



Alcatel-Lucent 5620

SERVICE AWARE MANAGER | RELEASE 9.0 R7
SUPERVISION MODULE USER GUIDE

3HE 06514 AAAG TQZZA Edition 01

Alcatel-Lucent assumes no responsibility for the accuracy of the information presented, which is subject to change without notice.

Alcatel, Lucent, Alcatel-Lucent, the Alcatel-Lucent logo, and TiMetra are registered trademarks of Alcatel-Lucent. All other trademarks are the property of their respective owners.

Copyright 2011-2012 Alcatel-Lucent.
All rights reserved.

Disclaimers

Alcatel-Lucent products are intended for commercial uses. Without the appropriate network design engineering, they must not be sold, licensed or otherwise distributed for use in any hazardous environments requiring fail-safe performance, such as in the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, direct life-support machines, or weapons systems, in which the failure of products could lead directly to death, personal injury, or severe physical or environmental damage. The customer hereby agrees that the use, sale, license or other distribution of the products for any such application without the prior written consent of Alcatel-Lucent, shall be at the customer's sole risk. The customer hereby agrees to defend and hold Alcatel-Lucent harmless from any claims for loss, cost, damage, expense or liability that may arise out of or in connection with the use, sale, license or other distribution of the products in such applications.

This document may contain information regarding the use and installation of non-Alcatel-Lucent products. Please note that this information is provided as a courtesy to assist you. While Alcatel-Lucent tries to ensure that this information accurately reflects information provided by the supplier, please refer to the materials provided with any non-Alcatel-Lucent product and contact the supplier for confirmation. Alcatel-Lucent assumes no responsibility or liability for incorrect or incomplete information provided about non-Alcatel-Lucent products.

However, this does not constitute a representation or warranty. The warranties provided for Alcatel-Lucent products, if any, are set forth in contractual documentation entered into by Alcatel-Lucent and its customers.

This document was originally written in English. If there is any conflict or inconsistency between the English version and any other version of a document, the English version shall prevail.

Alcatel-Lucent License Agreement

SAMPLE END USER LICENSE AGREEMENT

1. LICENSE

- 1.1 Subject to the terms and conditions of this Agreement, Alcatel-Lucent grants to Customer and Customer accepts a nonexclusive, nontransferable license to use any software and related documentation provided by Alcatel-Lucent pursuant to this Agreement ("Licensed Program") for Customer's own internal use, solely in conjunction with hardware supplied or approved by Alcatel-Lucent. In case of equipment failure, Customer may use the Licensed Program on a backup system, but only for such limited time as is required to rectify the failure.
- 1.2 Customer acknowledges that Alcatel-Lucent may have encoded within the Licensed Program optional functionality and capacity (including, but not limited to, the number of equivalent nodes, delegate workstations, paths and partitions), which may be increased upon the purchase of the applicable license extensions.
- 1.3 Use of the Licensed Program may be subject to the issuance of an application key, which shall be conveyed to the Customer in the form of a Supplement to this End User License Agreement. The purchase of a license extension may require the issuance of a new application key.

2. PROTECTION AND SECURITY OF LICENSED PROGRAMS

- 2.1 Customer acknowledges and agrees that the Licensed Program contains proprietary and confidential information of Alcatel-Lucent and its third party suppliers, and agrees to keep such information confidential. Customer shall not disclose the Licensed Program except to its employees having a need to know, and only after they have been advised of its confidential and proprietary nature and have agreed to protect same.
- 2.2 All rights, title and interest in and to the Licensed Program, other than those expressly granted to Customer herein, shall remain vested in Alcatel-Lucent or its third party suppliers. Customer shall not, and shall prevent others from copying, translating, modifying, creating derivative works, reverse engineering, decompiling, encumbering or otherwise using the Licensed Program except as specifically authorized under this Agreement. Notwithstanding the foregoing, Customer is authorized to make one copy for its archival purposes only. All appropriate copyright and other proprietary notices and legends shall be placed on all Licensed Programs supplied by Alcatel-Lucent, and Customer shall maintain and reproduce such notices on any full or partial copies made by it.

3. TERM

- 3.1 This Agreement shall become effective for each Licensed Program upon delivery of the Licensed Program to Customer.

-
- 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.
- 3.3 Upon termination of this Agreement, Customer shall return or destroy all copies of the Licensed Program. All obligations of Customer arising prior to termination, and those obligations relating to confidentiality and nonuse, shall survive termination.

