |
| Primary Database Server Port           | The TCP port on the primary database station that this main server must use to reach the database.<br>The value must match the “Database Listener Port” value specified on the “Standalone Database Info (cont.)” panel during the standalone database conversion.  |
| Primary Database Instance Name         | The name that the Oracle software associates with the database processes on the primary database station.<br>The value must match the “Instance Name” value specified on the “Standalone Database Info” panel during the standalone database conversion.            |
| Database User Name                     | The database username.<br>The value must match the “User Name” value specified on the “Standalone Database Info” panel during the standalone database conversion.                                                                                                   |
| Database User Password                 | The database password.<br>The value must match the “User Password” value specified on the “Standalone Database Info” panel during the standalone database conversion.                                                                                               |
| Primary Database Proxy Port            | The TCP port on the primary database station that the main servers are to use for non-JDBC operations.<br>The value must match the “Database Proxy Port” value specified on the “Standalone Database Info (cont.)” panel during the standalone database conversion. |
| <b>Online Database Backup</b>          |                                                                                                                                                                                                                                                                     |
| Online Backup Interval (Hours)         | How often, in hours, the 5620 SAM is to back up the database                                                                                                                                                                                                        |
| Online Backup Destination              | The backup directory on the database station                                                                                                                                                                                                                        |

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### C. 5620 SAM conversion to redundancy parameters

| Panel and parameters                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number Of Backup Sets                                           | The number of database backup sets that the 5620 SAM is to retain                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Standby Database Configuration</b>                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Database Server IP Address                                      | The IP address that this main server must use to reach the standby database station<br>Default: —                                                                                                                                                                                                                                                                                                                                                           |
| Database Instance Name                                          | The name that the Oracle software associates with the database processes on the standby database station<br>Default: samdb2                                                                                                                                                                                                                                                                                                                                 |
| Database Proxy Port                                             | The TCP port on the standby database station that the main servers are to use for non-JDBC operations<br>Default: 9002                                                                                                                                                                                                                                                                                                                                      |
| Enable Database Backup File Synchronization                     | If selected, specifies that each 5620 SAM database backup file set is copied to the peer database after the backup completes<br>You must configure this parameter the same on each main server.<br>You must ensure that there is sufficient network bandwidth between the database stations before you enable this parameter. See the <i>5620 SAM Planning Guide</i> for information about the bandwidth required for database backup file synchronization. |
| <b>Main Server Configuration for Auxiliary Servers</b>          |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used                          | If selected, specifies that NAT is used between this main server and the auxiliary servers                                                                                                                                                                                                                                                                                                                                                                  |
| Private IP (accessible only by this server)                     | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                                                                                                                                                                 |
| Public IP (accessible to auxiliary)                             | The IP address that the auxiliary servers must use to reach this main server                                                                                                                                                                                                                                                                                                                                                                                |
| Server Port                                                     | The TCP port on this station that the auxiliary servers must use to reach this main server                                                                                                                                                                                                                                                                                                                                                                  |
| Enable Stats Collection on Auxiliary Servers                    | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                                                                                                                                                                                                                                                           |
| Enable Call Trace Collection on Auxiliary Servers               | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                                                                                                                                                                                                                                                    |
| <b>Auxiliary Server Configuration</b>                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP Address                                                      | The IP address that this main server must use to reach the auxiliary server                                                                                                                                                                                                                                                                                                                                                                                 |
| Port                                                            | The TCP port on the auxiliary server station that this main server must use to reach the auxiliary server                                                                                                                                                                                                                                                                                                                                                   |
| Type                                                            | Preferred—specifies that this main server uses this auxiliary server under normal conditions<br>Reserved—specifies that this main server uses this auxiliary server when the Preferred auxiliary server is unavailable                                                                                                                                                                                                                                      |
| <b>Database Alignment</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Enable Database Alignment                                       | If selected, enables automatic database alignment<br>Default: unselected                                                                                                                                                                                                                                                                                                                                                                                    |
| <i>IP_address_1:instance_name</i> (Primary Preferred) (default) | If selected, specifies that the database that is the designated primary database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                                                                                                                                                          |

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| Panel and parameters                                     | Description                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>IP_address_2:instance_name</i><br>(Standby Preferred) | If selected, specifies that the database that is the designated standby database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                        |
| <b>Auto Re-Instantiation After Database Failover</b>     |                                                                                                                                                                                                                                                                                                                           |
| Enable Auto Re-Instantiation of Standby Database         | If selected, enables automatic reinstantiation of the primary database on the standby database station after a database failover                                                                                                                                                                                          |
| Delay Time After Database Failover (minutes)             | The time, in m, that is to elapse between database failover completion and the standby database reinstantiation<br>The parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.                                                                                       |
| <b>Main Server Configuration For Clients</b>             |                                                                                                                                                                                                                                                                                                                           |
| Server Domain Name                                       | The unique identifier of the 5620 SAM server cluster                                                                                                                                                                                                                                                                      |
| Use Hostname for Communication                           | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach this main server                                                                                                                                                                      |
| NAT (network address translation) Used                   | If selected, specifies that NAT is used between this main server and the GUI clients, OSS clients, and auxiliary servers                                                                                                                                                                                                  |
| Private IP (accessible only by this server)              | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                               |
| Public Hostname                                          | The hostname that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.                                                                                                                                            |
| Public IP (accessible to clients)                        | The IP address that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.                                                                                                                                        |
| EJB JNDI Server port                                     | The TCP port on this station that the GUI clients use for EJB JNDI messaging                                                                                                                                                                                                                                              |
| EJB JMS Server port                                      | The TCP port on this station that the GUI clients use for EJB JMS messaging                                                                                                                                                                                                                                               |
| Enable 5670 RAM                                          | If selected, specifies that a 5670 RAM is to be integrated with the 5620 SAM system                                                                                                                                                                                                                                       |
| Enable 3GPP OSS Interface                                | If selected, specifies that the 5620 SAM 3GPP OSS interface is to be enabled                                                                                                                                                                                                                                              |
| <b>Main Server Configuration for Clients (cont.)</b>     |                                                                                                                                                                                                                                                                                                                           |
| RMI Port                                                 | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the main server<br>In a redundant 5620 SAM deployment, the main servers use this port to share information about the objects and functions that are available to clients. |
| RMI Object Port                                          | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations                                                                                                                                                                                                 |
| <b>Server Configuration for OSS Clients</b>              |                                                                                                                                                                                                                                                                                                                           |
| NAT (network address translation) Used                   | If selected, specifies that NAT is used between this main server and the OSS clients                                                                                                                                                                                                                                      |
| Public IP (accessible to OSS clients)                    | The IP address that the OSS clients must use to reach this main server                                                                                                                                                                                                                                                    |
| <b>Main Server Configuration for Peer Server</b>         |                                                                                                                                                                                                                                                                                                                           |

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### C. 5620 SAM conversion to redundancy parameters

| Panel and parameters                            | Description                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAT (network address translation) Used          | If selected, specifies that NAT is to be used between this main server and the peer main server<br>Default: unselected                                                                                                                                                                                        |
| Private IP (accessible only by this server)     | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                                                                               |
| Public IP (accessible to peer server)           | The IP address that the peer main server must use to reach this main server<br>Default: –                                                                                                                                                                                                                     |
| High Available JNDI Port                        | The TCP port on this station that the peer main server is to use for EJB JNDI messaging<br>Default: 1100                                                                                                                                                                                                      |
| TCP Port Cluster Number                         | The TCP port on this station that is used to communicate with the other 5620 SAM server cluster members<br>Default: 11800                                                                                                                                                                                     |
| <b>Synchronization of Data</b>                  |                                                                                                                                                                                                                                                                                                               |
| Enable Synchronization of Data                  | If selected, specifies that the collected data on this main server is synchronized with the data on the other main server                                                                                                                                                                                     |
| Public IP (accessible to peer server)           | The IPv4 address that the other main server uses to reach this main server                                                                                                                                                                                                                                    |
| Peer Public IP (accessible to this server)      | The IPv4 address that this main server uses to reach the other main server                                                                                                                                                                                                                                    |
| <b>SSL Configuration</b>                        |                                                                                                                                                                                                                                                                                                               |
| Enable Secure Communication                     | If selected, specifies that SSL communication security is to be used between the main servers and clients, and between the main and auxiliary servers                                                                                                                                                         |
| Keystore File                                   | The SSL keystore file that the main server imports to the main server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                 |
| Keystore Password                               | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                                                                                 |
| Truststore File                                 | The SSL truststore file that the main server imports to the main server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                          |
| Truststore Password                             | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.                                                                                                                                                                               |
| <b>License Information for 5650 CPAM Server</b> |                                                                                                                                                                                                                                                                                                               |
| Include 5650 CPAM Server License Information    | If selected, specifies that a 5650 CPAM is to be integrated with the 5620 SAM system                                                                                                                                                                                                                          |
| Unlabeled field                                 | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>The parameter is configurable when the “Include 5650 CPAM Server License Information” parameter is selected. |
| <b>SNMP Configuration</b>                       |                                                                                                                                                                                                                                                                                                               |

