Alcatel-Lucent 5620

SERVICE AWARE MANAGER | RELEASE 9.0 R1

LTE ePC USER GUIDE

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Alcatel-Lucent License Agreement

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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 FREEWARE 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.

Note — You can use the Search function of Acrobat Reader (File→Search) to find a term in a PDF of this 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. For more information, see the Help for Acrobat Reader.

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 documentation suite.

Table 1 5620 SAM customer documentation suite

Guide	Description
5620 SAM core documentation	
5620 SAM Planning Guide	The *5620 SAM Planning Guide* provides information about 5620 SAM scalability and recommended hardware configurations.

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Guide	Description
5620 SAM | 5650 CPAM Installation and Upgrade Guide	The *5620 SAM | 5650 CPAM Installation and Upgrade Guide* provides OS considerations, configuration information, and procedures for the following: • 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
5620 SAM User Guide	The *5620 SAM User Guide* 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 *5620 SAM User Guide* uses a task-based format. Each chapter contains: • a workflow that describes the steps for configuring and using the functionality • detailed procedures that list the configurable parameters on the associated forms 5620 SAM management information specific to LTE network elements is covered in the *5620 SAM LTE ePC User Guide* and *5620 SAM LTE RAN User Guide*. 5620 SAM management information specific to 1830 PSS network elements is covered in the *5620 SAM Optical User Guide*.
5620 SAM Parameter Guide	The *5620 SAM Parameter Guide* provides: • 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 *5620 SAM User Guide* and the parameter descriptions in the *5620 SAM Parameter Guide*. See Procedure 2 for more information. Parameters specific to LTE network elements are covered in the *5620 SAM LTE Parameter Reference*. Parameters specific to 1830 PSS network elements are covered in the *5620 SAM Optical Parameter Reference*.
5620 SAM Statistics Management Guide	The *5620 SAM Statistics Management Guide* provides information about how to configure performance and accounting statistics collection and how to view counters using the 5620 SAM. Network examples are included.
5620 SAM Scripts and Templates Developer Guide	The *5620 SAM Scripts and Templates Developer Guide* 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: • CLI scripting, XML, and the Velocity engine • basic scripting or programming • 5620 SAM functions

5620 SAM Troubleshooting Guide	The *5620 SAM Troubleshooting Guide* provides task-based procedures and user documentation to:
	• help resolve issues in the managed and management networks
	• identify the root cause and plan corrective action for:
	  • 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:
	  • network management LANs
	  • network management platforms and operating systems
	  • 5620 SAM client GUIs and client OSS applications
	  • 5620 SAM servers
	  • 5620 SAM databases

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Guide	Description
5620 SAM Maintenance Guide	The *5620 SAM Maintenance Guide* provides procedures for: • generating baseline information for 5620 SAM applications • performing daily, weekly, monthly, and as-required maintenance activities for 5620 SAM-managed networks
5620 SAM Integration Guide	The *5620 SAM Integration Guide* provides procedures to allow the 5620 SAM to integrate with additional components.
5620 SAM System Architecture Guide	The *5620 SAM System Architecture Guide* 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.
5620 SAM Supervision Module User Guide	The *5620 SAM Supervision Module User Guide* 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.
5620 SAM Network Element Compatibility Guide	The *5620 SAM Network Element Compatibility Guide* provides release-specific information about the compatibility of managed device features in 5620 SAM releases.
5620 SAM Release Description	The *5620 SAM Release Description* provides information about the new features associated with a 5620 SAM software release.
5620 SAM Glossary	The *5620 SAM Glossary* defines terms and acronyms used in all of the 5620 SAM documentation, including 5620 SAM LTE documentation.
5620 SAM XML OSS Interface Developer Guide	The *5620 SAM XML OSS Interface Developer Guide* provides information that allows you to: • 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
5620 SAM LTE documentation	
5620 SAM LTE ePC User Guide	The *5620 SAM LTE ePC User Guide* 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 *5620 SAM LTE ePC User Guide* before you attempt to use the 5620 SAM in your LTE network.
5620 SAM LTE RAN User Guide	The *5620 SAM LTE RAN User Guide* describes how to discover, configure, and manage the 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 *5620 SAM LTE RAN User Guide* before you attempt to use the 5620 SAM in your LTE network.
5620 SAM LTE Parameter Reference	The *5620 SAM LTE Parameter Reference* provides a list of all LTE ePC and LTE RAN parameters supported in the 5620 SAM.
5620 SAM LTE Alarm Reference	The *5620 SAM LTE Alarm Reference* provides a list of LTE ePC and LTE RAN alarms that can be reported in the 5620 SAM GUI.
5620 SAM 3GPP OSS Interface Developer Guide	The *5620 SAM 3GPP OSS Interface Developer Guide* 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.
5620 SAM 3GPP OSS Interface Compliance Statements	The *5620 SAM 3GPP OSS Interface Compliance Statements* document describes the compliance of the 5620 SAM 3GPP OSS interface with the 3GPP standard.
5620 SAM LTE RAN Release Description	The *5620 SAM LTE RAN Release Description* provides information about the LTE RAN features associated with the release.

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Guide	Description
5620 SAM optical documentation	
5620 SAM Optical User Guide	The *5620 SAM Optical User Guide* 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 *5620 SAM Optical User Guide* before you attempt to use the 5620 SAM in your network.
5620 SAM Optical Parameter Reference	The *5620 SAM Optical Parameter Reference* provides a list of all optical device parameters supported in the 5620 SAM.
5620 SAM Optical Alarm Reference	The *5620 SAM Optical Alarm Reference* provides a list of optical device alarms that can be reported in the 5620 SAM GUI.

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Procedure 1 To find the 5620 SAM user documentation

The user documentation is available from the following sources:

- the User_Documentation directory on the product DVD-ROM
- Help→5620 SAM User Documentation in the 5620 SAM client GUI main menu

Note — Users of Mozilla browsers may receive an error message when using the User Documentation Index page (index.html) to open 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 offline storage (Mozilla Firefox) or cache (Mozilla 1.7) values to 100 Mbytes to eliminate the error message.

Procedure 2 To view parameter descriptions from the *5620 SAM User Guide*

You can click on a parameter name in a *5620 SAM User Guide* procedure to open the matching parameter description in the *5620 SAM Parameter Guide*. Ensure the following conditions are true beforehand:

- the *5620 SAM Parameter Guide* and *5620 SAM User Guide* are located in the same directory
- Adobe Reader Release 5.0 or later is installed

1 To view a parameter description when both the *5620 SAM User Guide* and the *5620 SAM Parameter Guide* are open in Adobe Acrobat, click on the parameter name in the *5620 SAM User Guide*.

The parameter description is displayed in the *5620 SAM Parameter Guide*.

2 To view a parameter description when only the *5620 SAM User Guide* is open in Adobe Acrobat:

i Click on a parameter name in a procedure in the *5620 SAM User Guide*. The *5620 SAM User Guide* closes and the *5620 SAM Parameter Guide* opens to display the parameter description.

ii Double-click on the Previous View button in Adobe Acrobat (or press Alt + ←) to re-open the *5620 SAM User Guide*. The *5620 SAM User Guide* opens and displays the parameter from step i.

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

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	*hostname*

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Convention	Description	Example
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

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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

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1 — 5620 SAM LTE ePC workflows

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1.1 5620 SAM LTE ePC workflow overview

The 5620 SAM LTE ePC workflow comprises general and LTE-specific 5620 SAM network, network element, and service management tasks.

The general workflow includes the high-level tasks that can be performed using the 5620 SAM, as described in the *5620 SAM User Guide*. Figure 1-1 shows the high-level workflow. Section 1.2 describes the general tasks that are required to commission, configure, deploy, and manage services.

Figure 1-1 General network workflow for life-cycle management

The LTE network life-cycle management follows the general workflow, but includes tasks that pertain specifically to the management of the LTE mobile core. LTE-specific tasks, such as how to configure, manage, and troubleshoot LTE ePC NEs, EPS paths, and LTE mobile services are described in the workflow in section 1.3.

1.2 Workflow for general management tasks

1. Install the 5620 SAM software, as described in the *5620 SAM | 5650 CPAM Installation and Upgrade Guide*.
2. See the workflow in the *5620 SAM User Guide* for guidance about general management tasks, such as how to:
   - use basic 5620 SAM applications that are included in the 5620 SAM GUI
   - perform basic administrative tasks for the security, database management, and redundancy of the 5620 SAM system
   - configure and manage non-LTE specific NEs in your network
   - configure and manage the physical topology and routing for your network
   - configure and distribute policies using 5620 SAM policy management engine
   - use the alarm table to manage faults
3. For the LTE-specific tasks that are discussed in this guide, see section 1.3.

1.3 Workflow for LTE ePC-specific management tasks

1. Review the 5620 SAM LTE features and functions.
2. Perform commissioning, mediation, and discovery for each of the following NEs:
   - **i** 7750 MG
   - **ii** 9471 MME
   - **iii** 5780 DSC
3. Perform the following 7750 MG equipment configuration tasks:
   - **i** Configure a ISM mobile card.
   - **ii** Create mobile regions.
   - **iii** Configure LTE profiles and policies.
   - **iv** Configure the SGW and PGW instances, including the following:
     - mobile region selection
     - signaling, including interfaces and profiles
     - reference points, including interfaces and profiles
   - **v** Set the Administrative State parameter for the SGW and PGW instances to Up.
   - **vi** Configure the ISA-MG groups.
4. Configure the 9471 MME and 5780 DSC equipment:
   - **i** Configure the 9471 MME. See the 9471 MME documentation suite.
   - **ii** Start the 9471 MME MI GUI and Provisioning GUI from the 5620 SAM.

iii Configure the 5780 DSC. See the 5780 DSC documentation suite.

iv Start the 5780 DSC GUI from the 5620 SAM.

5 Configure physical links from eNodeBs to other NEs.

6 Create a mobile service.

7 Configure correlation between the EPS paths and the underlying transport layer using drill-down hints.

8 Monitor the LTE equipment and services:

a View the NE properties forms such as:

- SGW instance, application, and interface properties forms
- PGW instance, application, and interface properties forms
- 9471 MME instance, application, and interface properties forms and the equipment navigation tree
- 5780 DSC instance, application, and interface properties forms and the equipment navigation tree

b Monitor the EPS peers and paths using the properties forms for each type of supported peer or path.

c Monitor profiles and policies.

d Use the EPS path topology map to monitor the health of EPS paths.

9 Track network performance and equipment usage using performance statistics counters for the following NEs:

- SGW and PGW
- 9471 MME

10 Troubleshoot LTE equipment and services:

a Use the alarms table to identify and troubleshoot EPC NEs, EPS paths, and mobile services.

b Use the faults tab in the EPC NEs, EPS paths, and mobile services properties forms to identify errored components and to navigate to alarm information.

c Use the drill-down operation to access the alarm and state information about the transport layer that underlies an EPS path.

d Troubleshoot connectivity on a mobile service or an EPS path using ICMP ping and ICMP trace.

2 — LTE ePC management using the 5620 SAM

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2.3 5620 SAM LTE path and mobile service management overview *2-7*

2.1 5620 SAM LTE NE management solution overview

The 5620 SAM LTE NE management solution focuses on the equipment, configuration, fault, and state management of the ePC NEs, LTE interfaces, and mobile services that are used for mobile backhaul.

The 5620 SAM LTE NE management solution also supports the correlation of the LTE interfaces and mobile services with the underlying network transport layer to provide enhanced multi-layer monitoring and troubleshooting capabilities.

The 5620 SAM LTE NE management solution is comprised of the following components:

- 5620 SAM
- 5620 SAM LTE ePC
  - 7750 MG SGW
  - 7750 MG PGW
  - 9471 MME
  - 5780 DSC
- 5620 SAM LTE RAN (also known as the eUTRAN)
  - eNodeB

Figure 2-1 shows the 5620 SAM LTE NEs components and EPS interfaces that are managed in a typical LTE network.

Figure 2-1 5620 SAM LTE NE components and EPS interfaces

5620 SAM

The Alcatel-Lucent 5620 SAM enables integrated element, network and service-aware management of the products not only within the evolved packet core, but it also extends out to the radio access network (eNodeB), providing operators with an end-to-end IP management within the eUTRAN, backhaul and core networks. The 5620 SAM manages both the mobile layer (bearers, QoS of traffic flows, GTP/PMIP tunnels) and the underlying transport layer attributes (bandwidth, pseudowires, LSPs) to provide cross-layer coordination and correlation.

The 5620 SAM also features enhanced advanced monitoring and service assurance capabilities to simplify the management of IP/MPLS-based networks. In particular, its automated troubleshooting functionality integrates physical, network routing and service topologies to simplify the process of fault isolation, minimizing service interruptions and reducing the possibility of human error.

Through a powerful, standards-based OSS interface, the 5620 SAM provides open, standards-based interfaces that easily adapt to their existing OSS environments for faster and more cost-effective integration.

To further enhance their service assurance capabilities, mobile operators can deploy the 5620 SAM along with the Alcatel-Lucent 5650 Control Plane Assurance Manager, which enables operators to proactively assure network and service availability against control plane misconfigurations, malfunctions and undetected routing updates. The 5650 CPAM offers real-time control plane visualization, proactive control plane surveillance, configuration validation and control plane diagnosis. In addition, by seamlessly integrating with the 5620 SAM, the Alcatel-Lucent 5650 CPAM gives carriers unprecedented manageability by unifying service, routing, MPLS and physical infrastructure management.

5620 SAM LTE ePC

The 5620 SAM LTE ePC is an all-IP mobile core network for the LTE, and is a converged framework for packet-based real-time and non-real-time services. LTE is end-to-end all-IP: from mobile handsets and other terminal devices with embedded IP capabilities, over IP-based eNodeB, across the ePC and throughout the application domain.

The 5620 SAM LTE ePC is comprised of the following four components, each of which is defined by 3GPP standards.

7750 MG SGW

The 7750 MG SGW is a data plane element in the LTE network whose primary function is to manage user-plane mobility, and act as a demarcation point between the 5620 SAM RAN and the core network.

7750 MG PGW

The 7750 MG PGW is the termination point of the packet data interface towards the PDN. The 7750 MG PGW, which is the anchor point for sessions towards the external PDN, supports:

- policy enforcement, such as operator-defined rules for resource allocation and usage
- packet filtering, such as deep packet inspection for application type detection
- charging support, such as per-URL charging

9471 MME

The 9471 MME performs the signaling and control functions to manage the UE access to network connections, the assignment of network resources, and the management of the mobility states to support tracking, paging, roaming, and handovers. The 9471 MME controls all control-plane functions that are related to subscriber and session management. The 9471 MME supports the following functions:

- security procedures—end-user authentication as well as initiation and negotiation of ciphering and integrity protection algorithms
- terminal-to-network session handling—signaling procedures that are used to set up packet data context and negotiate associated parameters such as QoS
- idle terminal location management—tracking the area update process that is used to allow the network to join terminals for incoming sessions

5780 DSC

The Alcatel-Lucent 5780 DSC is a carrier-grade platform that provides the Policy and Charging Rules Function for 3G packet core and 4G evolved packet core networks according to the 3GPP Release 7 and 8 specifications.

The 5780 DSC allows service providers to manage and control network behavior based on their business rules, application requirements, network status, and subscriber entitlement and preferences. After these decisions are implemented, they are instantiated and enforced in the network as a set of network policies.

The 5780 DSC supports the following functions:

- provides the dynamic link between the data and user layer, and the application and subscriber layer
- authorizes the network connections and flow, and determines charging information
- determines and binds the required QoS policy
- determines the flow and charging rules during UE connections, including detection and policy control
- accepts AF requests for media components and charging
- notifies the AF about network events
- provides roaming support of the ePC solution
- allows operator control of subscription support, service assurance, and charging

5620 SAM LTE RAN

The 5620 SAM LTE RAN focuses on the discovery, configuration, and management of RAN devices such as the eNodeB. The 5620 SAM provides an end-to-end management solution of the all-IP LTE domain by managing RAN UE access points in addition to the ePC mobile backhaul.

The 5620 SAM LTE RAN eNodeB, which reside outside of the ePC in the RAN, provides the user plane and control plane protocol terminations for user equipment. The eNodeB use the S1-MME interface to connect to the 9471 MME and the S1-U interface to connect to the 7750 MG SGW.

See the *5620 SAM LTE RAN User Guide* for all functionality supported by the 5620 SAM.

5620 SAM LTE 3GPP reference points

LTE reference points, as shown in Figure 2-1, are based on the 3GPP standards and are created automatically when LTE peer devices are signaled. The following peers and reference points are supported in the 5620 SAM Release 8.0:

- eNodeB to 7750 MG SGW (S1-U)
- 7750 MG SGW to 7750 MG PGW (S5)
- 7750 MG SGW to 9471 MME (S11)
- 7750 MG PGW to 5780 DSC (Gx)
- 7750 MG PGW or 7750 MG SGW to CCF (Rf)

2.2 Supported 5620 SAM LTE NE management functions

The Alcatel-Lucent 5620 SAM, along with the 5650 CPAM, provides comprehensive element and end-to-end IP management for the Alcatel-Lucent ePC NEs, LTE interfaces, and mobile services that are used for mobile backhaul.

Table 2-1 lists the 5620 SAM LTE NE management functions that are supported by the 5620 SAM.

Table 2-1 LTE management functions supported by the 5620 SAM

LTE NE management support	Discovery and mediation	Equipment	Configuration	Performance	State	Fault and alarm
5620 SAM LTE ePC						
7750 MG SGW	✓	✓	✓	✓	✓	✓
7750 MG PGW	✓	✓	✓	✓	✓	✓
9471 MME	✓	✓		✓	✓	✓
5780 DSC	✓	✓			✓	✓
5620 SAM LTE RAN (see the *5620 SAM LTE RAN User Guide*)						
eNodeB	✓	✓	✓	✓	✓	✓

Supported 5620 SAM LTE ePC management functionality

This section outlines the capabilities of service-aware network management in the context of the four components that comprise the 5620 SAM LTE ePc. Theseinclude:

Alcatel-Lucent 7750 MG SGW and 7750 MG PGW

The 5620 SAM supports the discovery and management of the 7- or 12-slot 7750 MG. The 7750 MG can be configured as an SGW or a PGW in the LTE network. You can use the 5620 SAM to configure, view, and manage the following:

- chassis and shelf
- card slots, cards, and MDAs
- ISA-MG groups
- mobility regions
- one SGW or PGW instance per 7750 MG
- control bearer reference points, such as S1-U, S11, S5, and Gx
- gateway interface and application functions
- diameter, diameter peer, and GTP profiles
- QCI policies
- status, statistics, and state management of faults associated with bearer paths and peers
- alarms and fault management
- performance management data

9471 MME

The 5620 SAM supports the discovery and management of single-shelf and multi-shelf configurations on the 9471 MME chassis. You must use the MI and Provisioning GUIs that run on the 9471 MME to configure the 9471 MME. You can start the 9471 MME GUIs from the 5620 SAM GUI. You can use the 5620 SAM to view the following:

- chassis and shelf
- card slots and cards, including OAM, MME Interface Function, MME Application Function, shelf management, and hub cards
- MME Interface Function and MME Application Function hosts and services
- card redundancy
- alarms and fault management
- performance management data and statistics

5780 DSC

The 5620 SAM supports the discovery and management of the 5780 DSC. Configuration management for the 5780 DSC is performed from the 5780 DSC GUI that runs on the 5780 DSC platforms. You can start the 5780 DSC GUI from the 5620 SAM.

You can use the 5620 SAM to view the following:

- chassis and shelf
- card slots and cards
- card redundancy
- alarms and fault management
- geo-redundant nodes

Supported 5620 SAM LTE RAN management functionality

The 5620 SAM LTE RAN focuses on the discovery, configuration, and management of RAN devices such as the eNodeB. eNodeB management by the 5620 SAM is significantly different in terms of functionality and the management paradigm. Traditionally, the 5620 SAM takes what can be considered a passive role in device management. That is, the device takes a dominant role and the 5620 SAM serves to monitor and assist the functionality of the network.

In relation to the eNodeB, the 5620 SAM management paradigm is reversed. The device takes a passive role to the 5620 SAM, which is fully capable of configuring and overriding device settings and configuration.

See the *5620 SAM LTE RAN User Guide* for all functionality supported by the 5620 SAM.

2.3 5620 SAM LTE path and mobile service management overview

The 5620 SAM LTE solution introduces the following concepts and tools for the management of LTE ePC NEs, interfaces, and services.

EPS paths

The nodes in the ePC and the eNodeB are connected by interfaces that correspond topologically to the LTE reference points. The 5620 SAM-managed point-to-point connections between EPS peers are known as EPS paths.

The 5620 SAM allows you to view the peers, perform the drill-down operation, and view the faults that are associated with each instance of an EPS path. You can use the Manage→Mobile Core command from the 5620 SAM main menu or the EPS path topology map to view the properties of EPS paths.

EPS paths topology map

The EPS path topology map is a management tool that displays an aggregated representation of the mobile network objects and EPS paths that the 5620 SAM supports. The topology map provides the following:

- real-time alarm status for all of the EPS paths that the 5620 SAM monitors
- quick access to the properties forms for EPS paths and the 9471 MME, 7750 MG, and the 5780 DSC. The properties forms, in turn, provide access to the configuration, state, performance data, and fault information associated with each managed logical or physical component.

Mobile service

A mobile service represents the connectivity between LTE network components and is comprised of the eNodeB, 7750 MG SGW, 7750 MG PGW, and other supporting NEs. The NEs are joined by S1-U and S5 EPS paths.

The 5620 SAM uses a mobile service to provide a view of the individual service paths that are available from an eNodeB to the 7750 MG SGW and 7750 MG PGW. You can view information about each service path from the eNodeB to the 7750 MG PGW and get information about the configuration, state, performance, and faults associated with each path.

The EPS paths and peer sites associated with a mobile service have been integrated into the 5620 SAM Service Test Manager to provide ping and trace tools to monitor the paths from an eNodeB to a 7750 MG PGW. These tools can also be used for on-demand testing of an EPS path when you need to debug an eNodeB connectivity problem.

Transport layer correlation

The 5620 SAM can automatically correlate the underlying transport path between NEs with the overlying EPS path. The correlation mechanism is based on information that you configure about the network transport topology. The correlation mechanism is referred to as the drill-down operation; the transport layer information that you configure for an EPS path is referred to as a drill-down hint.

This drill-down operation provides you with the alarm and state information about the transport path and simplifies the root cause analysis for problems that may occur on an EPS path.

5620 SAM LTE end-to-end IP management

The 5620 SAM LTE, Release 8.0 management solution provides end-to-end IP management of the mobile and transport layers of the LTE network. Figure 2-2 shows the LTE and transport components that can be managed by the 5620 SAM.

Figure 2-2 LTE mobile core and transport components managed by the 5620 SAM

3 — 5620 SAM LTE ePC features and functionality

3.1 LTE ePC features for 5620 SAM Release 9.0 *3-2*

3.2 LTE ePC features for 5620 SAM Release 8.0 *3-2*

3.1 LTE ePC features for 5620 SAM Release 9.0

Table 3-2 lists the 5620 SAM LTE ePC features or functionality added in the 5620 SAM Release 9.0.

Table 3-1 5620 SAM Release 9.0 LTE ePC functionality

Feature of function	Description	Reference for more information
Release 9.0 R1 LTE ePC features		
7750 MG support	**Equipment management** The 5620 SAM supports the 7750 MG, Release 3.0 or later. The 5620 SAM supports IPv6 addresses on IP packet reassembly interfaces. **Security** The 5620 SAM supports a new scope of command role, the EPC Operator. The new role has read and write permission on all EPC classes. **Statistics** The 5620 SAM supports aggregated MG card peer statistics. The aggregated statistics are identified in the statistics table listing with a card slot value of 0. The non-aggregated peer statistics for each card are identified by a card slot value between 1 and 12. Realtime statistics collection is not supported for the aggregated statistics records. Aggregated statistics provide a global view of session counts, throughput, and other performance data across the MG SGW and PGW peers. The 5620 SAM supports the application of user-created filters to define the scope of user statistics queries. **Lawful intercept** The 5620 SAM supports LI on an LTE ePC gateway.	— See the 5620 SAM User Security chapter in the *5620 SAM User Guide*. — See Procedure 17-2 for information about collecting user statistic. See Lawful Intercept in section 14.1, and Procedures 14-18 and 14-19 for information about configuring LI policies.
5780 DSC support	**Equipment management** The 5620 SAM supports the 5780 DSC, Release 3.0 or later.	—

3.2 LTE ePC features for 5620 SAM Release 8.0

Table 3-2 lists the 5620 SAM LTE ePC features or functionality added in the 5620 SAM Release 8.0.

Table 3-2 5620 SAM Release 8.0 LTE ePC functionality

Feature or function	Description	Reference for more information
Release 8.0 R7 LTE ePC features		

(1 of 6)

Feature or function	Description	Reference for more information
9471 MME configuration requirements	In previous versions of the 5620 SAM, it was necessary to configure the V3TrapForwardingTable.xml file in order to manage 9471 MME's before discovery by the 5620 SAM. This is no longer a requirement. The procedure related to configuring the V3TrapForwardingTable.xml file has been removed from this guide.	—
9471 MME Gr and IuPS interface support	The 5620 SAM now supports the viewing of 9471 MME Gr and IuPS interfaces as per the existing EPC reference points.	See Procedures to 7-3 for information about viewing 9471 MME reference point interfaces.
9471 MME MPH service support	The 5620 SAM now supports the viewing of MPH services in this release. The MPH service terminates the external signalling SCTP, UDP, and TCP stacks to offload the MIF service from this function.	See Procedures 7-6 for information about viewing 9471 MME packet handler properties.
9471 MME alarms	Additional 9471 MME alarms have been added for EMS support.	*5620 SAM LTE Alarm Reference*
9471 MME multi-shelf configuration support	The 5620 SAM now supports multi-shelf 9471 MME configurations. Multi-shelf 9471 MME configurations provide task load balancing and redundancy.	—
Release 8.0 R5 LTE ePC features		
7750 MG support	**Configuration management** The 5620 SAM now supports the inheritance of home profiles, roaming profiles, and visiting profiles from the gateway. You can also configure the PLMN list profile and assign it to the PGW. The 7750 MG supports ISM Mobile cards that provide the SGW and PGW functionality. The cards fits into the IOM slots on the 7750 MG. You can also configure a second ISM card per ISM Group to provide redundancy inside the group. The GTP profile can be used to configure the GTP control plane between the following entities: • SGW and PGW signaling • SGW and PGW over the S5 interface • SGW and MME over the S11 interface The GTP profile can also be used to configure the GTP user plane between the following entities: • eNodeB and SGW over the S1-U interface • SGW and PGW over the S5 interface **Performance management** You can use a 5620 SAM GUI or OSS client to collect KPI and KCI statistics from both the S and PDN gateways. You can configure PM job names, start and end times, the actual data (MIB table) to be collected, as well as the frequency of collection. The collected stats are written to an XML file on the NE.	See chapter 6 for information about configuring LTE gateways. See chapter 14 for more information about PLMN list profiles. See chapter 5 for more information about ISM Mobile cards. See chapter 17 for more information about KPI and KCI statistics.
7750 MG IP packet reassembly support	In some networks, IP packet fragmentation may occur due to bandwidth limitations or the design of the network. To facilitate IP packet reassembly on the 5620 SAM, you can configure a new ISA IP Reassembly MDA on the second daughter card slot of a ISM mobile card. IP Packet reassembly can only performed on 7750 MG devices.	See chapter 6 for information about configuring the IP packet reassembly feature.

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Feature or function	Description	Reference for more information
7750 MG LAG support	The 5620 SAM LTE now supports the configuration of network LAGs and access LAGs on Release 8.0 R5 and later of the 7750 MG.	See chapter 6 for information about configuring LAGs on a 7750 MG.
LTE ePC parameter descriptions	A new guide has been developed that consolidates all LTE ePC and LTE RAN parameters supported by the 5620 SAM.	*5620 SAM LTE Parameter Reference*
LTE ePC alarm description tables	A new guide has been developed that consolidates all LTE ePC and LTE RAN alarms that can be reported in the 5620 SAM GUI.	*5620 SAM LTE Alarm Reference*
Release 8.0 R3 LTE ePC features		
7750 MG support	**Fault, alarm, and state management** The 5620 SAM fault and alarm management supports the propagation of alarms related to the underlying components of an EPS path, such as physical links and SAPs, as aggregated alarms of the EPS path. **Configuration management** The 5620 SAM supports the configuration of APNs on a PGW. The 5620 SAM supports the following profile types: • SGW charging profile • PGW charging profile Charging profiles are applied to PGWs and SGWs. **Performance management** The 5620 SAM supports the ability to plot SGW and PGW statistics as a graph using the 5620 SAM statistics plotter. The plotter can display multiple performance, accounting, and server performance statistics simultaneously using dual axes. The plotter also provides a numerical value for each point on the graph.	See chapter 16 for information about managing 7750 MG alarms. See chapter 6 for information about configuring SGWs and PGWs. See Procedures 14-12 to 14-15 for information about configuring profiles and policies. See the *5620 SAM Statistics Management Guide* for information about using the statistics plotter.
9471 MME support	**Equipment management** The 5620 SAM equipment tree includes the shelf PDU. **Fault, alarm, and state management** The fault and alarm management capabilities of 5620 SAM include new alarms generated by the 9471 MME interfaces and application instances. **Configuration management** The 5620 SAM supports the download of 9471 MME software from the 5620 SAM server to the 9471 MME, using an 9471 MME-specific software upgrade policy. An operator requires the GUI Cross Launch scope of command permission to view the 9471 MME MI GUI	See section 2.1 for an overview of the 9471 MME functions in the LTE network. See chapter 4 for information about mediation and discovery of the 9471 MME. See chapter 5 for information about starting the 9471 MME MI GUI. See chapter 7 for information about viewing 9471 MME properties. See the *5620 SAM User Guide* for information about scope of command roles. See chapter 15 for information about downloading 9471 MME software. See chapter 16 for information about managing 9471 MME alarms. See chapter 17 for information about 9471 MME statistics.

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Feature or function	Description	Reference for more information
5780 DSC support	**Equipment management** The 5620 SAM equipment tree includes 5780 DSC PCRF service groups and members. The 5620 SAM supports the 5780 DSC 2.0 R1 on an ATCA chassis. **Fault, alarm, and state management** The 5620 SAM provides the availability status of a 5780 DSC instance, DPA, PCRF, and PCRF group object. **Configuration management** An operator requires the GUI Cross Launch scope of command permission to view the 5780 DSC GUI.	See section 2.1 for a overview of the 5780 DSC functions in the LTE network. See chapter 4 for information about mediation and discovery of the 5780 DSC. See the *5620 SAM User Guide* for information about scope of command roles. See chapter 5 for information about starting the 5780 DSC GUI. See chapter 8 for information about viewing 5780 DSC properties.
LTE user statistics management	The 5620 SAM supports on-demand collection and viewing of performance statistics on a per-user and user connection basis. A query can be filtered using the IMSI, APN name, bearer ID, and SDF criteria.	See chapter 17 for information about using the LTE User Query Manager and viewing LTE user statistics.
Transport and mobile service layer integration	The 5620 SAM EPS drill-down feature, which automatically discovers the underlying transport path between network elements, supports partial success of a drill-down operation. If any segment within a hint fails to discover components, an alarm is generated and the degree of success of the drill-down is indicated in the Hint Matching Level field.	See chapter 12 for information about using EPS path hints and drill-down operation to manage the health of an EPS path.
Mobile service	The 5620 SAM uses a mobile service to provide an operator with a view of the individual service paths that are available from an eNodeB to the attached SGW and PGW. The 5620 SAM supports the automatic creation and dynamic updating of mobile services. Previously, mobile services were manually created and updated by the user. In order to allow the creation of mobile services the 5620 SAM supports unmanaged mobile NEs. The first unmanaged mobile NE was the eNodeB. The 5620 SAM adds support a PGW as an unmanaged NE, for situations where a PGW is part of a mobile service but is not managed by the 5620 SAM.	See chapter 13 for information about a mobile service. See chapter 18 for information about troubleshooting a mobile service.

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Feature or function	Description	Reference for more information
Release 8.0 R1 LTE ePC features		
7750 MG support	**Equipment management** The 5620 SAM equipment tree and physical topology map are extended to include the 7750 MG network elements. **Fault, alarm, and state management** The fault and alarm management capabilities of the 5620 SAM are extended to include new alarms for the SGW and PGW application instances. The 5620 SAM alarm correlation capability helps an operator determine the root cause of a fault within the 7750 MG. The 5620 SAM state management capability is extended to include the new hardware associated with the SGW and PGW application instances. **Configuration management** The 5620 SAM supports the configuration of the ISA-MG cards which the SGW and PGW application instances run on. The 5620 SAM also supports profile-based configuration of the SGW and PGW. Each 7750 MG supports one SGW or PGW instance. The 5620 SAM supports the following policy and profile types: • system limit profile • QCI policies • GTP profiles • diameter profile • diameter peer profile **Performance management** The 5620 SAM collects, stores, and manages performance statistics generated by the 7750 MG platform and associated SGW and PGW application instances. The statistics are also available to northbound OSS clients via 5620 SAM-O.	See section 2.1 for an overview of the 7750 MG functions in the LTE network. See chapter 4 for information about mediation and discovery of the 7750 MG. See chapter 5 for information about configuring and managing LTE equipment. See chapter 6 for information about configuring SGWs and PGWs. See chapter 14 for information about configuring profiles and policies. See chapter 16 for information about managing 7750 MG alarms. See chapter 17 for information about 7750 MG statistics.
9471 MME support	**Equipment management** The 5620 SAM equipment tree and physical topology map are extended to include the 9471 MME network element. **Fault, alarm, and state management** The fault and alarm management capabilities of 5620 SAM are extended to include new alarms generated by the 9471 MME interfaces and application instances. The 5620 SAM alarm correlation capability helps an operator determine the root cause of a fault within the 9471 MME. The 5620 SAM state management capability is extended to include the new hardware associated with the 9471 MME application instance. **Configuration management** The 5620 SAM provides access to the configuration and MI GUIs which are hosted on the 9471 MME platform. An operator can start the MME GUIs from the 5620 SAM GUI. **Performance management** The 5620 SAM collects, stores, and manages performance statistics generated by the 9471 MME platform, and associated MME interface and application instances. The statistics are also available to northbound OSS clients via the 5620 SAM-O. Statistical data can be retrieved in 3GPP compliant format.	See section 2.1 for a overview of the 9471 MME functions in the LTE network. See chapter 4 for information about mediation and discovery of the 9471 MME. See chapter 7 for information about viewing 9471 MME properties. See chapter 16 for information about managing 9471 MME alarms. See chapter 17 for information about 9471 MME statistics.

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Feature or function	Description	Reference for more information
5780 DSC support	**Equipment management** The 5620 SAM equipment tree and physical topology map are extended to include the 5780 DSC network elements. **Fault, alarm, and state management** The fault and alarm management capabilities of 5620 SAM are extended to include new alarms generated by the 5780 DSC. The 5620 SAM alarm correlation capability helps an operator determine the root cause of a fault within the 5780 DSC. The 5620 SAM state management capability is extended to include the new hardware associated with the 5780 DSC application instance. **Configuration management** The 5620 SAM provides access to the 5780 DSC configuration GUI which is hosted on the 5780 DSC platform. The operator can start the 5780 DSC GUI from the 5620 SAM GUI.	See section 2.1 for a overview of the 5780 DSC functions in the LTE network. See chapter 4 for information about mediation and discovery of the 5780 DSC. See chapter 8 for information about viewing 5780 DSC properties. See chapter 16 for information about managing 5780 DSC alarms.
EPS path topology map	The 5620 SAM provides a summarized topology view of the mobile network. The topology view provides real-time alarm status feedback to an operator for the EPS paths (for example S1-U and S5) that the 5620 SAM monitors. The map also provides an operator with access to the underlying properties form for the individual EPS path and the logical instances supported by the 9471 MME, 7750 MG, and the 5780 DSC. The properties forms provide access to the configuration, state, performance data, and fault information associated with each managed logical or physical component.	See chapter 10 for information about the EPS path topology map. See chapter 18 for information about troubleshooting an EPS path.
Transport and mobile service layer integration	The 5620 SAM automatically discovers, based on user-supplied hints, the underlying transport path between network elements and associates this transport path with the overlying EPS path. This mechanism provides an operator with alarm and state feedback on the health of the transport path, simplifying the root cause analysis for an EPS Path.	See chapter 12 for information about using EPS path hints and drill-down operation to manage the health of an EPS paths.
Mobile service	The 5620 SAM uses a mobile service to provide an operator with a view of the individual service paths that are available from an eNodeB to the attached SGW and PGW. An operator can view the relative health of each service path from the eNodeB to the PGW and can access the configuration, state, performance data, and faults information associated with each path. In addition, the mobile service is integrated with the 5620 SAM STM capability, providing an operator with a powerful tool to monitor the paths from an eNodeB to a PGW. The tools can also be used for on-demand testing of an EPS path when an operator attempts to debug an eNodeB connectivity problem.	See section 2.1 for a overview of the eNodeB functions in the LTE network. See chapter 5 for an overview of eNodeB functionality. See chapter 13 for information about a mobile service. See chapter 18 for information about troubleshooting a mobile service.

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LTE ePC device discovery

4 — 5620 SAM management configuration

4 — 5620 SAM management configuration

4.1 5620 SAM management configuration overview *4-2*

4.2 5620 SAM management configuration workflow *4-3*

4.3 5620 SAM management procedures *4-3*

4.1 5620 SAM management configuration overview

The 5620 SAM can manage LTE NEs after the NEs have been configured and the 5620 SAM mediation and discovery rules have been applied. Table 4-1 lists where to find more information about how to configure NEs for discovery and management by the 5620 SAM.

Table 4-1 5620 SAM NE configuration and discovery information

For more information about	See
Installation and upgrade	*5620 SAM | 5650 CPAM Installation and Upgrade Guide*
System architecture	*5620 SAM System Architecture Guide*
Using the CLI from the 5620 SAM	*5620 SAM User Guide*
System and NE commissioning	
Discovery management	
In-band and out-of-band management	

Firewalls and file transfers

The 5620 SAM can use FTP or SCP to transfer data to and from managed NEs. Ports between 5620 SAM components and managed NEs, such as between a 5620 SAM main server and a managed 7750 MG, must be open through firewalls in order to allow communication between the managed NEs and the 5620 SAM.

The 7750 MG supports secure file transfers using SSH2. When SSH2 is correctly configured and the secure file transfer type is configured in the SSH2 mediation policy for the NE, SFTP, not FTP, is used to perform file transfers to and from the managed NEs. Table 4-2 lists where to find more information.

Table 4-2 Firewall and file transfer information

For more information about	See
Firewalls and open ports	*5620 SAM Planning Guide*
FTP, SCP, and SSH2	*5620 SAM User Guide*

4.2 5620 SAM management configuration workflow

The following workflow lists the high-level steps required to prepare an NE for discovery and to configure the 5620 SAM to discover the NE.

1. Using the CLI, configure each NE that you need to discover and manage. The parameters that you must configure on each NE include:
   - system IP address
   - interfaces
   - Telnet and FTP servers
   - security
   - SNMP packet MTU size
2. Configure mediation policies on the 5620 SAM.
3. Discover the NEs.
   - **i** Create discovery rules.
   - **ii** Scan the network according to the discovery rules.
   - **iii** Check the discovery, management, and synchronization status of the NEs.
4. Create event notification policies, if required.
5. Assign event notification policies to NEs, if required.
6. Manage the NE discovery.
   - Modify discovery rules.
   - Add or modify rule elements.
   - Enable or disable discovery rules.
   - Remove discovery rules.
   - Rescan the network according to a discovery rule.
   - Manage or unmanage NEs.
   - Synchronize NEs with the 5620 SAM database.