4. CHARGES

- 4.1 Upon shipment of the Licensed Program, Alcatel-Lucent will invoice Customer for all fees, and any taxes, duties and other charges. Customer will be invoiced for any license extensions upon delivery of the new software application key or, if a new application key is not required, upon delivery of the extension. All amounts shall be due and payable within thirty (30) days of receipt of invoice, and interest will be charged on any overdue amounts at the rate of 1 1/2% per month (19.6% per annum).

5. SUPPORT AND UPGRADES

- 5.1 Customer shall receive software support and upgrades for the Licensed Program only to the extent provided for in the applicable Alcatel-Lucent software support policy in effect from time to time, and upon payment of any applicable fees. Unless expressly excluded, this Agreement shall be deemed to apply to all updates, upgrades, revisions, enhancements and other software which may be supplied by Alcatel-Lucent to Customer from time to time.

6. WARRANTIES AND INDEMNIFICATION

- 6.1 Alcatel-Lucent warrants that the Licensed Program as originally delivered to Customer will function substantially in accordance with the functional description set out in the associated user documentation for a period of 90 days from the date of shipment, when used in accordance with the user documentation. Alcatel-Lucent's sole liability and Customer's sole remedy for a breach of this warranty shall be Alcatel-Lucent's good faith efforts to rectify the nonconformity or, if after repeated efforts Alcatel-Lucent is unable to rectify the nonconformity, Alcatel-Lucent shall accept return of the Licensed Program and shall refund to Customer all amounts paid in respect thereof. This warranty is available only once in respect of each Licensed Program, and is not renewed by the payment of an extension charge or upgrade fee.

-
- 6.2 ALCATEL-LUCENT EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, REPRESENTATIONS, COVENANTS OR CONDITIONS OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES OR REPRESENTATIONS OF WORKMANSHIP, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, DURABILITY, OR THAT THE OPERATION OF THE LICENSED PROGRAM WILL BE ERROR FREE OR THAT THE LICENSED PROGRAMS WILL NOT INFRINGE UPON ANY THIRD PARTY RIGHTS.
- 6.3 Alcatel-Lucent shall defend and indemnify Customer in any action to the extent that it is based on a claim that the Licensed Program furnished by Alcatel-Lucent infringes any patent, copyright, trade secret or other intellectual property right, provided that Customer notifies Alcatel-Lucent within ten (10) days of the existence of the claim, gives Alcatel-Lucent sole control of the litigation or settlement of the claim, and provides all such assistance as Alcatel-Lucent may reasonably require. Notwithstanding the foregoing, Alcatel-Lucent shall have no liability if the claim results from any modification or unauthorized use of the Licensed Program by Customer, and Customer shall defend and indemnify Alcatel-Lucent against any such claim.
- 6.4 Alcatel-Lucent Products are intended for standard commercial uses. Without the appropriate network design engineering, they must not be sold, licensed or otherwise distributed for use in any hazardous environments requiring fail safe performance, such as in the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, direct life-support machines, or weapons systems, in which the failure of products could lead directly to death, personal injury, or severe physical or environmental damage. The Customer hereby agrees that the use, sale, license or other distribution of the Products for any such application without the prior written consent of Alcatel-Lucent, shall be at the Customer's sole risk. The Customer also agrees to defend and hold Alcatel-Lucent harmless from any claims for loss, cost, damage, expense or liability that may arise out of or in connection with the use, sale, license or other distribution of the Products in such applications.

7. LIMITATION OF LIABILITY

- 7.1 IN NO EVENT SHALL THE TOTAL COLLECTIVE LIABILITY OF ALCATEL-LUCENT, ITS EMPLOYEES, DIRECTORS, OFFICERS OR AGENTS FOR ANY CLAIM, REGARDLESS OF VALUE OR NATURE, EXCEED THE AMOUNT PAID UNDER THIS AGREEMENT FOR THE LICENSED PROGRAM THAT IS THE SUBJECT MATTER OF THE CLAIM. IN NO EVENT SHALL THE TOTAL COLLECTIVE LIABILITY OF ALCATEL-LUCENT, ITS EMPLOYEES, DIRECTORS, OFFICERS OR AGENTS FOR ALL CLAIMS EXCEED THE TOTAL AMOUNT PAID BY CUSTOMER TO ALCATEL-LUCENT HEREUNDER. NO PARTY SHALL BE LIABLE FOR ANY INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER OR NOT SUCH DAMAGES ARE FORESEEABLE, AND/OR THE PARTY HAD BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
- 7.2 The foregoing provision limiting the liability of Alcatel-Lucent's employees, agents, officers and directors shall be deemed to be a trust provision, and shall be enforceable by such employees, agents, officers and directors as trust beneficiaries.