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| Panel and parameters                           | Description                                                                                                                                                                                                                                                         |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAT (network address translation) Used         | If selected, specifies that NAT is used between this main server and the managed NEs                                                                                                                                                                                |
| IPv6 Address Used                              | If selected, specifies that this main server uses IPv6 to manage one or more NEs                                                                                                                                                                                    |
| SNMP Trap Receiving IPv4 Address               | The IPv4 address that the managed NEs must use to reach this main server                                                                                                                                                                                            |
| SNMP Trap Receiving IPv6 Address               | The IPv6 address that the managed NEs use to reach this main server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.                                                                                                            |
| SNMP Trap Receiving Port                       | The TCP port that the managed NEs use to reach this main server                                                                                                                                                                                                     |
| Trap Log Id                                    | The SNMP trap log ID that is associated with this main server                                                                                                                                                                                                       |
| <b>Peer Main Server Configurations</b>         |                                                                                                                                                                                                                                                                     |
| Peer Server IP Address                         | The IP address that this main server must use to reach the peer main server                                                                                                                                                                                         |
| Peer Server Trap Log Id                        | The SNMP trap log ID that is associated with the peer main server                                                                                                                                                                                                   |
| Peer Server SNMP Trap Receiving IPv4 Address   | The IPv4 address that the managed NEs must use to reach the peer main server                                                                                                                                                                                        |
| Peer Server SNMP Trap Receiving IPv6 Address   | The IPv6 address that the managed NEs use to reach the peer main server<br>The parameter is configurable when the “IPv6 Address Used” parameter on the “SNMP Configuration” panel is selected.                                                                      |
| Peer Server SNMP Trap Receiving Port           | The TCP port on the peer main server station that the managed NEs must use to reach the peer main server                                                                                                                                                            |
| Peer Server TCP Port Cluster Number            | The TCP port on the peer main server station that the 5620 SAM server cluster members must use to reach the peer main server                                                                                                                                        |
| <b>Peer Main Server Configurations (cont.)</b> |                                                                                                                                                                                                                                                                     |
| Peer Server Hostname                           | The hostname that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is selected. |
| Peer Server IP Address                         | The IP address that the GUI and OSS clients must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is unselected.                         |
| JNDI High Available Peer Server Port           | The TCP port on the peer main server station that this main server is to use for EJB JNDI messaging                                                                                                                                                                 |
| JNDI Peer Server Port                          | The TCP port on the peer main server station that the GUI clients are to use for EJB JNDI messaging                                                                                                                                                                 |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                                                     |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM                                                                                                                                                                                    |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.                                                                               |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                                                     |
| Unlabeled field                                | The directory that is to contain the output of OSS file export operations                                                                                                                                                                                           |
| <b>Installation Complete</b>                   |                                                                                                                                                                                                                                                                     |
| Start the 5620 SAM Main Server                 | If selected, specifies that the main server is to start automatically after the conversion<br>Default: unselected                                                                                                                                                   |

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Table C-3 Standby database installation parameters

| Panel and parameters                                          | Description                                                                                                                                                              |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                             |                                                                                                                                                                          |
| I accept the terms of the License Agreement                   | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                    |
| I do NOT accept the terms of the License Agreement (default)  | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                |
| <b>Choose Installation Type</b>                               |                                                                                                                                                                          |
| Install & Configure a Standalone Database (default)           | Installs a standalone database                                                                                                                                           |
| Restore a Database                                            | Restores a database using a backup file set                                                                                                                              |
| Upgrade a Database                                            | Upgrades a database                                                                                                                                                      |
| Install & Configure Primary/Standby Database                  | Installs a primary or standby database for a redundant 5620 SAM deployment<br>You must choose this option.                                                               |
| <b>Install &amp; Configure Primary/Standby Database</b>       |                                                                                                                                                                          |
| Primary Database Install (default)                            | Installs the primary database in a redundant deployment                                                                                                                  |
| Convert Standalone Database to Primary                        | Converts a standalone database to the primary database in a redundant deployment                                                                                         |
| Standby Database Install                                      | Installs the standby database in a redundant deployment<br>You must choose this option.                                                                                  |
| <b>Install Oracle Software</b>                                |                                                                                                                                                                          |
| Install Oracle Software (default)                             | Installs the Oracle software<br>You must choose this option.                                                                                                             |
| Do not install Oracle Software                                | Does not install the Oracle software                                                                                                                                     |
| <b>Specify the Base Directory for 5620 SAM Database Files</b> |                                                                                                                                                                          |
| Unlabeled field                                               | The directory in which the database files are to be installed<br>Default: /opt/5620sam/samdb/install                                                                     |
| <b>Specify the Base Directory for Oracle Software</b>         |                                                                                                                                                                          |
| Unlabeled field                                               | The directory in which the Oracle files are to be installed<br>Default: /opt/5620sam/oracle11r2                                                                          |
| <b>Standby Database Configuration Info</b>                    |                                                                                                                                                                          |
| NAT (network address translation) Used                        | If selected, specifies that NAT is used between this database and the main servers                                                                                       |
| Public IP (accessible to servers)                             | The IP address that the main servers must use to reach this database<br>Default: IP address of primary network interface                                                 |
| Private IP                                                    | The IP address that the NAT router uses to reach this database<br>The parameter is configurable when the "NAT (network address translation) Used" parameter is selected. |
| Database Proxy Port                                           | The TCP port on this station that the main servers are to use for non-JDBC operations<br>Default: 9002                                                                   |

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| Panel and parameters                      | Description                                                                                                                                                                                                     |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Database File Server Port                 | The TCP port on this station that the database is to use for file transfers to and from the peer database station<br>Default: 9003                                                                              |
| <b>Determine Memory Requirements</b>      |                                                                                                                                                                                                                 |
| Database co-exists with a 5620 SAM Server | If selected, specifies that this database and a main server are to be collocated on this station<br>Default: unselected                                                                                         |
| <b>Main Server IP Validation</b>          |                                                                                                                                                                                                                 |
| Enable SAM Server IP Validation           | If selected, allows only the main servers specified by the “Server One IP Address” and “Server Two IP Address” parameters to connect to this database instance<br>Default: unselected                           |
| Server One IP Address                     | The IP address of the primary main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.<br>Default: — |
| Server Two IP Address                     | The IP address of the standby main server that is allowed to connect to this database instance<br>The parameter is configurable when the “Enable SAM Server IP Validation” parameter is selected.<br>Default: — |
| <b>Auxiliary Servers</b>                  |                                                                                                                                                                                                                 |
| IP Address                                | The IP address or hostname of the auxiliary server<br>Default: —                                                                                                                                                |
| <b>Primary Database Info</b>              |                                                                                                                                                                                                                 |
| Primary IP Address                        | The IP address that each main server must use to reach the peer database station<br>Default: —                                                                                                                  |
| Primary Instance Name                     | The name that the Oracle software associates with the database processes on the peer database station<br>Default: samdb                                                                                         |
| Primary SYS Password                      | The password that Oracle requires to start the database<br>Default: available from Alcatel-Lucent technical support                                                                                             |
| Primary Database Listener Port            | The TCP port on the peer database station that the Oracle database listener uses to communicate with each main server<br>Default: 1523                                                                          |
| Primary Database Proxy Port               | The TCP port on the peer database station that the main servers are to use for non-JDBC operations<br>Default: 9002                                                                                             |

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Table C-4 Standby main server installation parameters

| Panel and parameters              | Description |
|-----------------------------------|-------------|
| <b>Software License Agreement</b> |             |

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### C. 5620 SAM conversion to redundancy parameters

| Panel and parameters                                             | Description                                                                                                                                                                                                                        |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I accept the terms of the License Agreement                      | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                                              |
| I do NOT accept the terms of the License Agreement (default)     | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                                          |
| <b>Choose Installation Type</b>                                  |                                                                                                                                                                                                                                    |
| Main Server Installation (default)                               | Installs the main server software<br>You must choose this option.                                                                                                                                                                  |
| Main Server Configuration                                        | Configures the main server software                                                                                                                                                                                                |
| Auxiliary Server Installation                                    | Installs the auxiliary server software                                                                                                                                                                                             |
| Auxiliary Server Configuration                                   | Configures the auxiliary server software                                                                                                                                                                                           |
| CPAM Server Installation                                         | Installs the 5650 CPAM server software                                                                                                                                                                                             |
| CPAM Server Configuration                                        | Configures the 5650 CPAM server software                                                                                                                                                                                           |
| <b>Specify the Base Directory for 5620 SAM Main Server Files</b> |                                                                                                                                                                                                                                    |
| Unlabeled field                                                  | The directory in which the main server files are to be installed<br>Default: /opt/5620sam/server                                                                                                                                   |
| <b>License Information for 5620 SAM Main Server</b>              |                                                                                                                                                                                                                                    |
| License Key                                                      | The 5620 SAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>Default: —                         |
| <b>Additional Server Configuration</b>                           |                                                                                                                                                                                                                                    |
| Redundancy Supported                                             | If selected, specifies that the 5620 SAM system is deployed in a redundant configuration<br>You must choose this option.<br>Default: unselected                                                                                    |
| Enable SR Backup File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the NE configuration backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: unselected |
| Enable LTE Stats File Synchronization                            | If selected, specifies that the 5620 SAM main servers synchronize the LTE statistics files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected            |
| Enable LTE Backup File Synchronization                           | If selected, specifies that the 5620 SAM main servers synchronize the LTE backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: selected                |
| Auxiliary Server Supported                                       | If selected, specifies that the 5620 SAM deployment includes one or more auxiliary servers<br>Default: unselected                                                                                                                  |