4.3 5620 SAM management procedures

The following procedures describe how to configure LTE NEs and the 5620 SAM to enable the 5620 SAM to discover and manage the NEs.

7750 MG management by the 5620 SAM

Perform the following procedures to discover and manage a 7750 MG with the 5620 SAM.

Procedure 4-1 To configure a 7750 MG for management by the 5620 SAM

See the appropriate NE documentation for more information about using the CLI.

1 Open a console window on the NE.

2 Type the following command at the prompt to configure the system address of the NE:

configure router interface system address *xxx.xxx.xxx.xxx/mask* ↵

where
xxx.xxx.xxx.xxx is the system IP address
mask is the bitmask

3 Choose the method of file transfer. Perform the following steps, as required:

a Type the following command at the prompt to enable Telnet:

configure system security telnet-server ↵

b Type the following command at the prompt to enable FTP:

configure system security ftp-server ↵

c Type the following command at the prompt to enable SSH2:

configure system security ssh version 2 ↵

4 If required, type the following command at the prompt to enable console, FTP, and SNMP access for the appropriate user account on the NE:

configure system security user *user_account* access console ftp snmp ↵

where *user_account* is the appropriate user account for Telnet, FTP, and SNMP access; for example, admin

5 If required, type the following command at the prompt to enable hash encryption for passwords and authentication keys during NE configuration save or list operations:

configure system security hash-control read-version *read-version* write-version *write-version* ↵

where
read-version is the version of encryption accepted during read operations; for example, 1, 2, or all to indicate that both versions are accepted
write-version is the version of encryption used during write operations; for example, 1 or 2

Version 1 encryption uses a simple key algorithm that generates the same character string each time a specific password or authentication key is hashed.

Version 2 encryption uses a more complex key algorithm that generates a different character string each time it hashes a specific password or authentication key.

6 Type the following commands in sequence at the prompt to set the time zone and time:

configure system time zone *time_zone -offset_from_UCT* ↵

admin set-time *YYYY/MM/DD hh:mm:ss* ↵

where
time_zone is the appropriate time zone; for example, EST
offset_from_UCT is the offset, in hours, from the UCT
YYYY/MM/DD hh:mm:ss is the current local time

7 If required, perform one of the following to enable a time protocol.

a Type the following command at the prompt to enable NTP:

configure system time ntp server-address *server_IP_address* ↵

where *server_IP_address* is the IP address of the NTP server

b Type the following command at the prompt to enable SNTP:

configure system time sntp server-address *server_IP_address* ↵

where *server_IP_address* is the IP address of the SNTP server

8 Perform one of the following:

a To enable the SNMPv2, go to step 9.

b To configure SNMPv3 management on the NE, perform Procedure 4-2, and then go to step 10.

9 Type the following commands at the prompt to enable the SNMPv2 engine and to configure an SNMP community:

configure system snmp no shutdown ↵

configure system snmp packet-size 9216 ↵

configure system security snmp community *community_name* rwa version both ↵

where *community_name* is the SNMPv2 community name

Note 1 — The command is used for the 5620 SAM write mediation policy. When you use SNMPv2, you must also use this mediation policy for read access, or create another mediation policy that is also configured for rwa.

Note 2 — The SNMPv2 community string name rwa attributes must be enabled for the 5620 SAM to correctly manage a node, even when the 5620 SAM is only used to monitor a network.

10 Type the following commands in sequence at the prompt to ensure that the NE uses persistent SNMP indexes:

bof persist on ↵

bof save ↵

11 Type the following commands at the prompt to save the configuration changes and reboot the NE:

admin save ↵

admin synchronize boot-env ↵

admin reboot now ↵

The NE initializes with SNMP communication enabled.

12 Type the following commands in sequence at the prompt to ensure that the SNMP trap configuration is correct:

configure log ↵

info ↵

The output should be similar to the following:

```
snmp-trap-group 98
            description "5620sam"
            trap-target "xxx.xxx.xxx.xxx:162" address
xxx.xxx.xxx.xxx snmpv2c notify-community "privatetrap98"
            trap-target "yyy.yyy.yyy.yyy:162" address
yyy.yyy.yyy.yyy snmpv2c notify-community "privatetrap98"
        exit
        log-id 98
            from main security
            to snmp 1024
        exit
```

where

xxx.xxx.xxx.xxx is the IP address of the 5620 SAM main server in a standalone 5620 SAM configuration, or one of the two main servers in a redundant configuration

yyy.yyy.yyy.yyy is the IP address of the other 5620 SAM main server in a redundant 5620 SAM configuration

13 Use a 5620 SAM client to discover the NE and to verify that the NE configuration allows the management of the NE. See Procedure 4-3 to configure a mediation and discovery policy for the NE on the 5620 SAM.

Procedure 4-2 To configure a 7750 MG for management by the 5620 SAM using SNMPv3

SNMPv3 security is designed for user-based security and comprises secure authentication and communication. The access granted is restricted to the scope of the configured users and groups.

1 Open a CLI session on the managed NE if it is not already open.

2 Type the following commands to create a read-write-notify group for general SNMP mediation on the managed NE:

configure system security snmp ↵

access group *snmpv3_groupname* security-model usm security-level privacy read iso write iso notify iso ↵

where
snmpv3_groupname is the name that is being assigned to the SNMP group

3 If mediation of VPRN objects is required, type the following command to create a read-write-notify group on the managed NE:

access group *snmpv3_groupname* security-model usm security-level privacy context vprn prefix read "vprn-view" write "vprn-view" notify "iso" ↵

where
snmpv3_groupname is the name that is being assigned to the SNMP group

4 Type the following command to exit SNMP group configuration:

exit ↵

5 Type the following command to display the SNMP engine ID of the NE:

show system info ↵

The SNMP engine ID is displayed as SNMP Engine ID.

6 Generate an MD5 or SHA authentication key and DES privacy keys using the password2key utility on a 5620 SAM client or server station.

- MD5 and SHA authentication keys are used to create an encrypted authentication password for users. MD5 keys are 32-character strings. SHA keys are 40-character strings.
- DES privacy keys are used to encrypt the entire SNMP packet, for additional security.

i Log in to the 5620 SAM client or server station.

Note 1 — If you are using the password2key utility on a 5620 SAM server station, you must log in as the samadmin user.

Note 2 — If you are using the password2key utility on a 5620 SAM client station, you must log in as a local administrator, or as the user that installed the client.

ii Open a console window.

iii Navigate to the *install_directory*/nms/bin directory.

where *install_directory* is the 5620 SAM installation location, typically /opt/5620sam/server or /opt/5620sam/client on Solaris, and C:\5620sam\client on Windows

iv Run the password2key.bat or .bash utility to create an MD5 or SHA authentication key by typing:

nmsclient.bat password2key *method password engine_ID* ↵

where
method is the type of encryption algorithm used to generate the authentication key, MD5 or SHA
password is the ASCII password used to generate the authentication key for the SNMPv3 user; for example, yoga
engine_ID is the SNMP engine ID obtained in step 5

The SHA authentication key generated from this example is 60210e3d2bfa7e02682262df9c5de400b9c3322b.

v Run the password2key.bat or .bash utility to create an MD5 or SHA DES privacy key by typing:

nmsclient.bat password2key *method password engine_ID* ↵

where
method is the type of encryption algorithm used to generate the DES privacy key, MD5 or SHA
password is the ASCII password used to generate the DES privacy key; for example, happy
engine_ID is the SNMP engine ID obtained in step 5

The DES privacy key generated from this example is 4088f4ef966b8d1ebe54b8d841a5f76806c374ec.

vi If your security model requires unique keys for each managed NE, repeat steps 6iv and 6v for each set of keys to be generated.

vii Store the generated keys.

7 Use the keys generated in step 6 to create an SNMPv3 user on the managed NE.

i Type the following sequence of commands at the prompt:

configure system security user *snmpv3_username* ↵

access snmp ↵

snmp ↵

authentication *method authentication_key* privacy des-key *DES_privacy_key* ↵

group *snmpv3_groupname* ↵

exit all ↵

where
snmpv3_username is the name being assigned to the SNMPv3 user
method is sha or md5, depending on the authentication method used
authentication_key is the SHA or MD5 authentication key generated in step 6
DES_privacy_key is the DES privacy key generated in step 6
snmpv3_groupname is the name of the new SNMP user group

Note — A DES privacy key is 32 characters. If SHA encryption, which produces a 40-character key is used to generate the DES privacy key in step 6, you must provide only the first 32 characters of the key, as shown in the following example that uses the key values from step 6:

```
authentication sha
60210e3d2bfa7e02682262df9c5de400b9c3322b privacy des
4088f4ef966b8d1ebe54b8d841a5f768 ↵
```

ii Type the following command at the prompt to save the configuration changes.

admin save ↵

Procedure 4-3 To configure the 5620 SAM to discover and manage a 7750 MG

The 5620 SAM uses SNMPv2c or SNMPv3 to manage the 7750 MG. The following procedure describes the configuration of the mediation policy and discovery rule that can be used by the 5620 SAM to discover a 7750 MG. For information about configuring additional parameters in a mediation policy or discovery rule, see the Discovery Management chapter in the *5620 SAM User Guide*.

1 Perform one of the following:

a To use SNMPv2 to manage the 7750 MG, go top step 2. For SNMPv2 configurations, the 5620 SAM uses the default SNMPv2c mediation security policy to discover the 7750 MG.

b To use SNMPv3 to manage the 7750 MG, go to step 3.

2 Create a discovery rule for the 7750 MG on the 5620 SAM:

i Choose Administration→Discovery Manager from the 5620 SAM main menu. The Discovery Manager (Edit) form opens with the Discovery Rules tab displayed.

ii Click on the Create button. The Create Discovery Rule wizard opens.

iii In step 1 of the wizard, enter a name in the Description field to identify the discovery rule. Click on the Next button.

iv In step 2 of the wizard (Add Rule Elements), click on the Create button. The Topology Discover Rule Element (Create) form opens.

v Enter the 7750 MG management IP address as the rule element for the discovery rule and click on the Ok button. A warning dialog appears.

vi Click on the OK button to acknowledge the warning.

vii Click on the Finish button to save to close the Create Discovery Rule wizard. A warning dialog box appears.

viii Click on the OK button to acknowledge the warning. The Discovery Manager (Edit) form appears displaying the new discovery rule.

ix Click on the OK button.

x Go to step 6.

3 Create an SNMPv3 user on the 5620 SAM.

i Choose Administration→Security→NE User Configuration from the 5620 SAM main menu. The NE User Configuration form opens.

ii Click on the Create button. The NE User, Global Policy (Create) form opens with the General tab displayed.

iii Configure the parameters:

- User Name—Enter the user name that was created using the CLI (snmpv3_username).
- Description
- Access—Choose the snmp option. The SNMPv3 tab appears in the NE User, Global Policy (Create) form.

iv Click on the SNMPv3 tab button.

v When a user has SNMPv3 permissions, you can configure the authentication parameters. Ensure that the SNMPv3 user and user group have been created on the managed NE. If MD5 or SHA authentication and DES privacy is used, ensure the keys have been created and associated with the managed NE and the SNMPv3 user group, as described in the *5620 SAM User Guide*. Configure the parameters:

- Authentication Protocol—Choose SHA as the authentication protocol
- Privacy Protocol—Choose DES as the privacy protocol
- New Authentication Password
- Confirm New Auth Password
- New Privacy Password
- Confirm New Privacy Password

vi Click on the OK button to save the change and close the NE User, Global Policy (Create) form.

vii Click on the Search button on the NE User Configuration form to confirm the creation of the new SNMPv3 user.

4 Configure an SNMPv3 mediation security policy for the SNMPv3 user created in Step 3:

i Choose Administration→Mediation from the 5620 SAM main menu. The Mediation (Edit) form opens with the General tab displayed.

ii Click on the Mediation Security tab button.

iii Click on the Create button to create a mediation security policy. The Mediation Policy (Create) form opens.

iv Configure the Display Name parameter to identify the policy.

v Set the Security Model parameter to SNMP v3 (USM).

vi In the SNMP panel, set the Port parameter to 161.

vii In the SNMPv3 panel, click on the Select button. The Select User Mediation Policy form opens.

viii Select the SNMPv3 user created in step 3 and click on the Ok button. The user is added to the SNMPv3 panel on the Mediation Policy (Create) form.

ix Click on the Ok button to save the changes. A warning dialog appears.

x Click on the OK button to acknowledge the warning.

xi Click on the OK button to save the mediation security policy and close the Mediation (Edit) form.

5 Create a discovery rule for the 7750 MG on the 5620 SAM.

i Perform steps 2 i to 2 vi in this procedure to initiate the creation of the discovery rule.

ii In step 3 of the wizard (the Configure Mediation Security step), click on the Select button and choose the mediation security policy that you created in step 4 for the Read Policy ID, Write Policy ID, and Trap Policy ID parameters.

iii Perform steps 2 vii to 2 x in this procedure to complete the creation of the discovery rule.

6 Use the 5620 SAM client to discover the NE and to verify that the NE configuration allows management of the NE, as described in the *5620 SAM User Guide*.

9471 MME management by the 5620 SAM

Perform the following procedures to discover and manage a 9471 MME with the 5620 SAM.

Procedure 4-4 To configure the 5620 SAM to discover and manage a 9471 MME

The 5620 SAM can use SNMPv2c or SNMPv3 to manage the 9471 MME. The following procedure describes the configuration of a basic SNMPv2c and SNMPv3 mediation policy and discovery rule that can be used to discover a 9471 MME. For information about configuring additional parameters in a mediation policy or discovery rule, see the Discovery Management chapter in the *5620 SAM User Guide*.

1 Perform one of the following:

a To use SNMPv2 to manage the 9471 MME, go to step 2.

b To use SNMPv3 to manage the 9471 MME, go to step 4.

2 Configure an SNMPv2c mediation security policy on the 5620 SAM:

i Choose Administration→Mediation from the 5620 SAM main menu. The Mediation (Edit) form opens with the General tab displayed.

ii Click on the Mediation Security tab button.

iii Click on the Create button to create a mediation security policy. The Mediation Policy (Create) form opens.

iv Configure the Displayed Name parameter to identify the policy.

v Set the Security Model parameter to SNMP v2c.

vi In the SNMP panel, set the Port parameter to 8001.

vii Click on the OK button to save the mediation security policy.

3 Create a discovery rule for the 9471 MME on the 5620 SAM:

i Choose Administration→Discovery Manager from the 5620 SAM main menu. The Discovery Manager (Edit) form opens with the Discovery Rules tab displayed.

ii Click on the Create button. The Create Discovery Rule wizard opens.

iii In step 1 of the wizard, enter a name in the Description field to identify the discovery rule. Click on the Next button.

iv In step 2 of the wizard (Add Rule Elements), click on the Create button. The Topology Discover Rule Element (Create) form opens.

v Enter the 9471 MME management IP address as the rule element for the discovery rule and click on the OK button. A warning dialog appears.

vi Click on the OK button to acknowledge the warning.

vii Click on the Finish button to save to close the Create Discovery Rule wizard. A warning dialog box appears.

viii Click on the OK button to acknowledge the warning. The Discovery Manager (Edit) form appears displaying the new discovery rule.

ix Click on the OK button.

x Go to step 6.

4 Configure an SNMPv3 mediation security policy on the 5620 SAM.

i Choose Administration→Mediation from the 5620 SAM main menu. The Mediation (Edit) form opens with the General tab displayed.

ii Click on the Mediation Security tab button. The Mediation Policy (Create) form opens.

iii Set the Security Model parameter to SNMP v3 (USM).

iv In the SNMP panel, set the Port parameter to 8001.

v Click on the OK button to save the mediation security policy.

5 Create a discovery rule for the 9471 MME on the 5620 SAM.

   i Perform steps 3 i to 3 vi in this procedure to initiate the creation of the discovery rule.

   ii In step 3 of the wizard (the Configure Mediation Security step), click on the Select button and choose the mediation security policy that you created in step 4 for the Read Policy ID, Write Policy ID, and Trap Policy ID parameters.

   iii Perform steps 3 vii to 3 x in this procedure to complete the creation of the discovery rule.

6 Use a 5620 SAM client to discover the NE and to verify that the NE configuration allows management of the NE, as described in the *5620 SAM User Guide*.

5780 DSC management by the 5620 SAM

Perform the following procedures to discover and manage a 5780 DSC with the 5620 SAM.

You must add the IP address of the 5620 SAM to the 5780 DSC firewall rules in order to manage the 5780 DSC. The firewall configuration can be performed:

- as part of the initial 5780 DSC software installation. See the *5780 DSC Planning, Installation, and Upgrade Guide* for the installation prompts associated with configuring the 5780 DSC to work with the 5620 SAM.
- as a post-installation task. See Procedure 4-5.

If you change the 5620 SAM IP address, you need to shut down the existing 5780 DSC firewall settings and reload the new settings to allow the changes to take effect. See Procedure 4-6.

Procedure 4-5 To configure the 5780 DSC firewall rules for management by the 5620 SAM

Perform this procedure to configure the firewall rules on the 5780 DSC if you need to add a new 5620 SAM, or you are swapping out an existing 5620 SAM that has a different IP address.

Note 1 — You can only configure the 5620 SAM to communicate with the 5780 DSC using a IPv4 address.

Note 2 — If you deploy the 5780 DSC as an HA cluster, you must perform this procedure on each 5780 DSC CSB component in the HA cluster.

1 Open a console window and log in to the 5780 DSC CSB as the root user.

2 Navigate to the /etc/ipf/ directory.

3 Use a text editor to open the ipf.conf file

4 Perform one of the following:

Note — The firewall rules file must contain entries for each 5620 SAM server in redundant 5620 SAM servers.

a If an existing 5620 SAM is currently configured to work with the 5780 DSC, go to step 5.

b If a 5620 SAM was not configured to work with the 5780 DSC when the 5780 DSC was first installed, go to step 6.

5 In the ipf.conf file:

i Locate the following comment line.

```
# Give element manager SNMP access to this system.
```

ii Change the following strings located directly below the above comment line:

```
pass in quick proto 6 from 5620 SAM IP to 5780 DSC IP port =
161

pass in quick proto 17 from 5620 SAM IP to 5780 DSC IP port =
161
```

where
5620 SAM IP is the IP address of the new 5620 SAM server
5780 DSC IP is the external floating OAM IP address of the 5780 DSC CSB component

Code 4-1 shows the location of the comment line and strings in the ipf.conf file.

Code 4-1: Sample code for 5780 DSC firewall rules in the ipf.conf file

```
# Give element manager SNMP access to this system.
pass in quick proto 6 from 123.456.789.100 to 123.456.789.50 port =
161
pass in quick proto 17 from 123.456.789.100 to 123.456.789.50 port =
161
```

6 If a 5620 SAM was not configured to work with the 5780 DSC when the 5780 DSC was installed:

Note — You can only configure the 5620 SAM to communicate with the 5780 DSC using IPv4.

i Locate the following comment line in the ipf.conf file.

```
#===.tpafirewallrules Ends===
```

ii Add the appropriate IPv4 comment line and strings as detailed in step 5 directly below the above comment line in the ipf.conf file.

7 Save and close the ipf.conf file.

8 Perform Procedure 4-6 to remove the old firewall rules and load the new firewall rules.

9 Perform Procedure 4-7 to discover the 5780 DSC.

Procedure 4-6 To remove the old firewall rules and load the new firewall rules

After the 5780 DSC firewall rules are changed, you must restart the firewall. The TPA_reflushFirewallRules script allows a tpaadmin user to flush the old firewall rules and load the new firewall rules without shutting down the firewall.

1 Open a console window and log in to the 5780 DSC as tpaadmin.

2 Navigate to the /opt/tpa/bin directory.

3 To remove the old firewall rules and load the new firewall rules, type;

```
./TPA_reflushFirewallRules ↵
```

Procedure 4-7 To configure the 5620 SAM to discover and manage the 5780 DSC

The 5620 SAM uses SNMPv2c to manage the 5780 DSC. The following procedure describes the configuration of a basic SNMPv2c mediation policy and discovery rule that can be used to discover a 5780 DSC. For information about configuring additional parameters in a mediation policy or discovery rule, see the Discovery Management chapter in the *5620 SAM User Guide*.

1 Configure an SNMPv2c mediation security policy on the 5620 SAM.

   i Choose Administration→Mediation from the 5620 SAM main menu. The Mediation (Edit) form opens with the General tab displayed.

   ii Click on the Mediation Security tab button.

   iii Click on the Create button to create an mediation security policy. The Mediation Policy (Create) form opens.

   iv Configure the Displayed Name parameter.

   v Set the Security Model parameter to SNMP v2c.

   vi In the SNMP panel, set the Port parameter to 161.

vii Configure the Community String parameter.

viii Click on the OK button to save the mediation security policy.

Note — The CLI and FTP functions are not supported for the 5780 DSC. Do not change the default values that are in the CLI and FTP panels.

2 Create a discovery rule for the 5780 DSC on the 5620 SAM:

i Choose Administration→Discovery Manager from the 5620 SAM main menu. The Discovery Manager (Edit) form opens with the Discovery Rules tab displayed.

ii Click on the Create button. The Create Discovery Rule wizard opens. The wizard divides the configuration procedure into steps.

iii In step 1 of the wizard (Specify General Attributes), configure the parameters.

- ID or Auto-Assign ID
- Description
- Administrative State
- OLC State
- Group Name
- Management Protocol

Click on the Next button.

iv In step 2 of the wizard (Add Rule Elements), click on the Create button. The Topology Discover Rule Element (Create) form opens.

v Enter the 5780 DSC management IP address as the rule element for the discovery rule. The IP address depends on the 5780 DSC deployment model that you use:

- Solaris—IP address of the NIC on the OAM station
- ATCA—floating IP address of the OAM card

vi Click on the OK button to save the IP address. A warning dialog box appears.

vii Click on the OK button to acknowledge the warning. Click on the Next button.

viii In step 3 of the wizard (Configure Mediation Security), click on the Select button and choose the mediation security policy that you created in step 1 for the Read Policy ID, Write Policy ID, and Trap Policy ID parameters.

ix Click on the Finish button to save to close the Create Discovery Rule wizard. A warning dialog box appears.

x Click on the OK button to acknowledge the warning. The Discovery Manager (Edit) form appears displaying the new discovery rule.

xi Click on the OK button to save the discovery rule and close the form.

xii Go to step 3.

3 Use a 5620 SAM client to discover the NE and to verify that the NE configuration allows management of the NE, as described in the *5620 SAM User Guide*.

Mobile core configuration and management

5 — Configuring and managing LTE ePC equipment

6 — Configuring LTE ePC gateways

7 — Viewing 9471 MME properties

8 — Viewing 5780 DSC properties

9 — Configuring LTE ePC mobile regions

5 — Configuring and managing LTE ePC equipment

5.1 LTE ePC equipment configuration and management overview *5-2*

5.2 NE properties form *5-6*

5.3 Shelf properties *5-7*

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5.9 Workflow to configure LTE ePC equipment *5-9*

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5.1 LTE ePC equipment configuration and management overview

You can use the 5620 SAM to create, configure, and manage LTE ePC equipment. After an NE is discovered, you can use the properties forms to configure and view specific parameters for the equipment. You can open the properties forms from the contextual menus or from the equipment window display tab.

The 5620 SAM supports the following LTE NEs:

- 7750 MG
- 9471 MME
- 5780 DSC
- managed eNodeB
- unmanaged network elements - eNodeB and serving GPRS support nodes
- unmanaged gateway - PDN gateway

7750 MG

The Alcatel-Lucent 7750 MG can be configured as an SGW or a PGW.

SGW

The SGW routes and forwards user data packets. The SGW is the mobility anchor for the user plane during inter-eNodeB handovers, and is the anchor for mobility between LTE and other 3GPP technologies.

PGW

The PGW provides connectivity from the UE to external packet data networks. The PGW is the exit and entry point for traffic to and from the UE.

9471 MME

The 9471 MME allows the UE to access network services by performing authorization and authentication functions.

9471 MME hardware

The 9471 MME cards must be installed in specific slots, as listed in Table 5-1. Slots 9 to 14 are not used. Redundancy is supported for all card types. Multi-shelf 9471 MME configurations are supported.

Table 5-1 9471 MME card types and functions

Card type	Slot	Function
OAM	1 and 2	OAM

(1 of 2)

Card type	Slot	Function
MIF, MAF, or combined MIF/MAF	Any available slot (except slots 1, 2, 7, 8, and 15)	Terminate and manage all interface links with the 9471 MME Provide session and bearer management for user sessions and procedures
ATCA hub	7 and 8	Provide external connectivity to the platform using GE interfaces
Shelf management	15	Monitor the health of the system and provide feedback to the OAM service

(2 of 2)

Configuring a 9471 MME

The 5620 SAM provides read-only capability for the 9471 MME. You can configure and manage a 9471 MME using GUIs that can be started from the 5620 SAM. See Procedure 5-5 for information about starting the 9471 MME GUIs.

5780 DSC

The 5780 DSC is deployed on the following platforms:

- ATCA
- Solaris

ATCA v2 platform

The 5780 DSC cabinet can be configured with up to two shelves. Each ATCA shelf has 14 slots. The ATCA cards must be installed in specific slots in the ATCA shelf, as listed in Table 5-2.

Table 5-2 5780 DSC card types and functions

Card type	Slot	Function
Common Services	1 and 2	Provide internal communication between the processing blades and are installed in a 1+1 redundancy side-by-side configuration
PCRF Services	3 to 6 and 9 to 14	Provide OAM service, DPA service, and PCRF service. The PCRF services blades are installed using a 1+1 redundancy in a side-by-side configuration.
ATCA switching hub	7 and 8	Provide external connectivity to the platform using GE interfaces
Shelf management card	15	Monitor the health of the system and provide feedback to the OAM service

Solaris platform

The 5780 DSC is supported on Solaris stations that meet the following minimum requirements:

- 64-bit AMD-based station or rack-mount chassis
- dual-core CPU
- 8-Gbyte RAM
- 73-Gbyte hard disk

An HA deployment requires multiple stations of the same type. See the *5780 DSC Planning, Installation, and Upgrade Guide* for more information.

Monitoring the 5780 DSC

The 5620 SAM provides read-only capability for the 5780 DSC. See chapter 8 for information about how to monitor the 5780 DSC.

Configuring and managing and PCRF

Configuration and management tasks are performed from the 5780 DSC client GUI. You can open the 5780 DSC client GUI from the 5620 SAM. See Procedure 5-6 for information about starting the 5780 DSC client GUI.

Unmanaged mobile NEs and gateways

The 5620 SAM uses EPS path information to create unmanaged mobile NEs and gateways to represent LTE network components that it does not manage. You can use the 5620 SAM to list and view the properties of all discovered unmanaged mobile NEs and gateways.

eNodeB

The 5620 SAM can discover, manage, and configure the eNodeB. Managed eNodeBs exist in the network and topology map as a standard NE. The 5620 SAM can also use S1-U path information retrieved from the SGW to automatically discover eNodeBs as unmanaged mobile NEs. The 5620 SAM can then manage the eNodeB-based mobile services and use the eNodeB as a starting point in the analysis of the different segments that comprise a selected S1-U path. The eNodeB appears on the physical topology map as an unmanaged NE after a physical link has been created from it to another NE.

PGW

The 5620 SAM uses S5 path information retrieved from the SGW to automatically discover peer PGWs that it does not manage. The unmanaged PGW allows the 5620 SAM to include PGWs as part of a mobile service. The unmanaged PGW appears on the physical topology map after a physical link has been created from it to a managed SGW.

Serving GPRS support node

The 5620 SAM uses Gn peer information retrieved from the PGW to automatically create unmanaged SGSNs. The unmanaged SGSNs appear on the EPS path topology map.

5620 SAM LTE ePC licensing

The 5620 SAM license specifies the number of 7750 MG, 9471 MME, and 5780 DSC cards that can be in the network. When the 5620 SAM attempts to discover a node, the license is checked and if the licensed quantity of cards remaining for the node type is greater then zero, the node can be discovered. If the licensed quantity of cards remaining is less than or equal to zero, the discovery process is blocked. Table 5-3 lists the number of licenses decremented by each card type.

Table 5-3 5620 SAM LTE license decrement values for NE cards

Network element	Licenses decremented
7750 MG	
ISM mobile card	1
5780 DSC	
OAM card	1
PCRF card	1
9471 MME	
MIF, MAF, or combined MIF/MAF card	1

Contact your Alcatel-Lucent technical support representative for more information about how to acquire licenses.

Additional information

Table 5-4 lists where to find more information about using the 5620 SAM to manage LTE ePC equipment. See the appropriate NE user guide for more information.

Table 5-4 Equipment management resources

For more information about	See
5620 SAM equipment management	Equipment Management Overview in the *5620 SAM User Guide*
Using the 5620 SAM equipment window	Equipment Management Using the Equipment Window in the *5620 SAM User Guide*
5620 SAM equipment management using the navigation tree	Equipment Management Using the Navigation Tree in the *5620 SAM User Guide*

5.2 NE properties form

The Network Element properties form contains several tabs. The General tab displays information such as the name, management IP address, chassis type, software version, descriptor version, and resource group ID. The Polling, Physical Links, Spans, and Faults tabs are common with other NE objects.

The General tab for an SGW and a PGW displays a Serving and PDN Gateway Instances dashboard area that lists the SGW and PGW instance that is available on the chassis. When you choose an instance, you can view the properties of an SGW or a PGW under the following tabs:

- General
- Components
- Charging
- EPS Peers
- EPS Paths
- Signaling
- Reference Points
- APN
- MG Groups
- Statistics
- Faults

The General tab for the 9471 MME has an MME Service Dashboard area that lists the 9471 MME instances. When you choose an instance, you can view the 9471 MME instance properties in the MME Instance (Edit) form under the following tabs:

- General
- Components
- EPS Peers
- MME Interface Function
- Reference Points
- MME Application Function
- Faults

The General tab for the 5780 DSC has a dashboard area that lists the 5780 DSC instances. When you choose an instance, you can view the 5780 DSC instance properties in the DSC Instance (Edit) form under the following tabs:

- General
- Components
- Diameter Peers
- ISU State
- Faults

5.3 Shelf properties

The shelf properties forms for the 7750 MG and the 7750 SR have the following tabs:

- General
- Fan Trays
- Multicast
- Power Supply Trays
- LED Panels
- Card Slots
- Hardware Environment
- Timing
- Statistics
- Faults

The shelf properties forms for the 9471 MME and the 5780 DSC have the following tabs:

- General—includes an equipment dashboard area that lists the equipped card slots in the shelf
- Fan Trays—lists the fan trays in the shelf
- Power Supply—lists the power supplies in the shelf (the Power Supply tab is not available on the 9471 MME shelf properties form).
- Card Slots—lists the card slots in the chassis
- Ports—summarizes all of the physical ports that are available on the hub cards
- Faults—lists the alarms associated with the shelf

The shelf PDU properties form for the 9471 MME has the following tabs:

- General—includes information about the slot PDU, RALARM, and RALARM host
- Faults—lists the alarms associated with the shelf PDU

5780 DSC shelves in the equipment navigation view

For the 5780 DSC ATCA deployment, a shelf appears in the 5620 SAM equipment navigation tree as 5780 DSC - ATCA. For a Solaris deployment, a shelf appears in the 5620 SAM equipment navigation tree as 5780 DSC - Non-ATCA.

5.4 Card slots and cards

You can use the 5620 SAM to configure card slots and cards for the 7750 MG. The 7750 MG is based on the 7750 SR chassis, and supports several cards and MDAs that are used to provide network connectivity. When you click on the plus sign beside a shelf object, all of the card slots in the shelf are displayed in the navigation tree. The card slots are empty when cards are not provisioned for the slot.

The 7750 MG supports ISM Mobile cards that provide SGW and PGW functionality. The cards fit in the IOM slots on the 7750 MG. You can also configure a second ISM card per ISM Mobile group to provide redundancy inside the group. When the card is managed by the 5620 SAM, the equipment navigation tree displays a preconfigured ISA Mobile daughter card with an associated virtual port. You can right-click on any of the objects and use the contextual menu to view the object properties.

The card slots for the 9471 MME OAM, hub, and shelf management cards are preassigned and cannot be changed. The MIF, MAF, and combined MIF/MAF cards can be placed in any unused card slot. See Table 5-1 for more information about 9471 MME cards. The 9471 MME card properties form includes a Hosts tab that displays the internal IP address assignment of the individual cards, software version, and any associated faults. The internal IP address is assigned by the 9471 MME during the initial configuration.

For the 5780 DSC ATCA-based deployment, the card slots for the Common Services and the PCRF Services cards are preassigned and cannot be changed in the ATCA frame. See Table 5-2 for more information about 5780 DSC card types in the ATCA frame. The 5780 DSC card properties form includes information about the services that are running on the card, the status, and any associated faults.

5780 DSC card slots and cards in the equipment navigation view

The 5620 SAM equipment navigation tree displays the 5780 DSC card slots and cards according to the type of platform and deployment.

- For a standalone deployment, the 5620 SAM designates card slot 1 as Workstation. The common services card appears in card slot 1.
- For a multi-station deployment, the 5620 SAM designates provisioned card slots as Workstation. Cards are designated as Workstation (Common Services) or Workstation (PCRF Services).
- For an ATCA-based deployment, the 5620 SAM designates provisioned card slots by ATCA, followed by the type of blade; for example, ATCA Molene Blade. Cards are designated by the ATCA blade type, followed by (Common Services) or (PCRF Services).

5.5 Daughter cards

After a card is configured in a 7750 MG card slot, you can use the 5620 SAM to create and configure MDAs.

The 9471 MME and 5780 DSC do not support daughter cards.

5.6 Ports

The types of available ports depend on the cards that are configured in a chassis. You can use the 5620 SAM to:

- view and configure physical ports on the 7750 MG
- view the properties of 9471 MME hub card ports
- view the properties of 5780 DSC ports on the common services card

5.7 Physical links

The 5620 SAM allows you to create and manage links at the Layer 1 level. The physical links represent the physical configuration of the network connections between the ports. If the device supports LLDP for Ethernet interfaces, the 5620 SAM uses that information to automatically draw the physical links on the network map. Otherwise, you must use the 5620 SAM to create the links.

The 9471 MME and 5780 DSC do not support LLDP. You can view and manage physical links from the equipment window, physical topology map, and the manage equipment list form.

5.8 ISA-MG groups

The ISA-MG groups are logical containers that combine multiple ISA-MG cards in a logical group for load balancing in an SGW or a PGW. You must configure the following parameters in the ISA-MG groups configuration form:

- general properties such as Group ID, Description, and SGW or PGW instance ID
- ISA-MG Group members

See Procedure 5-4 for information about configuring ISA-MG groups.

5.9 Workflow to configure LTE ePC equipment

1. Set the chassis mode parameter for the 7750 MG to D.
2. Configure the ISM mobile card type.
3. Create an SGW instance.
4. Create a PGW instance.
5. Create an ISA-MG group, and assign an SGW or a PGW instance to it.
6. Start the 9471 MME MI GUI and 9471 MME Provisioning GUI.
7. Start the 5780 DSC GUI.

5.10 Configuring LTE ePC equipment procedures

The following procedures describe how to configure LTE ePC equipment.

Procedure 5-1 To configure the chassis mode for the 7750 MG

Perform this procedure to configure the chassis mode for the 7750 MG.

1. Choose Equipment from the view selector in the navigation tree. The navigation tree displays the Equipment view.
2. Right-click on a shelf object in the equipment view and choose Properties from the contextual menu. The Shelf (Edit) form opens with the General tab displayed.
3. Set the Administrative Mode parameter to D.

Note — Chassis mode D is the only chassis mode that is supported.

4. Configure the Force parameter.

   Forcing a chassis mode change does not change the operational chassis mode unless there is a compatible card type equipped on the device.
5. Click on the OK button. The Shelf (Edit) form closes.

Procedure 5-2 To configure a 7750 MG ISM Mobile card type

1. Choose Equipment from the view selector in the navigation tree. The navigation tree displays the Equipment view.
2. Right-click on an empty 7750 MG Card Slot object and choose Configure Card from the contextual menu. The Card Slot (Create) form opens. The number of slots depends on the number of configured cards and slots on the managed device. Empty slots and configured slots are listed.
3. Set the Assigned Card Type parameter to ISM Mobile.
4. Click on the OK button. The Card Slot (Create) form closes. The card and slot appear in the navigation tree and in the inventory list of the equipment manager. When the ISM Mobile card is configured in card slot 1, the card is represented by a daughter card and a virtual port 1/1/1.

Note — Ensure that the correct chassis mode is configured for the assigned card types. The chassis mode determines the behavior of the card and establishes the scaling limits and available features. See Procedure 5-1 for more information.

Procedure 5-3 To create an SGW or a PGW instance

1 Choose Equipment from the view selector in the navigation tree. The navigation tree displays the Equipment view.

2 Right-click on a 7750 MG NE in the equipment view and choose Properties. The Network Element (edit) form opens with the General tab displayed.

3 Perform one of the following:

   a If you need to create an SGW, go to step 4.

   b If you need to create a PGW, go to step 12.

4 Click on the Create SGW button. The Serving Gateway (Create) form opens with the General tab displayed.

5 Configure the parameters:

   - EPC ID
   - Dynamic PCC

   The Dymanic PCC parameter applies only to the PGW.

6 Click on the Select button in the Mobile Node Region panel to choose a mobile node region. The Select Mobile Node Region form opens.

7 Configure the filter criteria, if required, and click on the Search button to generate a list of mobile node regions.

8 Choose a region and click on the OK button. The Select Mobile Node Region form closes and the selected profile name appears in the Mobile Node Region panel.

9 Configure the parameters in the Mobile Node ID panel:

   - Group ID
   - Node ID

10 Configure the Administrative State parameter.

11 Go to step 14.

12 Click on the Create PGW button. The PDN Gateway (Create) form opens with the General tab displayed.

13 Perform steps 5 to 10 and then go to step 14.

14 Click on the OK button. The SGW or PGW appears in the list of SGW or PGW instances.

   See the *5620 SAM User Guide* for information about how to configure the NE parameters that are associated with the other tab buttons. See chapter 6 for information about how to configure an SGW or a PGW.

Procedure 5-4 To create and configure an ISA-MG group

1 Choose Equipment from the view selector in the navigation tree. The equipment navigation tree appears.

2 Locate and expand the device on which you need to create an ISA-MG group.

3 Right-click on the ISA-MG Group icon and choose Create ISA-MG Group. The ISA-MG Group (Create) form opens.

4 Configure the parameters:

- Group ID
- Redundancy Type
- Description

5 Click on the Select button in the Gateway Association panel. The Select Gateway Association - ISA-MG Group form opens.

6 Choose an SGW or a PGW from the list and click on the OK button. The Select Gateway Association - ISA-MG Group form closes and the ISA-MG Group (Create) form opens.

7 Click on the Apply button.

8 Click on the ISA-MG Group Members tab button.

9 Click on the Create button. The ISA-MG Group Member (Create) form opens.

10 Click on the Select button in the Base Card panel. The Select Base Card - ISA-MG Group Member form opens with a list of available ISM Mobile cards.

11 Choose the ISM Mobile card to add to this ISA-MG Group and click the OK button. The Select Base Card - ISA-MG Group Member form closes and the ISA-MG Group Member (Create) form reappears.