8. GENERAL

- 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.
- 8.7 If the Licensed Program is being acquired by or on behalf of any unit or agency of the United States Government, the following provision shall apply: If the Licensed Program is supplied to the Department of Defense, it shall be classified as "Commercial Computer Software" and the United States Government is acquiring only "restricted rights" in the Licensed Program as defined in DFARS 227-7202-1(a) and 227.7202-3(a), or equivalent. If the Licensed Program is supplied to any other unit or agency of the United States Government, rights will be defined in Clause 52.227-19 or 52.227-14 of the FAR, or if acquired by NASA, Clause 18-52.227-86(d) of the NASA Supplement to the FAR, or equivalent. If the software was acquired under a contract subject to the October 1988 Rights in Technical Data and Computer Software regulations, use, duplication and disclosure by the Government is subject to the restrictions set forth in DFARS 252-227.7013(c)(1)(ii) 1988, or equivalent.
- 8.8 Customer shall comply with all export regulations pertaining to the Licensed Program in effect from time to time. Without limiting the generality of the foregoing, Customer expressly warrants that it will not directly or indirectly export, reexport, or transship the Licensed Program in violation of any export laws, rules or regulations of Canada, the United States or the United Kingdom.

-
- 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.

(1 of 4)

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.

(2 of 4)

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.

(3 of 4)

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.

(4 of 4)

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.

Contents

Preface	ix
Prerequisites.....	ix
5620 SAM documentation suite	ix
Obtaining customer documentation	xii
On-product documentation.....	xii
Documentation on the web.....	xii
Documentation conventions.....	xiii
Procedures with options or substeps.....	xiii
Measurement conventions	xiv
Important information.....	xv
 1 — Supervision management	 1-1
1.1 Supervision management overview.....	1-2
KPI timers	1-2
Supervision groups	1-2
Summary views	1-2
1.2 Workflow to configure supervision management.....	1-2
1.3 Supervision management procedures	1-3
Procedure 1-1 To configure KPI history timers	1-3
Procedure 1-2 To configure a supervision group	1-3
Procedure 1-3 To configure a summary view	1-5
 2 — Supervision module web server configuration	 2-1
2.1 Supervision module web server overview	2-2
2.2 Workflow to configure the web server.....	2-2
2.3 Web server configuration procedures.....	2-2
Server configuration procedures.....	2-2
Procedure 2-1 To start or stop the Supervision module web server on the 5620 SAM main server.....	2-2

	Client configuration procedures	2-3
	Procedure 2-2 To configure the 5620 SAM client application to access the Supervision module configuration forms and web portal.....	2-3
3 —	The Supervision web portal	3-1
3.1	Supervision web portal overview	3-2
	Supervision web portal windows.....	3-2
3.2	Workflow to operate the Supervision web portal	3-5
3.3	Supervision web portal procedures.....	3-5
	Accessing the Supervision web portal.....	3-5
	Procedure 3-1 To launch the Supervision web portal from the 5620 SAM client GUI.....	3-5
	Procedure 3-2 To launch the Supervision web portal from a web browser	3-6
	Using the Supervision web portal GUI.....	3-6
	Procedure 3-3 To hide or show columns in the Summary View window.....	3-6
	Procedure 3-4 To undock and dock a Supervision web portal window	3-7
	Performing fault management with the Supervision web portal	3-7
	Procedure 3-5 To view alarm statistics	3-7
	Procedure 3-6 To manage alarms using the Alarms window.....	3-8

Appendices

A.	Supervision module parameters	A-1
A.1	Supervision module parameter overview.....	A-2
A.2	Supervision management parameters.....	A-2
	KPI History Duration (hours)	A-2
	KPI History Interval (minutes).....	A-2
A.3	Supervision group parameters.....	A-2
	Category	A-2
	Description	A-2
	Displayed Name	A-3
	Supervise Objects Belonging To.....	A-3
	Supervised Alarms Severities	A-3
A.4	Web server configuration parameters	A-3
	Browser Path.....	A-3

1 — *Supervision management*

- 1.1 Supervision management overview 1-2**
- 1.2 Workflow to configure supervision management 1-2**
- 1.3 Supervision management procedures 1-3**

1.1 Supervision management overview

The 5620 SAM Supervision Module is a web-based application that provides a summarized, at-a-glance view of NEs and objects in the 5620 SAM network. The Supervision module can be used to group and monitor network resources that are natively managed by the 5620 SAM or by a subtending network management system that is interfaced with the 5620 SAM for supervision purposes.