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| Panel and parameters                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Client Delegate Server Supported      | If selected, specifies that the 5620 SAM deployment includes one or more client delegate servers<br>Default: unselected                                                                                                                                                                                                                                                                                                                             |
| <b>Primary Database Configuration</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Primary Database Server IP Address    | The IP address that this main server must use to reach the primary database station<br>The value must match the "Public IP (accessible to servers)" value specified on the "Standalone Database Info" panel during the standalone database conversion.<br>Default: –                                                                                                                                                                                |
| Primary Database Server Port          | The TCP port on the primary database station that this main server must use to reach the database<br>The value must match the "Database Listener Port" value specified on the "Standalone Database Info (cont.)" panel during the standalone database conversion.<br>Default: 1523                                                                                                                                                                  |
| Primary Database Instance Name        | The name that the Oracle software associates with the database processes on the primary database station<br>The value must match the "Instance Name" value specified on the "Standalone Database Info" panel during the standalone database conversion.<br>Default: samdb                                                                                                                                                                           |
| Database User Name                    | The database username<br>The value must match the "User Name" value specified on the "Standalone Database Info" panel during the standalone database conversion.<br>Default: samuser                                                                                                                                                                                                                                                                |
| Database User Password                | The database password<br>The value must match the "User Password" value specified on the "Standalone Database Info" panel during the standalone database conversion.<br>Default: available from Alcatel-Lucent technical support                                                                                                                                                                                                                    |
| Primary Database Proxy Port           | The TCP port on the primary database station that this main server is to use for non-JDBC operations<br>The value must match the "Database Proxy Port" value specified on the "Standalone Database Info (cont.)" panel during the standalone database conversion.<br>Default: 9002                                                                                                                                                                  |
| <b>Online Database Backup</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Online Backup Interval (Hours)        | How often, in hours, the 5620 SAM is to back up the database<br>Default: 24                                                                                                                                                                                                                                                                                                                                                                         |
| Online Backup Destination             | The backup directory on the database station<br>Alcatel-Lucent recommends that you do the following: <ul style="list-style-type: none"> <li>Specify an Online Backup Destination that can hold at least five times the expected database size.</li> <li>Ensure that the available space in the Online Backup Destination is sufficient to accommodate the database growth associated with network growth.</li> </ul> Default: /opt/5620sam/dbbackup |
| Number Of Backup Sets                 | The number of database backup sets that the 5620 SAM is to retain<br>The 5620 SAM creates a separate directory for each backup set. For example, if the Online Backup Destination is /opt/5620sam/dbbackup and the Number Of Backup Sets is 3, the /opt/5620sam/dbbackup directory contains the backupset_1, backupset_2, and backupset_3 subdirectories.<br>Default: 3                                                                             |
| <b>Standby Database Configuration</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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### C. 5620 SAM conversion to redundancy parameters

| Panel and parameters                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Database Server IP Address                             | The IP address that this main server must use to reach the standby database station<br>Default: —                                                                                                                                                                                                                                                                                                                                                           |
| Database Instance Name                                 | The name that the Oracle software associates with the database processes on the standby database station<br>Default: samdb2                                                                                                                                                                                                                                                                                                                                 |
| Database Proxy Port                                    | The TCP port on the standby database station that this main server is to use for non-JDBC operations<br>Default: 9002                                                                                                                                                                                                                                                                                                                                       |
| Enable Database Backup File Synchronization            | If selected, specifies that each 5620 SAM database backup file set is copied to the peer database after the backup completes<br>You must configure this parameter the same on each main server.<br>You must ensure that there is sufficient network bandwidth between the database stations before you enable this parameter. See the <i>5620 SAM Planning Guide</i> for information about the bandwidth required for database backup file synchronization. |
| <b>Main Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between this main server and the auxiliary servers<br>Default: unselected                                                                                                                                                                                                                                                                                                                                           |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                                                                                                                                                                                                                             |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach this main server<br>Default: —                                                                                                                                                                                                                                                                                                                                                                  |
| Server Port                                            | The TCP port on this station that the auxiliary servers must use to reach this main server<br>Default: 12800                                                                                                                                                                                                                                                                                                                                                |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                                                                                                                                                                                                                                                           |
| Enable Call Trace Collection on Auxiliary Servers      | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                                                                                                                                                                                                                                                    |
| <b>Auxiliary Server Configuration</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP Address                                             | The IP address that each main server must use to reach the auxiliary server<br>Default: —                                                                                                                                                                                                                                                                                                                                                                   |
| Port                                                   | The TCP port on the auxiliary server station that this main server must use to reach the auxiliary server<br>Default: 12800                                                                                                                                                                                                                                                                                                                                 |
| Type                                                   | Preferred—specifies that the main server uses this auxiliary server under normal conditions<br>Reserved—specifies that the main server uses this auxiliary server when the Preferred auxiliary server is unavailable<br>Default: Preferred                                                                                                                                                                                                                  |
| <b>Database Alignment</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Enable Database Alignment                              | If selected, enables automatic database alignment<br>Default: unselected                                                                                                                                                                                                                                                                                                                                                                                    |

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| Panel and parameters                                               | Description                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>IP_address_1:instance_name</i><br>(Primary Preferred) (default) | If selected, specifies that the database that is the designated primary database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                                                                   |
| <i>IP_address_2:instance_name</i><br>(Standby Preferred)           | If selected, specifies that the database that is the designated standby database is the preferred database of the primary main server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                                                                   |
| <b>Auto Re-Instantiation After Database Failover</b>               |                                                                                                                                                                                                                                                                                                                                                                      |
| Enable Auto Re-Instantiation of Standby Database                   | If selected, enables automatic reinstantiation of the primary database on the standby database station after a database failover<br>Default: unselected                                                                                                                                                                                                              |
| Delay Time After Database Failover (minutes)                       | The time, in m, that is to elapse between database failover completion and the standby database reinstantiation<br>The parameter is configurable when the “Enable Auto Re-Instantiation of Standby Database” parameter is selected.<br>Default: 60                                                                                                                   |
| <b>Main Server Configuration For Clients</b>                       |                                                                                                                                                                                                                                                                                                                                                                      |
| Server Domain Name                                                 | The unique identifier of the 5620 SAM server cluster<br>Default: 5620sam                                                                                                                                                                                                                                                                                             |
| Use Hostname for Communication                                     | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach this main server<br>Default: unselected                                                                                                                                                                                          |
| NAT (network address translation) Used                             | If selected, specifies that NAT is used between this main server and the GUI clients, OSS clients, and auxiliary servers<br>Default: unselected                                                                                                                                                                                                                      |
| Private IP (accessible only by this server)                        | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                                                                                                                                      |
| Public Hostname                                                    | The hostname that the GUI and OSS clients must use to reach the main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.<br>Default: —                                                                                                                                                                          |
| Public IP (accessible to clients)                                  | The IP address that the GUI and OSS clients must use to reach this main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.<br>Default: —                                                                                                                                                                     |
| EJB JNDI Server port                                               | The TCP port on this station that the GUI clients are to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the main server.</li> </ul> Default: 1099 |

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### C. 5620 SAM conversion to redundancy parameters

| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EJB JMS Server port                                  | The TCP port on this station that the GUI clients are to use for EJB JMS messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>Another application uses the port.</li> <li>There is a firewall between the clients and the main server.</li> </ul> Default: 8093      |
| Enable 5670 RAM                                      | If selected, specifies that a 5670 RAM is to be integrated with the 5620 SAM system<br>Default: unselected                                                                                                                                                                                                                                                           |
| Enable 3GPP OSS Interface                            | If selected, specifies that the 5620 SAM 3GPP OSS interface is to be enabled<br>Default: unselected                                                                                                                                                                                                                                                                  |
| <b>Main Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                      |
| RMI Port                                             | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the main server<br>In a redundant 5620 SAM deployment, the main servers use this port to share information about the objects and functions that are available to clients.<br>Default: 1098                           |
| RMI Object Port                                      | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations<br>Default: 4444                                                                                                                                                                                                                           |
| <b>Server Configuration for OSS Clients</b>          |                                                                                                                                                                                                                                                                                                                                                                      |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between this main server and the OSS clients<br>Default: unselected                                                                                                                                                                                                                                                          |
| Public IP (accessible to OSS clients)                | The IP address that the OSS clients must use to reach this main server<br>Default: IP address of primary network interface                                                                                                                                                                                                                                           |
| <b>Main Server Configuration for Peer Server</b>     |                                                                                                                                                                                                                                                                                                                                                                      |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between this main server and the peer main server<br>Default: unselected                                                                                                                                                                                                                                                     |
| Private IP (accessible only by this server)          | The IP address that the NAT router uses to reach this main server<br>The parameter is configurable when the "NAT (network address translation) Used" parameter is selected.<br>Default: IP address of primary network interface                                                                                                                                      |
| Public IP (accessible to peer server)                | The IP address that the peer main server must use to reach this main server<br>Default: —                                                                                                                                                                                                                                                                            |
| High Available JNDI Port                             | The TCP port on this station that the peer main server is to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>Another application uses the port.</li> <li>There is a firewall between the clients and the main server.</li> </ul> Default: 1100 |
| TCP Port Cluster Number                              | The TCP port on this station that is used to communicate with the other 5620 SAM server cluster members<br>Default: 11800                                                                                                                                                                                                                                            |
| <b>Synchronization of Data</b>                       |                                                                                                                                                                                                                                                                                                                                                                      |

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| Panel and parameters                            | Description                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable Synchronization of Data                  | If selected, specifies that the collected data on this main server is synchronized with the data on the other main server<br>Default: selected                                                                                                                                                                                                                                                                     |
| Public IP (accessible to peer server)           | The IPv4 address that the other main server uses to reach this main server<br>Default: IP address of primary network interface                                                                                                                                                                                                                                                                                     |
| Peer Public IP (accessible to this server)      | The IPv4 address that this main server uses to reach the other main server<br>Default: —                                                                                                                                                                                                                                                                                                                           |
| <b>SSL Configuration</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Enable Secure Communication                     | If selected, specifies that SSL communication security is to be used between the main servers and clients, and between the main and auxiliary servers                                                                                                                                                                                                                                                              |
| Keystore File                                   | The SSL keystore file that the main server imports to the main server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>This value must match the “Keystore File” value specified in the “SSL Configuration” panel during the standalone main server conversion to a primary main server. |
| Keystore Password                               | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>This value must match the “Keystore Password” value specified in the “SSL Configuration” panel during the standalone main server conversion to a primary main server.                                                                                                             |
| Truststore File                                 | The SSL truststore file that the main server imports to the main server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>This value must match the “Truststore File” value specified in the “SSL Configuration” panel during the standalone main server conversion to a primary main server.                                                        |
| Truststore Password                             | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>This value must match the “Truststore Password” value specified in the “SSL Configuration” panel during the standalone main server conversion to a primary main server.                                                                                                         |
| <b>License Information for 5650 CPAM Server</b> |                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Include 5650 CPAM Server License Information    | If selected, specifies that a 5650 CPAM is to be integrated with the 5620 SAM system<br>Default: unselected                                                                                                                                                                                                                                                                                                        |
| Unlabeled field                                 | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>The parameter is configurable when the “Include 5650 CPAM Server License Information” parameter is selected.<br>Default: —                                                                                        |
| <b>SNMP Configuration</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NAT (network address translation) Used          | If selected, specifies that NAT is used between this main server and the managed NEs                                                                                                                                                                                                                                                                                                                               |
| IPv6 Address Used                               | If selected, specifies that this main server uses IPv6 to manage one or more NEs                                                                                                                                                                                                                                                                                                                                   |
| SNMP Trap Receiving IPv4 Address                | The IPv4 address that the managed NEs must use to reach this main server<br>Default: —                                                                                                                                                                                                                                                                                                                             |