12 Click on the OK button. A dialog box appears.

13 Click on the OK button. The selected ISM Mobile card appears in the ISA-MG Group Members list.

14 Click on the OK button. A dialog box appears.

15 Click on the Yes button.

Procedure 5-5 To start the 9471 MME MI GUI and Provisioning GUI from the 5620 SAM

The 5620 SAM provides read-only capability for the 9471 MME. You must use the 9471 MME GUI or CLI to configure 9471 MME functions. You can use the 5620 SAM to start the 9471 MME MI GUI or the provisioning GUI from the following:

- physical network map
- 9471 MME NE in the equipment navigation tree

- 9471 MME NE properties form

Note 1 — A netw.NetworkElement.method_GUICrossLaunch scope of command permission is required to view 9471 MME MI GUI menu items. See the *5620 SAM User Guide* for more information about scope of command roles, profiles, and permissions.

Note 2 — For Solaris-based clients, the 9471 MME Provisioning GUI requires Mozilla browser version 3.6.0 or higher.

1 Perform one of the following:

   a Right-click on the 9471 MME icon in the physical network map and choose one of the following:

      - NE Sessions→Launch MI GUI. The Management Interface Authentication form opens. Go to step 2.
      - NE Sessions→Launch Provisioning GUI. The MME Provisioning Web Interface opens in a web browser. Go to step 5.

   b Right-click on the 9471 MME NE in the equipment navigation tree and choose one of the following:

      - NE Sessions→Launch MI GUI. The Management Interface Authentication form opens. Go to step 2.
      - NE Sessions→Launch Provisioning GUI. The MME Provisioning Web Interface opens in a web browser. Go to step 5.

   c Right-click on the 9471 MME NE in the equipment navigation tree and select Properties. The Network Element (Edit) form opens. Click on one of the following buttons:

      - Launch MI GUI. Go to step 2.
      - Launch Provisioning GUI. Go to step 5.

2 Enter the login name and the password for the 9471 MME MI GUI.

3 Click on the Connect button. The 5400 LCP Management Interface opens.

4 Go to step 6.

5 Enter the login name and the password for the 9471 MME Provisioning GUI. Click on the Login button. The LTE Provisioning Web Interface opens.

6 Configure the 9471 MME, as required.

See the 9471 MME *Operations, Administration and Maintenance* and *Configuration Management* guides for information about configuring and using the MI and provisioning GUIs.

Procedure 5-6 To start the 5780 DSC GUI from the 5620 SAM

The 5620 SAM provides read-only capability for the 5780 DSC. You must use 5780 DSC GUI or CLI to configure 5780 DSC functions. You can, however, use the 5620 SAM to start the 5780 DSC GUI from the following:

- 5780 DSC NE in the equipment navigation tree
- 5780 DSC NE properties form

Note — A netw.NetworkElement.method_GUICrossLaunch scope of command permission is required to view 5780 DSC GUI menu items. See the *5620 SAM User Guide* for more information about scope of command roles, profiles, and permissions.

The 5780 DSC discovery and mediation procedures, as described in Procedures 4-5 and 4-7, must be performed before you perform this procedure.

1 Perform one of the following:

a Right-click on the 5780 DSC icon in the physical network map and choose NE Sessions→Launch 5780 DSC Client.

b Right-click on the 5780 DSC NE in the equipment navigation tree and choose NE Sessions→Launch 5780 DSC Client.

c Open the Network Element (Edit) form by right-clicking on the 5780 DSC NE in the physical network map or in the equipment navigation tree and choose Properties. The Network Element (Edit) form opens. Click on the Launch 5780 DSC Client button.

The 5780 DSC client login page opens in a web browser.

2 Enter the login name and the password for the 5780 DSC GUI.

3 Click on the Login button. The 5780 DSC GUI opens.

4 Configure the 5780 DSC, as required.

See the *5780 DSC User Guide* for information about how to configure and use the 5780 DSC GUI.

Procedure 5-7 To view unmanaged mobile NE and gateway properties

1. Choose Manage→Mobile Core→Unmanaged Mobile NEs and Gateways from the 5620 SAM main menu. The Browse Unmanaged Mobile NEs and Gateways form opens.
2. Perform one of the following:
   - **a** View unmanaged mobile NE properties.
     - **i** Choose Unmanaged Network Element (LTE) from the Select Object Type drop-down menu
     - **ii** Go to step 3.
   - **b** View unmanaged PDN gateway properties.
     - **i** Choose Unmanaged Gateway (LTE) from the Select Object Type drop-down menu.
     - **ii** Go to step 7.
3. Configure the filter criteria, if required, and click on the Search button.
4. Perform one of the following:
   - **a** View unmanaged eNodeB properties.
     - **i** Choose an unmanaged eNodeB from the list and click on the Properties button.
     - **ii** The Unmanaged Network Element (Edit) form opens. View the properties under the following tabs:
       - General
       - Supporting S1u Peers
       - Mobile Services
       - Faults
   - **b** View unmanaged serving GPRS support node properties.
     - **i** Choose a serving GPRS support node from the list and click on the Properties button.
     - **ii** The Unmanaged Network Element (Edit) form opens. View the properties under the following tabs:
       - General
       - Supporting Gn Peers
       - Faults
5. Close the Unmanaged Network Element (Edit) form.
6. Go to step 11.
7. Configure the filter criteria, if required, and click on the Search button.

8 Choose an unmanaged PDN gateway from the results list and click on the Properties button.

9 The Unmanaged Gateway (Edit) form opens. View the properties under the following tabs:

- General
- Supporting S5 Peers
- Mobile Services
- Faults

10 Close the Unmanaged Gateway (Edit) form.

11 Close the Browse Unmanaged Mobile NEs and Gateways form.

6 — Configuring LTE ePC gateways

6.1 LTE ePC gateway configuration management overview *6-2*

6.2 Workflow to configure an LTE ePC gateway *6-3*

6.3 Configuring and viewing an SGW *6-3*

6.4 Configuring and viewing a PGW *6-14*

6.5 Configuring a 7750 MG for IP packet reassembly *6-28*

6.6 Configuring a LAG on a 7750 MG *6-31*

6.1 LTE ePC gateway configuration management overview

A 7750 MG supports a single instance of an SGW or a PGW. The 5620 SAM allows you to configure and view the properties of a gateway instance. A gateway instance is created with default settings that allow each gateway to establish peering sessions with other LTE NEs. You can change the default signaling, reference point, and interface settings of the gateway instance if required.

Interfaces

Any reference point may be terminated on an IPv4 or IPv6 interface based on a port or on top of a loopback interface. The loopback interface for the node's main routing instance is also known as the node's system interface. An undefined reference point interface defaults to the gateway signaling interface, and an undefined gateway signaling interface defaults to the node's system interface.

Signaling

Signaling defines the default profiles and signaling interface for a gateway instance.

Gateway GPRS Support Node

A main component of the GPRS is the GGSN. The GGSN performs the interworking between the GPRS network and external packet-switched networks, such as the Internet and X.25 networks.

The GGSN converts the GPRS packets from the SGSN into the appropriate PDP format (for example, IP or X.25) and sends the packets out on the corresponding PDN. In the other direction, PDP addresses of incoming data packets are converted to the GSM address of the destination user. The readdressed packets are sent to the appropriate SGSN. The GGSN stores the current SGSN address of the user and the associated profile in its location register. The GGSN assigns the IP address and is the default router for the connected UE. The GGSN also performs authentication and charging functions.

Reference points

Reference points are interfaces that are used by a gateway to communicate with other devices in the LTE network. After a gateway and other NEs are fully synchronized and recognize each other as neighbors, the reference points send out queries looking for other reference points of the same type. When a reference point discovers another reference point, they become peers and the 5620 SAM binds the peers together as an EPS path. You can modify the default settings of a reference point, if required, by changing the L3 interface, protocol profiles, and other parameters that are applied to the reference point.

Additional information

Table 6-1 lists where to find more information about using the 5620 SAM to manage LTE NEs.

Table 6-1 Equipment management resources

For more information about	See
Creating and configuring interfaces	*5620 SAM User Guide*
Hardware	The appropriate NE user guide

6.2 Workflow to configure an LTE ePC gateway

This workflow assumes that you have:

- Configured the SGW and PGW, as described in chapter 5.
- Created the following profiles, as described in chapter 14:
  - diameter profile
  - diameter peer profile
  - GTP profile
  - QCI policy

1. Configure SGW signaling.
2. Configure the SGW reference points.
3. Configure SGW APN.
4. Configure PGW signaling.
5. Configure the PGW reference points.
6. Monitor the SGW or PGW, as required.
7. Configure a SGW or PGW for IP packet reassembly, as required.
8. Configure a LAG on a 7750 MGs, as required.

6.3 Configuring and viewing an SGW

This section describes how to configure and view signaling and reference points for the SGW.

Note — The administrative state of SGW instances must be set to Down before you can perform configuration changes. You must return the administrative state of the SGW instance to Up after you apply the configuration changes.

Configuring SGW signaling

You must configure the following profiles and interfaces before you can configure signaling:

- Diameter profile, including origin realm and origin host
- GTP profile
- default signaling interface

Procedure 6-1 To configure SGW signaling

1. Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.
2. Choose Serving Gateway (LTE) from the Select Object Type drop-down menu.
3. Configure the filter criteria, if required, and click on the Search button.
4. Choose an SGW instance from the results list and click on the Properties button. The Serving Gateway (Edit) form opens with the General tab displayed.
5. Click on the Signalling tab button.
6. Choose the Diameter profile:
   - **i** Click on the Select button for the Diameter Profile. The Select Diameter Profile form opens.
   - **ii** Configure the filter criteria, if required, and click on the Search button to generate a list of diameter profiles.
   - **iii** Choose a profile and click on the OK button. The Select Diameter Profile form closes and the selected profile is displayed in the Diameter Profile panel.
   - **iv** Configure the parameters:
     - Origin Realm
     - Origin Host
7. Choose a GTP profile for the GTP-C Profile parameter:
   - **i** Click on the Select button for the GTP-C Profile. The Select GTP-C Profile form opens.
   - **ii** Configure the filter criteria, if required, and click on the Search button to generate a list of GTP-C profiles.
   - **iii** Choose a profile and click on the OK button. The Select GTP-C Profile form closes and the selected profile is displayed in the GTP-C Profile panel.

8 Choose a GTP profile for the GTP-U Profile parameter:

i Click on the Select button for the GTP-U Profile. The Select GTP-U Profile form opens.

ii Configure the filter criteria, if required, and click on the Search button to generate a list of GTP-U profiles.

iii Choose a profile and click on the OK button. The Select GTP-U Profile form closes and the selected profile is displayed in the GTP-U Profile panel.

9 Choose the signaling interface:

i Click on the Select button in the Default Signaling Interface panel. The Select Default Signaling Interface - Serving Gateway Signalling form opens.

ii Choose an interface and click on the OK button. The Select Default Signaling Interface - Serving Gateway Signaling form closes, and the Name and ID parameter values for the interface appear in the Serving Gateway (Edit) form.

10 Click on the OK button to save the configuration. A dialog box opens.

11 Click on the Yes button to save the configuration and close the window.

Configuring SGW reference points

The reference points and the associated policies and interfaces for the SGW are as follows:

- Ga
  - L3 interface
  - GTP profile for the GTP-C protocol
  - GTP prime server group profile
- S11
  - L3 interface
  - GTP profile
- S1-U
  - L3 interface
  - GTP profile to configure the GTP-U protocol
- S5
  - L3 interface
  - GTP profile to configure the GTP-C and GTP-U protocols
- Rf
  - L3 interface
  - Diameter peer profile to configure the primary and secondary diameter peer protocols

Procedure 6-2 To configure SGW reference points

1 Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.

2 Choose Serving Gateway (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an SGW instance from the results list and click on the Properties button. The Serving Gateway (Edit) form opens with the General tab displayed.

5 Click on the Reference Points tab button. A list of the SGW reference points is displayed.

6 To configure:

- a Ga reference point, go to step a
- an S1-u reference point, go step b
- an S11 reference point, go to step c
- an S5 reference point, go to step d
- an Rf reference point, go to step e

a To configure a Ga reference point:

i Choose the Ga reference point and click on the Properties button. The SGW Reference Point (Edit) form opens with the General tab displayed.

ii Click on the Select button for the L3 interface in the Ga panel. The Select L3 Interface - SGW Reference Point form opens.

iii Configure the filter criteria, if required, and click on the Search button.

iv Choose an L3 or system interface from the results list and click on the OK button. The Select L3 Interface - SGW Reference Point form closes.

v Click on the Select button for the Name in the GTP-C Profile panel. The Select GTP-C Profile - SGW Reference Point form opens.

vi Configure the filter criteria, if required, and click on the Search button.

vii Choose a profile from the results list and click on the OK button. The Select GTP-C Profile - SGW Reference Point form closes.

viii Click on the Select button for the Name in the Prime Group Profile panel. The Select Prime Group Profile - SGW Reference Point form opens.

ix Configure the filter criteria, if required, and click on the Search button.

x Choose a profile from the results list and click on the OK button. The Select Prime Group Profile - PGW Reference Point form closes.

b To configure an S1-u reference point:

- **i** Choose the S1-u reference point and click on the Properties button. The S1-u Reference Point (edit) form opens with the General tab displayed.
- **ii** Click on the Select button for the L3 interface in the GTP-U panel. The Select L3 Interface - S1-u Reference Point form opens.
- **iii** Configure the filter criteria, if required, and click on the Search button.
- **iv** Choose an L3 or a system interface from the results list and click on the OK button. The Select L3 Interface - S1-u Reference Point form closes.
- **v** Click on the Select button for the Profile in the GTP-U panel. The Select Profile - S1-u Reference Point form opens.
- **vi** Configure the filter criteria, if required, and click on the Search button.
- **vii** Choose a profile from the results list and click on the OK button. The Select Profile - S1-u Reference Point form closes.

c To configure an S11 reference point:

- **i** Choose the S11 reference point and click on the Properties button. The S11 Reference Point (edit) form opens with the General tab displayed.
- **ii** Click on the Select button for the L3 interface in the GTP-C panel. The Select L3 Interface - S11 Reference Point form opens.
- **iii** Configure the filter criteria, if required, and click on the Search button.
- **iv** Choose an L3 or a system interface from the results list and click on the OK button. The Select L3 Interface - S11 Reference Point form closes.
- **v** Click on the Select button for the Profile in the GTP-C panel. The Select Profile - S11 Reference Point form opens.
- **vi** Configure the filter criteria, if required, and click on the Search button.
- **vii** Choose a profile from the results list and click on the OK button. The Select Profile - S11 Reference Point form closes.

d To configure an S5 reference point:

- **i** Choose the S5 reference point and click on the Properties button. The SGW S5 Reference Point (edit) form opens with the General tab displayed.
- **ii** Click on the Select button for the L3 interface in the GTP-C panel. The Select L3 Interface - SGW S5 Reference Point form opens.
- **iii** Configure the filter criteria, if required, and click on the Search button.
- **iv** Choose an L3 or a system interface from the results list and click on the OK button. The Select L3 Interface - SGW S5 Reference Point form closes.
- **v** Click on the Select button for the Profile in the GTP-C panel. The Select Profile - SGW S5 Reference Point form opens.

vi Configure the filter criteria, if required, and click on the Search button.

vii Choose a profile from the results list and click on the OK button. The Select Profile - SGW S5 Reference Point form closes.

viii Click on the Select button for the L3 interface in the GTP-U panel. The Select L3 Interface - SGW S5 Reference Point form opens.

ix Configure the filter criteria, if required, and click on the Search button.

x Choose an L3 or a system interface from the results list and click on the OK button. The Select L3 Interface - SGW S5 Reference Point form closes.

xi Click on the Select button for the Profile in the GTP-U panel. The Select Profile - SGW S5 Reference Point form opens.

xii Configure the filter criteria, if required, and click on the Search button.

xiii Choose a profile from the results list and click on the OK button. The Select Profile - SGW S5 Reference Point form closes.

e To configure an Rf reference point:

i Choose the Rf reference point and click on the Properties button. The SGW Rf (edit) form opens with the General tab displayed.

ii Configure the following parameters:

- Accounting Interim Interval(s)
- Accounting Level
- Inclusion of Charging-Group-ID AVP in ACR
- Operator-string AVP of an ACR Message
- Retry Count for ACR Messages (s)
- Application Transaction Timer(s)
- Node ID

iii Click on the Select button in the L3 interface panel. The Select L3 Interface - SGW Rf form opens.

iv Configure the filter criteria, if required, and click on the Search button.

v Choose an L3 or a system interface from the results list and click on the OK button. The Select L3 Interface - SGW Rf form closes.

vi Click on the Select button for the Primary Diameter Peer Profile in the Diameter Peer Profiles panel. The Select Primary Diameter Peer Profile - SGW Rf form opens.

vii Configure the filter criteria, if required, and click on the Search button.

viii Choose a Diameter peer profile from the results list and click on the OK button. The Select Primary Diameter Peer Profile - SGW Rf form closes.

ix Click on the Select button for the Secondary Diameter Peer Profile in the Diameter Peer Profiles panel. The Select Secondary Diameter Peer Profile - SGW Rf form opens.

x Configure the filter criteria, if required, and click on the Search button.

xi Choose a Diameter peer profile from the results list and click on the OK button. The Select Secondary Diameter Peer Profile - SGW Rf form closes.

xii Click on the Outage tab button.

xiii Configure the following Rf outage parameters:

- Limit for the number of ACRs
- Size Limit Before File Closure (Mbps)
- Duration before File Closure (hours)
- File Extension
- Duration before File Deletion (days)
- Private Info
- Primary Compact Flash

xiv Configure the Configuration File Limit (Mbps) parameter in the ACR Storage on cf1 panel.

xv Configure the Configuration File Limit (Mbps) parameter in the ACR Storage on cf2 panel.

7 Click on the OK button to save the configuration. A dialog box opens.

8 Click on the Yes button to save the configuration and close the window.

Procedure 6-3 To add an APN to an SGW

1 Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.

2 Choose Serving Gateway (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an SGW instance from the results list and click on the Properties button. The Serving Gateway (Edit) form opens with the General tab displayed.

5 Click on the APN tab button. A list of APNs is displayed.

6 Click on the Create button. The Serving Gateway APN (Create) form opens.

7 Configure the following parameters:

- Name
- Description

8 Configure the QCI policies:

   i Configure the Name parameter in the Uplink QCI Policy panel. Click on the Select button. The Select Uplink QCI Policy - Serving Gateway APN form opens.

   ii Configure the filter criteria, if required, and click on the Search button.

   iii Choose a policy from the results list and click on the OK button. The Select Uplink QCI Policy - Serving Gateway APN form closes and the policy that you chose is displayed in the Name field.

   iv Configure the Name parameter in the Downlink QCI Policy panel. Click on the Select button. The Select Downlink QCI Policy - Serving Gateway APN form opens.

   v Configure the filter criteria, if required, and click on the Search button.

   vi Choose a policy from the results list and click on the OK button. The Select Downlink QCI Policy - Serving Gateway APN form closes and the selected policy is displayed in the Name field.

9 Click on the OK button to save the configuration.

Adding charging profiles to an SGW

You must configure an SGW charging profile before you can add the profile to an SGW. See Procedure 14-14 for information about creating SGW charging profiles.

Procedure 6-4 To add charging profiles to an SGW

1 Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.

2 Choose Serving Gateway (LTE) from the object type drop-down list.

3 Configure the filter criteria, if required, and click on the Search button. The SGW instances are listed on the form.

4 Select an SGW instance in the list and click on the Properties button. The Serving Gateway (Edit) form opens with the General tab displayed.

5 Click on the Charging tab button.

6 Configure the parameters in the Settings from MME and HSS for Subscribers panel:

- Ignore All
- Ignore Home
- Ignore Visiting
- Ignore Roaming
- Reject Charging

7 Perform the following steps to configure the charging profiles.

   i Click on the Select button in the Home Profile panel. The Select Home Profile–Serving Gateway form opens.

   ii Select a profile in the list and click on the OK button. The Select Home Profile – Serving Gateway form closes and the profile ID is displayed in the Home Profile panel.

   iii Click on the Select button in the Visiting Profile panel. The Select Visiting Profile – Serving Gateway form opens.

   iv Select a profile in the list and click on the OK button. The Select Visiting Profile – Serving Gateway form closes and the profile ID is displayed in the Visiting Profile panel.

   v Click on the Select button in the Roaming Profile panel. The Select Roaming Profile – Serving Gateway form opens.

   vi Select a profile in the list and click on the OK button. The Select Roaming Profile – Serving Gateway form closes and the profile ID is displayed in the Roaming Profile panel.

8 Click on the OK button. A dialog box appears.

9 Click on the Yes button. The Serving Gateway (Edit) form closes.

10 Close the SGW Instances form.

Viewing and changing SGW properties

The 5620 SAM supports the following properties forms that you can use to monitor the status of the SGW and to change properties as required:

- SGW instance properties
- SGW application properties
- SGW interface properties
- SGW interface member properties

Procedure 6-5 To view and change SGW instance properties

1 Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.

2 Choose Serving Gateway (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an SGW instance from the results list and click on the Properties button. The Serving Gateway (Edit) form opens with the General tab displayed.

5 Change the default settings for the QCI policies, if required. Configure the following in the QCI Policies panel:

i Configure the Name parameter in the Uplink QoS Class Id (QCI) panel. Click on the Select button. The Select Uplink QCI Policy - Serving Gateway APN form opens.

ii Configure the filter criteria, if required, and click on the Search button.

iii Choose a policy from the results list and click on the OK button. The Select Uplink QCI Policy - Serving Gateway APN form closes and the policy that you chose is displayed in the Name field.

iv Configure the Name parameter in the Downlink QoS Class Id (QCI) panel. Click on the Select button. The Select Downlink QCI Policy - Serving Gateway APN form opens.

v Configure the filter criteria, if required, and click on the Search button.

vi Choose a policy from the results list and click on the OK button. The Select Downlink QCI Policy - Serving Gateway APN form closes and the policy that you chose is displayed in the Name field.

6 Change the following parameters that you configured in Procedure 5-3, if required:

- Mobile Node Region
- Group
- Node ID
- Administrative State

7 View the properties of the SGW instance under the following tabs:

- Components—provides a hierarchical view of the SGW application and the interface functions of the SGW
- Charging
- EPS Peers—lists the types of EPS peers, such as S11 and S5. You can choose an EPS peer and display the properties associated with the peer.
- EPS Paths—lists the types of EPS peers for which there is path information. You can choose an EPS path and display the properties associated with the path.
- Signalling
- Reference Points
- APN
- MG Groups
- Statistics
- Faults

8 Close the Serving Gateway (Edit) form.

9 Close the SGW Instances form.

Procedure 6-6 To view SGW application properties

1 Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.

2 Choose SGW Application (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an SGW application from the results list and click on the Properties button. The SGW Application (Edit) form opens with the General tab displayed.

5 View the properties of the SGW Application under the following tabs:

- General
- Components
- Faults

6 Close the SGW Application (Edit) form.

7 Close the SGW Instances form.

Procedure 6-7 To view SGW interface properties

1 Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.

2 Choose SGW Interface (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an SGW interface from the results list and click on the Properties button. The SGW Interface (Edit) form opens on the General tab.

5 View the properties of the SGW Application under the following tabs:

- General
- Components
- SGW Interface Members
- Faults

6 Close the SGW Interface (Edit) form.

7 Close the SGW Instances form.

Procedure 6-8 To view SGW interface member properties

1 Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.

2 Choose SGW Interface Member (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an SGW interface from the results list and click on the Properties button. The SGW Interface Member (Edit) form opens with the General tab displayed.

5 View the properties of the SGW interface members under the following tabs:

- General
- Components
- Faults

6 Close the SGW Interface Member (Edit) form.

7 Close the SGW Instances form.

6.4 Configuring and viewing a PGW

This section describes how to configure signaling and reference points for the PGW.

Note — The administrative state of PGW instances must be set to Down before you can perform configuration changes. You must return the administrative state of the PGW instance to Up after you apply the configuration changes.

Configuring PGW signaling

You must configure the following profiles and interfaces before you can configure signaling:

- Diameter profile, including origin realm and origin host
- GTP profile
- GTP prime server group profile
- default signaling interface

Procedure 6-9 To configure PGW signaling

1 Choose Manage→Mobile Core→PGW/GGSN Instances from the 5620 SAM main menu. The PGW/GGSN Instances form opens.

2 Choose PDN Gateway (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose a PGW instance from the results list and click on the Properties button. The PDN Gateway (Edit) form opens with the General tab displayed.

5 Click on the Signalling tab button.

6 Choose a Diameter Profile:

   i Click on the Select button for the Diameter Profile. The Select Diameter Profile - Serving Gateway Signalling form opens.

   ii Configure the filter criteria, if required, and click on the Search button to generate a list of Diameter profiles.

   iii Choose a profile and click on the OK button. The Select Diameter Profile - Serving Gateway Signalling form closes and the selected profile is displayed in the Diameter Profile panel.

   iv Configure the parameters:

   - Origin Realm
   - Origin Host

7 Choose a GTP profile for the GTP-C protocol:

   i Click on the Select button for the GTP-C Profile. The Select GTP-C Profile - Serving Gateway Signalling form opens.

   ii Configure the filter criteria, if required, and click on the Search button to generate a list of GTP-C profiles.

   iii Choose a profile and click on the OK button. The Select GTP-C Profile - Serving Gateway Signalling form closes and the selected profile is displayed in the GTP-C Profile panel.

8 Choose a GTP profile for the GTP-U protocol:

   i Click on the Select button for the GTP-U Profile. The Select GTP-U Profile - Serving Gateway Signalling form opens.

   ii Configure the filter criteria, if required, and click on the Search button to generate a list of GTP-U profiles.

   iii Choose a profile and click on the OK button. The Select GTP-U Profile - Serving Gateway Signalling form closes and the selected profile is displayed in the GTP-U Profile panel.

9 Choose a default signalling interface:

   i Click on the Select button in the Default Signalling Interface panel. The Select Default Signalling Interface - Serving Gateway Signalling form opens.

   ii Choose an interface and click on the OK button. The Select Default Signalling Interface - Serving Gateway Signalling form closes, and the Name and ID parameter values for the interface appear in the form.

10 Click on the OK button to save the configuration. A dialog box opens.

11 Click on the Yes button to save the configuration and close the window.

Configuring PGW reference points

The reference points and the associated policies and interfaces for the PGW are as follows:

- Ga
  - L3 interface
  - GTP profile for the GTP-C protocol
  - GTP prime server group profile
- Gn
  - L3 interface and GTP profile for the GTP-C protocol
  - L3 interface and GTP profile for the GTP-U protocol
- S5
  - L3 interface
  - GTP profile to configure the GTP-C and GTP-U protocols
- Gx
  - L3 interface
  - Diameter profile to configure the diameter peer protocol
  - PCRF selection, which requires the Diameter Peer profile to configure the primary and secondary diameter peers

Procedure 6-10 To configure PGW reference points

1 Choose Manage→Mobile Core→PGW/GGSN Instances from the 5620 SAM main menu. The PGW/GGSN Instances form opens.

2 Choose PDN Gateway (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose a PGW instance from the results list and click on the Properties button. The PDN Gateway (Edit) form opens with the General tab displayed.

5 Click on the Reference Points tab button. A list of the PGW reference points is displayed.

6 To configure:

- a Ga reference point, go to step a
- a Gn reference point, go to step b
- an S5 reference point, go to step c
- a Gx reference point, go to step d

a To configure a Ga reference point:

i Choose the Ga reference point and click on the Properties button. The PGW Reference Point (Edit) form opens with the General tab displayed.

ii Click on the Select button for the L3 interface in the Ga panel. The Select L3 Interface - PGW Reference Point form opens.

iii Configure the filter criteria, if required, and click on the Search button.

iv Choose an L3 or system interface from the results list and click on the OK button. The Select L3 Interface - PGW Reference Point form closes.

v Click on the Select button for the Name in the GTP-C Profile panel. The Select GTP-C Profile - PGW Reference Point form opens.

vi Configure the filter criteria, if required, and click on the Search button.

vii Choose a profile from the results list and click on the OK button. The Select GTP-C Profile - PGW Reference Point form closes.

viii Click on the Select button for the Name in the Prime Group Profile panel. The Select Prime Group Profile - PGW Reference Point form opens.

ix Configure the filter criteria, if required, and click on the Search button.

x Choose a profile from the results list and click on the OK button. The Select Prime Group Profile - PGW Reference Point form closes.

b To configure a Gn reference point:

i Choose the Gn reference point and click on the Properties button. The Gn Reference Point (Edit) form opens with the General tab displayed.

ii Click on the Select button for the L3 interface in the GTP-C panel. The Select L3 Interface - Gn Reference Point form opens.

iii Configure the filter criteria, if required, and click on the Search button.

iv Choose an L3 or system interface from the results list and click on the OK button. The Select L3 Interface - Gn Reference Point form closes.

v Click on the Select button for the profile Name in the GTP-C panel. The Select Profile - Gn Reference Point form opens.

vi Configure the filter criteria, if required, and click on the Search button.

vii Choose a profile from the results list and click on the OK button. The Select Profile - Gn Reference Point form closes.

viii Click on the Select button for the L3 interface in the GTP-U panel. The Select L3 Interface - Gn Reference Point form opens.

ix Configure the filter criteria, if required, and click on the Search button.

x Choose an L3 or system interface from the results list and click on the OK button. The Select L3 Interface - Gn Reference Point form closes.

xi Click on the Select button for the profile Name in the GTP-U panel. The Select Profile - Gn Reference Point form opens.

xii Choose a profile from the results list and click on the OK button. The Select Profile - Gn Reference Point form closes.

xiii Configure the filter criteria, if required, and click on the Search button.

c To configure an S5 reference point:

i Choose the S5 reference point and click on the Properties button. The PDN S5 Reference Point (Edit) form opens with the General tab displayed.

ii Click on the Select button for the L3 interface in the GTP-C panel. The Select L3 Interface - PDN S5 Reference Point form opens.

iii Configure the filter criteria, if required, and click on the Search button.

iv Choose an L3 or system interface from the results list and click on the OK button. The Select L3 Interface - PDN S5 Reference Point form closes.

v Click on the Select button for the profile Name in the GTP-C panel. The Select Profile - PDN S5 Reference Point form opens.

vi Configure the filter criteria, if required, and click on the Search button.

vii Choose a profile from the results list and click on the OK button. The Select Profile - PDN S5 Reference Point form closes.

viii Click on the Select button for the L3 interface in the GTP-U panel. The Select L3 Interface - PDN S5 Reference Point form opens.

ix Configure the filter criteria, if required, and click on the Search button.

x Choose an L3 or system interface from the results list and click on the OK button. The Select L3 Interface - PDN S5 Reference Point form closes.

xi Click on the Select button for the Profile in the GTP-U panel. The Select Profile - PDN S5 Reference Point form opens.

xii Configure the filter criteria, if required, and click on the Search button.

xiii Choose a profile from the results list and click on the OK button. The Select Profile - PDN S5 Reference Point form closes.

d To configure a Gx reference point:

i Choose the Gx reference point and click on the Properties button. The PDN Gx Reference Point (Edit) form opens with the General tab displayed.

ii Click on the Select button for the L3 interface in the Diameter panel. The Select L3 Interface - PDN Gx Reference Point form opens.

iii Configure the filter criteria, if required, and click on the Search button.

iv Choose an L3 or system interface from the results list and click on the OK button. The Select L3 Interface - PDN Gx Reference Point form closes.

v Configure the parameters:

- Transaction Timer
- Retry Count

vi Click on the Select button for the Primary Diameter Peer Profile in the PCRF Selection panel. The Select Primary Diameter Peer Profile - PDN Gx Reference Point form opens.

vii Configure the filter criteria, if required, and click on the Search button.

viii Choose a profile from the results list and click on the OK button. The Select Primary Diameter Peer Profile - PDN Gx Reference Point form closes.

ix Click on the Select button for the Secondary Diameter Peer Profile in the PCRF Selection panel. The Select Secondary Diameter Peer Profile - PDN Gx Reference Point form opens.

x Configure the filter criteria, if required, and click on the Search button.

xi Choose a profile from the results list and click on the OK button. The Select Secondary Diameter Peer Profile - PDN Gx Reference Point form closes.

7 Click on the OK button to save the configuration. A dialog box opens.

8 Click on the Yes button to save the configuration and close the window.

Configuring a PGW APN

You must configure the following profiles and policies before you can add an APN to a PGW:

- Diameter peer profiles; see Procedure 14-7 for configuration information
- QCI policies; see Procedure 14-9 for configuration information
- PGW charging profiles; see Procedure 14-12 for configuration information

You must also configure IP address pools to add to the APN. See Procedure 14-12 for configuration information.

Procedure 6-11 To add an APN to a PGW

1 Choose Manage→Mobile Core→PGW/GGSN Instances from the 5620 SAM main menu. The PGW Instances form opens.

2 Choose PDN Gateway (LTE) from the object type drop-down list.

3 Configure the filter criteria, if required, and click on the Search button.

4 Select a PGW instance in the list and click on the Properties button. The PDN Gateway (Edit) form opens with the General tab displayed.

5 Click on the PDN APN tab button.

6 Click on the Create button. The PDN APN (Create) form opens.

7 Configure the parameters:

- Name
- Description
- Type

8 Click on the select button in the Virtual Router panel. The Select Virtual Router - PDN APN form opens.

9 Select a virtual router in the list and click on the OK button. The Select Virtual Router - PDN APN form closes and the selected virtual router name is displayed in the Virtual Router panel.

10 Configure the parameters:

- Restriction Type
- Multiple PDNs allowed
- Subscribed APN Selection Mode
- Mobile Station APN Selection Mode
- Network APN Selection Mode
- PCRF Selection Dynamic PCC
- Aggregated Uplink Rate (kbps)
- Aggregated Downlink Rate (kbps)
- Administrative State
- IPv4
- IPv6
- IP v4/v6
- Local Pool
- Home Subscriber Server Assigned

11 Click on the QCI/Diameter tab button.

12 Click on the Select button in the Uplink QCI Profile panel. The Select Uplink QCI Profile - PDN APN form opens.

13 Configure the filter criteria, if required, and click on the Search button. A list of QCI profiles is displayed.

14 Select a profile in the list and click on the OK button. The Select Uplink QCI Profile - PDN APN form closes and the profile name is displayed in the Uplink QCI Profile panel.

15 Click on the Select button in the Downlink QCI Profile panel. The Select Downlink QCI Profile - PDN APN form opens.

16 Configure the filter criteria, if required, and click on the Search button. A list of QCI profiles is displayed.

17 Select a profile in the list and click on the OK button. The Select Downlink QCI Profile - PDN APN form closes and the profile name is displayed in the Downlink QCI Profile panel.

18 Click on the Select button in the CDF Primary Diameter Peer Profile panel. The Select CDF Primary Diameter Peer Profile - PDN APN form opens.

19 Configure the filter criteria, if required, and click on the Search button. A list of diameter peer profiles is displayed.

20 Select a profile in the list and click on the OK button. The Select CDF Primary Diameter Peer Profile - PDN APN form closes and the profile name is displayed in the CDF Primary Diameter Peer Profile panel.

21 Click on the Select button in the CDF Secondary Diameter Peer Profile panel. The Select CDF Secondary Diameter Peer Profile - PDN APN form opens.

22 Configure the filter criteria, if required, and click on the Search button. A list of diameter peer profiles is displayed.

23 Select a profile in the list and click on the OK button. The Select CDF Secondary Diameter Peer Profile - PDN APN form closes and the profile name is displayed in the CDF Secondary Diameter Peer Profile panel.

24 Click on the Connectivity tab button.

25 Configure the parameters in the PCO Domain Name System (DNS) panel.

- IPV4 Primary Address
- IPV4 Secondary Address
- IPV6 Primary Address
- IPV6 Secondary Address

26 Configure the parameters in the PCO Proxy Call Session Control Function (PCSCF) panel.

- IPV4 Primary Address
- IPV6 Primary Address

27 Configure the parameters in the PCO NetBIOS Name Service (NBNS) panel.

- IPV4 Primary Address
- IPV4 Secondary Address

28 Click on the Charging tab button.

29 In the Settings from MME and HSS for Subscribers panel, configure the parameters:

- Ignore All
- Ignore Home
- Ignore Visiting
- Ignore Roaming
- Reject Charging

30 Configure the Inherit Home Profile From Gateway parameter.

Note — When the Inherit Home Profile From Gateway parameter is selected you cannot manually select a charging profile in the following steps. To manually select a profile, you must first deselect the Inherit Home Profile From Gateway parameter.

31 If you want to manually select a profile, click on the Select button in the Home Profile when not inherited panel. The Select Home Profile when not inherited - PDN APN form opens.

32 Configure the filter criteria, if required, and click on the Search button. A list of charging profiles is displayed.

33 Select a profile in the list and click on the OK button. The Select Home Profile when not inherited - PDN APN form closes.

34 Configure the Inherit Visiting Profile From Gateway parameter.

35 If you want to manually select a profile, click on the Select button in the Visiting Profile when not inherited panel. The Select Visiting Profile when not inherited - PDN APN form opens.

36 Configure the filter criteria, if required, and click on the Search button. A list of charging profiles is displayed.

37 Select a profile and click on the OK button. The Select Visiting Profile when not inherited - PDN APN form closes.

38 Configure the Inherit Roaming Profile From Gateway parameter.

39 If you want to manually select a profile, click on the Select button in the Roaming Profile when not inherited panel. The Select Roaming Profile when not inherited - PDN APN form opens

40 Configure the filter criteria, if required, and click on the Search button. A list of charging profiles is displayed.

41 Select a profile in the list and click on the OK button. The Select Roaming Profile when not inherited - PDN APN form closes.

42 Click on the IP Address Pool Binding tab button.

43 Click on the Create button. The IP Address Pool Binding (Create) form opens.

44 Click on the Select button. The Select IP Address Pool – IP Address Pool Binding form opens.

45 Configure the filter criteria, if required, and click on the Search button. A list of IP address pools is displayed.

46 Select an IP address pool and click on the OK button. The Select IP Address Pool - IP Address Pool Binding form closes and the IP Address Pool Binding (Create) form displays the IP address pool name.

47 Click on the Apply button. A dialog box appears.

48 Click on the OK button. The IP address pool is listed on the PDN APN (Create) form.

49 To add another IP address pool, perform the following steps.

i Click on the Clear button.

ii Repeat steps 44 to 48.

50 Close the IP Address Pool Binding (Create) form.

51 Click on the OK button. The PDN APN form closes.

52 Close the PDN Gateway (Edit) form.

IP address pools

The IP address pools are defined on PGW and SGW base routing instances and VPRN site instances. Each routing instance can have multiple IP address pools, and each IP address pool can have multiple IP pool entries. The IP pools are applied to the PGW APNs.

Procedure 6-12 To configure IP address pools

1 Perform one of the following.

a To add an IP address pool to a PGW or SGW routing instance, go to step 2.

b To add an IP address pool to a PGW or SGW VPRN site instance, go to step 6.

2 Choose Routing from the view selector in the navigation tree.

3 Navigate to a routing instance by choosing Network→ Router→ Routing Instance.

4 Right-click on the routing instance icon and choose Properties from the contextual menu. The Routing Instance (Edit) form opens with the General tab displayed.

5 Go to step 11.

6 Choose Manage→Service→Services from the 5620 SAM main menu. The Manage Services form opens.

7 Configure the filter criteria. A list of services is displayed.

8 Choose a VPRN service and click on the Properties button. The VPRN Service (Edit) form opens with the General tab displayed.

9 Click on the Sites tab button.

10 Choose a PGW or SGW VPRN site and click on the Properties button. The VPRN Service (Edit) form opens with the General tab displayed.