In order to use the 5620 SAM Supervision Module, certain configurations must be performed on the 5620 SAM client GUI from which it is launched. This chapter describes these configurations.

KPI timers

KPI timers define the behavior of the historical data that will be visible for KPIs within the 5620 SAM Supervision Module. You can configure how frequently data is collected and how long it is retained. This information is displayed in the form of a Summary Graph within the 5620 SAM Supervision Module.

Supervision groups

A supervision group is a logical set of NEs that is specified by user-defined filters and spans of control. These NEs must belong to one of three categories: access, transport, or core. Supervision groups can be used to partition large quantities of network elements into distinct categories for inclusion in summary views. For example, you can create supervision groups that organize network elements by topological partition. There is no limit to the number of supervision groups that an NE can belong to.

The state of these supervision groups is monitored via a dashboard view, and any member resource of any group can be examined individually. You can navigate from the Supervision module to the network management system GUI of any monitored network resource.

Summary views

A summary view is a collection of one or more supervision groups that provides a summarized, high-level view of a group of network objects. For example, you can create a summary view that contains the network elements of several cities. There is no limit to the number of summary views that a supervision group can belong to.

1.2 Workflow to configure supervision management

- 1 Configure KPI history timers. See Procedure [1-1](#) for more information.
- 2 Configure supervision groups. See Procedure [1-2](#) for more information.
- 3 Configure summary views that include supervision groups. See Procedure [1-3](#) for more information.

1.3 Supervision management procedures

Perform the following procedures to configure network supervision parameters and objects for the Supervision module.

Procedure 1-1 To configure KPI history timers

- 1 Choose Administration→Supervision Settings from the 5620 SAM main menu. The Supervision Settings (Edit) form opens with the General tab displayed.
- 2 Configure the [KPI History Interval \(minutes\)](#) and [KPI History Duration \(hours\)](#) parameters.



Caution — Any change in the configuration of KPI timers will be immediately reflected in the Summary Graph window on the 5620 SAM Supervision Module and could result in loss of data.

- 3 Click on the OK button. A dialog box appears.
 - 4 Click on the Yes button. The Supervision Settings (Edit) form closes.
-

Procedure 1-2 To configure a supervision group

Supervision groups include NEs based on an inclusion filter, a span of control, or both. See the *5620 SAM User Guide* for more information about configuring filters and spans of control.

- 1 Choose Administration→Supervision Settings from the 5620 SAM main menu. The Supervision Settings (Edit) form opens with the General tab displayed.
- 2 Click on the Supervision Groups tab button.
- 3 Click on the Create button. The Supervision Group (Create) form opens with the General tab displayed.
- 4 Configure the parameters:
 - [Displayed Name](#)
 - [Description](#)
 - [Category](#)
 - [Supervised Alarms Severities](#)
 - [Supervise Objects Belonging To](#)
- 5 Perform one of the following:
 - a To apply an inclusion filter to the supervision group, go to step [6](#).
 - b To apply a span of control to the supervision group, go to step [19](#).
- 6 Click on the Inclusion Filters tab button.

- 7 Click on the Add button. The Select Form opens.
- 8 Perform one of the following:
 - a To create an inclusion filter, go to step 9.
 - b To apply an existing inclusion filter, go to step 16.
- 9 Click on the Create button. The Inclusion Filter Creation form opens.
- 10 Configure the filter properties.
 - i Choose an item from the Attribute drop-down menu.
 - ii Choose an item from the Function drop-down menu.
 - iii Configure the Value parameter.
 - iv Choose a Boolean Operator from the Operators drop-down menu, if applicable.
 - v Click on the Add button.
- 11 Perform one of the following:
 - a To filter additional properties, repeat step 10.
 - b If you are finished filtering properties, go to step 12.
- 12 Click on the Save button. The Save Filter form opens.
- 13 Configure the parameters:
 - Filter Name
 - Description
 - Public
- 14 Click on the Save button. The filter is saved.
- 15 Close the Inclusion Filter Creation form. The Select form reappears.
- 16 Click on the Search button. A list of inclusion filters is displayed.
- 17 Choose an inclusion filter in the list and click on the OK button. The Select form closes and the Supervision Group (Create) form reappears with the new inclusion filter in the list.
- 18 Perform one of the following:
 - a To apply a span of control to the supervision group, go to step 19.
 - b If you are finished configuring the supervision group, go to step 23.
- 19 Click on the Spans tab button.
- 20 Click on the Add button. The Select form opens.
- 21 Configure the filter criteria, if required, and click on the Search button. A list of spans is displayed.