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| Panel and parameters                           | Description                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNMP Trap Receiving IPv6 Address               | The IPv6 address that the managed NEs use to reach this main server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.<br>Default: —                                                                                                                                                                                                               |
| SNMP Trap Receiving Port                       | The TCP port that the managed NEs must use to reach this main server<br>Default: 162                                                                                                                                                                                                                                                                                                 |
| Trap Log Id                                    | The SNMP trap log ID that is associated with this main server<br>Default: 98                                                                                                                                                                                                                                                                                                         |
| <b>Peer Main Server Configurations</b>         |                                                                                                                                                                                                                                                                                                                                                                                      |
| Peer Server IP Address                         | The IP address that this main server must use to reach the peer main server<br>Default: —                                                                                                                                                                                                                                                                                            |
| Peer Server Trap Log Id                        | The SNMP trap log ID that is associated with the peer main server<br>Default: 98                                                                                                                                                                                                                                                                                                     |
| Peer Server SNMP Trap Receiving IPv4 Address   | The IPv4 address that the managed NEs must use to reach the peer main server<br>Default: —                                                                                                                                                                                                                                                                                           |
| Peer Server SNMP Trap Receiving IPv6 Address   | The IPv6 address that the managed NEs use to reach the peer main server<br>The parameter is configurable when the “IPv6 Address Used” parameter on the “SNMP Configuration” panel is selected.<br>Default: —                                                                                                                                                                         |
| Peer Server SNMP Trap Receiving Port           | The TCP port on the peer main server station that the managed NEs must use to reach the peer main server<br>Default: 162                                                                                                                                                                                                                                                             |
| Peer Server TCP Port Cluster Number            | The TCP port on the peer main server station that the 5620 SAM server cluster members must use to reach the peer main server<br>Default: 11800                                                                                                                                                                                                                                       |
| <b>Peer Main Server Configurations (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                                      |
| Peer Server Hostname                           | The hostname that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is selected.<br>Default: —                                                                                                    |
| Peer Server IP Address                         | The IP address that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer main server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “Main Server Configuration For Clients” panel is unselected.<br>Default: —                                                                                                |
| JNDI High Available Peer Server Port           | The TCP port on the peer main server station that this main server is to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the main server.</li> </ul> Default: 1100 |

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| Panel and parameters                           | Description                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JNDI Peer Server Port                          | <p>The TCP port on the peer main server station that the GUI clients are to use for EJB JNDI messaging</p> <p>Alcatel-Lucent recommends that you accept the default value unless one of the following is true:</p> <ul style="list-style-type: none"><li>• Another application uses the port.</li><li>• There is a firewall between the clients and the main server.</li></ul> <p>Default: 1099</p> |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                                                                                                                                                                                     |
| Enable Navigation from External Systems        | <p>If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                                                  |
| TCP port for accepting GUI navigation requests | <p>The TCP port on this station that is to accept 5620 NM navigation requests</p> <p>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.</p> <p>Default: —</p>                                                                                                                                                                                  |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                                                                                                                                                                                     |
| Unlabeled field                                | <p>The directory that is to contain the output of OSSI file export operations</p> <p>Default: /opt/5620sam/server/xml_output</p>                                                                                                                                                                                                                                                                    |
| <b>Installation Complete</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                     |
| Start the 5620 SAM Main Server                 | <p>If selected, specifies that the main server is to start automatically after the installation</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                                      |

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## ***D. 5650 CPAM installation parameters***

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### **D.1 5650 CPAM installation parameters    D-2**

## D.1 5650 CPAM installation parameters

Table D-1 lists and describes the parameters that are configurable during a standalone 5650 CPAM server installation. Table D-2 lists and describes the parameters that are configurable for each 5650 CPAM server during a redundant installation. The parameters are grouped by installer panel in the order that the panels are displayed.

**Table D-1 Standalone 5650 CPAM server installation parameters**

| Panel and parameters                                         | Description                                                                                                                                                                                                 |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                            |                                                                                                                                                                                                             |
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                       |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                   |
| <b>Choose Installation Type</b>                              |                                                                                                                                                                                                             |
| Main Server Installation (default)                           | Installs the 5620 SAM main server software                                                                                                                                                                  |
| Main Server Configuration                                    | Configures the 5620 SAM main server software                                                                                                                                                                |
| Auxiliary Server Installation                                | Installs the 5620 SAM auxiliary server software                                                                                                                                                             |
| Auxiliary Server Configuration                               | Configures the 5620 SAM auxiliary server software                                                                                                                                                           |
| CPAM Server Installation                                     | Installs the 5650 CPAM server software<br>You must choose this option.                                                                                                                                      |
| CPAM Server Configuration                                    | Configures the 5650 CPAM server software                                                                                                                                                                    |
| <b>Specify the Base Directory for 5650 CPAM Server Files</b> |                                                                                                                                                                                                             |
| Unlabeled field                                              | The directory in which the 5650 CPAM server files are to be installed<br>Default: /opt/5620sam/server                                                                                                       |
| <b>License Information for 5650 CPAM Server</b>              |                                                                                                                                                                                                             |
| License Key                                                  | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>Default: — |
| <b>Additional Server Configuration</b>                       |                                                                                                                                                                                                             |
| Redundancy Supported                                         | If selected, specifies that the 5650 CPAM system is deployed in a redundant configuration<br>You must leave this parameter unselected.<br>Default: unselected                                               |
| Auxiliary Server Supported                                   | If selected, specifies that the 5650 CPAM deployment includes one or more auxiliary servers<br>Default: unselected                                                                                          |
| Client Delegate Server Supported                             | If selected, specifies that the 5650 CPAM deployment includes one or more client delegate servers<br>Default: unselected                                                                                    |

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| Panel and parameters                                   | Description                                                                                                                                                                                                                                          |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Database Configuration</b>                          |                                                                                                                                                                                                                                                      |
| Database Server IP Address                             | The IP address that the 5650 CPAM server must use to reach the database station<br>Default: —                                                                                                                                                        |
| Database Instance Name                                 | The name that the Oracle software associates with the database processes<br>Default: samdb                                                                                                                                                           |
| Database Proxy Port                                    | The TCP port on the database station that the 5650 CPAM server is to use for redundancy communication, such as the initiation of a database failover or notification of a server activity switch<br>Default: 9002                                    |
| <b>CPAM Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                                      |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between the 5650 CPAM server and the auxiliary servers<br>Default: unselected                                                                                                                                |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach the 5650 CPAM server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                  |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach the 5650 CPAM server<br>Default: —                                                                                                                                                       |
| Server port                                            | The TCP port on this station that the auxiliary servers must use to reach the 5650 CPAM server<br>Default: 12800                                                                                                                                     |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                                                    |
| Enable Call Trace Collection on Auxiliary Servers      | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                                             |
| <b>Auxiliary Server Configuration</b>                  |                                                                                                                                                                                                                                                      |
| IP Address                                             | The IP address that the 5650 CPAM server must use to reach the auxiliary server<br>Default: —                                                                                                                                                        |
| Port                                                   | The TCP port on the auxiliary server station that the 5650 CPAM server must use to reach the auxiliary server<br>Default: 12800                                                                                                                      |
| Type                                                   | Preferred—specifies that the 5650 CPAM server uses this auxiliary server under normal conditions<br>Reserved—specifies that the 5650 CPAM server uses this auxiliary server when the Preferred auxiliary server is unavailable<br>Default: Preferred |
| <b>CPAM Server Configuration for Clients</b>           |                                                                                                                                                                                                                                                      |
| Server Domain Name                                     | The unique identifier of the 5620 SAM/5650 CPAM server cluster<br>Default: 5620sam                                                                                                                                                                   |
| Use Hostname for Communication                         | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach the 5650 CPAM server<br>Default: unselected                                                                      |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between the 5650 CPAM server and the GUI clients, OSS clients, and auxiliary servers<br>Default: unselected                                                                                                  |

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#### D. 5650 CPAM installation parameters

| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Private IP (accessible only by this server)          | The IP address that the NAT router uses to reach the 5650 CPAM server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                                                                                                                                    |
| Public Hostname                                      | The hostname that the GUI and OSS clients must use to reach the 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.<br>Default: —                                                                                                                                                                       |
| Public IP (accessible to clients)                    | The IP address that the GUI and OSS clients must use to reach the 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.<br>Default: —                                                                                                                                                                   |
| EJB JNDI Server port                                 | The TCP port on this station that the GUI clients are to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"><li>• Another application uses the port.</li><li>• There is a firewall between the clients and the 5650 CPAM server.</li></ul> Default: 1099 |
| EJB JMS Server port                                  | The TCP port on this station that the GUI clients are to use for EJB JMS messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"><li>• Another application uses the port.</li><li>• There is a firewall between the clients and the 5650 CPAM server.</li></ul> Default: 8093  |
| <b>CPAM Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                        |
| RMI Port                                             | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the 5650 CPAM server<br>Default: 1098                                                                                                                                                                                  |
| RMI Object Port                                      | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations<br>Default: 4444                                                                                                                                                                                                                             |
| <b>SSL Configuration</b>                             |                                                                                                                                                                                                                                                                                                                                                                        |
| Enable Secure Communication                          | If selected, specifies that SSL communication security is to be used between the 5650 CPAM server and clients, and between the 5650 CPAM and auxiliary servers                                                                                                                                                                                                         |
| Keystore File                                        | The SSL keystore file that the 5650 CPAM server imports to the 5650 CPAM server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/samserver.keystore                                                                            |
| Keystore Password                                    | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                                                                                            |