11 Click on the IP Address Pool tab button.

12 Click on the Create button. The IP Address Pool (Create) form opens with the General tab displayed.

13 Configure the parameters:

- Auto-Assign ID
- IP Pool ID
- IP Pool Name
- Is Exclusive
- IP Pool Address Hold Timer (minutes)

14 Click on the IP Address Pool Entry tab button.

15 Click on the Create button. The IP Address Pool Entry (Create) form opens with the General tab displayed.

16 Configure the parameters:

- Pool Address Type
- Pool Ip Address
- Prefix Length
- Pool Address Block

17 Click on the Apply button. A dialog box appears.

18 Click on the OK button.

19 Repeat steps 16 to 18 to create an additional IP address pool entry.

20 Close the IP Address Pool Entry (Create) form. The IP Address Pool (Create) form reappears.

21 Click on the OK button. A dialog box appears.

22 Click on the OK button. The IP Address Pool (Create) form closes.

23 Repeat steps 12 to 22 to create an additional IP address pool.

24 Close the VPRN (Create) or Routing Instance (Edit) form, as required.

Adding charging profiles to a PGW

You must configure PGW charging profiles before you can apply the profiles to a PGW. See Procedure 14-12 for information about configuring PGW charging profiles.

Procedure 6-13 To add charging profiles to a PGW

1. Choose Manage→Mobile Core→PGW/GGSN Instances from the 5620 SAM main menu. The PGW Instances form opens.
2. Choose PDN Gateway (LTE) from the object type drop-down list.
3. Configure the filter criteria, if required, and click on the Search button.
4. Choose a PGW instance in the list and click on the Properties button. The PDN Gateway (Edit) form opens with the General tab displayed.
5. Click on the Charging tab button.
6. Configure the parameters:
   - Ignore All
   - Ignore Home
   - Ignore Visiting
   - Ignore Roaming
   - Reject Charging
7. Perform the following steps to configure the charging profiles.
   - **i** Click on the Select button in the Home Profile panel. The Select Home Profile – PDN Gateway form opens.
   - **ii** Select a profile in the list and click on the OK button. The Select Home Profile – PDN Gateway form closes and the profile ID is displayed in the Home Profile panel.
   - **iii** Click on the Select button in the Visiting Profile panel. The Select Visiting Profile – PDN Gateway form opens.
   - **iv** Select a profile in the list and click on the OK button. The Select Visiting Profile – PDN Gateway form closes and the profile ID is displayed in the Visiting Profile panel.
   - **v** Click on the Select button in the Roaming Profile panel. The Select Roaming Profile – PDN Gateway form opens.
   - **vi** Select a profile in the list and click on the OK button. The Select Roaming Profile – PDN Gateway form closes and the profile ID is displayed in the Roaming Profile panel.
8. Configure the Node ID parameter.
9. Click on the OK button. A dialog box appears.
10. Click on the Yes button. The PDN Gateway (Edit) form closes.
11. Close the PGW Instances form.

Viewing and changing PGW properties

The 5620 SAM supports the following properties forms that you can use to monitor the status of the PGW and to change properties as required:

- PGW instance properties
- PGW application properties
- PGW interface properties
- PGW interface member properties

Procedure 6-14 To view and change PGW instance properties

1. Choose Manage→Mobile Core→PGW/GGSN Instances from the 5620 SAM main menu. The Manage PDN Gateways (PGW) form opens.
2. Choose PDN Gateway (LTE) from the Select Object Type drop-down menu.
3. Configure the filter criteria, if required, and click on the Search button.
4. Choose a PGW instance from the results list and click on the Properties button. The PDN Gateway (Edit) form opens on the General tab.
5. Change the Dynamic PCC parameter, if required.
6. Change the default settings for the QCI policies, if required. Configure the following in the QCI Policies panel:
   - **i** Configure the Name parameter in the Uplink QoS Class Id (QCI) panel. Click on the Select button. The Select Uplink QCI Policy - Serving Gateway APN form opens.
   - **ii** Configure the filter criteria, if required, and click on the Search button.
   - **iii** Choose a policy from the results list and click on the OK button. The Select Uplink QCI Policy - Serving Gateway APN form closes and the selected policy is displayed in the Name field.
   - **iv** Configure the Name parameter in the Downlink QoS Class Id (QCI) panel. Click on the Select button. The Select Downlink QCI Policy - Serving Gateway APN form opens.
   - **v** Configure the filter criteria, if required, and click on the Search button.
   - **vi** Choose a policy from the results list and click on the OK button. The Select Downlink QCI Policy - Serving Gateway APN form closes and the policy that you chose is displayed in the Name field.
7. Change the following parameters that you configured in Procedure 5-3, if required:
   - Mobile Node Region
   - Group IDGroup ID
   - Node ID
   - Administrative State

8 View the properties of the PGW instance under the following tabs:

- Components—provides a hierarchical view of the PGW application and interface functions of the PGW
- Charging
- EPS peers—lists the types of EPS peers such as S5 and Gx. You can choose an EPS peer and display the peer properties. See Procedure 11-1 for more information about EPS peer parameters.
- EPS paths—lists the types of EPS peers for which there is path information. You can choose an EPS path and display the path properties. See Procedure 11-2 for more information about EPS path parameters.
- Signaling
- Reference Points
- PDN APN
- MG Groups
- Faults

9 Close the PDN Gateway (Edit) form.

10 Close the Manage PDN Gateways (PGW) form.

Procedure 6-15 To view PGW application properties

1 Choose Manage→Mobile Core→PGW/GGSN Instances from the 5620 SAM main menu. The Manage PDN Gateways (PGW) form opens.

2 Choose PGW Application (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose a PGW application from the results list and click on the Properties button. The PGW Application (Edit) form opens with the General tab displayed.

5 View the properties of the PGW instance under the following tabs:

- General
- Components
- Faults

6 Close the PGW Application (Edit) form.

7 Close the Manage PDN Gateways (PGW) form.

Procedure 6-16 To view PGW interface properties

1 Choose Manage→Mobile Core→PGW/GGSN Instances from the 5620 SAM main menu. The Manage PDN Gateways (PGW) form opens.

2 Choose PGW Interface (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an PGW interface from the results list and click on the Properties button. The PGW Interface (Edit) form opens with the General tab displayed.

5 View the properties of the PGW interface under the following tabs:

- General
- Components
- PGW Interface Members
- Faults

6 Close the PGW Interface (Edit) form.

7 Close the Manage PDN Gateways (PGW) form.

Procedure 6-17 To view PGW interface member properties

1 Choose Manage→Mobile Core→PGW/GGSN Instances from the 5620 SAM main menu. The Manage PDN Gateways (PGW) form opens.

2 Choose PGW Interface Member (LTE) from the Select Object Type drop-down menu.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an PGW interface from the results list and click on the Properties button. The PGW Interface Member (Edit) form opens with the General tab displayed.

5 View the properties of the PGW interface members under the following tabs:

- General
- Components
- Faults

6 Close the PGW Interface Member (Edit) form.

7 Close the Manage PDN Gateways (PGW) form.

6.5 Configuring a 7750 MG for IP packet reassembly

IP packet fragmentation may occur due to MTU limitations in some networks. IP fragmentation occurs when an IP datagram travels through the network with a frame size larger than the MTU.

To facilitate IP packet reassembly on the 5620 SAM, you can configure a ISA IP Reassembly MDA on the second daughter card slot of an ISM mobile card. IP Packet reassembly can only performed on 7750 MG devices.

An ISA IP Reassembly MDA has two ports. You cannot modify these ports. Port 1 is the Network port and port 2 is the Access port.

Procedure 6-18 To configure an IP reassembly daughter card on an ISM mobile card

1. Choose Equipment from the navigation tree view selector. The navigation tree displays the Equipment view.
2. Expand the Discovered NE objects in the navigation tree to display a 7750 MG device.
3. Expand the 7750 MG device to display the shelf object associated with the device.
4. Expand the shelf object to display the card slots associated with the shelf.
5. Locate and expand an ISM mobile card to display the daughter cards associated with the card.
6. Right-click on the second daughter card slot and choose Configure Daughter Card from the contextual menu. The Daughter Card Slot form opens with the General tab displayed.
7. Click on the Assigned Daughter Card Type drop-down menu and choose ISA IP Reassembly and click on the OK button. The Daughter Card Slot form closes.

Procedure 6-19 To enable IP reassembly on a VPRN L3 access interface

To enable IP packet reassembly on a VPRN L3 access interface, you must assign a virtual IP reassembly port to the interface and add a unique context value.

Note — This procedure assumes you have an existing VPRN service configured on the 5620 SAM. To create a new VPRN service, see the VPRN Services Management chapter in the *5620 SAM User Guide*.

1. Choose Manage→Service→Services from the 5620 SAM main menu. The Manage Services form opens.
2. If required, configure the filter criteria and click on the Search button. A list of services is displayed.
3. Choose a VPRN service and click on the Properties button. The VPRN Service (Edit) form opens with the General tab displayed.
4. Click on the Components tab button.

5 Navigate to an interface icon below a site. The path is *service_type*→Sites→Routing Instance→Access Interfaces→Interface.

Note — If an Interface is not configured on the appropriate Access Interface, you can create one by right-clicking on the Access Interface and selecting Create VPRN L3 Access Interface.

6 Right-click on an interface and choose Properties from the contextual menu. The VPRN L3 Access form opens with the General tab selected.

7 Click on the IP Packet Reassembly form tab button.

8 Select the Reassembly check box. After the Reassembly parameter is configured, the form expands to display the Reassemble Packet and Reassembly Ports panels.

9 Click on the Select button beside the Name parameter in the Reassembly Ports panel. The Select Reassembly Ports form opens.

10 Click on the Search button. A list of available IP reassembly virtual access ports is displayed.

11 Select a port and click on the OK button. The Select Reassembly Ports form closes and the selected port is copied into the Name Parameter on the Reassembly Ports panel.

12 Configure the Context Value parameter in the Reassemble Packet panel and click on the OK button. A confirmation window displays.

13 Acknowledge the confirmation window by clicking on the Yes button. The VPRN L3 Access form closes and the port Reassembly status is displayed beside the Interface on the navigation tree.

The 5620 SAM creates a network interface on the VPRN that represents the IP reassembly virtual interface. The interface is read-only.

Procedure 6-20 To configure IP packet reassembly on a network interface

To enable IP reassembly on a network interface, you are required to assign a virtual IP reassembly port to the interface and add a unique context value. You can assign individual physical ports or all ports associated with a LAG.

1 Choose Routing from the navigation tree view selector. The navigation tree displays the Routing view.

2 Expand the Discovered NE objects in the navigation tree to display a 7750 MG device.

3 Expand the 7750 MG device to display the Routing Instance associated with the device.

4 Expand the Routing Instance to display the Interfaces associated with the Routing Instance.

5 Right-click on a network interface and choose Properties from the contextual menu. The Network Interface Routing Instance form opens.

6 Click on the IP Packet Reassembly form tab button.

7 Select the Reassembly parameter. After the Reassembly parameter is configured, the form expands to display the Reassemble Packet and Reassembly Ports panels.

8 Click on the Select button beside the Name parameter in the Reassembly Ports panel. The Select Reassembly Ports form opens.

9 Click on the Search button. A list of available IP reassembly virtual network ports is displayed.

10 Select an individual port or all ports associated with a LAG and click on the OK button. The Select Reassembly Ports form closes and the selected port is pasted into the Name Parameter on the Reassembly Ports panel.

Note — A port which is already assigned to a LAG cannot be individually selected for IP Reassembly for an Interface.

11 Configure the Context Value parameter in the Reassemble Packet panel and click on the OK button. A confirmation window displays.

12 Acknowledge the confirmation window by clicking on the Yes button. The Network Interface Routing Instance form closes and the port Reassembly status is displayed beside the Interface on the navigation tree.

The 5620 SAM creates a network interface that represents the IP reassembly virtual interface. The interface is read-only.

6.6 Configuring a LAG on a 7750 MG

You can configure a LAG on a 7750 MG device using an ISA IP Reassembly MDA on the second daughter card slot of an ISM mobile card. A LAG is a group of physical ports that form one logical link between two NEs to increase bandwidth, allow load balancing, and provide seamless redundancy. LAG support over multiple devices provides node-level redundancy in addition to link-layer redundancy using a switchover function.

You can create an Access LAG or an Network LAG. Access LAGs are used when IP reassembly is required on a VPRN. Network LAGs are used when IP reassembly is required on a network interface.

Procedure 6-21 To configure a LAG on a 7750 MG

1 Perform Procedure 6-18 to configure a IP reassembly daughter card on an ISM mobile card. The ports on this card is used to configure a LAG on a 7750 MG device.

2 Choose Equipment from the view selector in the navigation tree. The navigation tree displays the Equipment view.

3 Expand the LAGs object below the Logical Groups on a 7750 MG device in the Equipment view.

4 Right-click on a LAG object and choose Create LAG from the contextual menu. The Create LAG wizard opens.

5 In step 1 of the wizard, configure the following parameters and click on the Next button:

- Description
- Configured Address
- Mode (select the Network option to configure a Network LAG; select the Access option to configure a Access LAG)
- Encap Type (select the Dot1 Q option)

Note — See the *5620 SAM Parameter Guide* for a description of all LAG parameters.

6 As required, configure the parameters in step 2 (applies to both Access LAGs and Network LAGs) and step 3 (applied to Access LAGs only) of the wizard to meet your network requirements. Click on the Next button to proceed to the next step in the wizard to configure the LAG members.

7 Click on the Create button. The Create Member wizard opens.

8 In step 1 of the wizard, configure the Class parameter to Virtual Port. This is the class type associated with the port on an IP reassembly daughter card.

9 Click on the Next button. The port associated with the IP reassembly daughter cards created in step 1 display.

10 Select the appropriate port(s) and click on the Next button.

11 As required, configure the parameters in step 3 of the wizard to meet your network operational requirements.

12 Click on the Finish button to save and close the Create Member wizard. A warning dialog box appears.

13 Click on the OK button to acknowledge the warning. The Create LAG wizard form reappears displaying the configured LAG member.

14 Click on the Finish button. The Create LAG wizard form summary displays.

15 Click on the Close button to close the Create LAG wizard form. The LAG appears under the LAG Object on the navigation tree.

7 — Viewing 9471 MME properties

7.1 Viewing 9471 MME properties overview *7-2*

7.2 9471 MME viewing procedures *7-2*

7.1 Viewing 9471 MME properties overview

The 5620 SAM allows you to view the properties for the equipment, instance, interface function, application function, and packet handler for the 9471 MME. The 9471 MME equipment is represented in the 5620 SAM equipment navigation tree. You can view the 9471 MME properties by choosing Manage→Mobile Core→MME Instances from the 5620 SAM GUI main menu.

7.2 9471 MME viewing procedures

The following procedures describe how to view the 9471 MME properties.

Procedure 7-1 To view 9471 MME network element properties

1. In the 5620 SAM equipment navigation tree, double-click on the 9471 MME component to expand the view.
2. Right-click on a discovered 9471 MME in the equipment navigation tree and choose Properties from the contextual menu. The Network Element (Edit) form opens with the General tab displayed.
3. The General tab displays a list of MME instances in the MME Service Dashboard panel. You can select an instance and view the properties of the instance.
4. Click on any of the following tabs for additional network element information:
   - Polling
   - Physical Links
   - Spans
   - Faults
5. Close the Network Element (edit) form.

Procedure 7-2 To view 9471 MME shelf, shelf PDU, card, fan tray, card slot, and port properties

1. In the 5620 SAM equipment navigation tree, double-click on the 9471 MME component to expand the view.
2. Right-click on Shelf PDU and choose Properties from the contextual menu. The Shelf PDU (Edit) form opens with the General tab displayed.
3. View the properties of the shelf PDU under the following tabs:
   - General
   - Faults
4. Close the Shelf PDU (Edit) form.

5 Right-click on a 9471 MME shelf object and choose Properties from the contextual menu. The Shelf (Edit) form opens with the General tab displayed. The Equipment Dashboard panel displays a list of the cards and fan trays that are installed in the shelf.

6 Choose an ATCA card from the list and click on the Properties button. The Card (edit) form opens with the General tab displayed.

7 View the properties of the ATCA card under the following tabs:

- General
- Inventory
- Ports
- OAM Service Members
- AMC
- Hosts
- Statistics
- RTM
- Faults

8 Close the Card (edit) form.

9 Choose a fan tray from the list and click on the Properties button. The Fan Tray (edit) form opens with the General tab displayed.

10 View the properties of the fan tray under the following tabs:

- General
- Faults

You can also view a list of fan trays under the Fan Tray tab of the Shelf (Edit) form. Choose a fan try from the list and click on the properties button to view the fan tray properties.

11 Close the Fan Tray (edit) form.

12 Click on the Card Slots tab button to display a list of the shelf card slots.

13 Choose a card slot and click on the Properties button. The Card Slot (edit) form opens.

14 View the properties of each card slot under the following tabs:

- General
- Cards
- Terminations
- Faults

15 Close the Card Slot (Edit) form.

16 Click on the Ports tab button to display a list of ports on the ATCA hub cards.

17 Choose a port from the list and click on the Properties button. The Port (Edit) form opens with the General tab displayed.

18 View the properties of a port under the following tabs:

- General
- Physical Links
- Faults

19 Close the Port (Edit) form.

20 Click on the Faults tab button.

21 View the shelf faults under the following subtabs:

- Object Alarms
- Affecting Alarms
- Aggregated Alarms
- Alarms on Related Objects

22 Close the Shelf (Edit) form.

Procedure 7-3 To view 9471 MME instance properties

1 Choose Manage→Mobile Core→MME Instances from the 5620 SAM main menu. The Manage Mobility Management Entities (MME) form opens.

2 Choose MME Instance (LTE) from the Select Object Type drop-down list..

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose a 9471 MME instance from the results list and click on the Properties button. The MME Instance (Edit) form opens with the General tab displayed.

5 View the properties of the 9471 MME instance under the following tabs:

- General
- Components
- EPS Peers
- Reference Points
- MME Interface Function
- MME Application Function
- Faults

6 Close the MME Instance (Edit) form.

Procedure 7-4 To view 9471 MME interface function properties

1 Choose Manage→Mobile Core→MME Instances from the 5620 SAM main menu. The Manage Mobility Management Entities (MME) form opens.

2 Choose MME Interface Function (LTE) from the object drop-down list.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an interface function from the results list and click on the Properties button. The MME Interface Function form opens with the General tab displayed.

5 View the properties of the MME interface function under the following tabs:

- General
- Components
- MME Interface Function Service Group
- Faults

6 Close the MME Interface Function form.

Procedure 7-5 To view 9471 MME application function properties

1 Choose Manage→Mobile Core→MME Instances from the 5620 SAM main menu. The Manage Mobility Management Entities (MME) form opens.

2 Choose MME Application Function (LTE) from the object drop-down list.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an MME application function from the results list and click on the Properties button. The MME Application Function form opens with the General tab displayed.

5 View the properties of the MME application function under the following tabs:

- General
- Components
- MME Application Function Service Group
- Faults

6 Close the MME Application Function form.

Procedure 7-6 To view 9471 MME packet handler properties

1 Choose Manage→Mobile Core→MME Instances from the 5620 SAM main menu. The Manage Mobility Management Entities (MME) form opens.

2 Choose MME Packet Handler (LTE) from the object drop-down list.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose an MME application function from the results list and click on the Properties button. The MME Packet Handler form opens with the General tab displayed.

5 View the properties of the MME packet handler under the following tabs:

- General
- Components
- MME Packet Handler Service Group
- Faults

6 Close the MME Packet Handler form.

8 — Viewing 5780 DSC properties

8.1 Viewing 5780 DSC properties overview *8-2*

8.2 5780 DSC viewing procedures *8-2*

8.1 Viewing 5780 DSC properties overview

The 5620 SAM allows you to view the properties for the equipment, instance, diameter proxy agent, and policy charging rules for the 5780 DSC. The 5780 DSC equipment properties are represented in the 5620 SAM equipment navigation tree. The instance, diameter proxy agent, and policy charging rules properties are accessed from the main menu in the 5620 SAM GUI by choosing Manage→Mobile Core→Dynamic Services Controller (DSC).

8.2 5780 DSC viewing procedures

The following procedures describe how to view the 5780 DSC properties.

Viewing 5780 DSC equipment properties

You can use the equipment navigation tree to monitor 5780 DSC components. The equipment navigation tree identifies the 5780 DSC by the deployment type:

- ATCA
- non-ATCA

The 5620 SAM equipment navigation tree models both deployment types with the same component hierarchy. Similarly, the properties forms that you can open from each level of the component hierarchy contain the same tabs and fields for both deployment types. Perform Procedure 8-1 to view the properties of the 5780 DSC NE.

Procedure 8-1 To view 5780 DSC network element properties

1. In the 5620 SAM equipment navigation tree, double-click on the 5780 DSC-ATCA or 5780 DSC-Non-ATCA component to expand the view.
2. Right-click on a 5780 DSC NE icon and choose Properties from the contextual menu. The Network Element (Edit) form opens with the General tab displayed. The tab displays read-only parameters.

3 For information about a specific instance of a 5780 DSC, perform the following:

i In the DSC Service Dashboard panel, choose a 5780 DSC instance.

ii Click on the Properties button. The DSC Instance (Edit) form opens with the General tab displayed. You can view additional properties for the 5780 DSC instance under the following tabs:

- Components
  - DSC Diameter Proxy Agent
  - DSC Policy Charging Rules Function
  - Service Group
  - Service Member
- Diameter Peers
- ISU State
- Faults

Note — You can view the availability status of a 5780 DSC instance, DSC DPA, DSC PCRF, and DSC PCRF group object on the General tab of the related Properties (Edit) form. The availability status is:

- Degraded—if any child is down and the parent operational status is up, or if all children are down and the parent operational status is down
- Normal—when all children are up, and the parent operational status is up

iii Click on the Cancel button to close the DSC Instance (Edit) form.

4 Click on any of the following tabs in the Network Element (Edit) form for more information about the 5780 DSC NE:

- Polling
- Physical Links
- Spans
- Faults

5 Close the Network Element (edit) form.

Procedure 8-2 To view 5780 DSC shelf, card, fan tray, power supply, card slot, and port properties

1 Choose Equipment from the view selector in the equipment navigation tree. The equipment navigation tree displays the Equipment view.

2 Right-click on a 5780 DSC shelf object and choose Properties from the contextual menu. One of the following forms appears with the General tab displayed, depending on the deployment model:

- Shelf - 5780 DSC - ATCA (Edit)
- Shelf - 5780 DSC - Non-ATCA (Edit)

3 For information about the specific equipment that is provisioned in the shelf, perform the following:

   i In the Equipment Dashboard panel, choose a card and click on the Properties button. The Card (Edit) form opens with the General tab displayed.

   ii Click on any of the following tab buttons for more information about the 5780 DSC card:

   - Inventory
   - Ports
   - OAM Service Members
   - CPUs
   - Disks
   - Faults

   iii Close the Card (Edit) form.

4 Click on the Fan Trays tab button in the Shelf (Edit) form to display a list of the fan trays.

Note — The Fan Tray tab button is only available for an ATCA-based 5780 DSC.

5 Choose a fan tray and click on the Properties button. The Fan Tray (Edit) form opens with the General tab displayed.

6 Click on any of the following tab buttons for more information about the fan tray:

   - Fan
   - Faults

7 Close the Fan Tray (Edit) form.

8 Click on the Power Supply tab button in the Shelf (Edit) form to display a list with Power Supply A and Power Supply B.

Note — The Power Supply tab button is only available for an ATCA-based 5780 DSC.

9 Choose a power supply and click on the Properties button. The Power Supply (Edit) form opens with the General tab displayed.

10 Click on the Faults tab button for more information about the power supply.

11 Close the Power Supply (Edit) form.

12 Click on the Card Slots tab button in the Shelf (Edit) form to display a list of the shelf card slots. The number of blades that appear depend on the deployment model.

13 Choose a card slot and click on the Properties button. The Card Slot (Edit) form opens with the General tab displayed.

14 Click on any of the following tab buttons for additional information about the card:

- Cards
- Terminations
- Faults

15 Close the Card Slot (edit) form.

16 Click on the Ports tab button in the Shelf (Edit) form to display a list of ports.

17 Choose a port from the list and click on the Properties button. The Port (Edit) form opens with the General tab displayed.

18 Click on any of the following tab buttons for more information about the port:

- IP Addresses
- Physical Links
- Faults

19 Close the Port (Edit) form.

20 Click on the Faults tab button in the Shelf (Edit) form.

21 Click on any of the following tab buttons to view any shelf faults:

- Object Alarms
- Affecting Alarms
- Aggregated Alarms
- Alarms on Related Objects

22 Close the Shelf (Edit) form.

Procedure 8-3 To view 5780 DSC instance properties

1 Choose Manage→Mobile Core→DSC Instances from the 5620 SAM main menu. The Manage Dynamic Services Controller Entities (DSC) form opens.

2 Choose DSC Instance (LTE) from the object drop-down list.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose a 5780 DSC instance from the results list and click on the Properties button. The DSC Instance (Edit) form opens with the General tab displayed.

5 View the properties of the 5780 DSC instance under the following tabs:

- General
- Components
  - DSC Diameter Proxy Agent
  - DSC Policy Charging Rules Function
  - Service Group
  - Service Member
- Diameter Peers
- ISU State
- Faults

Note — You can view the availability status of a 5780 DSC instance, DSC DPA, DSC PCRF, and DSC PCRF group object on the General tab of the related Properties (Edit) form. The availability status is:

- Degraded—if any child is down and the parent operational status is up, or if all children are down and the parent operational status is down
- Normal—when all children are up, and the parent operational status is up

6 Close the DSC Instance (Edit) form.

Procedure 8-4 To view diameter proxy agent properties

1 Choose Manage→Mobile Core→DSC Instances from the 5620 SAM main menu. The Manage Dynamic Services Controller Entities (DSC) form opens.

2 Choose Diameter Proxy Agent (LTE) from the object drop-down list.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose a diameter proxy agent from the results list and click on the Properties button. The Diameter Proxy Agent (Edit) form opens with the General tab displayed.

5 View the properties of the diameter proxy agent under the following tabs:

- General
- Components
  - Diameter Proxy Agent
  - Service Member
- Faults

Note — You can view the availability status of a 5780 DSC instance, DSC DPA, DSC PCRF, and DSC PCRF group object on the General tab of the related Properties (Edit) form. The availability status is:

- Degraded—if any child is down and the parent operational status is up, or if all children are down and the parent operational status is down
- Normal—when all children are up, and the parent operational status is up

6 Close the Diameter Proxy Agent (Edit) form.

Procedure 8-5 To view policy charging rules properties

1 Choose Manage→Mobile Core→DSC Instances from the 5620 SAM main menu. The Manage Dynamic Services Controller Entities (DSC) form opens.

2 Choose Policy Charging Rules (LTE) from the object drop-down list.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose a policy charging rule from the results list and click on the Properties button. The Policy Charging Rules (Edit) form opens with the General tab displayed.

5 View the properties of the policy charging rules under the following tabs:

- General
- Components
  - Policy Charging Rules
  - Service Group
  - Service Member
- Faults

Note — You can view the availability status of a 5780 DSC instance, DSC DPA, DSC PCRF, and DSC PCRF group object on the General tab of the related Properties (Edit) form. The availability status is:

- Degraded—if any child is down and the parent operational status is up, or if all children are down and the parent operational status is down
- Normal—when all children are up, and the parent operational status is up

6 Close the Policy Charging Rules (Edit) form.

Procedure 8-6 To view policy charging rules group properties

1 Choose Manage→Mobile Core→DSC Instances from the 5620 SAM main menu. The Manage Dynamic Services Controller Entities (DSC) form opens.

2 Choose Policy Charging Rules Group (LTE) from the object drop-down list.

3 Configure the filter criteria, if required, and click on the Search button.

4 Choose a policy charging rule group from the results list and click on the Properties button. The Policy Charging Rules Group (Edit) form opens with the General tab displayed.

5 View the properties of the PCR group under the following tabs:

- General
- Components
  - Policy Charging Rules
  - Service Member
- Faults

Note — You can view the availability status of a 5780 DSC instance, DSC DPA, DSC PCRF, and DSC PCRF group object on the General tab of the related Properties (Edit) form. The availability status is:

- Degraded—if any child is down and the parent operational status is up, or if all children are down and the parent operational status is down
- Normal—when all children are up, and the parent operational status is up

6 Close the Policy Charging Rules Group (Edit) form.

9 — Configuring LTE ePC mobile regions

9.1 LTE ePC mobile region overview *9-2*

9.2 Workflow to configure a mobile region *9-2*

9.3 Mobile region configuration procedures *9-2*

9.1 LTE ePC mobile region overview

The 5620 SAM allows you to configure and view mobile regions. The region is configured with a region name, an MCC, and an MNC. The values are used in combination to identify SGW and PGW instances. The MCC and MNC settings are based on ITU-T Recommendation E.212.

The Mobile Node Name parameter, which is in the Mobile Node ID panel of the PDN Gateway (Edit) and Serving Gateway (Edit) forms, is derived in part from mobile node region name.

9.2 Workflow to configure a mobile region

1. Create the mobile region.
2. Assign a mobile region to an SGW or a PGW.
3. View the properties of the mobile region.

9.3 Mobile region configuration procedures

The following procedures describe how to configure an LTE ePC mobile region. You can create multiple mobile regions in the LTE network.

Note — After you configure a mobile region, you must assign the region to an appropriate SGW or PWG. After you assign the region to a gateway, you can click on the ePC Gateway tab button to list the elements that are associated with the region.

Procedure 9-1 To create a mobile region

1. Choose Manage→Mobile Core→Mobile Regions from the 5620 SAM main menu. The Manage Mobile Regions form opens.
2. Click on the Create button. The Mobile Node Region (Create) form opens with the General tab displayed.
3. Configure the parameters:
   - Region ID
   - Region Name
   - Mobile Network Code
   - Auto-Assign ID
   - Mobile Country Code

   The Region ID parameter is read-only when you configure the Auto-Assign ID parameter. When you select Auto-Assign ID, the Region ID is assigned by the system when you save or apply the mobile region parameters.

4 Click on the OK button to save the parameter settings. The Mobile Node Region (Create) form closes. The Manage Mobile Regions form reappears and displays the newly configured region in the Mobile Node Region (LTE) list.

5 Close the Manage Mobile Regions form.

Procedure 9-2 To assign a mobile region to an SGW or a PGW

1 Perform one of the following:

   a To assign a mobile region to an SGW, go to step 2.

   b To assign a mobile region to a PGW, go to step 3.

2 Assign a mobile region to an SGW.

   i Choose Manage→Mobile Core→SGW Instances from the 5620 SAM main menu. The SGW Instances form opens.

   ii Choose Serving Gateway (LTE) from the Select Object Type drop-down menu.

   iii Configure the filter criteria, if required, and click on the Search button. The form lists the available SGWs.

   iv Choose a gateway instance from the list and click on the Properties button. The Serving Gateway (Edit) form opens with the General tab displayed.

   v In the Mobile Node Region panel, click on the Select button. The Select Mobile Node Region form appears. The form lists the mobile regions that are configured, as described in Procedure 9-1.

   vi Choose a mobile region and click on the OK button. The Serving Gateway (Edit) form closes. The name of the mobile region appears in the Region Name field of the Serving Gateway (Edit) form.

   vii Click on the Apply button. A dialog box opens.

   viii Click on the Yes button. The mobile name appears in the Mobile Node Name field in the Mobile Node ID panel.

   ix Close the Serving Gateway (Edit) form.

   x Close the SGW Instances form.

3 Assign a mobile region to a PGW.

   i Chose Manage→Mobile Core→PGW Instances from the 5620 SAM main menu. The Manage PDN Gateways (PGW) form opens.

   ii Choose PDN Gateway (LTE) from the Select Object Type drop-down menu.

   iii Configure the filter criteria, if required, and click on the Search button. The form lists the available PGWs.

iv Choose a gateway instance from the list and click on the Properties button. The PDN Gateway (Edit) form opens with the General tab displayed.

v In the Mobile Node Region panel, click on the Select button. The Select Mobile Node Region form appears. The form lists the mobile regions that you created in Procedure 9-1.

vi Choose a mobile region and click on the OK button. The PDN Gateway (Edit) form closes. The name of the mobile region appears in the Region Name field of the PDN Gateway (Edit) form.

vii Click on the Apply button. A dialog box opens.

viii Click on the Yes button. The mobile name appears in the Mobile Node Name field in the Mobile Node ID panel.

ix Close the PDN Gateway (Edit) form.

x Close the Manage PDN Gateways (PGW) form.

Procedure 9-3 To view the properties of a mobile region

1 Choose Manage→Mobile Core→Mobile Regions from the 5620 SAM main menu. The Manage Mobile Regions form opens. The regions appear in the Mobile Node Region list.

2 Choose a mobile region or configure a filter to search for the mobile region that you need to view and click on the Properties button. The Mobile Node Region (Edit) form appears.

3 Click on the Properties button. The Mobile Regions (Edit) form opens with the General tab displayed.

4 View the properties under the following tabs:

- General—View the parameters of the mobile region.
- EPC Gateway—View the gateways that are associated with the region.

5 Close the Mobile Regions (Edit) form.

6 Close the Manage Mobile Regions (Edit) form.

LTE ePC path and mobile service management

10 — EPS path topology map

11 — Viewing LTE ePC peers and paths

12 — Transport layer correlation for EPS paths

13 — Mobile service management

10 — EPS path topology map

10.1 EPS path topology map overview *10-2*

10.2 EPS path topology menu *10-5*

10.3 EPS path topology map management procedures *10-6*

10.1 EPS path topology map overview

The EPS path topology map displays a static representation of mobile network objects and EPS paths. Each network object icon represents an aggregate of all network objects of that type. For SGWs and PGWs, the icon represents an aggregate of all instances of that gateway type and all network objects that contain instances of that type. Each EPS path link represents an aggregate of all EPS paths of a specific type. Figure 10-1 shows the main elements of the mobility topology map.

Figure 10-1 EPS path topology map elements

EPS path topology map window

The EPS path topology map window consists of:

- a titlebar
- a map panel that displays the network objects
- a map toolbar which consists of a collection of buttons that are used to manage the map view

The titlebar of the map window displays the following information:

- map type, which is EPS Path Topology in this case
- map number, which indicates the order in which the map was opened; for example, whether it is the first or the tenth map opened. There is no limit to the number of topology maps that you can have open at the same time.

EPS path topology map panel

The EPS path topology map panel displays a static map of the mobile network that contains:

- icons that represent an aggregate of the unmanaged mobile NEs and gateways
- icons that represent an aggregate of a mobile NE type or instance
- links between network elements that represent an aggregate of the EPS paths, such as S5
- an EPS path aggregated alarm table for each type of path
- an EPS aggregated alarm table for all EPS paths in the network; the table displays the total number of EPS paths and the number of paths that have at least one critical, major, and minor alarm
- icons that represent functions, such as the offline charging system

Selecting map objects

Click on the Select Tool button to select an object on the map. You can select multiple objects by pressing the Shift key and clicking on each object you need to select, or by drawing a selection rectangle around all of the objects you need to select on the topology map. You can select all of the NEs that are attached to an NE by selecting one or more NEs, right-clicking, and choosing Select Attached from the contextual menu. You can deselect a selected NE by pressing the CTRL key and clicking on the NE you need to deselect.

Moving map objects

You cannot move the map objects.

EPS path links

The map displays links that represent all EPS paths of a specific type between two mobile NEs or instances. You can right-click on a link to display a list of EPS paths.

Alarm tables

Each EPS path link is associated with an alarm table. There is also a path alarm table for the mobile network.

Zoom in and out using a mouse

The ability to zoom in and out on a map allows you to increase or decrease the size of the map. Use the mouse wheel to zoom in and zoom out of the map. Click on the map and roll the mouse wheel forward to zoom in or roll the mouse wheel backward to zoom out. Each roll of the mouse wheel brings the map objects closer or farther.

EPS path topology map toolbar

The EPS path topology map toolbar allows you to manage the view of the map. The toolbar appears above the map panel in the map window. Figure 10-2 shows the map toolbar and its elements.

Figure 10-2 Map toolbar elements

Save To File button

Click on the Save To File button to save the map view or the full map. You can choose the location to save the map image and the file type. See Procedure 10-3 for more information about using the Save To File button. Figure 10-3 shows the Save To File button.

Figure 10-3 Save To File button

Overview Window button

Click on the Overview Window button to open the Overview window. Use the Overview window to pan the entire map and the area that you want to view.

Legend Tool button

Click on the Legend Tool button to open the Legend - EPS Path Topology window. The window contains a table that explains the meaning of the topology map icons. Figure 10-4 shows the Legend - EPS Path Topology display.

Figure 10-4 Legend - EPS Path Topology

Select Tool button

Click on the Select Tool button to select an object on the map. You can select multiple objects by pressing the Shift key and clicking on each object you want to select, or by drawing a selection rectangle around all the objects you want to select on the mobility topology map.

Hand Tool button

Click on the Hand Tool button to switch to a pan mode. Click on the background to move the contents of the map in any direction.

Zoom in and zoom out using a Mouse or Tool buttons

The ability to zoom in and out on a map allows you to view details of the map. Click on the Zoom in Tool and Zoom out Tool buttons, and click on the map to resize the objects in a map or use the mouse wheel to zoom in and zoom out of topology maps. Click on the map and roll the mouse wheel forward to zoom in or roll the mouse wheel backward to zoom out. Each roll of the mouse wheel brings the map objects closer or farther.

Scale combo box

Use the scale combo box to increase or decrease the zoom in the map. You can choose a zoom percentage value from 25% to 300%, or fit all objects in the window from the drop-down menu. The scale combo box displays the current scale of the map.

10.2 EPS path topology menu

Table 10-1 lists the EPS path topology menu item and its function.

Table 10-1 5620 SAM map management menu

Menu option	Function
Application→EPS Path Topology	View the EPS path topology map

10.3 EPS path topology map management procedures

Perform the following procedures to perform map management tasks.

Procedure 10-1 To open the EPS path topology map

1 Choose Application→EPS Path Topology from the 5620 SAM main menu.

2 The EPS path topology map appears.

See Procedure 10-2 for information about the map elements. See section 10.1 for information about the map view.

Procedure 10-2 To view EPS path topology map elements

1 Open an EPS path topology map, as described in Procedure 10-1. Figure 10-1 shows the map main elements.

2 View the NEs, links, and alarm tables, as required:

a View the EPS path topology map icons that represent mobile network NEs. Table 10-2 describes the map icons.

Table 10-2 EPS path topology map icons

Map icon type	Description
MME	Represents all of the managed MME devices and MME devices that have an EPS path to another NE. When you right-click on an MME icon, you can choose to display a list of all MME instances represented by the icon or all NEs that contain an MME instance. See chapter 7 for more information about viewing MME properties.
SGW	Represents all of the managed SGW instances and all of the managed network elements that contain SGW instances. When you right-click on an SGW icon, you can choose to display a list of all gateway instances represented by the icon or all NEs that contain an SGW instance. See chapter 6 for more information about configuring SGWs.
PGW	Represents all of the managed PGW instances and all of the managed network elements that contain PGW instances. When you right-click on a PGW icon, you can choose to display a list of all gateway instances represented by the icon or all NEs that contain a PGW instance. See chapter 6 for more information about configuring PGWs.