- 22 Select a span in the list and click on the OK button. The Select form closes and the Supervision Group (Create) form reappears with the new span in the list.
 - 23 Click on the OK button. A dialog box appears.
 - 24 Click on the Yes button. The Supervision Group (Create) form closes.
 - 25 Click on the OK button. A dialog box appears.
 - 26 Click on the Yes button. The Supervision Settings (Edit) form closes.
-

Procedure 1-3 To configure a summary view

- 1 Choose Administration→Supervision Settings from the 5620 SAM main menu. The Supervision Settings (Edit) form opens with the General tab displayed.
 - 2 Click on the Summary Views tab button.
 - 3 Click on the Create button. The Supervision View (Create) form opens with the General tab displayed.
 - 4 Configure the [Displayed Name](#) and [Description](#) parameters.
 - 5 Click on the Supervision Groups tab button.
 - 6 Click on the Add button. The Select form opens.
 - 7 Configure the filter criteria, if required, and click on the Search button. A list of supervision groups is displayed.
 - 8 Select one or more supervision groups from the list and click on the OK button. The Select form closes and the Supervision View (Create) form reappears with the selected supervision group in the list.
 - 9 Repeat steps 6 to 8 to add more supervision groups to the summary view, as required.
 - 10 Click on the OK button. A dialog box appears.
 - 11 Click on the OK button. The Supervision View (Create) form closes.
 - 12 Click on the OK button. A dialog box appears.
 - 13 Click on the Yes button. The Supervision Settings (Edit) form closes.
-

2 — *Supervision module web server configuration*

- 2.1 Supervision module web server overview 2-2**
- 2.2 Workflow to configure the web server 2-2**
- 2.3 Web server configuration procedures 2-2**

2.1 Supervision module web server overview

The Supervision module web server is the component of the 5620 SAM server software that controls communication between the 5620 SAM network and the Supervision module web portal. The following conditions must be met in order to access the Supervision module configuration forms and web portal:

- The web server application is running on the 5620 SAM main server.
- The Supervision module is enabled in the 5620 SAM client configuration file.
- The 5620 SAM client configuration file contains a valid path to a web browser application that can be used to launch the Supervision web portal.

2.2 Workflow to configure the web server

- 1 Start the Supervision module web server on a 5620 SAM main server. See Procedure 2-1 for more information.
- 2 Configure the 5620 SAM client application to access the Supervision module configuration forms and web portal. See Procedure 2-2 for more information.

2.3 Web server configuration procedures

Perform the procedures in this section to configure and enable the Supervision module web server.

Server configuration procedures

The Supervision module web server is automatically started along with the 5620 SAM main server. Perform the procedure in this section to configure the Supervision module web server on the 5620 SAM main server station in failure recovery scenarios.

Procedure 2-1 To start or stop the Supervision module web server on the 5620 SAM main server



Note — You must have access to the 5620 SAM main server and the samadmin user to perform this procedure.

- 1 Log in to the 5620 SAM main server station as the samadmin user.
- 2 Open a console window.
- 3 Navigate to server binary directory, typically /opt/5620sam/server/nms/bin.
- 4 Perform one of the following:
 - a Display the web server status by entering the following at the prompt:

```
# ./nmsserver.bash webstatus ↵
```

If the web server is stopped, the following message is displayed:

```
SAM Web Server is stopped.
```

If the web server is running, the following message is displayed:

```
SAM Web Server is running.
```

- b** Start the web server by entering the following at the prompt:

```
# ./nmsserver.bash webstart ↵
```

The following text is displayed:

```
Starting 5620 SAM Web Server...
```

- c** Stop the web server by entering the following at the prompt:

```
# ./nmsserver.bash webstop ↵
```

The following text is displayed:

```
Stopping the 5620 SAM Web Server...
```

Client configuration procedures

Perform the procedure in this section to configure the 5620 SAM client application to access the Supervision module configuration forms in the 5620 SAM GUI and to access the Supervision web portal.

Procedure 2-2 To configure the 5620 SAM client application to access the Supervision module configuration forms and web portal

Perform this procedure to allow a 5620 SAM client to access the supervision portal from the 5620 SAM main menu.

- 1 Choose Application→User Preferences from the 5620 SAM main menu. The User Preferences form opens with the General tab displayed.
 - 2 Configure the [Browser Path](#) parameter.
 - 3 Click on the OK button.
-

3 — *The Supervision web portal*

- 3.1 Supervision web portal overview 3-2**
- 3.2 Workflow to operate the Supervision web portal 3-5**
- 3.3 Supervision web portal procedures 3-5**

3.1 Supervision web portal overview

The 5620 SAM Supervision web portal is a Flash-based GUI that displays NE state and fault management information that is based on configurable object groupings that are configured by using the 5620 SAM client GUI. You can access the Supervision web portal via the 5620 SAM client or a web browser.