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| Panel and parameters                           | Description                                                                                                                                                                                                                        |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Truststore File                                | The SSL truststore file that the 5650 CPAM server imports to the 5650 CPAM server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/cacerts.trustStore |
| Truststore Password                            | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                      |
| <b>SNMP Configuration</b>                      |                                                                                                                                                                                                                                    |
| NAT (network address translation) Used         | If selected, specifies that NAT is used between the 5650 CPAM server and the managed NEs                                                                                                                                           |
| IPv6 Address Used                              | If selected, specifies that the 5650 CPAM server uses IPv6 to manage one or more NEs                                                                                                                                               |
| SNMP Trap Receiving IPv4 Address               | The IPv4 address that the managed NEs must use to reach the 5650 CPAM server<br>Default: IP address of primary network interface                                                                                                   |
| SNMP Trap Receiving IPv6 Address               | The IPv6 address that the managed NEs use to reach the 5650 CPAM server<br>The parameter is configurable when the “IPv6 Address Used parameter” is selected.<br>Default: —                                                         |
| SNMP Trap Receiving Port                       | The TCP port on this station that the managed NEs must use to reach the 5650 CPAM server<br>Default: 162                                                                                                                           |
| Trap Log Id                                    | The SNMP trap log ID that is associated with the 5650 CPAM server<br>Default: 98                                                                                                                                                   |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                    |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM<br>Default: unselected                                                                                                                            |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.<br>Default: —                                |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                    |
| Unlabeled field                                | The directory that is to contain the output of OSSl file export operations<br>Default: /opt/5620sam/server/xml_output                                                                                                              |
| <b>Installation Complete</b>                   |                                                                                                                                                                                                                                    |
| Start the 5650 CPAM Server                     | If selected, specifies that the 5650 CPAM server is to start automatically after the installation<br>Default: unselected                                                                                                           |

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Table D-2 Redundant 5650 CPAM server installation parameters

| Panel and parameters              | Description |
|-----------------------------------|-------------|
| <b>Software License Agreement</b> |             |

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#### D. 5650 CPAM installation parameters

| Panel and parameters                                         | Description                                                                                                                                                                                                                    |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                                                          |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                                                      |
| <b>Choose Installation Type</b>                              |                                                                                                                                                                                                                                |
| Main Server Installation (default)                           | Installs the 5620 SAM main server software                                                                                                                                                                                     |
| Main Server Configuration                                    | Configures the 5620 SAM main server software                                                                                                                                                                                   |
| Auxiliary Server Installation                                | Installs the 5620 SAM auxiliary server software                                                                                                                                                                                |
| Auxiliary Server Configuration                               | Configures the 5620 SAM auxiliary server software                                                                                                                                                                              |
| CPAM Server Installation                                     | Installs the 5650 CPAM server software<br>You must choose this option.                                                                                                                                                         |
| CPAM Server Configuration                                    | Configures the 5650 CPAM server software                                                                                                                                                                                       |
| <b>Specify the Base Directory for 5650 CPAM Server Files</b> |                                                                                                                                                                                                                                |
| Unlabeled field                                              | The directory in which the 5650 CPAM server files are to be installed<br>Default: /opt/5620sam/server                                                                                                                          |
| <b>License Information for 5650 CPAM Server</b>              |                                                                                                                                                                                                                                |
| License Key                                                  | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter.<br>Default: —                    |
| <b>Additional Server Configuration</b>                       |                                                                                                                                                                                                                                |
| Redundancy Supported                                         | If selected, specifies that the 5650 CPAM system is deployed in a redundant configuration<br>You must select this parameter.<br>Default: unselected                                                                            |
| Enable SR Backup File Synchronization                        | If selected, specifies that the 5650 CPAM servers synchronize the NE configuration backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: unselected |
| Auxiliary Server Supported                                   | If selected, specifies that the 5650 CPAM deployment includes one or more auxiliary servers<br>Default: unselected                                                                                                             |
| Client Delegate Server Supported                             | If selected, specifies that the 5650 CPAM deployment includes one or more client delegate servers<br>Default: unselected                                                                                                       |
| <b>Primary Database Configuration</b>                        |                                                                                                                                                                                                                                |
| Primary Database Server IP Address                           | The IP address that this 5650 CPAM server must use to reach the primary database station<br>Default: —                                                                                                                         |
| Primary Database Server Port                                 | The TCP port on the primary database station that is to receive communication from this 5650 CPAM server<br>Default: 1523                                                                                                      |

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| Panel and parameters                                   | Description                                                                                                                                                                                                                 |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Database Instance Name                         | The name that the Oracle software associates with the database processes on the primary database station<br>Default: samdb1                                                                                                 |
| Database User Name                                     | The database username<br>Default: samuser                                                                                                                                                                                   |
| Database User Password                                 | The database password<br>Default: available from Alcatel-Lucent technical support                                                                                                                                           |
| Primary Database Proxy Port                            | The TCP port on the primary database station that this 5650 CPAM server is to use for redundancy communication, such as the initiation of a database failover or notification of a server activity switch<br>Default: 9002  |
| <b>Standby Database Configuration</b>                  |                                                                                                                                                                                                                             |
| Database Server IP Address                             | The IP address that this 5650 CPAM server must use to reach the standby database station<br>Default: —                                                                                                                      |
| Database Instance Name                                 | The name that the Oracle software associates with the database processes on the standby database station<br>Default: samdb2                                                                                                 |
| Database Proxy Port                                    | The TCP port on the standby database station that this 5650 CPAM server is to use for redundancy communication, such as the initiation of a database failover or notification of a server activity switch<br>Default: 9002  |
| <b>CPAM Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                             |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between this 5650 CPAM server and the auxiliary servers<br>Default: unselected                                                                                                      |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach this station<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach this 5650 CPAM server<br>Default: —                                                                                                                             |
| Server port                                            | The TCP port on this station that the auxiliary servers must use to reach this 5650 CPAM server<br>Default: 12800                                                                                                           |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                           |
| Enable Call Trace Collection on Auxiliary Servers      | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                    |
| <b>Auxiliary Server Configuration</b>                  |                                                                                                                                                                                                                             |
| IP Address                                             | The IP address that this 5650 CPAM server must use to reach the auxiliary server<br>Default: —                                                                                                                              |
| Port                                                   | The TCP port on the auxiliary server station that the 5650 CPAM server must use to reach the auxiliary server<br>Default: 12800                                                                                             |

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#### D. 5650 CPAM installation parameters

| Panel and parameters                                               | Description                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                                               | Preferred—specifies that this 5650 CPAM server uses this auxiliary server under normal conditions<br>Reserved—specifies that this 5650 CPAM server uses this auxiliary server when the Preferred auxiliary server is unavailable<br>Default: Preferred                                                                                                                |
| <b>Database Alignment</b>                                          |                                                                                                                                                                                                                                                                                                                                                                       |
| Enable Database Alignment                                          | If selected, enables automatic database alignment<br>Default: unselected                                                                                                                                                                                                                                                                                              |
| <i>IP_address_1:instance_name</i><br>(Primary Preferred) (default) | If selected, specifies that the database that is the designated primary database is the preferred database of the primary 5650 CPAM server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                                                               |
| <i>IP_address_2:instance_name</i><br>(Standby Preferred)           | If selected, specifies that the database that is the designated standby database is the preferred database of the primary 5650 CPAM server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                                                               |
| <b>CPAM Server Configuration for Clients</b>                       |                                                                                                                                                                                                                                                                                                                                                                       |
| Server Domain Name                                                 | The unique identifier of the 5620 SAM/5650 CPAM server cluster<br>Default: 5620sam                                                                                                                                                                                                                                                                                    |
| Use Hostname for Communication                                     | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach this 5650 CPAM server<br>Default: unselected                                                                                                                                                                                      |
| NAT (network address translation) Used                             | If selected, specifies that NAT is used between this 5650 CPAM server and the GUI clients, OSS clients, and auxiliary servers<br>Default: unselected                                                                                                                                                                                                                  |
| Private IP (accessible only by this server)                        | The IP address that the NAT router uses to reach this station<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.<br>Default: IP address of primary network interface                                                                                                                                           |
| Public Hostname                                                    | The hostname that the GUI and OSS clients must use to reach this 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.<br>Default: —                                                                                                                                                                     |
| Public IP (accessible to clients)                                  | The IP address that the GUI and OSS clients must use to reach this 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.<br>Default: —                                                                                                                                                                 |
| EJB JNDI Server port                                               | The TCP port on this station that the GUI clients are to use for EJB JMS messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"><li>• Another application uses the port.</li><li>• There is a firewall between the clients and the 5650 CPAM server.</li></ul> Default: 1099 |