(1 of 2)

Map icon type	Description
PCRF	Represents all of the managed PCRF devices in the network and the PCRF devices that have an EPS path to another NE. When you right-click on a PCRF icon, you can choose to display a list of all DSC instances represented by the icon or all NEs that contain a DSC instance. See chapter 8 for more information about viewing DSC properties.
GGSN	Represents the Gateway GPRS Support Node (GGSN) instances and all managed network elements that contain GGSN instances. When you right-click on a GGSN icon, you can choose to display a list of PGWs that are functioning as GGSNs.
SGSN	Represents the Serving GPRS Support Node (SGSN) instances. When you right-click on an SGSN icon, you can choose to display a list of all unmanaged elements of type SGSN.
eNodeB	Represents all of the network elements of type eNodeB.
OfCS	Represents the offline charging system, a charging system where charging information does not affect, in real-time, the service being delivered.
OnCS	Represents the online charging system, a charging system where charging information can affect, in real-time, the service being delivered.

(2 of 2)

b View the EPS path links. The EPS path links, which appear in the map between NEs, represent an aggregate of all of the EPS paths of a specific type. Right-click on a link and click on the menu item to display a list of all of the EPS paths that are represented by the link. You can choose a path from the list to view or modify the path properties.

c View the EPS path alarm tables. Table 10-3 describes the EPS path alarm tables.

Table 10-3 EPS path alarm tables

Alarm table type	Description
EPS path-specific alarm tables	Each EPS path type is associated with an alarm table that is displayed over the path link on the map. Each alarm table displays the: • path type • total number of paths represented by the link • rows that display the number of paths with at least one critical, major, or minor alarm
EPS paths alarm table	There is one EPS paths alarm table associated with the topology map. The EPS paths alarm table displays the: • total number of paths of all types in the mobile network • total number of paths of all types that have at least one critical, major, or minor alarm

Procedure 10-3 To save a map view to a file

You can use the Save to File button to save a portion of a map or the entire map to the local file system. You can save the file to JPEG, JPG, BMP, and PNG formats.

1 Open an EPS path topology map, as described in Procedure 10-1.

2 Click on the Save To File button. The save options are displayed in the drop-down menu.

3 Choose an option from the drop-down menu:

- Choose Save Map View to save the current view.
- Choose Save Full Map to save the entire map view.

The Save form appears.

4 Save the results.

i To choose a directory in which to save the listed information, configure the Save In parameter.

ii To create a filename, configure the File Name parameter.

iii Choose BMP, JPEG, JPG, or PNG from the File of Type drop-down menu.

iv Click on the Save button. The map view is saved to the specified file.

Procedure 10-4 To zoom in and zoom out of a map

1 Open an EPS path topology map, as described in Procedure 10-1.

2 Perform one of the following:

a Use the mouse wheel to zoom in and zoom out. Click on the map. To zoom in, roll the mouse wheel forward. To zoom out, roll the mouse wheel backward.

b Click on the Zoom in Tool or Zoom out Tool button. Go to step 3.

3 Move your cursor into the map panel. The icon changes to a magnifying glass that contains a + or - sign.

4 Click on the area of the map you need to expand or contract. The map expands or contracts. Continue clicking until the required zoom level is reached.

5 Use the opposite button and an equal number of clicks to return the map to the default setting.

6 To return to the pointer icon, click on the Select Tool button in the toolbar.

Procedure 10-5 To view and modify EPS path information

1. Open an EPS path topology map, as described in Procedure 10-1.
2. To list EPS paths, perform one of the following.
   - **a** Using an EPS path link:
     - **i** Right-click on the EPS path link for the type of path that you need to list.
     - **ii** Click on the displayed menu item. An EPS paths form opens that displays a list of paths.
     - **iii** Choose a path from the list and click on the Properties button. The properties edit form for the EPS path opens.
   - **b** Using the EPS path alarm table:
     - **i** Right-click on the EPS path alarm table at the top of the EPS path topology map.
     - **ii** Click on the menu item. The EPS Paths form opens.
     - **iii** Click on the Select Object Type button and choose the type of path from the list.
     - **iv** Click on the Search button. A list of paths appears.
     - **v** Choose a path from the list and click on the Properties button. The path type edit form opens.
3. View and modify the path information, as required.
4. Close the path edit form.
5. Close the EPS paths form.

11 — Viewing LTE ePC peers and paths

11.1 Viewing EPS peers and paths overview *11-2*

11.2 Viewing the properties of EPS peers and paths *11-3*

11.1 Viewing EPS peers and paths overview

The 5620 SAM allows you to view the status, statistics, state, and faults associated with the EPS peers and paths.

Each peer or path combines a pair of matching reference points and peer objects of two ePC nodes in a managed entity. Reference points are based on the LTE 3GPP standard, and are created automatically when you configure an LTE node such as an SGW or a PGW. EPS paths are created dynamically when LTE peer devices are signaled. After the 5620 SAM resynchronizes a control session, the EPS peers and EPS paths are discovered by the 5620 SAM.

Note — The signaling interfaces must be configured on the LTE ePC device before the 5620 SAM can discover EPS peers and paths. See Procedure 6-1 for information about how to configure signaling on an SGW and Procedure 6-9 for information about how to configure signaling on a PGW.

EPS peers

EPS peers are neighboring nodes that share the endpoints of an EPS path. An example is an S5 EPS path: one endpoint is always an SGW and the other endpoint is always a PGW. The PGW and the SGW are EPS peers.

The 5620 SAM supports the following types of peers:

- diameter-based
- GTP/PMIP-based

EPS paths

An EPS path is a point-to-point connection between LTE nodes that is used for bearer control. EPS paths include:

- eNodeB to SGW (S1-U path)
- SGW to PGW (S5 path)
- SGW to MME (S11 path)
- PGW to PCRF (Gx path)
- SGW to CCF (Rf path)

The 5620 SAM allows you to discover and list all of the EPS paths in the entire mobile network or on a specific node. You can filter using specific parameters, such as type, status, and IP address, to display specific bearer paths.

EPS paths are single-sided or double-sided:

- single-sided—the 5620 SAM manages only one endpoint, such as the following:
  - S11 path between the SGW and the MME, where only the SGW is managed by the 5620 SAM
  - Gx path between the PGW and the PCRF, where only the PGW is managed by the 5620 SAM
  - S1-U path between the SGW and the eNodeB, where only the SGW is managed by the 5620 SAM
  - Rf path between the SGW and the CFF, where only the SGW is managed by the 5620 SAM
- double-sided—the 5620 SAM manages both endpoints, such as the S5 interface between the SGW and PGW, where both gateways are managed by the 5620 SAM

11.2 Viewing the properties of EPS peers and paths

The following procedures describe how to view the properties of EPS peers and paths.

Procedure 11-1 To view the properties of EPS peers from the EPS Peers and Paths form

1. Choose Manage→Mobile Core→EPS Peers and Paths from the 5620 SAM main menu. The Manage EPS Peers and Paths form opens.
2. Choose Evolved Packet Solution Peer (LTE) from the Select Object Type drop-down menu. The supported types of peers appear as subtending objects in the Evolved Packet Solution Peer (LTE) navigation tree.

3 Perform one of the following to choose a type of peer from the drop-down menu:

a Diameter Based Peer (LTE)

- AGW Diameter Peer (LTE)
  - Gx AGW Peer (LTE)
  - Rf AGW Peer (LTE)
- DSC Diameter Peer (LTE)

b GTP/PMIP Based Peer (TLE)

- AGW GTP/PMIP Peer (LTE)
  - S11 SGW Peer (LTE)
  - S1u SGW Peer (LTE)
  - S5 AGW Peer (LTE)
  - S8 AGW Peer (LTE)
- MME GTP/PMIP Peer (LTE)
  - Gn MME Peer (LTE)
  - S10 MME Peer (LTE)
  - S11 MME Peer (LTE)
  - S13 MME Peer (LTE)
  - S1mme MME Peer (LTE)
  - S3 MME Peer (LTE)
  - S6a MME Peer (LTE)
  - SG MME Peer (LTE)
  - Sv MME Peer (LTE)

4 Configure the filter criteria, if required, and click on the Search button. The form lists the available EPS peers.

5 Choose an EPS peer from the list and click on the Properties button. The EPS Peer form opens with the General tab displayed.

6 Click on the following tab buttons for additional information:

- Diameter—lists the Diameter management state, detailed state, profile name, and profile index. This tab applies only to Gx and Rf peers.
- Statistics—lists the statistics associated with the peer
- Faults—lists the faults associated with the EPS peer according to the following alarm types:
  - Object Alarms
  - Affecting Alarms
  - Aggregated Alarms
  - Alarms on related Objects

7 Click on the Cancel button to close the form.

Procedure 11-2 To view the properties of EPS paths from the EPS Peers and Paths form

1. Choose Manage→Mobile Core→EPS Peers and Paths from the 5620 SAM main menu. The Peers and Paths form opens.

2. Choose Evolved Packet Solution Path (LTE) from the Select Object Type drop-down menu. The following supported paths appear as subtending objects in the Evolved Packet Solution Path (LTE) navigation tree:

   - Gx Path (LTE)
   - Rf Path (LTE)
   - S11 Path (LTE)
   - S1u Path (LTE)
   - S5 Path (LTE)

3. Configure the filter criteria, if required, and click on the Search button. The form lists the available EPS paths.

4. Choose an EPS path from the list and click on the Properties button. The EPS Path properties form opens with the General tab displayed.

5. Click on the following tab buttons for additional information:

   - Tree—lists the component tree that is associated with the path
   - Drill Down—see Procedure 12-3 for more information about how to perform the manual drill-down operation. Drill-down is not supported on the Rf EPS paths.
   - Components—this tab is populated only after the drill-down operation is performed
   - Discovery Log—a log appears if the drill-down operation fails
   - Faults—lists the faults associated with the EPS path according to the following alarm types:
     - Object Alarms
     - Affecting Alarms
     - Aggregated Alarms
     - Alarms on related Objects

6. Click on the Cancel button to close the form.

12 — Transport layer correlation for EPS paths

12.1 Transport layer correlation with EPS paths overview *12-2*

12.2 Workflow for transport layer correlation for EPS paths *12-4*

12.3 EPS path drill-down hints *12-4*

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12.7 Troubleshooting drill-down operations *12-13*

12.1 Transport layer correlation with EPS paths overview

This chapter describes how to use the 5620 SAM to manage the transport layer that underlies the EPS paths.

EPS paths

EPS paths are created automatically when the 5620 SAM recognizes a discovered peer and a discovered reference point on a managed entity, such as an SGW. The EPS paths are classified by their symmetry. Symmetry for EPS paths is determined by whether both EPS path endpoints are fully managed by the 5620 SAM. The symmetry types are:

- single-sided—When the 5620 SAM recognizes only one side of an interface, the 5620 SAM creates a single-sided path.
- double-sided—When the 5620 SAM recognizes both sides of an interface, the 5620 SAM forms an entity with two peers and two reference points, known as a double-sided path.

Transport segments of EPS paths

An EPS path encapsulates the connection between two endpoints within the LTE network. Each EPS path has at least one transport segment. Some EPS paths, such as an S1-U EPS path, can contain multiple transport segments. The drill-down operation correlates the alarms of each segment with the EPS paths and provides information to perform diagnostic analyses when an EPS path is down.

EPS path drill-down hints

To diagnose and manage faults which may occur in the transport layer that underlies an EPS path, you must provision the 5620 SAM with a group of EPS path drill-down hints that represent the transport topology of the network. The 5620 SAM uses the hints to correlate the transport segments with the EPS paths.

A drill-down hint is a list of entries where each entry consists of a pair of entities: a segment and a connection. The possible types of segments are:

- eNodeB to NE—One of the endpoints of the segment is an eNodeB. The other endpoint is another NE that is managed by the 5620 SAM.
- NE to NE—Both of the endpoints of the segment are NEs that are managed by the 5620 SAM.
- NE to SGW—One of the endpoints of the segment is an SGW. The other endpoint is an NE that is managed by the 5620 SAM.
- SGW to PGW—Both of the endpoints of the segment are managed by the 5620 SAM.
- SGW to MME—One endpoint of the segment is an SGW that is managed by the 5620 SAM. The other endpoint is an MME.
- PGW to PCRF—One endpoint of the segment is a PGW that is managed by the 5620 SAM. The other endpoint is a PCRF.

The possible types of connections are:

- physical link
- managed spoke connector (applicable to the NE to NE segment)
- managed L2 transport (applicable to the NE to SGW segment)
- unmanaged L2 transport

High-priority hints

Because you can have hundreds of hints configured for your network, it is advantageous from a performance perspective to limit the number of hint profiles that the 5620 SAM must process during the automatic correlation of the transport layer with the new EPS paths. To avoid delays in the correlation process, you can specify a set of hints that the 5620 SAM uses to correlate a new EPS path with the transport layer. These hints are referred to as high-priority hints. You can configure up to five high-priority hints for each path type. See Procedure 12-1 for more information about how to configure a hint using the High Priority parameter.

EPS path drill-down operations

The drill-down operation uses the path drill-down hints to correlate the underlying transport layer with the EPS paths. The types of drill-down operations are:

- automatic
- manual

Automatic drill-down operation

When the 5620 SAM creates an EPS path, the 5620 SAM parses the list of high-priority EPS path drill-down hints to identify the segments that comprise the underlying transport layer.

Note — Only high-priority hints are used for the automatic drill-down operation.

Because you have already configured the IP address of the endpoints for each peer of an EPS path, the 5620 SAM automatically attempts to traverse the path that you configured in the hint to determine whether there is connectivity with the IP address of the designated peer. The 5620 SAM attempts to apply each hint to the underlying network, starting with the first hint in the hint list. If the first high-priority hint fails, the 5620 SAM tries the second hint, if available. If any segment within a hint fails to discover components, an alarm is generated and the degree of success of the drill-down is indicated in the Hint Matching Level field. If the drill-down operation is successful, the list of underlying objects are listed in the Components tab on the EPS Path properties form.

Manual drill-down operation

There are no real-time updates to the list of components that identify the underlying transport elements of an EPS path. If the network topology changes and the list of components changes, the 5620 SAM does not automatically update the components. The manual drill-down operation allows you to update the list of components.

The manual drill-down operation forces the 5620 SAM to try to correlate an EPS path with a discovered set of underlying components using one specified hint or a set of high-priority hints. Depending on the outcome of the operation, the 5620 SAM returns a success or failure notification. If a manual drill-down operation fails, the 5620 SAM does not attempt to apply another hint. You must manually choose a different hint and repeat the drill-down operation.

If you do not choose a hint for a specified path, the 5620 SAM applies the high-priority hints when you perform the manual drill-down operation. See Procedure 12-3 for more information about how to perform the manual drill-down operation.

Hint matching level

The Hint Matching Level field indicates the degree of success for an EPS path drill-down operation. The hint matching level is an indication of the number of successfully discovered hint segments expressed as a percentage of the total number of hint segments. For example, if a drill-down hint contains three segments and the drill-down operation successfully discovers two of those segments, the hint matching level is 66%. The State field value is Failed for anything less than a 100% drill-down success.

12.2 Workflow for transport layer correlation for EPS paths

1. Review the supported hint criteria and restrictions.
2. For automatic drill-down, perform step 3; for manual drill-down, perform step 4.
3. Create the EPS path drill-down hints before you configure a node for management. The drill-down operation is automatically performed when the node is discovered.
4. Create the EPS path drill-down hints and perform the manual drill-down operation to correlate the EPS path with the transport layer.

12.3 EPS path drill-down hints

This section describes the hints, transport segments, and connections that are supported by the 5620 SAM for each EPS path type. The EPS path drill-down hints apply only to S1-U, S5, S11, and Gx paths.

S1-U path drill-down hints

Table 12-1 lists the hints for S1-U paths that the 5620 SAM supports.

Table 12-1 S1-U path hints, transport segments, and connections

Hint	Segment	Connection
1	eNodeB to NE	Physical link
	NE to NE	Managed Spoke Connector [(1)]
	NE to SGW	Managed L2 Transport
2	eNodeB to NE	Physical link
	NE to NE	Managed Spoke Connector [(1)]
	NE to SGW	Unmanaged L2 Transport
3	eNodeB to NE	Physical link
	NE to NE	Managed Spoke Connector [(1)]
	NE to SGW	Physical link

Note

(1) The L2 VPN topology must be an Epipe SAP facing the eNodeB and spoked to a VPLS with a SAP facing the SGW. No other topology is supported for the NE to NE segment.

S5 path drill-down hints

Table 12-2 lists the hints for S5 paths that the 5620 SAM supports.

Table 12-2 S5 path hints, transport segments, and connections

Hint	Segment	Connection
1	SGW to PGW	Physical link
2	SGW to PGW	Unmanaged L2 Transport

S11 path drill-down hints

Table 12-3 lists the hints for S11 paths that the 5620 SAM supports.

Table 12-3 S11 path hints, transport segments, and connections

Hint	Segment	Connection
1	SGW to MME	Physical link
2	SGW to MME	Unmanaged L2 Transport

Gx path drill-down hints

Table 12-4 lists the hints for Gx paths that the 5620 SAM supports.

Table 12-4 Gx path hints, transport segments, and connections

Hint	Segment	Connection
1	PGW to PCRF	Physical link
2	PGW to PCRF	Unmanaged L2 Transport

12.4 EPS path drill-down hint creation and validation

Perform Procedure 12-1 to create an EPS path drill-down hint.

Procedure 12-1 To create an EPS path drill-down hint

1. Choose Manage→Mobile Core→LTE EPS Path Drill Down Hints from the 5620 SAM main menu. The Manage EPS Path Drill-Down Hints form appears.
2. Click on the Create button. The EPS Path Drill Down Hint (Create) form opens with the General tab displayed.
3. Configure the parameters:
   - ID (or Auto-Assign ID)
   - Description
   - Type—Choose the type of EPS path from the drop-down menu. The options are:
     - Gx
     - S11
     - S1-u
     - S5
   - High Priority
4. Click on the Segments tab button.
5. Click on the Create button. The EPS Path Segment (Create) form appears.
6. Configure the Order parameter. The Order parameter is an ordinal value that specifies the position of the segments in the hint. The Gx, S11, and S5 hints have only one segment: the value must be 1. The S1-U hint has three segments: the value must be 1, 2, or 3 depending on the segment type. See Table 12-1 for more information.
7. Enter a name in the Description field.
8. Configure the Segment Type parameter. The segment types that are available depend on the path type that you specified in step 3. Table 12-5 lists the available transport segment types for each EPS path type.

Table 12-5 EPS path transport segment types

EPS path type	Transport segment type
GX	PGW-PCRF
	unspecified
S1-U	NE-NE
	NE-SGW
	eNodeB-NE
	unspecified
S11	SGW-MME
	unspecified
S5	SGW-PGW
	unspecified

9 Configure the Connection Type parameter. The connection types that are available depend on the segment type that you specified in step 8. Table 12-6 lists the available connection types for each segment type.

Table 12-6 EPS path connection types

EPS path type	Segment type	Connection types				
		Unmanaged L2 Transport	Managed Spoke Connector	Managed L2 Transport	Physical link	Unspecified
GX	PGW-PCRF	✓			✓	✓
S1-U	NE-NE		✓			✓
	NE-SGW	✓		✓	✓	✓
	eNodeB-NE				✓	✓
S11	SGW-MME	✓			✓	✓
S5	SGW-PGW	✓			✓	✓
all	unspecified	✓	✓	✓	✓	✓

10 Configure the Encapsulation Values parameter. The parameters are available only for S1-U NE-NE segments with a managed spoke connector.

- Encapsulation Type
  - Null
  - Dot1 Q
  - Q in Q
- Inner Encapsulation Value
- Outer Encapsulation Value

The Outer Encapsulation Value parameter is configurable only when the encapsulation type is Dot1 Q or Q in Q. The Inner Encapsulation Value parameter is configurable only when the encapsulation type is Q in Q.

11 Click on the Apply button.

12 Repeat steps 5 to 11 to add another segments, as required. The order of the hints must be configured according to the type of EPS path, as listed in Tables 12-1 to 12-4.

13 Click on the OK button. The newly configured hint appears in the EPS Path Drill-Down Hint (Edit) form. If a Problems Encountered warning window opens, perform Procedure 12-2.

EPS path drill-down hint validation

When you create an EPS path drill-down hint, the hint is validated according to the following criteria:

- order of segments in a hint
- incorrect set of segments
- incorrect number of segments

If any of the validation checks fail, a Problems Encountered warning window opens to help you with troubleshooting.

Troubleshooting EPS path drill-down hint creation errors

If the 5620 SAM cannot validate a hint when you attempt to create it, the create procedure fails and a Problems Encountered warning window opens.

Procedure 12-2 To troubleshoot EPS path drill-down hint creation errors

1 In the Problems Encountered warning window, double-click on the item in the list to view information about the failed hint. The error form displays the following information:

- Operation—Describes the type of operation that has the error. The error pertains to the configuration of a network object that subtends the EPS path; for example, ConfigureChildInstance.
- Request ID—The value is N/A.
- Affected Object—for example, ddmgr:hint-*n*:*m*,

  where

  n represents the hint number

  m represents the segment number
- Task Name—The value is N/A.
- Class—The class of the object that failed. For example, lte.EPSPathDiscoveryHint.
- Received Time—The time when the error occurred.
- Description—includes information about the following:
  - Application—the application that failed. For example, app: EPSPath drill down hint.
  - Class—The class of the object that failed. For example, class: lte.EPSPathDiscoveryHint.
  - Instance—The object that failed. For example, instance: ddmgr: hint-1.
  - Description—A description of the error. For example, descr: The first segment must be eNodeB-to-NE, and the connection type has to be physical link.

2 Review the information in the form, especially the Description field.

3 Review the supported hint types, as described in section 12.3.

4 Repeat Procedure 12-1 and ensure that the hint conforms to the supported hint types.

12.5 Drill-down operation prerequisites and restrictions by path type

This section describes the prerequisites and restrictions that apply to the drill-down operation.

General prerequisites and restrictions

The drill-down operation is supported only on S1-U, S5, S11, and Gx paths. The drill-down operation is not supported on Rf EPS paths.

For double-sided paths, the drill-down operation recognizes physical links that are created between the two managed NEs. For single-sided paths, the path does not have the site ID for the endpoint B; only the IP address that identifies the endpoint B. The drill-down operation can only recognize a physical link that is created between a managed NE (endpoint A) and an unmanaged NE or gateway identified by the IP address of endpoint B.

S1-U path drill-down operation prerequisites and restrictions

The following prerequisites and restrictions apply to S1-U path correlation:

- The following prerequisites apply to hint 1:
  - An Epipe is created on the 7705 SAR node.
  - A VPLS is created on the 7750 SR node.
  - A manually created physical link must exist between the eNodeB and the port used in the SAP in the Epipe on the 7705 SAR node.
- The following prerequisites apply to hint 2:
  - An Epipe is created on the 7705 SAR node.
  - A VPLS is created on the 7750 SR node. For CCAG, the SAP in the VPLS must use a CCAG (sap-net or net-sap).
  - A manually created physical link exists between the eNodeB and the port used in the SAP in the Epipe on the 7705 SAR node.
- The following prerequisites apply to hint 3:
  - An Epipe is created on the 7705 SAR node.
  - A VPLS is created on the 7750 SR node.
  - A manually created physical link exists between the eNodeB and the port used in the SAP in the Epipe on the 7705 SAR node.
  - A manually created physical link exists between the 7750 SR node and SGW. The endpoints must be configured as NEs with site IP addresses and no port information.
- The automatic drill-down operation is not initiated when an S1-U EPS peer is discovered because an S1-U path requires a physical link that starts from the eNodeB.
- The automatic drill-down operation is initiated when a physical link is created, but only when the endpoint B is of type Unmanaged NE and the IP address matches an Unmanaged NE of type eNodeB known to the 5620 SAM.

S5 path drill-down operation prerequisites and restrictions

The following prerequisites and restrictions apply to S5 path correlation:

- For hint 1, a manually configured physical link exists between the SGW and PGW.
- For hint 2, the SGW and the PGW must be on the same subnet for an unmanaged L2 transport connection.
- The automatic drill-down operation is initiated only for a new double-sided S5 EPS path.
- Only double-sided S5 EPS paths are supported.
- Single-sided S5 paths result in a failure.

S11 path drill-down operation prerequisites and restrictions

The following prerequisites and restrictions apply to S11 path correlation:

- For hint 1, you must configure a physical link between the SGW and the MME before you can perform the drill-down operation on a physical link. If there is more than one physical link, the drill-down operation fails.
- For hint 2, the SGW and the MME must be on the same subnet for an unmanaged L2 Transport connection.
- The automatic drill-down operation is initiated when the 5620 SAM discovers a new single-sided S11.
- Only single-sided S11 EPS paths are supported because the 5620 SAM does not manage the connection on the MME side.

Gx path drill-down operation prerequisites and restrictions

The following prerequisites and restrictions apply to Gx path correlation:

- For hint 1, you must configure a physical link between the PGW and the PCRF before you can perform the drill-down operation on a physical link. If there is more than one physical link, the drill-down operation fails.
- For hint 2, the PGW and the PCRF must be on the same subnet for an unmanaged L2 Transport connection.
- The automatic drill-down operation is initiated when the 5620 SAM discovers a new single-sided Gx.
- Only single-sided Gx EPS paths are supported because the 5620 SAM does not manage the connection on the PCRF side.

12.6 Performing a manual drill-down operation

Procedure 12-3 describes how to perform a manual drill-down operation.

Procedure 12-3 To perform a manual drill-down operation

1. Open an EPS Path (Edit) properties form from one of the following:
   - EPS Peers and Paths form, as described in Procedure 11-2
   - EPS path topology map, as described in Procedure 10-1
2. Click on the Drill Down tab button.
3. Perform one of the following:
   - **a** To drill down with high-priority hints, go to step 6.
   - **b** To drill down with a specific hint, go to step 4.
4. Click on the Select button in the Hint panel to choose an EPS path drill-down hint. The Select Hint form for the specified path type opens.

5 Choose an EPS path drill-down hint from the list and perform one of the following:

a Click on the Properties button to view the properties of the hint, if required.

b Change the properties of the hint, as described in Procedure 12-1, if required.

c Click on the OK button.

The Select Hint form closes and the ID of the EPS path drill-down hint appears in the Hint panel of the Drill Down tab. The State field value is Not attempted, which indicates that the drill-down operation has not yet been performed. Go to step 7.

6 Verify that the value of the ID field in the Hint panel is 0. If the value is not 0, click on the Clear button.

7 Click on the Drill Down button in the bottom panel of the Drill Down tab.

8 Review the status of the operation in the State and Hint Matching Level fields. The status changes from Not attempted to one of the following:

- Success—Go to step 9.
- Failed—See section 12.7 or more information about how to monitor and troubleshoot failed drill-down operations.

The degree of drill-down success is indicated by the Hint Matching Level field.

9 Click on the Components tab button to view the segments that were correlated. Each line in the table represents one of the transport layer components of the EPS path instance and is identified by the following properties:

- Name
- Description
- Component Type
- Alarm Status
- Aggregated Alarm Status

10 Double-click on an entry listed in the Components tab, or choose an entry and click the Properties button. The EPSPath*Component_Type*Component (View) form opens with the General tab displayed, where *Component_Type* is the transport layer component, such as Link, Service, or Interface.

The fields that appear in the General tab depend on the type of component. Each form shows the associated subcomponents of the path type, such as a service, spoke, Layer 3 interface, or physical link, and each of these components has a Properties button.

11 Click on the Properties button to view information about the subcomponents, or click on the Faults tab button to view the alarms associated with the object.

You can continue to drill down into the underlying network components by opening successive properties forms, viewing the properties of the object, identifying any associated alarms, and troubleshooting any faults that may exist. See chapter 16 for more information about LTE ePC alarm management.

12.7 Troubleshooting drill-down operations

This section describes how to troubleshoot drill-down operation failures. If a drill-down operation fails, the value of the State field in the Drill Down tab changes to Failed and the 5620 SAM generates an alarm on the EPS path.

The 5620 SAM generates an alarm on the EPS path for any of the following conditions:

- an automatic drill-down operation fails using the available high-priority hints
- a manual drill-down operation fails
- a partial match is established, that is, the 5620 SAM failed to correlate all of the segments of a path drill-down hint

Drill-down operation failure logs and alarms

The 5620 SAM logs each drill-down request and generates an alarm if the drill-down operation on an EPS path fails. If the drill-down operation fails, you can use the Drill Down Log tab on the EPS paths properties form to obtain additional information about the failure. Possible reasons for a failure are:

- network architecture is incorrectly configured
- EPS path drill-down hint is configured incorrectly and does not represent the network architecture
- EPS path drill-down hint is configured correctly but the underlying transport layer has changed
- EPS path drill-down hint is missing

Perform Procedure 12-4 to troubleshoot a failed drill-down operation.

Procedure 12-4 To troubleshoot a drill-down operation

1. Perform a drill-down operation, as described in Procedure 12-3.
2. In the EPS Path (Edit) properties form for the selected EPS path, click on the Drill Down Log tab button. The Drill Down Log tab displays a list of failure logs.
3. Choose a log entry in the list and click on the Properties button to obtain more information. The Drill Down Log (View) form opens with the General tab displayed. The General tab displays the following information:
   - Number
   - Error
   - Log Time
   - Object
   - Message
4. Click on the Faults tab button. The Faults tab lists the alarms that affect the object.

13 — Mobile service management

13.1 Mobile service overview *13-2*

13.2 Sample mobile service *13-2*

13.3 Mobile service characteristics *13-2*

13.4 Mobile service creation and update process *13-2*

13.5 Mobile service management menu *13-2*

13.6 Mobile service management procedures *13-3*

13.1 Mobile service overview

A mobile service allows a provider of an LTE network to better manage the mobile delivery distribution network from the IP core to the eNodeB access nodes. The mobile service represents the connectivity between network components and is comprised of the eNodeB, SGW, and PGW. The sites are joined by S1-U and S5 EPS paths, which are also referred to as connectors.

13.2 Sample mobile service

Figure 13-1 shows the components of a sample mobile service.

Figure 13-1 Sample mobile service

13.3 Mobile service characteristics

The 5620 SAM automatically creates, updates, and deletes a mobile service as sites and paths are added to or removed from the service.

13.4 Mobile service creation and update process

1. A user call placed through an eNodeB triggers the creation of a S1-U path.
2. The 5620 SAM creates an eNodeB unmanaged mobile NE; the eNodeB serves as the anchor for the mobile service.
3. The creation of an eNodeB unmanaged mobile NE triggers the creation of a mobile service.
4. The 5620 SAM creates a partial mobile service if all of the components needed for a complete service have not been discovered.
5. The 5620 SAM dynamically updates a mobile service when components are added or deleted.

13.5 Mobile service management menu

Table 13-1 lists the 5620 SAM service management menu.

Table 13-1 Mobile service management menu

Menu option	Function
Manage→Mobile Core→Mobile Services	View and manage a mobile service

13.6 Mobile service management procedures

Perform the following procedures to view and manage a mobile service.

Procedure 13-1 To view and modify mobile service properties

Caution — Modifying parameters can be service-affecting.

1 Choose Manage→Mobile Core→Mobile Services from the 5620 SAM main menu. The Manage Mobile Services form opens.

2 Configure the list filter criteria, and click on the Search button. A list of mobile services appears at the bottom of the Manage Mobile Services form.

3 Choose a mobile service and click on the Properties button. The eNodeB Mobile Service (Edit) form opens with the General tab displayed.

The following tabs list the service elements that can be individually or collectively selected and configured:

- General tab — displays information about the eNodeB based mobile service; click on the Properties button to view the properties of the service eNodeB NE
- Components tab — displays the mobile service components in a tree format; right-click on a site or component and choose Properties to view the properties of the selected item
- Model tab — displays a graphical representation of the mobile service components
- EPC Gateways tab — lists the mobile service sites; choose a site and click on the Properties button to view the properties of the selected site
- Unmanaged Network Elements tab — lists the mobile service unmanaged network elements; choose an unmanaged network element and click on the Properties button to view the properties
- Unmanaged PDN Gateways — lists the mobile service unmanaged PDN gateways; choose an unmanaged PDN gateway and click on the Properties button to view the properties
- EPS Paths — lists the mobile service EPS paths; choose a path and click on the Properties button to view the properties
- Faults tab — displays the faults associated with the service

4 Modify the parameters for the service, as required.

5 Click on the OK button. A dialog box appears.

6 Click on the Yes button to confirm the action. The eNodeB Mobile Service (Edit) form closes and the Manage Mobile Services form reappears.

7 Click on the Close button to close the Manage Mobile Services form.

LTE ePC profiles and policies configuration

14 — Configuring LTE ePC profiles and policies

14 — Configuring LTE ePC profiles and policies

14.1 LTE ePC profiles and policies overview *14-2*

14.2 Workflow to configure LTE ePC profiles and policies *14-4*

14.3 LTE ePC profiles and policies configuration and viewing procedures *14-6*

14.1 LTE ePC profiles and policies overview

The 5620 SAM supports the LTE-specific profiles and policies—all of which are modeled using the 5620 SAM policy framework. This chapter assumes that you are familiar with the following topics:

- general concepts about 5620 SAM policies
- policy distribution and scaling
- draft and release modes
- policy audits using the 5620 SAM Tools→Policies Audit menu
- mismatches between local and global policies
- other profile types supported by the 5620 SAM

See the policies overview in the *5620 SAM User Guide* for more information about routine tasks, such as how to distribute, modify, copy, synchronize, or delete a policy.

Diameter peer profile

The diameter peer profile provides peer-related information to the diameter applications. A diameter peer profile cannot be deleted when the profile is referenced by a diameter application.

Diameter profile

The diameter profile defines the parameters that are related to diameter connections. A diameter profile is referenced by the diameter peer profiles. Multiple diameter peer profiles can reference the same diameter profile. The diameter local configuration must be provisioned before you can provision the diameter profiles. A diameter profile can be referenced on the SGW or PGW signaling instance and on the diameter peer profile. A diameter profile cannot be deleted when the profile is referenced by a diameter application.

GTP prime server group profile

A GTP prime server group profile defines the properties and members of a GTP server group. The policy is applied to the Ga interface on a PGW.

GTP profile

The GTP profile can be used to configure the GTP control plane between the following entities:

- SGW and PGW signaling
- SGW and PGW over the S5 interface
- SGW and MME over the S11 interface

The GTP profile can be used to configure the GTP user plane between the following entities:

- eNodeB and SGW over the S1-U interface
- SGW and PGW over the S5 interface

QCI policies

A QCI policy profile configures the minimum level of QoS to be applied to the applications in multivendor deployments. The QCI polices can be applied to the SGW and PGW.

PGW charging profile

A PGW charging profile specifies the charging rules that can be applied to a particular type of subscriber, such as home, visiting, or roaming. A PGW charging profile is applied to a PGW instance.

SGW charging profile

An SGW charging profile specifies the charging rules that can be applied to a particular type of subscriber, such as home, visiting, or roaming. An SGW charging profile is applied to an SGW instance.

PLMN list profile

A PLMN list profile specifies the charging rules that can be applied to a PLMN. A PLMN list profile is applied to a PGW instance.

Lawful Intercept

LI describes the interception and monitoring of network subscriber traffic by authorized agencies for law enforcement purposes. For more information about LI, see the *5620 SAM User Guide*.

LTE LI delivery function peer policy

An LTE LI delivery function peer policy can be applied to the SGW and PGW. The policy specifies the server that is used to collect the intercepted data, reformat the data according to industry standards, and forward the data to the law enforcement agency. The delivery functions relate to the 3GPP Technical Specifications 33.107 and 33.108.

- Delivery Function 2 distributes intercepted data, that is information associated with telecommunications services that involve the target, but that exclude the content of communications; for example, the number of unsuccessful communication attempts or target location.
- Delivery Function 3 distributes the intercepted content of communications, which is the data sent or received by the target, such as speech, fax, or data.

LTE LI interception target policy

An LTE LI interception target policy specifies the target of interception. The policy can be applied to the SGW and PGW. The only target identity supported is IMSI.

Workflow to configure LI on an LTE ePC gateway

1 Perform the workflow to configure LI on the 5620 SAM, as described in the *5620 SAM User Guide*.

2 As an LI user on the 5620 SAM, perform Procedure 14-18 to configure the LTE LI delivery function peer policy.

3 As an LI user on the 5620 SAM, perform Procedure 14-19 to configure the LTE LI interception target policy.

14.2 Workflow to configure LTE ePC profiles and policies

1 Review the information about profiles and policies in the *5620 SAM User Guide*.

2 Determine the LTE profiles and policies that are required.

3 Create and distribute profiles and policies. Profiles and policies are applied during the configuration or modification of LTE devices and services. When and how you apply a policy depends on the policy type and the device on which the policy is to be applied. LTE policies are created for and can be applied to more than one reference point. Table 14-1 describes where and when you can apply the profiles or policies.

Note — Policies do not need to be explicitly distributed; policies are distributed to a device when they are assigned to a resource on the device.

Table 14-1 Applying profiles and policies

Item	Applied to	When applied	See Procedure
GTP	SGW signaling	During SGW configuration	6-1
	PGW signaling	During PGW configuration	6-9
	SGW reference points	During S11, S1-U, S5 reference point configuration	6-2
	PGW reference points	During S5 reference point configuration	6-10
GTP prime server group	PGW reference point	During Ga reference point configuration	6-10
Diameter	SGW signaling	During SGW configuration	6-1
	PGW signaling	During PGW configuration	6-9
Diameter peer	SGW reference points	During Rf reference point configuration	6-2
	PGW reference points	During Gx reference point configuration	6-10
QCI policy	APN	When adding an APN to an SGW	6-3
	SGW	After SGW configuration	6-5
	PGW	After PGW configuration	6-14
PGW charging profile	PGW	During PGW configuration	6-13
SGW charging profile	PGW	During SGW configuration	6-4
PLMN list policy	PGW	After PGW configuration	14-16
LTE LI delivery function peer policy	PGW SGW	During LTE LI configuration	14-18
LTE LI interception target policy	PGW SGW	During LTE LI configuration	14-19

Warning 1 — Alcatel-Lucent recommends that you make all changes to policy configurations for the 5620 SAM-managed devices using the 5620 SAM or OSS clients that send configuration data to the 5620 SAM. The intent is to ensure that any policy ID—for example, an access ingress policy with ID 4—has the same configuration on each device managed by the 5620 SAM.

Warning 2 — Creating or modifying policies using the CLI may cause inconsistencies in the configuration parameters of a policy throughout the network. See the *5620 SAM User Guide* for information about how to locate discrepancies in policies using a policy audit.

14.3 LTE ePC profiles and policies configuration and viewing procedures

The following procedures describe how to configure and view LTE profiles and policies.

After you configure a profile or policy, additional tabs appear in the edit properties form that allow you to do the following:

- view where and how a profile or policy is used
- manage faults associated with the profile or policy

Procedure 14-1 To configure a GTP profile

1. Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.
2. Choose GTP Profile (LTE) from the Select Object Type drop-down menu.
3. Perform one of the following:
   - a. Specify a filter to search for and modify an existing policy. Choose a policy in the filtered list and click on the Properties button.
   - b. Click on the Create button. The GTP Profile, Global Policy (Create) form opens.
4. Configure the parameters:
   - Displayed Name
   - Message Retransmit timeout(s)
   - Keep-Alive Timeout(s)
   - Keep-Alive T3 Response Times(s)
   - IP DSCP
   - Message Retransmit Retry Count
   - Keep-Alive Retry Count
   - IP TTL
5. Click on the Apply button. The GTP Profile, Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is in the Draft state. The Distribute button at the bottom of the form is dimmed. The policy cannot be distributed.
6. Release the policy and distribute the policy to as many routers as required. when you release the global policy, the policy is also distributed to existing local definitions. See the *5620 SAM User Guide* for information about how to distribute a policy.
7. Close the GTP Profile, Global Policy (Edit) form.