Supervision web portal windows

The Supervision web portal is divided into the following windows:

- Summary View window
- Summary Graph window
- Details window
- Alarms window

You can undock windows from their default positions in the Supervision web portal GUI. Each window can be resized and moved once it is undocked.

Summary View window

The Summary View window displays the supervision groups that are assigned to a summary view. You can switch between summary views by using the drop-down menu. The default behavior for a summary view is to only display supervision groups that have outstanding KPIs. You can configure a summary view to display all supervision groups by using the right-click contextual menu in the summary view window.

The Summary View window displays information in columns. You can display or hide columns by using the right-click contextual menu in the Summary View window. You can also customize the Summary View window by moving the columns or sorting the groups based on the number of alarms in any column. The Summary View window can display the following columns:

- **Group Name:** This column displays supervision group names based on the currently active view settings (active groups or all groups).
- **Unacknowledged Alarms:** This column displays the number of critical, major, minor, and warning alarms that have a status of Unacknowledged for each supervision group.
- **Acknowledged Alarms:** This column displays the number of critical, major, minor, and warning alarms that have a status of Acknowledged for each supervision group.
- **Failed Cells:** This column displays the number of cells that have an Administrative State of Up and an Operational State of Down for each supervision group.
- **Failed Interfaces:** This column displays the number of signalling interfaces that have an Administrative State of Up and an Operational State of Down for each supervision group.

Clicking anywhere in a group's row in the Summary View window automatically populates the Details and Alarms windows with information that is specific to that group.

Summary Graph window


The Summary Graph window can be opened from a contextual menu by right-clicking on a KPI in the Summary View window. The Summary Graph window displays the history of the selected KPI based on the configuration of KPI timers on the 5620 SAM client GUI. See Chapter 1 for information about configuring KPI timers. You can mouse over points in the graph to see the exact value of the selected KPI when an older snapshot was taken. You can open multiple Summary Graph windows when existing Summary Graph windows are undocked.

Details window



The Details window displays information about objects that are included in the currently selected supervision group. The Details window features the following tabs that sort objects as follows:

- **Network Elements:** This tab displays the NEs that are included in the currently selected supervision group. The Network Elements tab features columns that provide information to assist in identifying and sorting NEs. It is possible to navigate to a selected object's configuration form within the SAM client application GUI.
- **Radio Resources:** This tab displays the NEs that are included in the currently selected supervision group. This tab also displays RAN-specific device resources such as cells. The Radio Resources tab features columns that provide information to assist in identifying and sorting RAN objects based on parent object and status. It is possible to navigate to a selected object's configuration form within the SAM client application GUI. This tab is only visible for access groups.
- **Interface Resources:** This tab displays device interface and reference point resources. The Interface Resources tab features columns that provide information to assist in identifying and sorting interface objects based on parent object and status. It is possible to navigate to a selected object's configuration form within the SAM client application GUI. This tab is visible for all group types.
- **Matrix View:** This tab provides an at-a-glance view of network status by displaying the selected supervision group as a graphical matrix of icons that reflect the current fault status of each NE. This view can be used to view a much larger number of NEs than can be displayed in the Network Elements tab. Double-clicking on an NE icon opens the Detail View for that icon. This view includes name, status, notes, and a Navigate button which can be clicked to open the NE's configuration form within the SAM client application GUI. Additional NE-specific details may be available. The Site Id search tool can be used to locate an NE in the Matrix View. This tab is only visible for access groups and transport groups. Table 3-1 describes the matrix view icons.

Table 3-1 Matrix view icons

Matrix view icons	Fault status
	Indicates that the NE is managed and reachable

(1 of 2)

Matrix view icons	Fault status
	Indicates that the eNodeB NE is managed and reachable, but at least one of its cells is down
	Indicates that the NE is managed but unreachable

(2 of 2)

Clicking on an object in the Details window automatically populates the Alarms window with fault information that is specific to the selected object.

Alarms window

The Supervision web portal supports the ability to aggregate all alarms from a set of network resources into a single alarm view known as the Alarms window. The Alarms window features the following tabs:

- **Alarm Table:** This tab displays alarms of any severity that are currently affecting the selected object and child objects.
- **Alarm Statistics:** This tab displays the number of acknowledged and unacknowledged alarms of each severity level.