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| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EJB JMS Server port                                  | <p>The TCP port on this station that the GUI clients are to use for EJB JMS messaging</p> <p>Alcatel-Lucent recommends that you accept the default value unless one of the following is true:</p> <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the 5650 CPAM server.</li> </ul> <p>Default: 8093</p> |
| <b>CPAM Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                                            |
| RMI Port                                             | <p>The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the 5650 CPAM server</p> <p>Default: 1098</p>                                                                                                                                                                                           |
| RMI Object Port                                      | <p>The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations</p> <p>Default: 4444</p>                                                                                                                                                                                                                                      |
| <b>CPAM Server Configuration for Peer Server</b>     |                                                                                                                                                                                                                                                                                                                                                                                            |
| NAT (network address translation) Used               | <p>If selected, specifies that NAT is used between this 5650 CPAM server and the peer 5650 CPAM server</p> <p>Default: unselected</p>                                                                                                                                                                                                                                                      |
| Private IP (accessible only by this server)          | <p>The IP address that the NAT router uses to reach this 5650 CPAM server</p> <p>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.</p> <p>Default: IP address of primary network interface</p>                                                                                                                                        |
| Public IP (accessible to peer server)                | <p>The IP address that the peer 5650 CPAM server must use to reach this 5650 CPAM server</p> <p>Default: —</p>                                                                                                                                                                                                                                                                             |
| High Available JNDI Port                             | <p>The TCP port on this station that the peer 5650 CPAM server is to use for EJB JNDI messaging</p> <p>Alcatel-Lucent recommends that you accept the default value.</p> <p>Default: 1100</p>                                                                                                                                                                                               |
| TCP Port Cluster Number                              | <p>The TCP port on this station that is used to communicate with the other 5620 SAM/5650 CPAM server cluster members</p> <p>Alcatel-Lucent recommends that you accept the default value.</p> <p>Default: 11800</p>                                                                                                                                                                         |
| <b>Synchronization of Data</b>                       |                                                                                                                                                                                                                                                                                                                                                                                            |
| Enable Synchronization of Data                       | <p>If selected, specifies that the collected data on this 5650 CPAM server is synchronized with the data on the other 5650 CPAM server</p> <p>Default: selected</p>                                                                                                                                                                                                                        |
| Public IP (accessible to peer server)                | <p>The IPv4 address that the other 5650 CPAM server uses to reach this 5650 CPAM server</p> <p>Default: IP address of primary network interface</p>                                                                                                                                                                                                                                        |
| Peer Public IP (accessible to this server)           | <p>The IPv4 address that this 5650 CPAM server uses to reach the other 5650 CPAM server</p> <p>Default: —</p>                                                                                                                                                                                                                                                                              |
| <b>SSL Configuration</b>                             |                                                                                                                                                                                                                                                                                                                                                                                            |
| Enable Secure Communication                          | <p>If selected, specifies that SSL communication security is to be used between the 5650 CPAM server and clients, and between the 5650 CPAM and auxiliary servers</p>                                                                                                                                                                                                                      |

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#### D. 5650 CPAM installation parameters

| Panel and parameters                         | Description                                                                                                                                                                                                                                                                                 |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Keystore File                                | The SSL keystore file that the 5650 CPAM server imports to the 5650 CPAM server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/samserver.keystore |
| Keystore Password                            | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                 |
| Truststore File                              | The SSL truststore file that the 5650 CPAM server imports to the 5650 CPAM server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/cacerts.trustStore                                                          |
| Truststore Password                          | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                               |
| <b>SNMP Configuration</b>                    |                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used       | If selected, specifies that NAT is used between this 5650 CPAM server and the managed NEs                                                                                                                                                                                                   |
| IPv6 Address Used                            | If selected, specifies that this 5650 CPAM server uses IPv6 to manage one or more NEs                                                                                                                                                                                                       |
| SNMP Trap Receiving IPv4 Address             | The IPv4 address that the managed NEs must use to reach this 5650 CPAM server<br>Default: IP address of primary network interface                                                                                                                                                           |
| SNMP Trap Receiving IPv6 Address             | The IPv6 address that the managed NEs use to reach this 5650 CPAM server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.<br>Default: —                                                                                                                 |
| SNMP Trap Receiving Port                     | The TCP port on this station that the managed NEs must use to reach this 5650 CPAM server<br>Default: 162                                                                                                                                                                                   |
| Trap Log Id                                  | The SNMP trap log ID that is associated with this 5650 CPAM server<br>Default: 98                                                                                                                                                                                                           |
| <b>Peer CPAM Server Configurations</b>       |                                                                                                                                                                                                                                                                                             |
| Peer Server IP Address                       | The IP address that this 5650 CPAM server must use to reach the peer 5650 CPAM server<br>Default: —                                                                                                                                                                                         |
| Peer Server Trap Log Id                      | The SNMP trap log ID that is associated with the peer 5650 CPAM server<br>Default: 98                                                                                                                                                                                                       |
| Peer Server SNMP Trap Receiving IPv4 Address | The IPv4 address that the managed NEs must use to reach the peer 5650 CPAM server<br>Default: —                                                                                                                                                                                             |
| Peer Server SNMP Trap Receiving IPv6 Address | The IPv6 address that the managed NEs use to reach the peer 5650 CPAM server<br>The parameter is configurable when the “IPv6 Address Used” parameter on the “SNMP Configuration” panel is selected.                                                                                         |
| Peer Server SNMP Trap Receiving Port         | The TCP port on the peer 5650 CPAM server station that the managed NEs must use to reach the peer 5650 CPAM server<br>Default: 162                                                                                                                                                          |

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| Panel and parameters                           | Description                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Peer Server TCP Port Cluster Number            | The TCP port on the peer 5650 CPAM server station that is used to communicate with the other 5620 SAM/5650 CPAM server cluster members<br>Default: 11800                                                                                                                                                                                                                                            |
| <b>Peer CPAM Server Configurations (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                                                     |
| Peer Server Hostname                           | The hostname that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “CPAM Server Configuration for Clients” panel is selected.<br>Default: –                                                                                                              |
| Peer Server IP Address                         | The IP address that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “CPAM Server Configuration for Clients” panel is unselected.<br>Default: –                                                                                                          |
| JNDI High Available Peer Server Port           | The TCP port on the peer 5650 CPAM server station that this 5650 CPAM server is to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the 5650 CPAM server.</li> </ul> Default: 1100 |
| JNDI Peer Server Port                          | The TCP port on the peer 5650 CPAM server station that the GUI clients use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the 5650 CPAM server.</li> </ul> Default: 1099             |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                                                                                                                                                                                     |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM<br>Default: unselected                                                                                                                                                                                                                                                                                             |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.<br>Default: –                                                                                                                                                                                                 |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                                                                                                                                                                                     |
| Unlabeled field                                | The directory that is to contain the output of OSS file export operations<br>Default: /opt/5620sam/server/xml_output                                                                                                                                                                                                                                                                                |
| <b>Installation Complete</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                     |
| Start the 5650 CPAM Server                     | If selected, specifies that the 5650 CPAM server is to start automatically after the installation<br>Default: unselected                                                                                                                                                                                                                                                                            |

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## ***E. 5650 CPAM upgrade parameters***

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### **E.1 5650 CPAM upgrade parameters    E-2**

## E.1 5650 CPAM upgrade parameters

Table E-1 lists and describes the parameters that are configurable during a standalone 5650 CPAM server upgrade. Table E-2 lists and describes the parameters that are configurable for each 5650 CPAM server during a redundant upgrade. The parameters are grouped by installer panel in the order that the panels are displayed.



**Note** — Unless stated, the default value for a parameter is the value specified during the previous upgrade or installation.

**Table E-1 Standalone 5650 CPAM server upgrade parameters**

| Panel and parameters                                         | Description                                                                                                                                                                                   |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                            |                                                                                                                                                                                               |
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                         |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                     |
| <b>Choose Installation Type</b>                              |                                                                                                                                                                                               |
| Main Server Installation (default)                           | Installs the 5620 SAM main server software                                                                                                                                                    |
| Main Server Configuration                                    | Configures the 5620 SAM main server software                                                                                                                                                  |
| Auxiliary Server Installation                                | Installs the 5620 SAM auxiliary server software                                                                                                                                               |
| Auxiliary Server Configuration                               | Configures the 5620 SAM auxiliary server software                                                                                                                                             |
| CPAM Server Installation                                     | Installs the 5650 CPAM server software<br>You must choose this option.                                                                                                                        |
| CPAM Server Configuration                                    | Configures the 5650 CPAM server software                                                                                                                                                      |
| <b>Specify the Base Directory for 5650 CPAM Server Files</b> |                                                                                                                                                                                               |
| Unlabeled field                                              | The directory in which the 5650 CPAM server files are installed                                                                                                                               |
| <b>License Information for 5650 CPAM Server</b>              |                                                                                                                                                                                               |
| License Key                                                  | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter. |
| <b>Additional Server Configuration</b>                       |                                                                                                                                                                                               |
| Redundancy Supported                                         | If selected, specifies that the 5650 CPAM system is deployed in a redundant configuration<br>You must leave this parameter unselected.                                                        |
| Auxiliary Server Supported                                   | If selected, specifies that the 5650 CPAM deployment includes one or more auxiliary servers                                                                                                   |
| Client Delegate Server Supported                             | If selected, specifies that the 5650 CPAM deployment includes one or more client delegate servers                                                                                             |
| <b>Database Configuration</b>                                |                                                                                                                                                                                               |