Procedure 14-2 To view a GTP profile

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose GTP Profile (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for a policy, choose a policy in the filtered list, and click on the Properties button. The GTP Profile—Global Policy (Edit) form opens.

4 Click on the following tab buttons in the GTP Profile—Global Policy (Edit) form to view the properties of the profile, and the associated NEs, reference points, and faults.

- General—to view the general properties of the GTP profile, such as the parameters configured in Procedure 14-1.
- Local Definitions—to view the NEs to which the policy has been distributed.
- Gn, S11, S1u, and S5—to view the properties of the reference points that use this policy. See Procedure 6-2 for information about how to configure the S11, S1u, and S5 reference points on the SGW; see Procedure 6-10 for information about how to configure the S5, Gn, and Ga reference points on the PGW.
- Signaling—to view the properties of the signaling interfaces that use this policy. See Procedure 6-1 for information about how to configure signaling on the SGW; see Procedure 6-9 for information about how to configure signaling on the PGW.
- Faults—to identify faults and to navigate to alarm information.

5 Close the GTP Profile, Global Policy (Edit) form.

Procedure 14-3 To configure a GTP prime server group profile

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose GTP Prime Server Group Profile (LTE) from the Select Object Type drop-down menu.

3 Perform one of the following:

a Specify a filter to search for and modify an existing policy. Choose a policy in the filtered list and click on the Properties button.

b Click on the Create button. The GTP Prime Server Group Profile, Global Policy (Create) form opens with the General tab displayed.

4 Configure the parameters:

- Displayed Name
- Description
- Maximum CDRs per PDU
- Dead Time (seconds)
- Inactive Time (minutes)
- Administrative State
- Queue Size
- File Obsolete Time (days)
- File Private Info
- File Extension
- File Closure Size (Mbytes)
- File Closure Max Records
- File Closure Life Time (hours)
- Primary Compact Flash

5 Configure the Configuration File Limit (Mbytes) in the CDR Storage on cf1 panel.

6 Configure the Configuration File Limit (Mbytes) in the CDR Storage on cf2 panel.

7 Click on the GTP Primary Server Addresses tab button.

8 Click on the Create button. The GTP Primary Server List Entry, Global Policy (Create) form opens.

9 Configure the parameters:

- Administrative State
- Primary Server Address
- Server Port
- Retries
- Time Out (seconds)
- Echo Interval (seconds)
- Maximum Requests
- Server Priority

10 Click on the Apply button to add the server to the server list. A dialog box appears.

11 Click on the OK button.

12 Repeat steps 9 to 11 for each server that you need to add.

13 When you configure the last server click on the OK button to add it to the list. The GTP Primary Server List Entry, Global Policy (Create) form closes and a dialog box appears.

14 Click on the OK button.

15 Click on the Apply button. The GTP Prime Server Group Profile, Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is in the Draft state. The Distribute button at the bottom of the form is dimmed. The policy cannot be distributed.

16 Release the policy and distribute the policy to as many routers as required. when you release the global policy, the policy is also distributed to existing local definitions. See the *5620 SAM User Guide* for information about how to distribute a policy.

17 Close the GTP Prime Server Group Profile, Global Policy (Edit) form.

Procedure 14-4 To view a GTP prime server group profile

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose GTP Prime Server Group Profile (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for a policy, choose a policy in the filtered list, and click on the Properties button. The GTP Prime Server Group Profile, Global Policy (Edit) form opens.

4 Click on the following tab buttons to view the properties of the profile and the associated NEs, reference points, and faults.

- General—to view the general properties of the GTP profile, such as the parameters configured in Procedure 14-3.
- GTP Primary Server Addresses—to view a list of primary servers in the group
- Local Definitions—to view the NEs to which the policy has been distributed.
- Ga—to view the properties of the reference points that use this policy. See Procedure 6-10 for information about how to configure the Ga reference point on a PGW.
- Faults—to identify faults and navigate to alarm information.

5 Close the GTP Prime Server Group Profile, Global Policy (Edit) form.

Procedure 14-5 To configure a diameter profile

The diameter profile provides a template for the configuration of diameter protocol parameters such as connection time, retry count, and IP DSCP values.

1 Choose Policies→Mobile→LTE Profiles and Policies. The LTE Profiles form opens.

2 Choose Diameter Profile (LTE) from the Select Object Type drop-down menu.

3 Perform one of the following:

a Specify a filter to search for and modify an existing profile. Use the filters to search for and open an existing profile by choosing a profile in the filtered list and clicking on the Properties button.

b Click on the Create button. The Diameter Profile, Global Policy (Create) form opens.

4 Configure the parameters:

- Displayed Name
- Description
- Connection Timer (s)
- DPR Timeout (s)
- IP DSCP
- IP TTL (S)
- Retry count
- Transaction Timer (s)
- Watch Dog Timer (s)
- Retry Time (min)
- DNS Refresh Time (s)

5 Click on the Apply button. The Diameter Profile, Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is in the Draft state. The Distribute button at the bottom of the form is dimmed.

Note — When the Configuration Mode parameter is in the Draft state, the Distribution button is dimmed and the policy cannot be distributed to the NEs. You must first release the policy for distribution. Releasing the global policy also distributes the policy to existing local definitions.

6 Release the policy and distribute it to as many routers as required. See the *5620 SAM User Guide* for information about how to distribute a policy.

7 Close the Diameter Profile, Global Policy (Edit) form.

Procedure 14-6 To view a diameter profile

1 Choose Policies→Mobile→LTE Profiles and Policies. The Manage LTE Profiles form opens.

2 Choose Diameter Profile (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for a policy, choose a policy in the filtered list, and click on the Properties button. The Diameter Profile—Global Policy (Edit) form opens.

4 Click on the following tab buttons in the Diameter Profile—Global Policy (Edit) form to view the properties of the profile, and the associated NEs, entities, and faults.

- General—to view the general properties of the diameter profile, such as the parameters configured in Procedure 14-5.
- Local Definitions—to view the NEs to which the policy has been distributed.
- Diameter Peer Profiles—to view the properties of the diameter peers that use this policy. See Procedure 14-7 for information about how to configure the diameter peer profiles.
- Signaling—to view the properties of the signaling interfaces that use this policy. See Procedure 6-1 for information about how to configure diameter signaling on the SGW; see Procedure 6-9 for information about how to configure diameter signaling on the PGW.
- Faults—to identify faults and to navigate to alarm information.

5 Close the Diameter Profile, Global Policy (Edit) form.

Procedure 14-7 To configure a diameter peer profile

You must create a diameter profile, as described in Procedure 14-5, before you can configure a diameter peer profile.

Note 1 — Before you can configure the Destination Realm, Load Balance Enable, and interface parameters, you must set the administrative state for existing peers to down.

Note 2 — To delete a peer entry, the peer must be shut down. To delete the global or local policy, the peer must be shut down.

The number of peers that you can configure depends on the value that you set for the Application Type parameter. When the application type is set to Gx, you can only configure one peer. When the application type is set to Rf, you can configure up to 20 peers.

1 Choose Policies→Mobile→LTE Profiles and Policies. The LTE Profiles form opens.

2 Choose Diameter Peer Profile (LTE) from the Select Object Type drop-down menu.

3 Perform one of the following:

a Specify a filter to search for and modify an existing profile. Choose a profile in the list and click on the Properties button.

b Click on the Create button. The Diameter Peer Profile, Global Policy (Create) form opens with the General tab displayed.

4 Configure the parameters:

- Displayed Name
- Description
- Destination Realm
- Load Balance Enabled
- Application Type

5 In the Diameter Peer Configuration panel, click on the Select button to display a list of diameter profiles to associate with the peer. The Select Diameter Profile — Diameter Peer Profile — Global Policy form opens.

6 Perform one of the following:

a Configure a filter to search for an existing policy, choose a policy, and click on the OK button. You can also click on the Properties button to modify the policy, if required.

b Click on the Create button. The Diameter Profile, Global Policy (Create) form opens with the General tab displayed. See Procedure 14-5 for information about how to configure the diameter profile.

7 Configure the parameters:

- Destination Realm
- Transport Protocol
- Load Balance Enabled
- Application Type

8 Click on the Apply button.

9 Click on the Diameter Peer IP Addresses tab button.

10 Click on the Create button to configure an IP address for the diameter peer. The Diameter Peer List Entry, Global Policy (Create) form opens.

11 Configure the parameters:

- Peer IP Address/URL
- Peer Port
- Peer Administrative State

12 Click on the OK button to save the policy. A dialog box opens.

13 Click on the Yes button.

14 Click on the Apply button. The Diameter Peer Profile, Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is in the Draft state. The Distribute button at the bottom of the form is dimmed.

Note — When the Configuration Mode parameter is in the Draft state, the Distribution button is dimmed and the policy cannot be distributed to the NEs. You must first release the policy for distribution. When you release a global policy, the policy is distributed to existing local definitions.

15 Release the policy and distribute it to as many routers as necessary. See the *5620 SAM User Guide* for information about how to distribute a policy.

16 Close the Diameter Peer Profile, Global Policy (Edit) form.

Procedure 14-8 To view a diameter peer profile

1 Choose Policies→Mobile→LTE Profiles and Policies. The LTE Profiles form opens.

2 Choose Diameter Peer Profile (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for a policy, choose a policy in the filtered list, and click on the Properties button. The Diameter Peer Profile—Global Policy (Edit) form opens.

4 Click on the following tab buttons in the Diameter Peer Profile—Global Policy (Edit) form to view the properties of the profile, and the associated NEs, reference points, and faults.

- General—to view the general properties of the diameter peer profile, such as the parameters configured in Procedure 14-7.
- Diameter Peer IP Addresses—to view the peer IP address properties
- Local Definitions—to view the NEs to which the policy has been distributed.
- Gx and Rf—to view the properties of the reference points that use this policy. See Procedure 6-2 for information about how to configure the Rf reference point on the SGW; see Procedure 6-10 for information about how to configure the Rf and Gx reference points on the PGW.
- PDN APN—to view the properties of the PDN APNs that use this profile
- SGW Charging Profile—to view the properties of SGW charging profiles
- Faults—to identify faults and to navigate to alarm information.

5 Close the Diameter Peer Profile, Global Policy (Edit) form.

Procedure 14-9 To configure a QCI policy

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose QCI Policy (LTE) from the Select Object Type drop-down menu.

3 Perform one of the following:

   a Specify a filter to search for and modify an existing policy. Use the filters to search for and open an existing policy by choosing a policy in the filtered list and clicking on the Properties button.

   b Click on the Create button. The QCI Policy, Global Policy (Create) form opens with the General tab displayed.

4 Configure the parameters:

   - Displayed Name
   - Description

5 Click on the Apply button. The QCI Policy, Global Policy (Create) form closes, the new policy appears in the list of QCI policies on LTE Profiles form, and the QCI Policy, Global Policy (Edit) form opens with the General tab displayed.

6 Click on the QCI Policy Entries tab button in the QCI Policy, Global Policy (Edit) form. A list of policy entries is displayed in the form.

   i Choose one of the entries in the list and click on the Properties button. The QCI Policy Entry, QCI Policy, Global Policy (Edit) form opens with the General tab displayed.

   ii Modify the parameters, if required:

      - Displayed Name
      - Description
      - DSCP Preserve
      - DSCP for In Profile Packets
      - DSCP for Out Profile Packets
      - Forwarding Class Name
      - Profile

   iii Click on the OK button. The form closes and the policy information appears in the QCI Policy Entries tab.

   iv Click on the OK button to save the changes to the QCI Policy Entry. A dialog box appears.

   v Click on the Yes button. The QCI Policy Entries tab closes and the QCI Policy, Global Policy (Edit) form closes.

7 Click on the Apply button. The Diameter Profile, Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is in the Draft state. The Distribute button at the bottom of the form is dimmed.

Note — When the Configuration Mode parameter is in the Draft state, the Distribution button is dimmed and the policy cannot be distributed to the NEs. You must first release the policy for distribution. Releasing the global policy also distributes the policy to existing local definitions.

8 Release the policy and distribute it to as many routers as necessary. See the *5620 SAM User Guide* for information about how to distribute a policy.

Procedure 14-10 To change a QCI entry

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose QCI Policy (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for and modify an existing policy. Use the filters to search for and open an existing policy by choosing a policy in the filtered list and clicking on the Properties button.

4 Click on the QCI Policy Entries tab button in the QCI Policy, Global Policy (Edit) form. The list of policy entries are displayed in the form.

5 Choose one of the entries in the list and click on the Properties button. The QCI Policy Entry, QCI Policy, Global Policy (Edit) form opens with the General tab displayed.

6 Modify the following parameters, as required:

- Displayed Name
- Description
- DSCP Preserve
- DSCP for In Profile Packets
- DSCP for Out Profile Packets
- Forwarding Class Name
- Profile

7 Click on the OK button. The form closes and the policy information appears in the list in the QCI Policy Entries tab.

8 Click on the OK button to save the changes to the QCI Policy Entry. A dialog box appears.

9 Click on the Yes button. The QCI Policy Entries tab closes.

10 Close the QCI Policy, Global Policy (Edit) form.

Procedure 14-11 To view a QCI policy

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose QCI Policy (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for a policy, choose a policy in the filtered list, and click on the Properties button. The QCI Policy—Global Policy (Edit) form opens.

4 Click on the following tab buttons in the QCI Policy—Global Policy (Edit) form to view the properties of the profile, and the associated NEs, entities, and faults.

- General—to view the general properties of the QCI policy, such as the parameters configured in Procedure 14-9.
- QCI Policy Entries—to view QCI policy entry properties
- Local Definitions—to view the NEs to which the policy has been distributed.
- EPC Gateway—to view the properties of the SGW and PGW that use this policy. See Procedure 6-5 for information about how to change the QCI policy on the SGW; see Procedure 6-14 for information about how to change the QCI policy on the PGW.
- Gateway APN—to view the properties of the APNs that use this policy. See Procedure 6-3 for information about how to configure an APN on the SGW.
- Faults—to identify faults and to navigate to alarm information.

5 Close the QCI Policy, Global Policy (Edit) form.

Procedure 14-12 To configure a PGW charging profile

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose PGW Charging Profile (LTE) from the Select Object Type drop-down menu.

3 Perform one of the following:

a Specify a filter to search for an existing policy. Choose the policy to modify and click on the Properties button.

b Click on the Create button. The PGW Charging Profile, Global Policy (Create) form opens with the General tab displayed.

4 Configure the parameters:

- Charging Profile ID
- Description
- Offline Charging
- Time Limit (s)
- Volume Limit (koctets)

5 Click on the Apply button. The PGW Charging Profile, Global Policy (edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is set to Draft. The Distribute button at the bottom of the form is dimmed and the profile cannot be distributed to the NEs. You must first release the profile for distribution. Releasing the global policy also distributes the policy to existing local definitions.

6 Release the profile and distribute the profile to as many routers as required. See the *5620 SAM User Guide* for more information.

7 Close the PGW Charging Profile, Global Policy (Edit) form.

8 Close the LTE Profiles form.

Procedure 14-13 To view a PGW charging profile

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose PGW Charging Profile (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for a policy, choose a profile from the list, and click on the Properties button. The PGW Charging Profile, Global Policy (Edit) form opens.

4 Click on the following tab buttons in the PGW Charging Profile, Global Policy (Edit) form to view the properties of the profile, and the associated NEs, entities and faults.

- General—to view the general properties of the PGW charging profile, such as the parameters configured in Procedure 14-12
- Local Definitions—to view the NEs to which the policy is distributed
- PDN Gateway—to view the PDN gateways that use the profile
- PDN APN—to view the PDN APNs that use the profile
- Faults—to identify faults and navigate to alarm information

5 Close the PGW Charging Profile, Global Policy (Edit) form.

Procedure 14-14 To configure an SGW charging profile

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose SGW Charging Profile (LTE) from the Select Object Type drop-down menu.

3 Perform one of the following:

a Specify a filter to search for an existing policy. Choose the policy to modify and click on the Properties button.

b Click on the Create button. The SGW Charging Profile, Global Policy (Create) form opens.

4 Configure the parameters:

- Charging Profile ID
- Description
- Offline Charging

5 Click on the Select button for the Primary Diameter Peer profile in the Charging Data Function panel to choose a primary diameter peer profile. The Select Primary Diameter Peer - SGW Charging Profile - Global Policy form opens.

6 Choose a profile from the displayed list and click on the OK button. The Select Primary Diameter Peer - SGW Charging Profile - Global Policy form closes.

7 Click on the Select button for the Secondary Diameter Peer profile in the Charging Data Function panel to choose a secondary diameter peer profile. The Select Secondary Diameter Peer - SGW Charging Profile - Global Policy form opens.

8 Choose a profile from the displayed list and click on the OK button. The Select Secondary Diameter Peer - SGW Charging Profile - Global Policy form closes.

9 Configure the parameters:

- QoS Change
- User Location Change
- Time Limit (s)
- Volume Limit (Kbytes)
- Maximum Number of Changes
- MS Time Zone Change

10 Click on the Apply button. The SGW Charging Profile, Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is set to Draft. The Distribute button at the bottom of the form is dimmed and the profile cannot be distributed to the NEs. You must first release the profile for distribution. Releasing the global policy also distributes the policy to existing local definitions.

11 Release the profile and distribute the profile to as many routers as required. See the *5620 SAM User Guide* for more information.

12 Close the SGW Charging Profile, Global Policy (Edit) form.

Procedure 14-15 To view an SGW charging profile

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose SGW Charging Profile (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for a policy, choose a profile from the list, and click on the Properties button. The SGW Charging Profile—Global Policy (Edit) form opens.

4 Click on the following tab buttons in the SGW Charging Profile—Global Policy (Edit) form to view the properties of the profile, and the associated NEs, entities and faults.

- General—to view the general properties of the QCI policy, such as the parameters configured in Procedure 14-14
- Local Definitions—to view the NEs to which the policy has been distributed
- Serving Gateway—to view the properties of the SGWs that use this policy
- Faults—to identify faults and navigate to alarm information

5 Close the SGW Charging Profile, Global Policy (Edit) form.

Procedure 14-16 To configure a PLMN list group

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose PLMN List Group (LTE) from the Select Object Type drop-down menu.

3 Perform one of the following:

a Specify a filter to search for an existing policy. Choose the policy to modify and click on the Properties button.

b Click on the Create button. The PLMN List Group, Global Policy (Create) form opens with the General tab displayed.

4 Configure the Displayed Name parameter.

5 Click on the PLMN List Policy tab button.

6 Click on the Create button.

7 The PLMN List Profile (Create) form opens.

8 Configure the parameters:

- Description
- Mobile Country Code
- Mobile Network Code

9 Click on the Apply button. A dialog box opens.

10 Click on the OK button to add the PLMN list to the group.

11 Repeat steps 8 to 10 for each PLMN list that you need to add to the group.

12 Click on the OK button to close the PLMN List Profile (Create) form.

13 Click on the Apply button. The PLMN List Group, Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is set to Draft. The Distribute button at the bottom of the form is dimmed and the profile cannot be distributed to the NEs. You must first release the profile for distribution. Releasing the global policy also distributes the policy to existing local definitions.

14 Release the profile and distribute the profile to as many routers as required. See the *5620 SAM User Guide* for more information.

15 Close the LTE Profiles form.

Procedure 14-17 To view a PLMN list group

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose PLMN List Group (LTE) from the Select Object Type drop-down menu.

3 Specify a filter to search for a policy, choose a profile from the list, and click on the Properties button. The PLMN List Group, Global Policy (Edit) form opens.

4 Click on the following tab buttons in the PLMN List Group, Global Policy (Edit) form to view the properties of the profile, and the associated NEs, entities and faults.

- General—to view the general properties of the policy, such as the parameters configured in Procedure 14-16
- PLMN List Policy—to view PLMN list policies in the group
- Local Definitions—to view the NEs to which the policy is distributed
- EPC Gateway—to view the EPC gateways that use the profile
- Faults—to identify faults and navigate to alarm information

5 Close the PLMN List Group, Global Policy (Edit) form.

Procedure 14-18 To configure an LTE LI delivery function peer policy

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose LTE LI Delivery Function Peer (LTE LI) from the Select Object Type drop-down menu.

3 Perform one of the following:

   a Specify a filter to search for a policy, choose the policy to modify, and click on the Properties button.

   b Click on the Create button. The LTE LI Delivery Function Peer — Global Policy (Create) form opens.

4 Configure the parameters:

- ID
- Description
- Address (Delivery Function 2 panel)
- Port (Delivery Function 2 panel)
- Address (Delivery Function 3 panel)
- Port (Delivery Function 3 panel)

5 Click on the OK button to save the configuration.

6 Click on the Apply button. The LTE LI Delivery Function Peer — Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is set to Draft. When you release the global policy, the policy is also distributed to existing local definitions.

7 Release the profile and distribute the profile to as many routers as required. See the *5620 SAM User Guide* for more information.

8 Close the LTE LI Delivery Function Peer — Global Policy (Create) form.

Procedure 14-19 To configure an LTE LI interception target policy

1 Choose Policies→Mobile→LTE Profiles and Policies from the 5620 SAM main menu. The LTE Profiles form opens.

2 Choose LTE LI Interception Target (LTE LI) from the Select Object Type drop-down menu.

3 Perform one of the following:

   a Specify a filter to search for a policy, choose the policy to modify, and click on the Properties button.

   b Click on the Create button. The LTE LI Interception Target — Global Policy (Create) form opens.

4 Configure the parameters:

- Description
- Target ID
- Target Type
- Content Type

5 Click on the Select button to choose a delivery function peer. The Select Delivery Function Peer — LTE LI Interception Target — Global Policy form opens.

6 Choose a profile from the list and click on the OK button. The Select Delivery Function Peer — LTE LI Interception Target — Global Policy form closes.

7 Click on the Apply button. The LTE LI Interception Target — Global Policy (Edit) form opens with the General tab displayed. The Configuration Mode parameter in the Policy Configuration panel is set to Draft. When you release the global policy, the policy is also distributed to existing local definitions.

8 Release the profile and distribute the profile to as many routers as required. See the *5620 SAM User Guide* for more information.

9 Close the LTE LI Interception Target — Global Policy (Create) form.

LTE ePC NE maintenance

15 — Maintaining LTE ePC NEs

15 — Maintaining LTE ePC NEs

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15.1 LTE ePC NE maintenance overview

The 5620 SAM includes NE maintenance functionality for supported LTE devices that allows a system administrator to:

- define the 5620 SAM deployment and local device configuration-save conditions
- perform an on-demand or a scheduled NE configuration backup
- restore a previous device configuration
- perform an on-demand or a scheduled NE software upgrade; scheduled software upgrades are supported on the 7750 MGs.
- view the status of a deployment, backup, device configuration restore, device software upgrade, or an accounting statistics retrieval operation in progress
- troubleshoot a failed deployment, backup, or upgrade

A 5620 SAM operator with an administrator or network element software management scope of command role can perform device configuration save, backup, or restore operations, and can create policies to schedule backups and save a configuration.

A 5620 SAM operator can upgrade software or schedule a software upgrade on NEs that are within their span of control.

Note — The 5620 SAM backup and restore, software upgrade, and file browsing functions are not supported on the 5780 DSC.

Managing LTE ePC NE deployments

When you apply a device configuration change using the 5620 SAM (for example, by clicking on the OK or Apply button after you change a service parameter), the 5620 SAM deploys the configuration change to the device according to the 5620 SAM deployment policy. The deployment policy also specifies when the device saves the configuration locally. The information in a deployment policy includes the following:

- number and frequency of deployment retries that the 5620 SAM performs
- conditions under which the 5620 SAM initiates a device configuration save, such as the frequency and level of saved configuration detail

In a lab or testing environment, you may need to disable the 5620 SAM deployment. See the *5620 SAM-O OSS Interface Developer Guide* for information about how to disable a 5620 SAM deployment.

Managing LTE ePC NE backups and restores

A 5620 SAM backup policy specifies the conditions under which the 5620 SAM performs a device backup to ensure that the device configuration is not lost in the event of a failure. A default policy is assigned to all managed devices after the 5620 SAM installation.

You can create and configure multiple backup policies, and you can assign policies to multiple NEs. You cannot delete a backup policy that is assigned to an NE. The information in a backup policy includes the following:

- frequency of backups
- files that a backup collects
- type of file compression that the 5620 SAM uses
- age and number of backup files that the 5620 SAM retains

The 5620 SAM stores the backed up device configuration files in the 5620 SAM database to facilitate tracking and retrieval. You can perform an on-demand export of backup files from the database to a file system. You can import NE backups from a file system to the 5620 SAM database. If required, you can configure a 5620 SAM server to automatically save each device backup to a file system when it stores the backup in the database.

If a device configuration requires replacement (for example, because the device becomes corrupted), you can restore a previously backed up configuration. Unless otherwise specified, the 5620 SAM restores the most recent device configuration backup.

Managing LTE ePC NE software upgrades

When a new device software version is available, you can use the 5620 SAM to perform an on-demand NE software upgrade or schedule an upgrade using a software upgrade policy. You can create and configure multiple software upgrade policies and assign the policies to multiple NEs. You cannot delete a software upgrade policy that is assigned to an NE. The information in a software upgrade policy includes the following:

- NE file location of the currently active device software
- NE file location in which to store a backup copy of the current device software
- whether to activate the software after the software is transferred to the NE
- whether to reinitialize the NE after the upgrade
- whether the upgrade is an ISSU

Note 1 — Software upgrades between a 7750 SR and a 7750 MG NE are not supported.

Note 2 — Software upgrades in an SR-MG 1.0 (1.0.B1-x) loadset are supported. Software upgrades from SR-MG 1.0 B1 to 1.0 B2 are supported.

Note 3 — You can use the 5620 SAM to transfer a software image to the 9471 MME, but you cannot perform the software upgrade by using the 5620 SAM. See the *Alcatel-Lucent 9471 Mobility Management Entity (MME) | Release LMx.x Software Update 418-111-206* document for more information about performing a software upgrade on the 9471 MME.

During a software upgrade, the 5620 SAM performs checks to ensure that the new software is compatible with the device type and that the required files are present. The 5620 SAM does not initiate a device software upgrade unless the required conditions are met. You can use the 5620 SAM to roll back a software upgrade to the previous version if the upgrade fails.

ISSUs

The ISSU process ensures that service is uninterrupted during the upgrade of a device. A device software upgrade requires a CPM restart, which causes temporary device down time. When a device has dual CPMs, one CPM remains active and in service; the other CPM restarts with the upgraded software. If an upgrade on a CPM fails, the CPM reports a failed state and raises an alarm. The ISSUs for devices are restricted to maintenance software releases.

You can configure the 5620 SAM to activate the new software immediately after the software is transferred to an NE. You can configure the 5620 SAM to transfer the software file but not to activate the software; in this case, a manual software activation is required. Manual software activation provides more control over an upgrade, which may be required; for example, when multiple NEs are involved.

LTE ePC NE file-system browsing

A 5620 SAM operator can browse the file system of a managed NE to list the contents of the compact flash devices. You can browse files for the 7750 MG using FTP or a CLI session using SSH. FTP file browsing on an NE requires FTP user-account access on the NE. SSH file browsing requires console user account access and the configuration of SSH security on the NE.

You can use the 5620 SAM GUI to browse the different types of files. When you browse an NE file system using the 5620 SAM, you can confirm that operations, such as the following, occur as planned by verifying the size and timestamp of the local NE files.

- configuration saves
- software image transfers and upgrades
- configuration restores
- accounting-statistics collection

Secure file transfers for site backups and upgrades

The 5620 SAM supports both secure and non-secure file transfers in backups, restores, and software upgrades. Secure file transfers using SSH2 are supported by the 7750 MG. The device mediation policy determines whether FTP or SCP is used during file transfers.

15.2 Workflow for LTE ePC NE maintenance

1. For secure backups and upgrades, verify that SSH2 is correctly configured on the device and that the 5620 SAM mediation policy for the device is configured for secure FTP or SCP. Secure backups and upgrades are supported on the 7750 MG.
2. Configure the device for discovery by the 5620 SAM using a CLI.
3. Configure the 5620 SAM deployment policy to specify how and when the 5620 SAM tries to send configuration changes from 5620 SAM clients to the managed devices.
4. Use the 5620 SAM to configure device backup policies. A device backup policy specifies how often the 5620 SAM backs up the device configuration.
5. Perform on-demand NE configuration saves, backups, and restores, as required.
6. Use the 5620 SAM to transfer software image files to the 9471 MME, as required.
7. Perform 7750 MG software upgrades, as required.
   - **i** Create a software upgrade policy for the 7750 MG.
   - **ii** Upload the device software image to the 5620 SAM server.
   - **iii** Verify that the device boot environment is synchronized.
   - **iv** Perform a backup on the device prior to activating the software image.
   - **v** Perform the software upgrade operation to transfer the software image to the device and activate the image.
   - **vi** Perform a backup on the device after activating the software image and before rebooting the device.
   - **vii** Reboot the device.
   - **viii** Resynchronize the device with the 5620 SAM, if required.
   - **ix** Verify the success of the software upgrade.

Note — The 5620 SAM does not currently support rollback or restore of a software upgrade by using the 5620 SAM GUI. Contact Alcatel-Lucent for more information about troubleshooting failed 7750 MG software upgrades.

8. Schedule device software upgrades, as required. Scheduled software upgrades are supported on the 7750 MG.
   - **i** Create a 5620 SAM schedule.
   - **ii** Create a software upgrade policy.
   - **iii** Create a 5620 SAM scheduled task for the upgrade activity.
   - **iv** Review the results and status of the scheduled upgrade and take the appropriate actions, as required, based on your company policies.

9 View the status of configuration deployments, backups, restores, or upgrades using the appropriate management form and viewing the contents of NE file systems by opening an FTP or SSH file browser from the 5620 SAM client GUI.

10 Troubleshoot any failed configuration deployments, as required, using the 5620 SAM alarm window and the Deployment form.

15.3 NE maintenance procedures

Use the following procedures to perform NE maintenance operations. See the *5620 SAM Parameter Guide* for more information about the parameters described in the following procedures.

Backup and restore procedures

The following procedures describe backup and restore tasks for LTE ePC devices.

Procedure 15-1 To create a device backup policy

When the 5620 SAM performs a device configuration backup, it transfers files to itself from the device.

Note — The default backup policy is assigned automatically to all 5620 SAM-managed NEs that do not currently have an assigned backup policy.

1 Choose Administration→NE Maintenance→Backup/Restore from the 5620 SAM main menu. The Backup/Restore form opens with the Backup/Restore Policy tab displayed.

2 Click on the Create button. The Backup Policy (Create) form opens.

3 Specify whether backup functionality is enabled.

   a Enable the Enable Backup parameter.

   b Disable the Enable Backup parameter. The remaining parameters on the form cannot be configured. Go to step 9.

4 Configure the following parameters:

- Policy ID
- Auto-Assign ID
- Name
- Policy Type

5 Specify whether to perform a reboot after the configuration is restored to the device by specifying the Auto Reboot After Successful Restore parameter.

Caution — When you use the 5620 SAM client GUI to restore a managed device configuration and you disable the Auto Reboot After Successful Restore parameter, there is a risk that the bof.cfg file may be overwritten in the following situations:

- when a user performs “bof save” using CLI on the managed device
- If there is a gap between a restore and a reboot, perform a “show bof” to ensure that another user has not performed a “bof save”.

6 You can schedule backups based on a time interval or on the number of NE configurations performed from the 5620 SAM server. Configure the backup triggering parameters:

- Scheduled Backup Scheme
- Scheduled Backup Interval
- Scheduled Backup Sync Time
- Scheduled Backup Threshold (operations)
- Auto Backup Scheme
- Auto Backup Threshold (operations)

7 Configure the Backup Settings parameters:

- CLI Config File Mode
- CLI Config Save Details
- CLI Debug Save Config File
- Boot Option File Mode
- File Compression

Note — In addition to enabling the CLI Debug Save Config File Mode parameter, you must specify the location of the debug configuration files in the 5620 SAM main server configuration. See the *5620 SAM User Guide* for information about how to specify the location of the debug configuration files in the main server configuration.

8 Configure the parameters in the Backup Purging panel. Backup purging parameters allow you to specify the number of backup files kept. These settings allow you to eliminate manual monitoring and deletion of backup files. The purge criteria can be the number of files, the age of the files, or both.

- Auto-Purge Scheme
- Number of Backups
- Maximum Backup Age (days)

9 Click on the OK button to save the backup policy. The Backup Policy (Create) form closes.

10 Assign the policy to NEs as required.

- **i** Select the new policy in the list and click on the Properties button. The Backup Policy (Edit) form opens.
- **ii** Click on the Backup/Restore Policy Assignment tab button.
- **iii** Select one or more NEs in the Unassigned Sites list and click on the right-pointing arrow to move them to the Assigned Sites list.
- **iv** Click on the OK button. The Backup Policy (Edit) form closes and a dialog box appears.
- **v** Click on the Yes button. The policy is assigned to the NEs.

11 Close the Backup/Restore form.

Procedure 15-2 To perform an immediate device backup, restore, or configuration save

When you start an immediate backup, you back up the device configuration based on the backup policy associated with the NE.

A device configuration restore operation uses the most recently backed-up device configuration file unless otherwise specified. See Procedure 15-5 for more information.

The following conditions must be present before you can perform a device configuration backup, restore, or configuration save:

- You have a 5620 SAM user account with an administrator or network element software management scope of command role or a scope of command role with write access to the mediation package. See the *5620 SAM User Guide* for more information about scope of command roles.
- FTP or secure FTP is configured in the mediation policy for the NE. See chapter 4 for more information.
- The BOF persist parameter is set on the device. See chapter 4 for information about device commissioning.

Depending on the operation type, the Backup State or Restore State column displays the current state of the operation. The possible values are:

- Not Attempted - the operation is unattempted
- Saving Config - the device configuration is being saved on the device
- Transferring Files - a file transfer is in progress
- Success - the operation is complete and successful
- Failure - the operation is complete but unsuccessful
- CPM Sync and Pending Reboot - the device configuration is restored and the device is synchronizing the CPMs before it reboots

- CPM Sync and Pending Reboot Standby - the 5620 SAM is waiting for the reboot of the standby CPM
- Standby Reboot and Pending Redundant Switch-over - the 5620 SAM is waiting for the switchover to the standby CPM

Note — During a backup, if a device is unresponsive to the 5620 SAM because SNMP on the device is disabled, the Backup State column entry for the device does not immediately display the correct value of Failed. This latency is caused by the inability of the 5620 SAM to communicate with the unresponsive device. In such a situation, the Backup State column displays the initial value of Saving Config until three 10-minute SNMP polling periods, or 30 minutes, have elapsed, after which the Backup State changes to Failed if SNMP remains disabled.

1. Choose Administration→NE Maintenance→Backup/Restore from the 5620 SAM main menu. The Backup/Restore form opens.
2. Click on the Backup/Restore Status tab button. The managed devices are listed.
3. Select a device from the list and click on the Backup button, the Restore button, or the Save Config button, depending on the operation that you want to perform. A dialog box appears.
4. Click on the Yes button. The backup or restore operation starts, and the current backup or restore state for the device is indicated in the Backup State or Restore State column.
5. You can resynchronize an NE with the 5620 SAM database, if required, by clicking on the Resync button.
6. Close the Backup/Restore form.

Procedure 15-3 To import a device backup to the 5620 SAM database

1. Choose Administration→NE Maintenance→Backup/Restore from the 5620 SAM main menu. The Backup/Restore form opens with the Backup/Restore Policy tab displayed.
2. Click on the Backup/Restore Status tab button.
3. Select the NE in the list for which you are importing a backup and click on the Properties button. The NE Backup/Restore Status form opens.
4. Click on the Import button. A file navigator form opens.
5. Use the form to specify the directory that contains the device backup and click on the OK button.

   If the directory contains a backup for this NE, the 5620 SAM imports the backup files into the 5620 SAM database and the import is successful. Otherwise, a dialog box appears if the directory does not contain a backup from this NE, and the import fails. Click on the OK button to close the dialog box.

6 Close the NE Backup/Restore Status form.

7 Close the Backup/Restore form.

Procedure 15-4 To export a device backup to a file

1 Choose Administration→NE Maintenance→Backup/Restore from the 5620 SAM main menu. The Backup/Restore form opens with the Backup/Restore Policy tab displayed.

2 Click on the Backup/Restore Status tab button.

3 Select the NE in the list for which you are exporting a backup and click on the Properties button. The NE Backup/Restore Status form opens.

4 Click on the Backups tab button. A list of backups for the NE is displayed.

5 Select a backup in the list and click on the Export button. A file navigator form opens.

6 Use the form to specify the directory that is to contain the exported device backup and click on the OK button. The NE configuration backup is saved to the specified directory.

7 Close the NE Backup/Restore Status form.

8 Close the Backup/Restore form.

Procedure 15-5 To restore a device configuration backup other than the most recent

You can choose to restore an older version of the device configuration to meet special network requirements.

Caution 1 — Older backups do not have the most recent network information. Restoring an older device configuration may be service-affecting.

Caution 2 — Ensure that you back up the current device configuration by performing Procedure 15-1 before you proceed.

1 Choose Administration→NE Maintenance→Backup/Restore from the 5620 SAM menu. The Backup/Restore form opens.

2 Click on the Backup/Restore Status tab. The managed devices are listed.

3 Double-click on a device from the list. The NE Backup/Restore Status form for the selected device opens.

4 Click on the Backups tab button. A list of configuration backups for the selected device opens, ordered from the oldest to the most recent.

5 Select a backup in the list and click on the Restore button. A dialog box appears.

6 Click on the Yes button.

7 Click on the Resync button to ensure the latest network information is available, if required.

8 Close the Backup/Restore form.

Software upgrade procedures

The following procedures describe software upgrade tasks for LTE ePC devices.

Procedure 15-6 To import device software image or description files to the 5620 SAM database

Perform this procedure to import a set of device software files into the 5620 SAM database for use during device software upgrades.

1 Make the new device software files available to the 5620 SAM.

   i If the device software files are compressed in an archive, for example, a TiMOS ZIP file, extract the files from the archive.

   Note — Depending on the device type and version, the compressed files in a device software archive do not extract to a flat directory structure.

   ii Copy or move the files to a directory on the 5620 SAM client PC or another location that is accessible to the 5620 SAM.

   Note — The directory must contain a valid and complete set of device software files, and must not contain other files or subdirectories.

2 Choose Administration→NE Maintenance→Software Upgrade from the 5620 SAM main menu. The Software Upgrade form opens with the Software Upgrade Policy tab displayed.

3 Click on the Software Images tab button.

4 Click on the appropriate tab button for the type of NE that you need to upgrade.

5 Click on the Import button. The Open window appears.

6 Navigate to folder that contains the software image, choose the software image, and click on the Open button. The software image appears in the list.

The 5620 SAM verifies that only the required files are present and then imports the files from the specified directory into the 5620 SAM database. An entry for the image appears in the list.

If the directory does not contain only the required files, a dialog box appears. Go to step 7. Otherwise, go to step 8.

7 Perform the following:

i Click on the OK button.

ii Copy or move files, as required, to ensure that the directory contains only the files required for the upgrade.

iii Go to step 5.

8 Close the Software Upgrade form.

Procedure 15-7 To assign a 9471 MME software upgrade policy

The 5620 SAM uses a 9471 MME-specific software upgrade policy to download 9471 MME software. A default 9471 MME software upgrade policy is created when the 5620 SAM initializes.