Clicking on an alarm in the Alarm Table tab populates the lower half of the window with information about the selected alarm. This new information is divided into four tabs:

- **Info:** This tab displays general information that includes alarm type, affected site, and when the alarm was originally raised.
- **Severity:** This tab displays information that includes previous and current severity levels.
- **Statistics:** This tab displays information that includes alarm frequency and occurrences since clearing.
- **Acknowledgement:** This tab displays information that includes acknowledgement status and users that have acknowledged the alarm.

The Alarms window features an operations form that can be accessed by choosing Show/Hide Operations from the right-click contextual menu. You can use the operations form to acknowledge and clear alarms directly from the Supervision web portal.



Note 1 — For displaying alarms, the Supervision web portal uses the system default time zone, while the 5620 SAM client GUI may use a user-configured time zone.

Note 2 — A manual resynch must be performed in order for alarms from an EM System to be displayed in the 5620 SAM client or the Supervision web portal.

3.2 Workflow to operate the Supervision web portal

- 1 Open the Supervision web portal from a 5620 SAM client GUI or a web browser. See Procedures 3-1 and 3-2 for more information.
- 2 Configure the Supervision web portal GUI. See Procedures 3-3 and 3-4 for more information.
- 3 As required, perform the following fault management tasks by using the Supervision web portal.
 - Acknowledge alarms.
 - Clear alarms.
 - Assign alarm severities.

See Procedures 3-5 and 3-6 for more information.

3.3 Supervision web portal procedures

Perform the procedures in this section to access and use the Supervision web portal.

Accessing the Supervision web portal

You can launch the Supervision web portal from the 5620 SAM client GUI or a web browser.

Procedure 3-1 To launch the Supervision web portal from the 5620 SAM client GUI



Note — The Supervision web portal launches with the browser application that is specified on the User Preferences form.

- 1 Open the 5620 SAM client.
 - 2 Choose Application→Supervision Portal from the 5620 SAM main menu. The Supervision web portal launches.
-

Procedure 3-2 To launch the Supervision web portal from a web browser



Note — To perform this procedure, Single Sign On must be previously configured. See the *5620 SAM Integration Guide* for more information.

- 1 Open a web browser.
- 2 Enter the following in the address bar:

`http://ip:port/sam/webclient/Supervision.html`

where
ip is the IP address of the webserver
port is 9400 for a secured connection or 8400 for a non-secured connection
- 3 Enter your User Name and Password at the prompts and click on the Login button. A warning is displayed.
- 4 Click on the Continue button. The Supervision web portal launches.



Note 1 — The Supervision web portal will time out and be cleaned up by SAM Session management after a two minute period of inactivity.

Note 2 — Navigation to monitored objects will not work when the Supervision web portal is launched from a web browser rather than a 5620 SAM client.

Using the Supervision web portal GUI

Perform the following procedures to use the GUI features of the Supervision web portal.

Procedure 3-3 To hide or show columns in the Summary View window

- 1 Right-click in the Summary View window.
- 2 Choose Select Columns from the contextual menu. The Select Columns form displays.

- 3 Select or deselect the following check boxes, as required:
 - Unacknowledged Alarms
 - Acknowledged Alarms
 - Failed Cells
 - Failed Interfaces
 - 4 Click on the OK button. The Summary View window refreshes with the new column configuration.
-

Procedure 3-4 To undock and dock a Supervision web portal window

- 1 Perform the following steps to undock a Supervision web portal window:
 - i Right-click on the title bar for a Supervision web portal window, such as Summary View or Details.
 - ii Choose Undock from the contextual menu. The window undocks.
 - 2 Perform the following steps to dock a window:
 - i Click on the title bar for an undocked window.
 - ii Drag the window to a valid location in the web portal GUI. The mouse icon displays an arrow for valid locations and a red circle with an X for invalid locations.
-

Performing fault management with the Supervision web portal

Perform the following procedures to manage network alarms with the Supervision web portal.