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| Panel and parameters                                   | Description                                                                                                                                                                                                                    |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Database Server IP Address                             | The IP address that the 5650 CPAM server uses to reach the database station                                                                                                                                                    |
| Database Instance Name                                 | The name that the Oracle software associates with the database processes                                                                                                                                                       |
| Database Proxy Port                                    | The TCP port on the database station that the 5650 CPAM server is to use for redundancy communication, such as the initiation of a database failover or notification of a server activity switch                               |
| <b>CPAM Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between the 5650 CPAM server and the auxiliary servers                                                                                                                                 |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach the 5650 CPAM server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach the 5650 CPAM server                                                                                                                                               |
| Server port                                            | The TCP port on this station that the auxiliary servers must use to reach the 5650 CPAM server                                                                                                                                 |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                              |
| Enable Call Trace Collection on Auxiliary Servers      | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                       |
| <b>Auxiliary Server Configuration</b>                  |                                                                                                                                                                                                                                |
| IP Address                                             | The IP address that the 5650 CPAM server must use to reach the auxiliary server                                                                                                                                                |
| Port                                                   | The TCP port on the auxiliary server station that the 5650 CPAM server must use to reach the auxiliary server                                                                                                                  |
| Type                                                   | Preferred—specifies that the 5650 CPAM server uses this auxiliary server under normal conditions<br>Reserved—specifies that the 5650 CPAM server uses this auxiliary server when the Preferred auxiliary server is unavailable |
| <b>CPAM Server Configuration for Clients</b>           |                                                                                                                                                                                                                                |
| Server Domain Name                                     | The unique identifier of the 5620 SAM/5650 CPAM server cluster                                                                                                                                                                 |
| Use Hostname for Communication                         | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach the 5650 CPAM server                                                                       |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between the 5650 CPAM server and the GUI clients, OSS clients, and auxiliary servers                                                                                                   |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach the 5650 CPAM server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                |
| Public Hostname                                        | The hostname that the GUI and OSS clients must use to reach the 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.                                             |
| Public IP (accessible to clients)                      | The IP address that the GUI and OSS clients must use to reach the 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.                                         |

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| Panel and parameters                                 | Description                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EJB JNDI Server port                                 | The TCP port on this station that the GUI clients are to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>Another application uses the port.</li> <li>There is a firewall between the clients and the 5650 CPAM server.</li> </ul> |
| EJB JMS Server port                                  | The TCP port on this station that the GUI clients are to use for EJB JMS messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>Another application uses the port.</li> <li>There is a firewall between the clients and the 5650 CPAM server.</li> </ul>  |
| <b>CPAM Server Configuration for Clients (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                         |
| RMI Port                                             | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the 5650 CPAM server                                                                                                                                                                                    |
| RMI Object Port                                      | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations                                                                                                                                                                                                                               |
| <b>SSL Configuration</b>                             |                                                                                                                                                                                                                                                                                                                                                         |
| Enable Secure Communication                          | If selected, specifies that SSL communication security is to be used between the 5650 CPAM server and clients, and between the 5650 CPAM and auxiliary servers                                                                                                                                                                                          |
| Keystore File                                        | The SSL keystore file that the 5650 CPAM server imports to the 5650 CPAM server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/samserver.keystore                                                             |
| Keystore Password                                    | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                                                                             |
| Truststore File                                      | The SSL truststore file that the 5650 CPAM server imports to the 5650 CPAM server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/cacerts.trustStore                                                                                                                      |
| Truststore Password                                  | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                                                                           |
| <b>SNMP Configuration</b>                            |                                                                                                                                                                                                                                                                                                                                                         |
| NAT (network address translation) Used               | If selected, specifies that NAT is used between the 5650 CPAM server and the managed NEs                                                                                                                                                                                                                                                                |
| IPv6 Address Used                                    | If selected, specifies that the 5650 CPAM server uses IPv6 to manage one or more NEs                                                                                                                                                                                                                                                                    |
| SNMP Trap Receiving IPv4 Address                     | The IPv4 address that the managed NEs must use to reach the 5650 CPAM server                                                                                                                                                                                                                                                                            |
| SNMP Trap Receiving IPv6 Address                     | The IPv6 address that the managed NEs use to reach the 5650 CPAM server<br>The parameter is configurable when the “IPv6 Address Used parameter” is selected.                                                                                                                                                                                            |
| SNMP Trap Receiving Port                             | The TCP port on this station that the managed NEs must use to reach the 5650 CPAM server                                                                                                                                                                                                                                                                |
| Trap Log Id                                          | The SNMP trap log ID that is associated with the 5650 CPAM server                                                                                                                                                                                                                                                                                       |

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| Panel and parameters                           | Description                                                                                                                                                                           |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                       |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM                                                                                                      |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected. |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                       |
| Unlabeled field                                | The directory that is to contain the output of OSSl file export operations                                                                                                            |
| <b>Installation Complete</b>                   |                                                                                                                                                                                       |
| Start the 5650 CPAM Server                     | If selected, specifies that the 5650 CPAM server is to start automatically after the upgrade<br>Default: unselected                                                                   |

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Table E-2 Redundant 5650 CPAM server upgrade parameters

| Panel and parameters                                         | Description                                                                                                                                                                                   |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Software License Agreement</b>                            |                                                                                                                                                                                               |
| I accept the terms of the License Agreement                  | You accept the license terms and conditions. You must select this parameter before you can proceed to the next panel.                                                                         |
| I do NOT accept the terms of the License Agreement (default) | You do not accept the license terms and conditions. You cannot proceed to the next panel when this parameter is selected.                                                                     |
| <b>Choose Installation Type</b>                              |                                                                                                                                                                                               |
| Main Server Installation (default)                           | Installs the 5620 SAM main server software                                                                                                                                                    |
| Main Server Configuration                                    | Configures the 5620 SAM main server software                                                                                                                                                  |
| Auxiliary Server Installation                                | Installs the 5620 SAM auxiliary server software                                                                                                                                               |
| Auxiliary Server Configuration                               | Configures the 5620 SAM auxiliary server software                                                                                                                                             |
| CPAM Server Installation                                     | Installs the 5650 CPAM server software<br>You must choose this option.                                                                                                                        |
| CPAM Server Configuration                                    | Configures the 5650 CPAM server software                                                                                                                                                      |
| <b>Specify the Base Directory for 5650 CPAM Server Files</b> |                                                                                                                                                                                               |
| Unlabeled field                                              | The directory in which the 5650 CPAM server files are installed                                                                                                                               |
| <b>License Information for 5650 CPAM Server</b>              |                                                                                                                                                                                               |
| License Key                                                  | The 5650 CPAM license key value, which is in the following format:<br>XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX<br>You must include the dashes in the license key value that you enter. |
| <b>Additional Server Configuration</b>                       |                                                                                                                                                                                               |
| Redundancy Supported                                         | If selected, specifies that the 5650 CPAM system is deployed in a redundant configuration<br>You must select this parameter.                                                                  |

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## E. 5650 CPAM upgrade parameters

| Panel and parameters                                   | Description                                                                                                                                                                                                                    |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable SR Backup File Synchronization                  | If selected, specifies that the 5650 CPAM servers synchronize the NE configuration backup files with each other<br>The parameter is configurable when the “Redundancy Supported” parameter is selected.<br>Default: unselected |
| Auxiliary Server Supported                             | If selected, specifies that the 5650 CPAM deployment includes one or more auxiliary servers                                                                                                                                    |
| Client Delegate Server Supported                       | If selected, specifies that the 5650 CPAM deployment includes one or more client delegate servers                                                                                                                              |
| <b>Primary Database Configuration</b>                  |                                                                                                                                                                                                                                |
| Primary Database Server IP Address                     | The IP address that this 5650 CPAM server must use to reach the primary database station                                                                                                                                       |
| Primary Database Server Port                           | The TCP port on the primary database station that is to receive communication from this 5650 CPAM server                                                                                                                       |
| Primary Database Instance Name                         | The name that the Oracle software associates with the database processes on the primary database station                                                                                                                       |
| Database User Name                                     | The database username                                                                                                                                                                                                          |
| Database User Password                                 | The database password                                                                                                                                                                                                          |
| Primary Database Proxy Port                            | The TCP port on the primary database station that this 5650 CPAM server is to use for redundancy communication, such as the initiation of a database failover or notification of a server activity switch                      |
| <b>Standby Database Configuration</b>                  |                                                                                                                                                                                                                                |
| Database Server IP Address                             | The IP address that this 5650 CPAM server must use to reach the standby database station                                                                                                                                       |
| Database Instance Name                                 | The name that the Oracle software associates with the database processes on the standby database station                                                                                                                       |
| Database Proxy Port                                    | The TCP port on the standby database station that this 5650 CPAM server is to use for redundancy communication, such as the initiation of a database failover or notification of a server activity switch                      |
| <b>CPAM Server Configuration for Auxiliary Servers</b> |                                                                                                                                                                                                                                |
| NAT (network address translation) Used                 | If selected, specifies that NAT is used between this 5650 CPAM server and the auxiliary servers                                                                                                                                |
| Private IP (accessible only by this server)            | The IP address that the NAT router uses to reach this station<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                        |
| Public IP (accessible to auxiliary)                    | The IP address that the auxiliary servers must use to reach this 5650 CPAM server                                                                                                                                              |
| Server port                                            | The TCP port on this station that the auxiliary servers must use to reach this 5650 CPAM server                                                                                                                                |
| Enable Stats Collection on Auxiliary Servers           | If selected, specifies that at least one auxiliary server is to be used for statistics collection                                                                                                                              |
| Enable Call Trace Collection on Auxiliary Servers      | If selected, specifies that at least two auxiliary servers are to be used for call-trace data collection                                                                                                                       |
| <b>Auxiliary Server Configuration</b>                  |                                                                                                                                                                                                                                |
| IP Address                                             | The IP address that this 5650 CPAM server must use to reach the auxiliary server                                                                                                                                               |