Note — Although you can download 9471 MME software to one or more 9471 MME NEs, you cannot perform an upgrade using the 5620 SAM. See the *Alcatel-Lucent 9471 Mobility Management Entity (MME) | Release LMx.x Software Update 418-111-206* document for more information about performing a software upgrade on the 9471 MME.

1 Refer to the "NE maintenance" chapter of the *5620 SAM User Guide* for information on how to import the required 9471 MME software image.

2 Ensure that the following conditions are present.

- appropriate FTP accounts are configured and available on the 9471 MME.
- the 9471 MME configuration files are backed up, as described in the *5620 SAM User Guide*.

3 Choose Administration→NE Maintenance→Software Upgrade from the 5620 SAM main menu. The Software Upgrade form opens.

4 Click on the Create button. The Software Upgrade Policy (Create) form opens.

5 Choose MME Node from the Policy Type drop-down menu.

6 Configure the parameters:

- Auto-Assign ID
- Policy ID
- Name
- ATCA Image Root Path

Note 1 — You can open an FTP or SSH file browser from the form to determine the values to use for the ATCA Image Root Path parameter. Click on the FTP File Browser or SSH File Browser button, as required. See the *5620 SAM User Guide* for more information about viewing an NE file system by using an FTP or SSH file browser.

Note 2 — By default, /data0 is used to store image files.

7 Click on the Apply button. The Software Upgrade Policy (Create) form refreshes with additional tab buttons and the form name changes to Software Upgrade Policy (Edit).

8 Assign the policy to NEs, as required.

i Click on the Software Upgrade Policy Assignment tab button. The Software Upgrade Policy Filter (edit) form opens.

ii Configure the filter parameters, if required. Click on the OK button.

iii Choose one or more NEs in the Unassigned Sites list and click on the right arrow to move the NEs to the Assigned Sites list.

iv Click on the OK button. A dialog box appears.

v Click on the Yes button. The policy is assigned to the NEs.

9 Close the Software Upgrade Policy (Edit) form. The new policy is displayed on the Software Upgrade form.

Procedure 15-8 To perform a 9471 MME software image download

Perform the following procedure to download 9471 MME software to one or more 9471 MMEs.

The MME software images are stored in the 5620 SAM file system under install_dir/lte/backups, where install_dir is the database installation location, for example, /opt/5620sam/lte/backups. The software images are synchronized between the active and standby 5620 SAM server.

You need a 5620 SAM user account with an administrator or NE software management scope of command role, or a scope of command role with write access to the mediation package before you can perform a 9471 MME software download. See the *5620 SAM User Guide* for more information about scope of command roles.

1. Choose Administration→NE Maintenance→Software Upgrade from the 5620 SAM main menu. The Software Upgrade form opens.
2. Choose the appropriate software upgrade policy.
3. Click on the Software Images tab button.
4. Click on the 9471 MME Software Images tab button.
5. Choose a software image file in the list. The image descriptor file has a .Zip file extension and must be on the client system.
6. Click on the Upgrade Sites button. A list of NEs opens. The list is filtered to display only the device type that is appropriate for the selected software image.
7. Choose one or more NEs in the list.
8. Click on the OK button. The image transfer starts.
9. Click on the Software Upgrade Status tab button to view the status of the upgrade. Verify that the files are successfully transferred before you go to step 10.
10. Close the Software Upgrade form.

Procedure 15-9 To assign a 7750 MG software upgrade policy

Perform this procedure to create and assign a software upgrade policy that can be used to perform an immediate or scheduled 7750 MG software image upgrade. Contact your Alcatel-Lucent technical support representative for information about downgrades.

1. Perform Procedure 15-6 to import the required device software image.
2. Ensure that the following conditions are present.
   - Appropriate FTP accounts are configured and available on the devices.
   - The device configuration files are backed up, as described in Procedures 15-1 and 15-2.
3. Choose Administration→NE Maintenance→Software Upgrade from the 5620 SAM main menu. The Software Upgrade form opens.
4. Click on the Create button. The Software Upgrade Policy (Create) form opens.
5. Configure the Policy Type parameter.

6 Configure the following parameters:

- Auto-Assign ID
- Policy ID
- Name
- CFlash Image Root
- CFlash Backup Root Path

Note 1 — You can open an FTP or SSH file browser from this form to determine the values to use for the CFlash Image Root Path and CFlash Backup Root Path parameters. Click on the FTP File Browser or SSH File Browser button, as required. See the *5620 SAM User Guide* for more information about viewing NE file systems by using an FTP or SSH file browser.

Note 2 — By default, compact flash cf3 is used to store image and backup files. Ensure that you specify a supported compact flash for the NE type when you configure the CFlash Image Root Path and CFlash Backup Root Path parameters.

7 Perform the following steps to configure the software upgrade parameters:

Warning — Alcatel-Lucent strongly recommends that you disable the Auto-Reboot After Successful Activation parameter for 7750 MG software upgrades.

i Enable the Auto-Activate After Successful File Transfer parameter.

ii Disable the Auto-Reboot After Successful Activation parameter.

iii Disable the In Service Software Upgrade parameter.

Note — An in-service software upgrade is supported only for a maintenance-release upgrade. For an upgrade to a new major release, you must perform an out-of-service upgrade.

Specifying an in-service software upgrade disables the Auto-Reboot After Successful Activation parameter.

8 Click on the Apply button. The Software Upgrade Policy (Create) form refreshes with additional tab buttons and the form name changes to Software Upgrade Policy (Edit).

9 Assign the policy to NEs as required.

i Click on the Software Upgrade Policy Assignment tab button. The Software Upgrade Policy Filter (edit) form opens.

ii Configure the filter parameters, if required. Click on the OK button.

iii Select one or more NEs in the Unassigned Sites list and click on the right-pointing arrow to move them to the Assigned Sites list.

iv Click on the OK button. A dialog box appears.

v Click on the Yes button. The policy is assigned to the NEs.

10 Close the Software Upgrade Policy (Edit) form. The new policy is displayed on the Software Upgrade form.

Procedure 15-10 To perform an immediate 7750 MG software upgrade

Perform this procedure to download a software image to one or more 7750 MG devices and activate the software image.

The following conditions must be true before you attempt a device software upgrade:

- You have a 5620 SAM user account with an administrator or network element software management scope of command role or a scope of command role with write access to the mediation package. See the *5620 SAM User Guide* for more information about scope of command roles.
- The FTP or secure FTP must be configured in the mediation policy for the NE. See chapter 4 for more information.
- The required software image is imported to the 5620 SAM. See Procedure 15-6 for more information.

Warning — The 7750 MG may require a firmware upgrade before a device software upgrade. To avoid a service outage, ensure that the device firmware version supports the software upgrade. See the device software Release Notes to obtain information about firmware and software version compatibility and about the firmware upgrade procedures.

Caution 1 — Alcatel-Lucent recommends that you establish a physical console session on the device that you need to upgrade. The console session allows you to monitor the upgrade and recover the device if the upgrade fails.

Caution 2 — Before you perform a software upgrade, read the device documentation. The software upgrade information in the device documentation takes precedence over this procedure.

Caution 3 — Before you perform an ISSU, review the appropriate device release notice for more information about the device software releases that support the ISSU. See section 15.1 for more information about the ISSU.

Note — If you downgrade a device software image, you must unmanage and delete the device before you perform the downgrade, as described in the *5620 SAM User Guide*. Contact your Alcatel-Lucent technical support representative for information about downgrades.

1. Perform a preliminary check before you start the software upgrade.
   - **a** Manually verify the software image file checksums.
   - **b** Verify that the device supports the new software.
   - **c** Verify that the compact flash drive has sufficient space for the software image files.
   - **d** For NEs with redundant CPMs, verify that the boot environments are synchronized by using the following CLI command:
     - **i** Open a console window on the NE.
     - **ii** Type the following command at the prompt:

       # **`show redundancy synchronization`**
     - **iii** Verify that the boot/config sync status is synchronized.
2. Backup the device configuration and verify that the backup is successful. See Procedure 15-2.
3. Import the software image into the 5620 SAM database by performing Procedure 15-6.
4. Choose Administration→NE Maintenance→Software Upgrade from the 5620 SAM main menu. The Software Upgrade form opens with the Software Upgrade Policy tab displayed.
5. Click on the Software Images tab button.
6. Click on the SR Software Images tab button, if required.
7. Choose the appropriate software image for the 7750 MG software upgrade.
8. Click on the Upgrade Sites button. A list of NEs appears. The list is filtered to display only the device type that is appropriate for the specified software image.
9. Choose one or more NEs in the list.
10. Click on the OK button. A dialog box opens.
11. Click on the Yes button to confirm the action. The software upgrade starts.
12. Click on the Software Upgrade Status tab button to view the progress of the upgrade.

13 Using the upgrade status information displayed in the Software Upgrade Status tab of the Software Upgrade form, verify the following items before proceeding with the software upgrade procedure:

- The Upgrade State column displays a status of CPM Sync and Pending Reboot.
- The Last Uploaded CPM Code Version displays the correct version.
- The Last Successful Upgrade Time column displays the time of the successful upgrade.

When the upgrade status displays the information listed above, the software upload is complete. The NE will use the new software after a reboot. Go to step 14.

Caution — You must perform a backup before rebooting the NE in order to synchronize the CPM images.

14 Perform a backup on the NE by performing Procedure 15-2.

15 Verify that the backup operation is successful by performing Procedure 15-11 before proceeding to the next step.

16 Reboot the NE. Perform one of the following actions.

Warning — Verify that step 14 has been completed before performing this step.

a Use a Telnet or SSH CLI session.

i Right-click on the NE and choose NE Session→Telnet Session or NE Session→SSH Session.

ii Enter the following at the command prompt:

```
admin reboot now ↵
```

The NE reboots.

b Use the 5620 SAM GUI.

i Choose Equipment from the 5620 SAM navigation tree drop-down menu.

ii Navigate to the NE shelf object. The path is Routing→NE→Shelf.

iii Right-click on the shelf object and choose Reboot from the contextual menu. The NE reboots.

Caution — Rebooting an NE that is in service is service-affecting. Ensure that the reboot activity occurs during a scheduled maintenance window.

The reboot process lasts approximately 5-10 minutes. When the reboot is complete and the new software is being successfully used by the NE, a 5620 SAM message appears stating that the NE version has changed as a result of a software upgrade.

17 Verify whether the upgrade is successful, as described in Procedure 15-11.

18 Use the FTP or SSH file browser to verify whether the transferred files and configurations are on the managed device. See the *5620 SAM User Guide* for more information about using FTP and SSH file browsers.

19 Fully resynchronize the NE using the 5620 SAM GUI, if required:

Note — The 5620 SAM will automatically resynchronize with the NE. Performing a manual resyncronization is optional.

i Choose Equipment from the 5620 SAM navigation tree drop-down menu.

ii Navigate to the NE.

iii Right-click on the NE and choose Resync from the contextual menu.

20 Perform upgrade verification tests, as required.

Procedure 15-11 To view the deployment, backup/restore, or software upgrade status of an NE

1 Perform one of the following actions.

a Choose Administration→NE Maintenance→Deployment from the 5620 SAM main menu to view deployment status. The Deployment form opens with the Incomplete Deployments tab displayed.

i Double-click on a deployment in the list. The deployment properties form opens.

ii View the deployment status.

b Choose Administration→NE Maintenance→Backup/Restore from the 5620 SAM main menu to view the backup or restore status. The Backup/Restore form opens with the Backup/Restore Policy tab displayed.

i Click on the Backup/Restore Status tab button. The Restore State column of the backup or restore is: Transferring Files, Pending, Reboot, CPM Sync and Reboot, Success, Not Attempted, Save Config, or Failure. The timestamp is also displayed.

ii Double-click on a row in the list to display information about the backup or restore operation. You can click on the General, Backups, Configuration Saves, and Faults tab buttons.

Note — When you click on the Backups tab button, the date and time in the Config File Version column corresponds to the date and time for the Last Boot Cfg Version on the NE.

c Choose Administration→NE Maintenance→Software Upgrade to view the software upgrade status. The Software Upgrade form opens.

i Click on the Software Upgrade Status tab button. A list of NEs displayed.

ii Double-click on an NE in the list to view information about the upgrade. The Software Upgrade Status form opens.

iii Close the Software Upgrade Status form.

2 Close the form.

LTE ePC alarm management

16 — Managing LTE ePC alarms

16 — Managing LTE ePC alarms

16.1 Managing LTE ePC alarms *16-2*

16.2 Additional resources *16-2*

16.3 Alarm management overview *16-2*

16.4 SGW and PGW alarm management *16-3*

16.5 9471 MME alarm management *16-3*

16.6 5780 DSC alarm management *16-3*

16.1 Managing LTE ePC alarms

This chapter describes 5620 SAM alarm management for LTE devices.

16.2 Additional resources

Table 16-1 lists where to find more information about how to manage alarms and how to use alarms for troubleshooting.

Table 16-1 Alarm management resources

For information about	See
• LTE activation domain alarms • LTE domain alarms • LTE MME domain alarms • LTE service domain alarms	*5620 SAM LTE Alarm Reference*
• managing alarms • alarm status, severity, and aggregation • alarm thresholds • alarm suppression • correlated alarms • automatic purging of alarms • fault management using alarms	*5620 SAM User Guide*
Troubleshooting using network alarms	*5620 SAM Troubleshooting Guide*
9471 MME alarms	*9471 MME Alarms Dictionary*

16.3 Alarm management overview

The 5620 SAM converts SNMP traps from NEs and 5620 SAM events to alarms that are associated with the managed equipment, configured services, and policies. The alarm-based fault management system provides the following:

- correlation of alarms with equipment- and service-affecting faults
- updates to the managed object operational status in near-real-time
- alarm policy control that allows a network administrator to specify how to process alarms, and how to create and store the alarm logs
- point-and-click alarm management using the 5620 SAM GUI dynamic alarm list and object properties forms
- ability to log the actions to correct the associated fault by adding notes to the alarm
- alarm history for performing trend analysis

16.4 SGW and PGW alarm management

When the 5620 SAM is deployed in the LTE network, the 5620 SAM supports LTE-ePC specific traps that are generated by the ISM Mobile card on the SGW and PGW. The alarm status of the SGW and PGW are represented in the equipment tree and network topology map.

The SGW and PGW alarms are limited to status alarms for the gateway instances. There are also status-related notifications for the EPS peers, which are propagated to the EPS paths. See the alarm description tables in the *5620 SAM Troubleshooting Guide* for a description of the alarms that the 5620 SAM can generate.

16.5 9471 MME alarm management

The 5620 SAM converts SNMP traps from the 9471 MME to alarms. In addition, when a fault occurs on a 9471 MME, the 9471 MME generates an alarm and sends a trap to the 5620 SAM that contains all of the information about the alarm. The 5620 SAM generates a corresponding alarm and displays the data in the 5620 SAM alarm subsystem.

Viewing information about 9471 MME alarms

The list of known 9471 MME alarms are prefixed in 5620 SAM with "Mme" so that 9471 MME alarms can be differentiated from 5620 SAM-generated alarms. If the 5620 SAM receives a trap from the 9471 MME that the 5620 SAM cannot interpret, the alarm is prefixed with “MmeUnknown”.

You can view the properties of an 9471 MME alarm by clicking on the alarm in the 5620 SAM Alarm Window. You can view the information about the alarm in the Alarm Info window. You can click on the Severity, Statistics, Acknowledgement, and Details tab buttons to view additional information about the specified alarm.

Clearing 9471 MME faults and alarms

The 9471 MME alarms that appear in the 5620 SAM Alarm Window must be cleared using the fault management interface that you access from the 9471 MME MI GUI. See the *9471 MME Alarms Dictionary* for more information about how to clear faults on the 9471 MME. See the alarm description tables in the *5620 SAM LTE Alarm Reference* for a description of the alarms that the 5620 SAM can generate.

16.6 5780 DSC alarm management

The existing 5620 SAM infrastructure is used to generate alarms for 5780 DSC NEs. When a state change occurs, the 5780 DSC sends a trap to the 5620 SAM to report the event. The 5620 SAM generates the corresponding alarm. See the alarm description tables in the *5620 SAM Troubleshooting Guide* for a description of the alarms that the 5620 SAM can generate.

LTE ePC statistics management

17 — Collecting and managing LTE ePC statistics

17 — Collecting and managing LTE ePC statistics

17.1 LTE ePC statistics overview *17-2*

17.2 7750 MG statistics *17-2*

17.3 9471 MME statistics *17-2*

17.4 5780 DSC statistics *17-4*

17.5 LTE statistics configuration *17-4*

17.6 LTE user bearer and SDF statistics *17-5*

17.1 LTE ePC statistics overview

The 5620 SAM supports the collection of performance, accounting, and 5620 SAM server performance statistics. The statistics are typically used to monitor and troubleshoot the 5620 SAM, and for SLA and billing functions that are performed by OSS applications that connect to the 5620 SAM. See *5620 SAM Statistics Management Guide* for information about the following:

- configuring statistics collection
- viewing statistics data
- creating graphical representations of statistics data using the Statistics Plotter
- non-LTE NE statistics counters

17.2 7750 MG statistics

The 5620 SAM collects statistics from the SGW and PGW for the ISM Mobile card and EPS peers. The 5620 SAM records the statistic counters as 7750 MG statistics. See Appendix A for a list of the supported 7750 MG statistics.

17.3 9471 MME statistics

The 9471 MME collects performance management statistics as part of standard operation. The collected statistics are stored in the following:

- MIBs
- 3GPP-compliant XML files

Non-MIB-based counters are collected using the PM job function. A default PM job is created on the 9471 MME at startup. This job collects statistics at 15m intervals and runs indefinitely. You can create additional PM jobs on the 9471 MME, in which you specify the following:

- start time
- collection period duration
- polling interval
- PM statistics counters to collect

Statistics collected by a PM job are stored in a 3GPP-compliant XML file format using a 3GPP-compliant file name. The 9471 MME creates the statistics files at the end of each polling interval and stores them on the local hard disk. Each time a PM job creates a file, the 9471 MME sends a trap to the 5620 SAM to indicate that the file is ready for retrieval.

A 5620 SAM main server retrieves the PM statistics files from the 9471 MME using SCP and stores the files on the local file system for a configurable period. The files are stored in the following directory:

path/lte/stats/*date*/mme/*IPaddress*

where

path is the 5620 SAM base directory, typically /opt/5620sam

date is the date of the statistics collection

IPaddress is the 9471 MME IP address in dotted-decimal notation

The 9471 MME statistics files are created in pairs. The file names have the following format:

`AYYYYMMDD.HHMMoffset_SubNetwork=subnet,ManagedElement=name`

`AYYYYMMDD.HHMMoffset_SubNetwork=subnet,ManagedElement=name_-_1`

where

YYYYMMDD is the collection date of the first record in the file

HHMM is the collection time of the first record in the file

offset is the offset from UTC in the format *signHHMM* for example, +0300

subnet is the subnet identifier

name is the unique name of the 9471 MME

The 5620 SAM supports the following statistics functions:

- statistics record type filtering based on the Family Name
- statistics record viewing from properties forms
- historical statistics graphing using the 5620 SAM Statistics Plotter
- PM job configuration from the Statistics Manager using a statistics collection policy

You can view the collected PM job statistics from a tab on the statistics properties form. Statistics are grouped by family. Each entry in the list is identified by the ID of the PM job that collected the statistics. Table 17-1 lists the statistics families and 5620 SAM objects that display the statistics. See Appendix B for a list of 9471 MME statistics counters.

Table 17-1 9471 MME statistics by family

Family	Properties form
Mobility Management (MM)	MME Service
Bearer Session Management (BSM)	
Dedicated Bearer (DedB)	
Hand Over (HO)	
Paging	
Connections (Conn)	
Authentication (Auth)	
Delay	
Interface (Itfc)	MIF Service

17.4 5780 DSC statistics

The 5620 SAM LTE ePC does not support the collection of 5780 DSC statistics.

17.5 LTE statistics configuration

Redundant installations of the 5620 SAM can be configured to allow replication and synchronization of PM statistics files to the auxiliary and backup auxiliary servers. PM statistics file synchronization is disabled by default, and can be enabled and configured by setting the values of the following properties in the nms-server.xml file:

- diskUsageThreshold—Specifies the percentage threshold for disk space usage. A minor alarm is raised by the 5620 SAM when the threshold is crossed. Setting the value to 0 will disable the property.
- lteStatsSyncEnabled—Specifies whether LTE statistics synchronization is enabled.
- lteStatsSyncInterval—Specifies the number of minutes between each file synchronization.
- purgeDiskUsageThreshold—Specifies the percentage threshold for PM statistics files to be purged. A critical alarm is raised by the 5620 SAM when the threshold is crossed. Setting the value to 0 will disable the property.
- timeToKeepFile—Specifies the time in minutes that PM statistics files are kept. The minimum value is 60.

Perform Procedure 17-1 to enable and configure PM statistics file synchronization.

Procedure 17-1 To configure PM statistics synchronization on a redundant installation of the 5620 SAM

See the beginning of this section for information about the properties described in this procedure.

1. Log on to the 5620 SAM main server station as the samadmin user.
2. Open a console window.
3. Navigate to the server configuration directory, typically /opt/5620sam/server/nms/config.
4. Open the nms-server.xml file by using a plain-text editor.
5. Locate the following XML tag:

```
<lteStats
```

6 Configure the following properties:

- diskUsageThreshold
- lteStatsSyncEnabled
- lteStatsSyncInterval
- purgeDiskUsageThreshold
- timeToKeepFile

7 Save and close the nms-server.xml file.

8 Navigate to the server binary directory, typically /opt/5620sam/server/nms/bin.

9 Enter the following at the prompt:

```
# ./nmsserver.bash read_config ↵
```

The main server reads the nms-server.xml file and changes to the file are updated in the 5620 SAM.

17.6 LTE user bearer and SDF statistics

You can use a 5620 SAM GUI or OSS client to collect per-user statistics in the following contexts:

- bearer
- PDN

To collect per-user statistics, you must use the 5620 SAM to create and submit a user statistics query. You can submit a query multiple times to generate multiple statistics snapshots. A query or snapshot is saved until a 5620 SAM operator deletes it. You can delete multiple queries or snapshots at one time.

A query requires the specification of a user IMSI. You can specify optional filter criteria, and can choose which types of information the query returns. See Appendix A for LTE user statistics-counter descriptions.

See Procedure 17-2 for information about collecting and viewing LTE user statistics. See Procedure 17-3 for information about viewing LTE statistics objects. See Procedure 17-4 for information about deleting LTE user statistics queries.

Procedure 17-2 To collect LTE user statistics

Perform this procedure to create and submit an LTE user statistics query, and to view the query result.

1. Choose Manage→Mobile Core→LTE User Stats from the 5620 SAM main menu. The LTE User Stats form opens.
2. Perform one of the following.
   - **a** Click on the Create New User Stats Query button.
   - **b** Use the LTE User Query Manager. Perform the following steps.
     - **i** Click on the LTE User Query Manager button. The LTE User Statistics Query Manager form opens and displays a navigation tree. You can expand an object in the tree by clicking on the + symbol beside the object.
     - **ii** Right-click on the User Statistics Queries object and choose Create User Statistics Query from the contextual menu. The User Statistics Query (Create) form opens.
3. Configure the Description parameter, if required.
4. Configure the parameters in the Include in the Results panel to specify the types of information that the query is to return:
   - SDF
   - SDF Filter
   - PDN Context
   - Bearer Context
5. Configure the IMSI parameter to identify the user that is the target of the query.
6. Click on the filter name Select button, if required. If you do not select a filter the query will retrieve statistics from all of the gateways in the network. The Select EPC Gateway Filter form opens.
7. Perform one of the following.
   - **a** Choose an existing filter from the list and click on the OK button.
   - **b** Create a new filter by performing the following steps:
     - **i** Click on the Create button. A filter form opens.
     - **ii** Click on the Attribute drop-down menu and choose an attribute.
     - **iii** Click on the Function drop-down menu and choose a function.
     - **iv** Enter a value in the Value field.
     - **v** Click on the Create button to add the filter criteria to the filter.
     - **vi** Repeat the previous steps to add more filter criteria, as required.
     - **vii** Click on the Save button. The Save Filter form opens.

viii Configure the parameters:

- Filter Name
- Description
- Public

ix Click on the Close button to close the filter form and return to the Select EPC Gateway Filter form.

x Choose the filter that you created from the list and click on the OK button to close the Select EPC Gateway Filter form.

8 Configure the parameters:

- APN Name
- Bearer ID
- SDF Precedence
- SDF Direction
- SDF Filter ID
- Include All APNs
- Include All Bearers
- Include All Precedences
- Include All Directions
- Include All IDs

9 Click on the OK button. The User Statistics Query (Create) form closes.

10 Perform one of the following.

a If you are using the LTE User Query Manager, the navigation tree displays the query as an object below the User Statistics Queries object. Go to step 11.

b If you are not using the LTE User Query Manager, perform the following steps.

i Choose User Stat Query using the object selector.

ii Click on the Search button. The query is listed on the form.

iii Select the query in the list and click on the Submit Query button. The 5620 SAM performs the query.

iv Choose User Stat Query using the object selector and click on the Search button. A list of queries is displayed.

v Select the new query and click on the Properties button. The query information form is displayed.

vi Click on the Snapshots tab button.

vii Go to step 13.

11 Right-click on the query object and choose Submit Query from the contextual menu. The 5620 SAM performs the query.

12 Expand the query object. A User Statistics Snapshots object is displayed.

13 Expand the User Statistics Snapshots object. A Snapshot object is displayed.

14 Expand the Snapshot object. A User Statistics Output object is displayed.

15 Expand the User Statistics Output object. The following objects are displayed:

- PGW User Data—contains information about the path from the PGW to the PDN
- PGW Bearer Context Data—contains bearer statistics for the user collected by the PGW
- PGW PDN Context Data—contains PDN statistics for the user collected by the PGW
- SGW User Data—contains information about the path from the UE to the SGW
- SGW Bearer Context Data—contains bearer statistics for the user collected by the SGW
- SGW PDN Context Data—contains PDN statistics for the user collected by the SGW

Note — SDF information is not available for collection from an SGW.

16 To view the contents of an object, right-click on the object and choose Properties, or double-click on the object. The *Object* (View) form opens.

17 View the information, as required.

18 Close the *Object* (View) form.

19 Close the LTE User Statistics Query form. The query and snapshot are saved.

Procedure 17-3 To list and view LTE user statistics objects

Perform this procedure to list and view LTE user statistics objects such as the following:

- LTE user statistics queries
- LTE user statistics query snapshots
- LTE user statistics query snapshot entries that contain user information or user statistics

1 Choose Manage→Mobile Core→LTE User Statistics from the 5620 SAM main menu. The LTE User Statistics form opens.

2 Use the object selector to specify the type of object to list and click on the Search button. A list of objects is displayed.

3 Select an object in the list and click on the Properties button. The object information form is displayed.

4 View the information on the form, as required.

5 A user statistics query or user statistics query snapshot form has a tab that contains a navigation tree for displaying the child objects. Click on the tab button to view the child objects, if required.

6 Close the object information form.

7 Close the LTE User Statistics form.

Procedure 17-4 To delete LTE user statistics queries

Perform this procedure to remove one or more LTE user statistics queries from the 5620 SAM.

Note — As an alternative method, you can delete queries from the LTE User Statistics Query Manager form by right-clicking on the query in the navigation tree and choosing Delete from the contextual menu.

1 Choose Manage→Mobile Core→LTE User Statistics from the 5620 SAM main menu. The LTE User Statistics form opens.

2 Use the object selector to specify User Statistics Query and click on the Search button. A list of queries is displayed.

3 Perform one of the following.

   a Delete one or more queries. Select the queries in the list and click on the Delete button. The 5620 SAM deletes the queries.

4 Delete all queries. Perform the following steps.

   i Click on the Delete All Queries button. A dialog box appears.

   ii Select the check box and click on the Yes button. The 5620 SAM deletes all of the queries.

5 Close the LTE User Query Manager form.

LTE key performance and capacity indicators

You can use a 5620 SAM GUI or an OSS client to collect KPI and KCI statistics from both the serving and PDN gateways. You can configure PM job names, start and stop times, the actual data (MIB table) to be collected, and the frequency of collection. The collected stats are written to an XML file on the NE.

KPI/KCI monitoring provisioning is done in the same way as accounting statistics policy provisioning.

When the PM job is completed, the NE generates a trap indicating that a file is ready for collection. The 5620 SAM collects the file from the node using standard protocols. Once the file is successfully transferred, the 5620 SAM deletes the file from the NE.

The data is stored in a flat file format and is available for export to OSSs through using SAM-O. The 5620 SAM maps the content in the file to the statistics records on its managed objects (bearers, SGW instances, interfaces, and so on).

Procedure 17-5 To create a KPI/KCI monitoring policy

1 Open a console window on the NE.

2 Type the following command to configure the record you need to create for the KPI/KCI monitoring policy:

`configure log accounting-policy policy name record record name` ↵

where
policy name is user-defined
record name is one of the following:

- kpi-system
- kpi-bearer-mgmt
- kpi-bearer-traffic
- kpi-ref-point
- kpi-path-mgmt
- kpi-iom-3
- kpi-bearer-group
- kpi-ref-path-group
- complete-kpi
- kci-system
- kci-bearer-mgmt
- kci--path-mgmt
- complete-kci
- complete-kpi-kci
- kpi-kci-bearer-mgmt
- kpi-kci-path-mgmt
- kpi-kci-system

3 Type the following command to configure the collection interval for the policy.

`configure log accounting-policy policy name collection-interval min` ↵

where
policy name is user-defined
min is between 1 and 59

Procedure 17-6 To define a KPI/KCI log file

1 Open a console window on the NE.

2 Type the following command at the prompt to define the location for a KPI/KCI log file:

`log file file name location file location` ↵

where
file name is user-defined
file location is the path for the directory in which you need to save the XML log file

Procedure 17-7 To enable KPI/KCI statistics collection

1 Open a console window on the NE.

2 Type the following command at the prompt to identify the PDN gateway for the statistics collection:

```
pdn gateway instance instance id ↵
```

where instance id is the unique identifier for the PDN gateway

3 Type the following command to identify the serving gateway for statistics collection:

```
serving gateway instance instance id ↵
```

4 Type the following commands to enable the KPI/KCI collection for the defined PDN gateway and serving gateway.

```
kpi-kci ↵

[no]accounting-policy name collect-stats /* kpi accounting plcy
*/ ↵

[no]accounting-policy name collect-stats /* kci accounting plcy
*/ ↵
```

Troubleshooting

18 — Troubleshooting LTE mobile services and EPS paths

18 — Troubleshooting LTE mobile services and EPS paths

18.1 Troubleshooting LTE mobile services and EPS paths *18-2*

18.2 Workflow to troubleshoot a mobile service or EPS path connectivity problem *18-3*

18.3 Troubleshooting mobile service or EPS path connectivity problems using the STM *18-3*

18.1 Troubleshooting LTE mobile services and EPS paths

This chapter describes how to troubleshoot LTE mobile services and EPS paths problems using the STM OAM diagnostic tools. See the *5620 SAM Troubleshooting Guide* for information about troubleshooting a service using 5620 SAM alarms.

STM OAM diagnostics for troubleshooting

You can use the 5620 SAM STM OAM diagnostic tools to troubleshoot a mobile service or transport layer problems. The STM provides the ability to group OAM diagnostic tests in test suites for more comprehensive fault monitoring and troubleshooting. A test suite can perform end-to-end testing of a mobile service and the underlying network transport elements.

The use of test suites is especially valuable when multiple objects of the same type require testing. Test suites can be scheduled to run on a regular basis to provide continual network performance feedback.

See the *5620 SAM User Guide* for more information about creating and using the STM test policies and suites.

Supported STM OAM test types

Table 18-1 lists the LTE objects for which STM tests can be performed, the test types that are supported, and the network components that are tested.

Table 18-1 Service assurance OAM test types and test objects for LTE networks

LTE object	Test type	Network object or service component for test
Mobile service	ICMP ping ICMP traceroute	Connectivity between SGW, PGW, eNodeB service sites. The tests can be used to identify faults in the underlying S1-U and S5 EPS paths.
EPS path	ICMP ping ICMP traceroute	S1-U, S5, S11, and Gx EPS paths. Tests must be initiated from an SGW or a PGW. Tests cannot be initiated from the MME or PCRF.

ICMP ping

The ICMP ping OAM tool allows you to determine the reachability of a remote host across the LTE IP network. ICMP pings can be sent in band or out of band. The tool is used with ICMP trace to detect and localize faults in the LTE IP network.

ICMP trace

The ICMP trace tool allows you to identify the hop-by-hop path to a destination IP address across a mobile service or EPS path. ICMP traces can be sent in band or out of band. The tool is used with ICMP ping to detect and localize faults in the LTE IP network.

Test scenarios

The ICMP ping and ICMP trace tools can be used in the following scenarios:

- mobile services layer assurance—run a mobile services test to monitor a connection between an eNodeB and its ePC neighbors
- EPS path assurance—test paths that are not part of a mobile service, such as S11, and Gx paths
- scheduled tests—schedule periodic tests on EPS paths to validate connectivity and to save the test records for future analysis

18.2 Workflow to troubleshoot a mobile service or EPS path connectivity problem

Perform the following tasks until you identify the root cause of the problem.

1. Open the properties form for the mobile service or EPS path instance that you need to investigate.
2. Verify that there are no alarms associated with the mobile service or EPS path by clicking on the Faults tab button in the Mobile Service (Edit) form or EPS Path (Edit) form.
   a. If there are alarms that affect the service or EPS path, see the *5620 SAM Troubleshooting Guide* for information about individual alarms.
   b. If there are no alarms that affect the service or the EPS path, go to step 3.
3. Verify the connectivity of all egress points in the service. See Procedure 18-1 to use the ICMP ping and ICMP trace diagnostics to troubleshoot the problem.
4. Review the test suite results. See Procedure 18-4 for more information.
5. Contact your Alcatel-Lucent technical support representative if the problem persists.

18.3 Troubleshooting mobile service or EPS path connectivity problems using the STM

Perform the following procedures to use the STM to troubleshoot connectivity issues on a mobile service or EPS path.

Procedure 18-1 To troubleshoot mobile service or EPS path connectivity problems using the STM

1 Choose Tools→Service Test Manager (STM) from the 5620 SAM main menu. The Manage Tests form appears.

2 Create a test policy.

i From the Service Test Manager (STM) (Create) form, choose Create→Create Test Policy. The Test Policy (Create) form opens with the General tab displayed.

ii Configure the parameters:

- ID
- Auto-Assign ID
- Name
- Description
- NE Schedulable—When you enable this parameter, the Test Results panel is displayed in the Test Policy (Create) form. Choose one of the following test results types:
  - Lightweight Execution
  - Ignore probe results
  - Accounting Files
- Entity Type—Choose the Mobile Service or EPS Path (LTE) option.

iii Click on the Apply button.

3 Add a test to the policy.

i Click on the Test Definition tab button.

ii Perform one or both of the following:

- Create an ICMP ping test. Choose Add→ICMP→Add ICMP Ping. The ICMP Ping Definition (Create) form opens with the General tab displayed. Perform Procedure 18-2 to configure the ICMP ping test. Click on the OK button to save the test definition. The new ICMP ping test appears in the Test Definitions table.
- Create an ICMP trace test. Choose Add→ICMP→Add ICMP Trace. The ICMP Trace Definition (Create) form opens with the General tab displayed. Perform Procedure 18-3 to configure the ICMP trace test. Click on the OK button to save the test definition. The new ICMP trace test appears in the Test Definitions table.

iii Click on the Apply button to save the information in the Test Definition tab.

4 Click on the Update Test Suites button and close the Test Policy (Create) form.

5 Create a test suite.

i From the Service Test Manager (STM) (Create) form, choose Create→Create Test Suite. The Test Suite (Create) form opens with the General tab displayed.

ii Configure the parameters:

- ID
- Auto-Assign ID
- Name
- Description
- Entity Type—Choose the Mobile Service or EPS Path (LTE) option.

Note — The Entity Type parameter specifies that only test policies created for the same entity type are available for the test suite. The parameter also restricts the predefined tests that are available to those that apply to the entity type. For example, if you set the Entity Type parameter to Mobile Service, only mobile services test policies and entities are available for the rest of the steps in this procedure.

6 Add the test policy that you configured in steps 2 to 4 to the test suite.

i Click on the Test Policy tab button.

ii Click on the Add button. The Add window opens.

iii Click on the search button to list the available test policies.

iv Choose the test policy from the list and click on the OK button. The Add window closes and the policy that you specified appears in the list in the Test Policy tab.

7 Add test entities to the test suite. The entities are the objects (mobile services or EPS paths) that you need to test.

i Click on the Tested Entities tab button. The Add form appears.

ii Click on the Add button to add an entity to test. The Add window opens.

iii Choose a specific instance for the mobile service or EPS path type.

iv Click on the search button to list the available entities.

v Choose the entity from the list and click on the OK button. The Add window closes and the specified entity appears in the list in the Entities tab.

8 Click the Apply button to save the test suite. The Generate Tests button is activated.

9 Click on the Generate Tests button. The Execute button is activated.

10 Click on the Execute button to run the test suite.

11 Close the form.

Procedure 18-2 To configure and run an ICMP ping

1 Choose Tools→Service Test Manager (STM) from the 5620 SAM main menu. The Service Test Manager form opens.

2 Choose ICMP→Create ICMP Ping from the Create contextual menu. The ICMP Ping (Create) form opens with the General tab displayed.

3 Configure the parameters:

- ID
- Administrative State
- Auto-Assign ID
- Name
- Description
- Ne Schedulable
- NE Persistent

The NE Schedulable parameter is configurable only if the NE Persistent parameter is not enabled. The NE Persistent parameter is configurable only if the NE Schedulable parameter is not enabled.

4 Configure the Target Type parameter. Choose one of the following options:

- EPS Site. Go to step 5.
- EPS Path. Go to step 8.

5 Configure the EPS Instance Site parameter:

i Click on the Select button. The Select From Access Gateway - ICMP Ping - Test form opens.

ii Click on the Search button to list the available gateways.

iii Double-click on a gateway to select it. The form closes and the EPS Instance Site field is populated.

6 Type a value in the Target IP Address field

7 Go to step 11.

8 Configure the EPS Instance Site parameter:

i Click on the Select button. The Select From Access Gateway - ICMP Ping - Test form opens.

ii Click on the Search button to list the available gateways.

iii Double-click on a gateway to select it. The form closes and the EPS Instance Site field is populated.

9 Configure the EPS Path ID parameter:

i Click on the Select button. The Select Using EPS Path - ICMP Ping - Test form opens.

ii Click on the Search button to list the available gateways.

iii Double-click on an EPS path to select it. The form closes and the EPS Path ID field is populated.

The value for the Type and Path Symmetry parameters are automatically populated when you select the EPS path ID.

10 Click on the Test Parameters tab button.

11 Configure the parameters:

- Number of Test Probes
- Probe Interval (seconds)
- Probe Timeout (seconds)
- Size (octets)
- Rapid
- Time To Live
- Data Pattern
- Positional Data Pattern
- DiffServ Field
- Egress Interface Index
- Bypass Routing
- Do Not Fragment
- Forwarding Class
- Forwarding Profile

12 Click on the Results Configuration tab button.

13 Configure the parameters:

- Probe History Size (rows)
- Test Failure Threshold
- Probe Failure Threshold
- Trap Generation

14 Click on the Apply button to save the settings.

15 Click on the Execute button to start the ICMP ping. A deployed test is created and run.

16 Click on the Deployed Tests tab button to view the current state of the deployed test. When the test is complete, the deployed test is removed, and you can view the results.