Procedure 3-5 To view alarm statistics

- 1 Select a group from the Summary View in the Supervision Module. The alarm window is populated.
 - 2 Click on the Alarm Statistics tab button in the Alarm window. Acknowledged and unacknowledged alarms associated with the selected network resource are summarized according to severity.
-

Procedure 3-6 To manage alarms using the Alarms window

Perform this procedure to acknowledge alarms, clear alarms, and assign severity to alarms by using the operations form in the Alarms window. The following information applies to actions which you can perform with the operations form:

- You can display and hide the operations form by using the right-click contextual menu in the Alarms window.
 - You must drag and drop alarms from the Alarms window into the Alarms in Operation panel of the operations form in order to perform an operation on those alarms.
 - You can view information about an alarm, such as name, severity, and whether it is acknowledged when you mouse-over an alarm in the operations form.
 - You can remove one or more alarms from the operations form by selecting them and using the right click contextual menu or double-clicking on a single alarm.
 - All alarms will automatically be removed from the Alarms in Operation panel once an operation is performed.
- 1 Choose a supervision group from the Summary View list. The Alarm Table tab in the Alarms window is populated.
 - 2 If required, choose a network object from the Details window. The Alarm Table tab in the Alarms window is populated with alarms that are affecting that object.
 - 3 Choose an alarm from the Alarm Table list. The lower half of the Alarms window is populated with information about that alarm.
 - 4 Right-click in the Alarms window and choose Show/Hide Operations from the contextual menu. The operations form opens within the Alarms window.
 - 5 Perform the following steps to acknowledge or clear an alarm.
 - a To acknowledge an alarm:
 - i Click and drag the alarm from the Alarm Table tab and drop it into the Alarms in Operation panel of the operations form.
 - ii If you want to assign an urgency to the alarm, enable the Urgency check box and choose an urgency from the drop-down menu.
 - iii If you want to assign a new severity to the alarm, enable the Severity check box and choose a severity from the dropdown menu.
 - iv Enter any notes regarding the acknowledgement action in the Acknowledgement Text panel.

- v Choose Acknowledge from the Operation Type drop-down menu.
 - vi Click on the Execute button. The alarm is acknowledged in the 5620 SAM network and is updated with any new urgency and severity levels.
 - b To clear an alarm:
 - i Click and drag the alarm from the Alarms window and drop it into the Alarms in Operation panel of the operations form.
 - ii Choose Clear from the Operation Type drop-down menu.
 - iii Click on the Execute button. The alarm is cleared in the 5620 SAM network.
 - 6 Right-click in the Alarms window and choose Show/Hide Operations from the contextual menu to hide the operations form.
-

Appendices

A. Supervision module parameters

A. *Supervision module parameters*

- A.1 Supervision module parameter overview A-2
- A.2 Supervision management parameters A-2
- A.3 Supervision group parameters A-2
- A.4 Web server configuration parameters A-3

A.1 Supervision module parameter overview

This appendix provides:

- parameter descriptions that include value ranges and default values
- parameter options
- parameter and option dependencies

A.2 Supervision management parameters

This section describes the parameters on the general tab of the Supervision Settings form.

KPI History Duration (hours)

(kpiHistoryDuration)

The KPI History Duration (hours) parameter specifies the retained KPI history duration in hours. The range is 1 to 48. The default is 36.

KPI History Interval (minutes)

(snapshotPeriod)

The KPI History Interval (minutes) parameter specifies the number of minutes that will elapse between snapshots being taken of the supervision state. The range is 10 to 1440. The default is 30.

A.3 Supervision group parameters

This section describes the parameters on the Supervision Group form.

Category

(category)

The Category parameter specifies the category to which objects in the supervision group belong. The options are:

- NE Access
- NE Core
- NE Transport (default)

The 5620 SAM will not prevent particular NEs from being added to a supervision group based on the Category parameter. The Category parameter affects which tabs will be visible for the supervision group on the Supervision module.

Description

(description)

The Description parameter specifies a user-provided description for the supervision group or summary view. The range is 0 to 80 characters.

Displayed Name

(displayName)

The Displayed Name parameter specifies a unique name for the supervision group or summary view. The range is 1 to 32 characters.

Supervise Objects Belonging To

(filtersAndSpans)

The Supervise Objects Belonging To parameter specifies that objects in the supervision group must belong to the assigned spans and pass at least one of the inclusion filters, or that objects in the supervision group can either belong to the assigned spans or pass at least one of the inclusion filters. The options are:

- Inclusion Filters *AND* Spans (default)
- Inclusion Filters *OR* Spans

Supervised Alarms Severities

(supervisedAlarmsSeverities)

The Supervised Alarms Severities parameter specifies the levels of severity for alarms which will be supervised by the supervision group. The options are:

- Critical, Major and Minor Alarms (default)
- Critical and Major Alarms
- Critical Alarms Only
- All Alarms

A.4 Web server configuration parameters

This section describes the parameters relevant to web server configuration

Browser Path

The browser path parameter specifies the file path to the browser application which the 5620 SAM will use to access the Supervision module configuration forms and web portal. The browser path parameter can be configured manually or by clicking the Browse button and navigating to the file path.

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