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| Panel and parameters                                               | Description                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port                                                               | The TCP port on the auxiliary server station that the 5650 CPAM server must use to reach the auxiliary server                                                                                                                                                                                                                                          |
| Type                                                               | Preferred—specifies that this 5650 CPAM server uses this auxiliary server under normal conditions<br>Reserved—specifies that this 5650 CPAM server uses this auxiliary server when the Preferred auxiliary server is unavailable                                                                                                                       |
| <b>Database Alignment</b>                                          |                                                                                                                                                                                                                                                                                                                                                        |
| Enable Database Alignment                                          | If selected, enables automatic database alignment                                                                                                                                                                                                                                                                                                      |
| <i>IP_address_1:instance_name</i><br>(Primary Preferred) (default) | If selected, specifies that the database that is the designated primary database is the preferred database of the primary 5650 CPAM server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                                                |
| <i>IP_address_2:instance_name</i><br>(Standby Preferred)           | If selected, specifies that the database that is the designated standby database is the preferred database of the primary 5650 CPAM server<br>The parameter is configurable when the “Enable Database Alignment” parameter is selected.                                                                                                                |
| <b>CPAM Server Configuration for Clients</b>                       |                                                                                                                                                                                                                                                                                                                                                        |
| Server Domain Name                                                 | The unique identifier of the 5620 SAM/5650 CPAM server cluster                                                                                                                                                                                                                                                                                         |
| Use Hostname for Communication                                     | If selected, specifies that the GUI clients, OSS clients, and auxiliary servers use a hostname, rather than an IP address, to reach this 5650 CPAM server                                                                                                                                                                                              |
| NAT (network address translation) Used                             | If selected, specifies that NAT is used between this 5650 CPAM server and the GUI clients, OSS clients, and auxiliary servers                                                                                                                                                                                                                          |
| Private IP (accessible only by this server)                        | The IP address that the NAT router uses to reach this station<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                                                                                                |
| Public Hostname                                                    | The hostname that the GUI and OSS clients must use to reach this 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is selected.                                                                                                                                                                    |
| Public IP (accessible to clients)                                  | The IP address that the GUI and OSS clients must use to reach this 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter is unselected.                                                                                                                                                                |
| EJB JNDI Server port                                               | The TCP port on this station that the GUI clients are to use for EJB JMS messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>Another application uses the port.</li> <li>There is a firewall between the clients and the 5650 CPAM server.</li> </ul> |
| EJB JMS Server port                                                | The TCP port on this station that the GUI clients are to use for EJB JMS messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>Another application uses the port.</li> <li>There is a firewall between the clients and the 5650 CPAM server.</li> </ul> |
| <b>CPAM Server Configuration for Clients (cont.)</b>               |                                                                                                                                                                                                                                                                                                                                                        |
| RMI Port                                                           | The TCP port on this station that the GUI clients are to use for JBOSS name service communication, such as requesting objects or functions from the 5650 CPAM server                                                                                                                                                                                   |
| RMI Object Port                                                    | The TCP port on this station that the GUI clients are to use for JBOSS messaging, for example, during GUI user operations                                                                                                                                                                                                                              |
| <b>CPAM Server Configuration for Peer Server</b>                   |                                                                                                                                                                                                                                                                                                                                                        |

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## E. 5650 CPAM upgrade parameters

| Panel and parameters                        | Description                                                                                                                                                                                                                                                                                 |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAT (network address translation) Used      | If selected, specifies that NAT is used between this 5650 CPAM server and the peer 5650 CPAM server                                                                                                                                                                                         |
| Private IP (accessible only by this server) | The IP address that the NAT router uses to reach this 5650 CPAM server<br>The parameter is configurable when the “NAT (network address translation) Used” parameter is selected.                                                                                                            |
| Public IP (accessible to peer server)       | The IP address that the peer 5650 CPAM server must use to reach this 5650 CPAM server                                                                                                                                                                                                       |
| High Available JNDI Port                    | The TCP port on this station that the peer 5650 CPAM server is to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value.                                                                                                                                |
| TCP Port Cluster Number                     | The TCP port on this station that is used to communicate with the other 5620 SAM/5650 CPAM server cluster members<br>Alcatel-Lucent recommends that you accept the default value.                                                                                                           |
| <b>Synchronization of Data</b>              |                                                                                                                                                                                                                                                                                             |
| Enable Synchronization of Data              | If selected, specifies that the collected data on this 5650 CPAM server is synchronized with the data on the other 5650 CPAM server                                                                                                                                                         |
| Public IP (accessible to peer server)       | The IPv4 address that the other 5650 CPAM server uses to reach this 5650 CPAM server                                                                                                                                                                                                        |
| Peer Public IP (accessible to this server)  | The IPv4 address that this 5650 CPAM server uses to reach the other 5650 CPAM server                                                                                                                                                                                                        |
| <b>SSL Configuration</b>                    |                                                                                                                                                                                                                                                                                             |
| Enable Secure Communication                 | If selected, specifies that SSL communication security is to be used between the 5650 CPAM server and clients, and between the 5650 CPAM and auxiliary servers                                                                                                                              |
| Keystore File                               | The SSL keystore file that the 5650 CPAM server imports to the 5650 CPAM server configuration, and transfers to each client and auxiliary server station<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/samserver.keystore |
| Keystore Password                           | The SSL keystore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                                 |
| Truststore File                             | The SSL truststore file that the 5650 CPAM server imports to the 5650 CPAM server configuration<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: /opt/cacerts.trustStore                                                          |
| Truststore Password                         | The SSL truststore file password<br>The parameter is configurable when the “Enable Secure Communication” parameter is selected.<br>Default: —                                                                                                                                               |
| <b>SNMP Configuration</b>                   |                                                                                                                                                                                                                                                                                             |
| NAT (network address translation) Used      | If selected, specifies that NAT is used between this 5650 CPAM server and the managed NEs                                                                                                                                                                                                   |
| IPv6 Address Used                           | If selected, specifies that this 5650 CPAM server uses IPv6 to manage one or more NEs                                                                                                                                                                                                       |
| SNMP Trap Receiving IPv4 Address            | The IPv4 address that the managed NEs use to reach this 5650 CPAM server                                                                                                                                                                                                                    |

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| Panel and parameters                           | Description                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNMP Trap Receiving IPv6 Address               | The IPv6 address that the managed NEs use to reach this 5650 CPAM server<br>The parameter is configurable when the “IPv6 Address Used” parameter is selected.                                                                                                                                                                                                                         |
| SNMP Trap Receiving Port                       | The TCP port on this station that the managed NEs must use to reach this 5650 CPAM server                                                                                                                                                                                                                                                                                             |
| Trap Log Id                                    | The SNMP trap log ID that is associated with this 5650 CPAM server                                                                                                                                                                                                                                                                                                                    |
| <b>Peer CPAM Server Configurations</b>         |                                                                                                                                                                                                                                                                                                                                                                                       |
| Peer Server IP Address                         | The IP address that this 5650 CPAM server must use to reach the peer 5650 CPAM server                                                                                                                                                                                                                                                                                                 |
| Peer Server Trap Log Id                        | The SNMP trap log ID that is associated with the peer 5650 CPAM server                                                                                                                                                                                                                                                                                                                |
| Peer Server SNMP Trap Receiving IPv4 Address   | The IPv4 address that the managed NEs must use to reach the peer 5650 CPAM server                                                                                                                                                                                                                                                                                                     |
| Peer Server SNMP Trap Receiving IPv6 Address   | The IPv6 address that the managed NEs use to reach the peer 5650 CPAM server<br>The parameter is configurable when the “IPv6 Address Used” parameter on the “SNMP Configuration” panel is selected.                                                                                                                                                                                   |
| Peer Server SNMP Trap Receiving Port           | The TCP port on the peer 5650 CPAM server station that the managed NEs must use to reach the peer 5650 CPAM server                                                                                                                                                                                                                                                                    |
| Peer Server TCP Port Cluster Number            | The TCP port on the peer 5650 CPAM server station that is used to communicate with the other 5620 SAM/5650 CPAM server cluster members                                                                                                                                                                                                                                                |
| <b>Peer CPAM Server Configurations (cont.)</b> |                                                                                                                                                                                                                                                                                                                                                                                       |
| Peer Server Hostname                           | The hostname that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “CPAM Server Configuration for Clients” panel is selected.                                                                                                              |
| Peer Server IP Address                         | The IP address that the GUI clients, OSS clients, and auxiliary servers must use to reach the peer 5650 CPAM server<br>The parameter is configurable when the “Use Hostname for Communication” parameter on the “CPAM Server Configuration for Clients” panel is unselected.                                                                                                          |
| JNDI High Available Peer Server Port           | The TCP port on the peer 5650 CPAM server station that this 5650 CPAM server is to use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the 5650 CPAM server.</li> </ul> |
| 5650 CPAM JNDI Peer Server Port                | The TCP port on the peer 5650 CPAM server station that the GUI clients use for EJB JNDI messaging<br>Alcatel-Lucent recommends that you accept the default value unless one of the following is true: <ul style="list-style-type: none"> <li>• Another application uses the port.</li> <li>• There is a firewall between the clients and the 5650 CPAM server.</li> </ul>             |
| <b>Navigation from External Systems</b>        |                                                                                                                                                                                                                                                                                                                                                                                       |
| Enable Navigation from External Systems        | If selected, enables the forwarding of 5620 SAM client GUI activity to a 5620 NM                                                                                                                                                                                                                                                                                                      |
| TCP port for accepting GUI navigation requests | The TCP port on this station that is to accept 5620 NM navigation requests<br>The parameter is configurable when the “Enable Navigation from External Systems” parameter is selected.                                                                                                                                                                                                 |
| <b>XML Output Directory</b>                    |                                                                                                                                                                                                                                                                                                                                                                                       |
| Unlabeled field                                | The directory that is to contain the output of OSS file export operations                                                                                                                                                                                                                                                                                                             |

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### *E. 5650 CPAM upgrade parameters*

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| Panel and parameters         | Description                                                                                                         |
|------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Installation Complete</b> |                                                                                                                     |
| Start the 5650 CPAM Server   | If selected, specifies that the 5650 CPAM server is to start automatically after the upgrade<br>Default: unselected |

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# Customer documentation and product support



## Customer documentation

<http://www.alcatel-lucent.com/myaccess>

Product manuals and documentation updates are available at [alcatel-lucent.com](http://www.alcatel-lucent.com). If you are a new user and require access to this service, please contact your Alcatel-Lucent sales representative.



## Technical Support

<http://support.alcatel-lucent.com>



## Documentation feedback

[documentation.feedback@alcatel-lucent.com](mailto:documentation.feedback@alcatel-lucent.com)



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