17 View the test results on the Results tab. The results depend on the type of test. Result information includes:

- Average Round-Trip Time
- Maximum Round-Trip Time
- Minimum Round-Trip Time
- Round-Trip Jitter

18 To configure another ICMP ping, click on the Clear button and repeat steps 11 to 17. Otherwise, go to step 19.

19 Click on the Cancel button to close the form.

Procedure 18-3 To configure and run an ICMP trace

1 Choose Tools→Service Test Manager (STM) from the 5620 SAM main menu. The Service Test Manager form opens.

2 Choose ICMP→Create ICMP Trace from the Create contextual menu. The ICMP Trace (Create) form opens with the General tab displayed.

3 Configure the parameters:

- ID
- Administrative State
- Auto-Assign ID
- NE Schedulable
- Name
- NE Persistent
- Description

The NE Schedulable parameter is configurable only if the NE Persistent parameter is not enabled. The NE Persistent parameter is configurable only if the NE Schedulable parameter is not enabled.

4 Configure the Target Type parameter. Choose one of the following options:

a EPS Site. Go to step 5.

b EPS Path. Go to step 8.

5 Configure the EPS Instance Site parameter:

i Click on the Select button. The Select From Access Gateway - ICMP Trace - Test form opens.

ii Click on the Search button to list the available gateways.

iii Double-click on a gateway to select it. The form closes and the EPS Instance Site field is populated.

6 Type a value in the Target IP Address field.

7 Go to step 11.

8 Configure the EPS Instance Site parameter:

i Click on the Select button. The Select From Access Gateway - ICMP Trace - Test form opens.

ii Click on the Search button to list the available gateways.

iii Double-click on a gateway to select it. The form closes and the EPS Instance Site field is populated.

9 Configure the EPS Path ID parameter:

i Click on the Select button. The Select Using EPS Path - ICMP Trace - Test form opens.

ii Click on the Search button to list the available gateways.

iii Double-click on an EPS path to select it. The form closes and the EPS Path ID field is populated.

The value for the Type and Path Symmetry parameters are automatically populated when you select the EPS path ID.

10 Click on the Test Parameters tab button.

11 Configure the parameters:

- Number of Test Probes
- Probe Interval (seconds)
- Probe Timeout (seconds)
- Maximum Time To Live
- DiffServ Field
- Time to Wait (milliseconds)

12 Click on the Results Configuration tab button.

13 Configure the parameters:

- Problem History Size (rows)
- Maximum Failures
- Trap Generation

14 Click on the Apply button to save the settings.

15 Click on the Execute button to start the ICMP trace. A deployed test is created and run. Click on the Deployed Tests tab button to view its current state of the deployed test. When the test is complete, the deployed test is removed, and you can view the results.

16 View the test results on the Results tab. The results depend on the type of test. Result information includes:

- Current Hop Count
- Current Probe Count
- Minimum Round-Trip Time
- Round-Trip Jitter

Note — Results of individually run ICMP Trace tests are viewed on the Results tab. The Results tab displays only the result of the last individually run ICMP trace test. Any previous individually run test results are overwritten.

Results from ICMP trace tests that are scheduled or are part of a test suite are also stored on the Results tab. The number of scheduled test results stored corresponds to the value configured in the Probe History Size (rows) parameter. Scheduled ICMP trace test results do not overwrite individually run test results or previously run scheduled test results.

17 To configure another ICMP trace, click on the Clear button and repeat steps 11 to 16. Otherwise, go to step 18.

18 Click on the Cancel button to close the form.

Procedure 18-4 To view test suite results for mobile services or EPS paths

1 Choose Tools→Service Test Manager (STM) from the 5620 SAM main menu. The Manage Tests form appears.

2 Choose Aggregated Result (Assurance)→Test Suite Result (Assurance) from the object drop-down list.

3 Click on the Search button. The STM lists the test suites that you ran. Each entry includes information such as:

- test suite name
- completion status
- timestamp for the test
- success or failure of the test suite

4 For more information about the test, choose an entry from the list and click on the Properties button. The Properties form appears, from which you can view the test criteria and results, or navigate to the properties form for the mobile service or EPS path for further analysis.

Appendices

A. 7750 MG Release 3.0 statistics counters ***A-1***

B. 9471 MME statistics counters ***B-1***

A. 7750 MG Release 3.0 statistics counters

A.1 7750 MG Release 3.0 statistics counters *A-2*

A.1 7750 MG Release 3.0 statistics counters

This appendix lists in tabular form the statistics counters that the 5620 SAM supports for the 7750 MG, Release 3.0. Each 5620 SAM counter entry in a table contains the name and description of the corresponding device MIB counter.

The 5620 SAM counter name in a table entry is the internal counter identifier that is required for statistics retrieval through the 5620 SAM OSSI. The displayed counter name in the 5620 SAM GUI is typically an expansion of this identifier. For example, the receivedBroadcastPackets counter name in the equipment table corresponds to the Received Broadcast Packets counter name on the Log Record form for an Ethernet port.

Note 1 — The tables list the 5620 SAM-supported statistics counters for the current release of the device. Counters that are supported for a previous device release, but not for the current release, are not listed.

Note 2 — A statistics counter in the 5620 SAM GUI whose displayed name ends with “Periodic” is a counter that records the difference between the current and previous values of an associated 5620 SAM counter. The OSS equivalent name for a Periodic counter is the name of the 5620 SAM counter with a “Periodic” suffix. The tables in this appendix do not list Periodic counters.

Table A-1 lists each statistics package and the associated statistics-counter table.

Table A-1 Statistics packages and counter tables

Package name	See
aapolicy	Table A-2
aclfilter	Table A-3
aps	Table A-4
arp	Table A-5
atm	Table A-6
bgp	Table A-7
bundle	Table A-8
cflowd	Table A-9
dhcp	Table A-10
diameter	Table A-11
equipment	Table A-12
ethernetequipment	Table A-13
fr	Table A-14
gsmp	Table A-15
igmp	Table A-16
ipsec	Table A-17
isa	Table A-18

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Package name	See
isis	Table A-19
l2fib	Table A-20
l2fwd	Table A-21
l2tp	Table A-22
lag	Table A-23
ldp	Table A-24
lldp	Table A-25
lte	Table A-26
lteggsn	Table A-27
lteli	Table A-28
mld	Table A-29
mpls	Table A-30
msdp	Table A-31
multicast	Table A-32
multichassis	Table A-33
nat	Table A-34
ospf	Table A-35
pae802_1x	Table A-36
pim	Table A-37
ppp	Table A-38
radiusaccounting	Table A-39
ressubscr	Table A-40
rip	Table A-41
rsvp	Table A-42
rtr	Table A-43
service	Table A-44
sitesec	Table A-45
sonetequipment	Table A-46
srrp	Table A-47
subscrauth	Table A-48
svq	Table A-49
svt	Table A-50
tdmequipment	Table A-51
vpls	Table A-52
vrrp	Table A-53

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Table A-2 aapolicy statistics

5620 SAM counter name	Type	MIB counter name	Description
BsxAaAccountingStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaTable Monitored classes: • aapolicy.Application • aapolicy.ApplicationGroup • isa.AaGroup • isa.AaPartition			
activeFlowsFromSub	long	tmnxBsxStatAaActFlwsFmSb	The value of tmnxBsxStatAaActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaActFlwsToSb	The value of tmnxBsxStatAaActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaHCLngDurFlws	The value of tmnxBsxStatAaHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaHCMedDurFlws	The value of tmnxBsxStatAaHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaHCShrtDurFlws	The value of tmnxBsxStatAaHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaHCFlwsAdmFmSb	The value of tmnxBsxStatAaHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaHCFlwsAdmToSb	The value of tmnxBsxStatAaHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaHCFlwsDnyFmSb	The value of tmnxBsxStatAaHCFlwsDnyFmSb indicates the total number of flows the dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsDenyToSub	UINT128	tmnxBsxStatAaHCFlwsDnyToSb	The value of tmnxBsxStatAaHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyToSb.
numOfSubscribers	long	tmnxBsxStatAaNumSubscribers	The value of tmnxBsxStatAaNumSubscribers indicates the number of subscribers at the most recent 5-minute snapshot of statistics.
octsAdmitFromSub	UINT128	tmnxBsxStatAaHCOctsAdmFmSb	The value of tmnxBsxStatAaHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaHCOctsAdmToSb	The value of tmnxBsxStatAaHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaHCOctsDnyFmSb	The value of tmnxBsxStatAaHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaHCOctsDnyToSb	The value of tmnxBsxStatAaHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaHCPktsAdmFmSb	The value of tmnxBsxStatAaHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaHCPktsAdmToSb	The value of tmnxBsxStatAaHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaHCPktsDnyFmSb	The value of tmnxBsxStatAaHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsDenyToSub	UINT128	tmnxBsxStatAaHCPktsDnyToSb	The value of tmnxBsxStatAaHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaHCTermFlwDur	The value of tmnxBsxStatAaHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaHCTermFlws	The value of tmnxBsxStatAaHCTermFlws indicates the total number of allowed flows in both directions that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlws.
BsxAaSubAccountingStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubSdyTable Monitored classes: • ressubscr.ResidentialSubscriberInstance • service.AccessInterface			
activeFlowsFromSub	long	tmnxBsxStatAaSubSdyActFlwsFmSb	The value of tmnxBsxStatAaSubSdyActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubSdyActFlwsToSb	The value of tmnxBsxStatAaSubSdyActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubSdyHCLngDurFlws	The value of tmnxBsxStatAaSubSdyHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubSdyHCMedDurFlws	The value of tmnxBsxStatAaSubSdyHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubSdyHCShrtDurFlws	The value of tmnxBsxStatAaSubSdyHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyShrtDurFlws.

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5620 SAM counter name	Type	MIB counter name	Description
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmToSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyToSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmFmSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmToSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyToSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmToSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyToSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaSubSdyHCTermFlwDur	The value of tmnxBsxStatAaSubSdyHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubSdyHCTermFlws	The value of tmnxBsxStatAaSubSdyHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlws.
BsxAaSubAccountingStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored classes: • ressubscr.ResidentialSubscriberInstance • service.AccessInterface			
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.

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5620 SAM counter name	Type	MIB counter name	Description
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxAppGrpStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaTable Monitored class: aapolicy.ApplicationGroup			
aaName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.

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5620 SAM counter name	Type	MIB counter name	Description
activeFlowsFromSub	long	tmnxBsxStatAaActFlwsFmSb	The value of tmnxBsxStatAaActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaActFlwsToSb	The value of tmnxBsxStatAaActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaHCLngDurFlws	The value of tmnxBsxStatAaHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaHCMedDurFlws	The value of tmnxBsxStatAaHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaHCShrtDurFlws	The value of tmnxBsxStatAaHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaHCFlwsAdmFmSb	The value of tmnxBsxStatAaHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaHCFlwsAdmToSb	The value of tmnxBsxStatAaHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaHCFlwsDnyFmSb	The value of tmnxBsxStatAaHCFlwsDnyFmSb indicates the total number of flows the dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaHCFlwsDnyToSb	The value of tmnxBsxStatAaHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyToSb.
numOfSubscribers	long	tmnxBsxStatAaNumSubscribers	The value of tmnxBsxStatAaNumSubscribers indicates the number of subscribers at the most recent 5-minute snapshot of statistics.

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5620 SAM counter name	Type	MIB counter name	Description
octsAdmitFromSub	UINT128	tmnxBsxStatAaHCOctsAdmFmSb	The value of tmnxBsxStatAaHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaHCOctsAdmToSb	The value of tmnxBsxStatAaHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaHCOctsDnyFmSb	The value of tmnxBsxStatAaHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaHCOctsDnyToSb	The value of tmnxBsxStatAaHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaHCPktsAdmFmSb	The value of tmnxBsxStatAaHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaHCPktsAdmToSb	The value of tmnxBsxStatAaHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaHCPktsDnyFmSb	The value of tmnxBsxStatAaHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaHCPktsDnyToSb	The value of tmnxBsxStatAaHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaHCTermFlwDur	The value of tmnxBsxStatAaHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlwDur.

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5620 SAM counter name	Type	MIB counter name	Description
termFlows	UINT128	tmnxBsxStatAaHCTermFlws	The value of tmnxBsxStatAaHCTermFlws indicates the total number of allowed flows in both directions that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlws.
BsxAppQosPolicyStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxAqpStatsTable Monitored class: aapolicy.AppQosPolicy			
conflicts	long	tmnxBsxAqpStatsConflicts	The value of tmnxBsxAqpStatsConflicts indicates the number of flows that have hit this AQP entry, but resulted in a conflict with the match criteria.
flows	long	tmnxBsxAqpStatsFlows	The value of tmnxBsxAqpStatsFlows indicates the number of flows that have hit this entry. In certain cases, a flow may change its attributes thus undergoing a second policy evaluation. In these cases, the flow may be counted against two different AQP entries.
BsxAppStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaTable Monitored class: aapolicy.Application			
aaName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
activeFlowsFromSub	long	tmnxBsxStatAaActFlwsFmSb	The value of tmnxBsxStatAaActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaActFlwsToSb	The value of tmnxBsxStatAaActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaHCLngDurFlws	The value of tmnxBsxStatAaHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaHCMedDurFlws	The value of tmnxBsxStatAaHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaHCShrtDurFlws	The value of tmnxBsxStatAaHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaShrtDurFlws.

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5620 SAM counter name	Type	MIB counter name	Description
flowsAdmitFromSub	UINT128	tmnxBsxStatAaHCFlwsAdmFmSb	The value of tmnxBsxStatAaHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaHCFlwsAdmToSb	The value of tmnxBsxStatAaHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaHCFlwsDnyFmSb	The value of tmnxBsxStatAaHCFlwsDnyFmSb indicates the total number of flows the dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaHCFlwsDnyToSb	The value of tmnxBsxStatAaHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyToSb.
numOfSubscribers	long	tmnxBsxStatAaNumSubscribers	The value of tmnxBsxStatAaNumSubscribers indicates the number of subscribers at the most recent 5-minute snapshot of statistics.
octsAdmitFromSub	UINT128	tmnxBsxStatAaHCOctsAdmFmSb	The value of tmnxBsxStatAaHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaHCOctsAdmToSb	The value of tmnxBsxStatAaHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaHCOctsDnyFmSb	The value of tmnxBsxStatAaHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaHCOctsDnyToSb	The value of tmnxBsxStatAaHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsAdmitFromSub	UINT128	tmnxBsxStatAaHCPktsAdmFmSb	The value of tmnxBsxStatAaHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaHCPktsAdmToSb	The value of tmnxBsxStatAaHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaHCPktsDnyFmSb	The value of tmnxBsxStatAaHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaHCPktsDnyToSb	The value of tmnxBsxStatAaHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaHCTermFlwDur	The value of tmnxBsxStatAaHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaHCTermFlws	The value of tmnxBsxStatAaHCTermFlws indicates the total number of allowed flows in both directions that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlws.
BsxCustProtStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaTable Monitored class: aapolicy.CustomProtocol			
aaName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
activeFlowsFromSub	long	tmnxBsxStatAaActFlwsFmSb	The value of tmnxBsxStatAaActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaActFlwsToSb	The value of tmnxBsxStatAaActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsLong	UINT128	tmnxBsxStatAaHCLngDurFlws	The value of tmnxBsxStatAaHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaHCMedDurFlws	The value of tmnxBsxStatAaHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaHCShrtDurFlws	The value of tmnxBsxStatAaHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaHCFlwsAdmFmSb	The value of tmnxBsxStatAaHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaHCFlwsAdmToSb	The value of tmnxBsxStatAaHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaHCFlwsDnyFmSb	The value of tmnxBsxStatAaHCFlwsDnyFmSb indicates the total number of flows the dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaHCFlwsDnyToSb	The value of tmnxBsxStatAaHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyToSb.
numOfSubscribers	long	tmnxBsxStatAaNumSubscribers	The value of tmnxBsxStatAaNumSubscribers indicates the number of subscribers at the most recent 5-minute snapshot of statistics.
octsAdmitFromSub	UINT128	tmnxBsxStatAaHCOctsAdmFmSb	The value of tmnxBsxStatAaHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
octsAdmitToSub	UINT128	tmnxBsxStatAaHCOctsAdmToSb	The value of tmnxBsxStatAaHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaHCOctsDnyFmSb	The value of tmnxBsxStatAaHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaHCOctsDnyToSb	The value of tmnxBsxStatAaHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaHCPktsAdmFmSb	The value of tmnxBsxStatAaHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaHCPktsAdmToSb	The value of tmnxBsxStatAaHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaHCPktsDnyFmSb	The value of tmnxBsxStatAaHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaHCPktsDnyToSb	The value of tmnxBsxStatAaHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaHCTermFlwDur	The value of tmnxBsxStatAaHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaHCTermFlws	The value of tmnxBsxStatAaHCTermFlws indicates the total number of allowed flows in both directions that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlws.

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5620 SAM counter name	Type	MIB counter name	Description
BsxProtStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaTable Monitored classes: • isa.AaGroup • isa.AaPartition			
aaName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
activeFlowsFromSub	long	tmnxBsxStatAaActFlwsFmSb	The value of tmnxBsxStatAaActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaActFlwsToSb	The value of tmnxBsxStatAaActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaHCLngDurFlws	The value of tmnxBsxStatAaHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaHCMedDurFlws	The value of tmnxBsxStatAaHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaHCShrtDurFlws	The value of tmnxBsxStatAaHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaHCFlwsAdmFmSb	The value of tmnxBsxStatAaHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaHCFlwsAdmToSb	The value of tmnxBsxStatAaHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaHCFlwsDnyFmSb	The value of tmnxBsxStatAaHCFlwsDnyFmSb indicates the total number of flows the dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsDenyToSub	UINT128	tmnxBsxStatAaHCFlwsDnyToSb	The value of tmnxBsxStatAaHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaFlwsDnyToSb.
numOfSubscribers	long	tmnxBsxStatAaNumSubscribers	The value of tmnxBsxStatAaNumSubscribers indicates the number of subscribers at the most recent 5-minute snapshot of statistics.
octsAdmitFromSub	UINT128	tmnxBsxStatAaHCOctsAdmFmSb	The value of tmnxBsxStatAaHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaHCOctsAdmToSb	The value of tmnxBsxStatAaHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaHCOctsDnyFmSb	The value of tmnxBsxStatAaHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaHCOctsDnyToSb	The value of tmnxBsxStatAaHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaHCPktsAdmFmSb	The value of tmnxBsxStatAaHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaHCPktsAdmToSb	The value of tmnxBsxStatAaHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaHCPktsDnyFmSb	The value of tmnxBsxStatAaHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsDenyToSub	UINT128	tmnxBsxStatAaHCPktsDnyToSb	The value of tmnxBsxStatAaHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaHCTermFlwDur	The value of tmnxBsxStatAaHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaHCTermFlws	The value of tmnxBsxStatAaHCTermFlws indicates the total number of allowed flows in both directions that have terminated. This object is a 64-bit version of tmnxBsxStatAaTermFlws.
BsxSapCustRecAppGrpStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: service.AccessInterface			
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
appGrpName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSapCustRecAppStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: service.AccessInterface			
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.

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5620 SAM counter name	Type	MIB counter name	Description
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSapCustRecProtStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: service.AccessInterface			

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5620 SAM counter name	Type	MIB counter name	Description
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.

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5620 SAM counter name	Type	MIB counter name	Description
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSapStudyAppStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubSdyTable Monitored class: service.AccessInterface			
activeFlowsFromSub	long	tmnxBsxStatAaSubSdyActFlwsFmSb	The value of tmnxBsxStatAaSubSdyActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubSdyActFlwsToSb	The value of tmnxBsxStatAaSubSdyActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubSdyHCLngDurFlws	The value of tmnxBsxStatAaSubSdyHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubSdyHCMedDurFlws	The value of tmnxBsxStatAaSubSdyHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubSdyHCShrtDurFlws	The value of tmnxBsxStatAaSubSdyHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmToSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyToSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmFmSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmToSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyToSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmToSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyToSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaSubSdyHCTermFlwDur	The value of tmnxBsxStatAaSubSdyHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubSdyHCTermFlws	The value of tmnxBsxStatAaSubSdyHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlws.
BsxSapStudyProtStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubSdyTable Monitored class: service.AccessInterface			
activeFlowsFromSub	long	tmnxBsxStatAaSubSdyActFlwsFmSb	The value of tmnxBsxStatAaSubSdyActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubSdyActFlwsToSb	The value of tmnxBsxStatAaSubSdyActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubSdyHCLngDurFlws	The value of tmnxBsxStatAaSubSdyHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyLngDurFlws.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsMedium	UINT128	tmnxBsxStatAaSubSdyHCMedDurFlws	The value of tmnxBsxStatAaSubSdyHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubSdyHCShrtDurFlws	The value of tmnxBsxStatAaSubSdyHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmToSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyToSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmFmSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmToSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmToSb.

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5620 SAM counter name	Type	MIB counter name	Description
octsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyToSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmToSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyToSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyToSb.
protName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
termFlowDuration	UINT128	tmnxBsxStatAaSubSdyHCTermFlwDur	The value of tmnxBsxStatAaSubSdyHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubSdyHCTermFlws	The value of tmnxBsxStatAaSubSdyHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlws.

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Table A-3 aclfilter statistics

5620 SAM counter name	Type	MIB counter name	Description
HitCountStats MIB table name: TIMETRA-FILTER-MIB.tIPFilterParamsTable Monitored class: aclfilter.IpFilterEntry			
egressHitByteCount	UINT128	tIPFilterParamsEgrHitByteCount	The value of tIPFilterParamsEgrHitByteCount indicates the number of bytes of all egress packets that matched this entry.
egressHitCount	UINT128	tIPFilterParamsEgressHitCount	This object indicates the number of times an egress packet matched this entry.
ingressHitByteCount	UINT128	tIPFilterParamsIngrHitByteCount	The value of tIPFilterParamsIngrHitByteCount indicates the number of bytes of all ingress packets that matched this entry.
ingressHitCount	UINT128	tIPFilterParamsIngressHitCount	This object indicates the number of times an ingress packet matched this entry.
Ipv6HitCountStats MIB table name: TIMETRA-FILTER-MIB.tIPv6FilterParamsTable Monitored class: aclfilter.Ipv6FilterEntry			
egressHitByteCount	UINT128	tIPv6FilterParamsEgrHitByteCount	This tIPv6FilterParamsEgrHitByteCount indicates the number of bytes of all egress packets that matched this entry.
egressHitCount	UINT128	tIPv6FilterParamsEgressHitCount	This object indicates the number of times an egress packet matched this entry.
ingressHitByteCount	UINT128	tIPv6FilterParamsIngrHitByteCount	The value of tIPv6FilterParamsIngrHitByteCount indicates the number of bytes of all ingress packets that matched this entry.
ingressHitCount	UINT128	tIPv6FilterParamsIngressHitCount	This object indicates the number of times an ingress packet matched this entry.
MacHitCountStats MIB table name: TIMETRA-FILTER-MIB.tMacFilterParamsTable Monitored class: aclfilter.MacFilterEntry			
egressHitByteCount	UINT128	tMacFilterParamsEgrHitByteCount	The value of tMacFilterParamsEgrHitByteCount indicates the number of bytes of all egress packets that matched this entry.
egressHitCount	UINT128	tMacFilterParamsEgressHitCount	This object indicates the number of times an egress packet matched this entry.
ingressHitByteCount	UINT128	tMacFilterParamsIngrHitByteCount	The value of tMacFilterParamsIngrHitByteCount indicates the number of bytes of all ingress packets that matched this entry.
ingressHitCount	UINT128	tMacFilterParamsIngressHitCount	This object indicates the number of times an ingress packet matched this entry.

Table A-4 aps statistics

5620 SAM counter name	Type	MIB counter name	Description
ApsChannelStats MIB table name: APS-MIB.apsChanStatusTable Monitored class: aps.ApsChannel			
discontinuityTime	long	apsChanStatusDiscontinuityTime	The value of sysUpTime on the most recent occasion at which any one or more of this channel's counters suffered a discontinuity. The relevant counters are the specific instances associated with this channel of any Counter32 object contained in apsChanStatusTable. If no such discontinuities have occurred since the last re-initialization of the local management subsystem, then this object contains a zero value.
lastSwitchover	long	apsChanStatusLastSwitchover	When queried with index value apsChanConfigNumber other than 0, this object will return the value of sysUpTime when this channel last completed a switch to the protection line. If this channel has never switched to the protection line, the value 0 will be returned. When queried with index value apsChanConfigNumber set to 0, which is the protection line, this object will return the value of sysUpTime the last time that a working channel was switched back to the working line from this protection line. If no working channel has ever switched back to the working line from this protection line, the value 0 will be returned.
signalDegrades	long	apsChanStatusSignalDegrades	A count of Signal Degrade conditions. This condition occurs when the line Bit Error Rate exceeds the currently configured value of the relevant instance of apsConfigSdBerThreshold. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of apsChanStatusDiscontinuityTime.
signalFailures	long	apsChanStatusSignalFailures	A count of Signal Failure conditions that have been detected on the incoming signal. This condition occurs when a loss of signal, loss of frame, AIS-L or a Line bit error rate exceeding the currently configured value of the relevant instance of apsConfigSfBerThreshold. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of apsChanStatusDiscontinuityTime.

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5620 SAM counter name	Type	MIB counter name	Description
switchovers	long	apsChanStatusSwitchovers	When queried with index value apsChanConfigNumber other than 0, this object will return the number of times this channel has switched to the protection line. When queried with index value apsChanConfigNumber set to 0, which is the protection line, this object will return the number of times that any working channel has been switched back to the working line from this protection line. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of apsChanStatusDiscontinuityTime.
switchoverSeconds	long	apsChanStatusSwitchoverSeconds	The cumulative Protection Switching Duration (PSD) time in seconds. For a working channel, this is the cumulative number of seconds that service was carried on the protection line. For the protection line, this is the cumulative number of seconds that the protection line has been used to carry any working channel traffic. This information is only valid if revertive switching is enabled. The value 0 will be returned otherwise. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of apsChanStatusDiscontinuityTime. For example, if the value of an instance of apsChanStatusSwitchoverSeconds changes from a non-zero value to zero due to revertive switching being disabled, it is expected that the corresponding value of apsChanStatusDiscontinuityTime will be updated to reflect the time of the configuration change.
ApsGroupStats MIB table name: APS-MIB.apsStatusTable Monitored class: aps.ApsGroup			
channelMismatches	long	apsStatusChannelMismatches	A count of Channel Mismatch conditions. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of apsStatusDiscontinuityTime.
discontinuityTime	long	apsStatusDiscontinuityTime	The value of sysUpTime on the most recent occasion at which any one or more of this APS group's counters suffered a discontinuity. The relevant counters are the specific instances associated with this APS group of any Counter32 object contained in apsStatusTable. If no such discontinuities have occurred since the last re-initialization of the local management subsystem, then this object contains a zero value.

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5620 SAM counter name	Type	MIB counter name	Description
fEPLFs	long	apsStatusFEPLFs	A count of Far-End Protection-Line Failure conditions. This condition is declared based on receiving SF on the protection line in the K1 byte. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of apsStatusDiscontinuityTime.
modeMismatches	long	apsStatusModeMismatches	A count of Mode Mismatch conditions. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of apsStatusDiscontinuityTime.
pSBFs	long	apsStatusPSBFs	A count of Protection Switch Byte Failure conditions. This condition occurs when either an inconsistent APS byte or an invalid code is detected. An inconsistent APS byte occurs when no three consecutive K1 bytes of the last 12 successive frames are identical, starting with the last frame containing a previously consistent byte. An invalid code occurs when the incoming K1 byte contains an unused code or a code irrelevant for the specific switching operation (e.g., Reverse Request while no switching request is outstanding) in three consecutive frames. An invalid code also occurs when the incoming K1 byte contains an invalid channel number in three consecutive frames. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of apsStatusDiscontinuityTime.

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Table A-5 arp statistics

5620 SAM counter name	Type	MIB counter name	Description
SapArpHostStats MIB table name: TIMETRA-SAP-MIB.sapArpHostStatTable Monitored classes: • vpls.AbstractL2AccessInterface • ies.ServiceAccessPoint • vprn.ServiceAccessPoint			
numAuthReq	long	sapArpHostStatNumAuthReq	The value of sapArpHostStatNumAuthReq indicates the number of times that the system initiated an authentication request for an ARP host on this SAP since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.

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5620 SAM counter name	Type	MIB counter name	Description
numCreated	long	sapArpHostStatNumCreated	The value of sapArpHostStatNumCreated indicates the number of times that an ARP host was created on this SAP since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
numDeleted	long	sapArpHostStatNumDeleted	The value of sapArpHostStatNumDeleted indicates the number of times that an ARP host was deleted on this SAP since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
numForcedVerif	long	sapArpHostStatNumForcedVerif	The value of sapArpHostStatNumForcedVerif indicates the number of times that the system started a forced subscriber host connectivity verification for an ARP host on this SAP since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
numHosts	long	sapArpHostStatNumHosts	The value of sapArpHostStatNumHosts indicates the actual number of ARP hosts on this SAP.
numUpdated	long	sapArpHostStatNumUpdated	The value of sapArpHostStatNumUpdated indicates the number of times that an ARP host was updated on this SAP since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
triggersIgnored	long	sapArpHostStatTriggersIgnored	The value of sapArpHostStatTriggersIgnored indicates the number of ARP triggers received on this SAP that did not result in the creation of a new ARP host since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared. This number does not include the number indicated by sapArpHostStatTrigIgnQFull.
triggersRx	long	sapArpHostStatTriggersRx	The value of sapArpHostStatTriggersRx indicates the number of ARP triggers received on this SAP since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
trigIgnQFull	long	sapArpHostStatTrigIgnQFull	The value of sapArpHostStatTrigIgnQFull indicates the number of ARP triggers received on this SAP that did not result in the creation of a new ARP host because the internal ARP trigger event queue of the system was full, since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.

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Table A-6 atm statistics

5620 SAM counter name	Type	MIB counter name	Description
AtmIfcStatistics MIB table name: TIMETRA-ATM-MIB.tAtmIfcStatisticsTable Monitored class: atm.IfConnection			
tAtmIfcStatsDrpCellsRxd	long	tAtmIfcStatsDrpCellsRxd	The value of tAtmIfcStatsDrpCellsRxd indicates the number of all policer cells discards (CLP=0+1) of the IFC. This excludes any buffer management discards (if applicable).
tAtmIfcStatsDrpClp0CellsRxd	long	tAtmIfcStatsDrpClp0Cells Rxd	The value of tAtmIfcStatsDrpClp0CellsRxd indicates the number of all policer CLP=0 cells discards of the IFC. This excludes any buffer management discards (if applicable).
tAtmIfcStatsDrpClp0CellsTxd	long	tAtmIfcStatsDrpClp0Cells Txd	The value of tAtmIfcStatsDrpClp0CellsTxd indicates the number of all CLP=0 cells discards of this IFC. This includes both discards due to buffer management and policer.
tAtmIfcStatsTagCells	long	tAtmIfcStatsTagCells	The value of tAtmIfcStatsTagCells indicates the number of tagged CLP=0 cells of the IFC. The egress may or may not discard these cells.
tAtmIfcStatsTotalBytesRxd	UINT128	tAtmIfcStatsTotalBytesTx d	The value of tAtmIfcStatsTotalBytesTxd indicates the number of bytes transmitted by this IFC. This is the number of tAtmIfcStatsTotalCellsTxd multiplied by 53.
tAtmIfcStatsTotalBytesTxd	UINT128	tAtmIfcStatsTotalBytesRx d	The value of tAtmIfcStatsTotalBytesRxd indicates the number of bytes received by this IFC. This is the number of tAtmIfcStatsTotalCellsRxd multiplied by 53.
tAtmIfcStatsTotalCellsRxd	UINT128	tAtmIfcStatsTotalCellsRx d	The value of tAtmIfcStatsTotalCellsRxd indicates the number of valid ATM cells received by the IFC including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmIfcStatsTotalCellsTxd	UINT128	tAtmIfcStatsTotalCellsTx d	The value of tAtmIfcStatsTotalCellsTxd indicates the number of valid ATM cells transmitted by the IFC including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmIfcStatsTotalClp0CellsRxd	UINT128	tAtmIfcStatsTotalClp0Cel lsRxd	The value of tAtmIfcStatsTotalClp0CellsRxd indicates the number of valid ATM CLP=0 cells received by the IFC. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.

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5620 SAM counter name	Type	MIB counter name	Description
tAtmIfcStatsTotalClp0CellsTxd	UINT128	tAtmIfcStatsTotalClp0CellsTxd	The value of tAtmIfcStatsTotalClp0CellsTxd indicates the number of valid ATM CLP=0 cells transmitted by the IFC. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
AtmOamVplStatistics MIB table name: TIMETRA-ATM-MIB.tAtmOamVplStatisticsTable Monitored class: atm.VPConnection			
tAtmOamVplStatsAISCellsRxd	long	tAtmOamVplStatsAISCellsRxd	The value of tAtmOamVplStatsAISCellsRxd indicates the number of AIS cells received on this VPL for both end to end and segment.
tAtmOamVplStatsAISCellsTxd	long	tAtmOamVplStatsAISCellsTxd	The value of tAtmOamVplStatsAISCellsTxd indicates the number of AIS cells transmitted on this VPL for both end to end and segment.
tAtmOamVplStatsCrc10Errors	long	tAtmOamVplStatsCrc10Errors	The value of tAtmOamVplStatsCrc10Errors indicates the number of OAM cells discarded on this VPL with CRC 10 errors.
tAtmOamVplStatsLoopbackCellsRxd	long	tAtmOamVplStatsLoopbackCellsRxd	The value of tAtmOamVplStatsLoopbackCellsRxd indicates the number of loopback requests and responses received on this VPL for both end to end and segment.
tAtmOamVplStatsLoopbackCellsTxd	long	tAtmOamVplStatsLoopbackCellsTxd	The value of tAtmOamVplStatsLoopbackCellsTxd indicates the number of loopback requests and responses transmitted on this VPL for both end to end and segment.
tAtmOamVplStatsOtherCellsRxd	long	tAtmOamVplStatsOtherCellsRxd	This value of tAtmOamVplStatsOtherCellsRxd indicates the number of OAM cells that are received on this VPL but not identified.
tAtmOamVplStatsRDICellsRxd	long	tAtmOamVplStatsRDICellsRxd	The value of tAtmOamVplStatsRDICellsRxd indicates the number of RDI cells received on this VPL for both end to end and segment.
tAtmOamVplStatsRDICellsTxd	long	tAtmOamVplStatsRDICellsTxd	The value of tAtmOamVplStatsRDICellsTxd indicates the number of RDI cells transmitted on this VPL for both end to end and segment.
AtmVplStatistics MIB table name: TIMETRA-ATM-MIB.tAtmVplStatisticsTable Monitored class: atm.VPConnection			
tAtmVplStatsDrpCellsRxd	long	tAtmVplStatsDrpCellsRxd	The value of tAtmVplStatsDrpCellsRxd indicates the number of all policer cells discards (CLP=0+1) of the VPL. This excludes any buffer management discards (if applicable).

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5620 SAM counter name	Type	MIB counter name	Description
tAtmVplStatsDrpClp0CellsRxd	long	tAtmVplStatsDrpClp0CellsRxd	The value of tAtmVplStatsDrpClp0CellsRxd indicates the number of all policer CLP=0 cells discards of the VPL. This excludes any buffer management discards (if applicable).
tAtmVplStatsDrpClp0CellsTxd	long	tAtmVplStatsDrpClp0CellsTxd	The value of tAtmVplStatsDrpClp0CellsTxd indicates the number of all CLP=0 cells discards of this VPL. This includes both discards due to buffer management and policer.
tAtmVplStatsTagCells	long	tAtmVplStatsTagCells	The value of tAtmVplStatsTagCells indicates the number of tagged CLP=0 cells of the VPL. The egress may or may not discard these cells.
tAtmVplStatsTotalBytesRxd	UINT128	tAtmVplStatsTotalBytesRxd	The value of tAtmVplStatsTotalBytesRxd indicates the number of bytes received by this VPL. This is the number of tAtmVplStatsTotalCellsRxd multiplied by 53.
tAtmVplStatsTotalBytesTxd	UINT128	tAtmVplStatsTotalBytesTxd	The value of tAtmVplStatsTotalBytesTxd indicates the number of bytes transmitted by this VPL. This is the number of tAtmVplStatsTotalCellsTxd multiplied by 53.
tAtmVplStatsTotalCellsRxd	UINT128	tAtmVplStatsTotalCellsRxd	The value of tAtmVplStatsTotalCellsRxd indicates the number of valid ATM cells received by the VPL including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmVplStatsTotalCellsTxd	UINT128	tAtmVplStatsTotalCellsTxd	The value of tAtmVplStatsTotalCellsTxd indicates the number of valid ATM cells transmitted by the VPL including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmVplStatsTotalClp0CellsRxd	UINT128	tAtmVplStatsTotalClp0CellsRxd	The value of tAtmVplStatsTotalClp0CellsRxd indicates the number of valid ATM CLP=0 cells received by the VPL. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmVplStatsTotalClp0CellsTxd	UINT128	tAtmVplStatsTotalClp0CellsTxd	The value of tAtmVplStatsTotalClp0CellsTxd indicates the number of valid ATM CLP=0 cells transmitted by the VPL. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
AtmVtlStatistics MIB table name: TIMETRA-ATM-MIB.tAtmVtlStatisticsTable Monitored class: atm.VTConnection			

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5620 SAM counter name	Type	MIB counter name	Description
tAtmVtlStatsDrpCellsRxd	long	tAtmVtlStatsDrpCellsRxd	The value of tAtmVtlStatsDrpCellsRxd indicates the number of all policer cells discards (CLP=0+1) of the VTL. This excludes any buffer management discards (if applicable).
tAtmVtlStatsDrpClp0CellsRxd	long	tAtmVtlStatsDrpClp0Cells Rxd	The value of tAtmVtlStatsDrpClp0CellsRxd indicates the number of all policer CLP=0 cells discards of the VTL. This excludes any buffer management discards (if applicable).
tAtmVtlStatsDrpClp0CellsTxd	long	tAtmVtlStatsDrpClp0Cells Txd	The value of tAtmVtlStatsDrpClp0CellsTxd indicates the number of all CLP=0 cells discards of this VTL. This includes both discards due to buffer management and policer.
tAtmVtlStatsTagCells	long	tAtmVtlStatsTagCells	The value of tAtmVtlStatsTagCells indicates the number of tagged CLP=0 cells of the VTL. The egress may or may not discard these cells.
tAtmVtlStatsTotalBytesRxd	UINT128	tAtmVtlStatsTotalBytesTx d	The value of tAtmVtlStatsTotalBytesTxd indicates the number of bytes transmitted by this VTL. This is the number of tAtmVtlStatsTotalCellsTxd multiplied by 53.
tAtmVtlStatsTotalBytesTxd	UINT128	tAtmVtlStatsTotalBytesRx d	The value of tAtmVtlStatsTotalBytesRxd indicates the number of bytes received by this VTL. This is the number of tAtmVtlStatsTotalCellsRxd multiplied by 53.
tAtmVtlStatsTotalCellsRxd	UINT128	tAtmVtlStatsTotalCellsRx d	The value of tAtmVtlStatsTotalCellsRxd indicates the number of valid ATM cells received by the VTL including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmVtlStatsTotalCellsTxd	UINT128	tAtmVtlStatsTotalCellsTx d	The value of tAtmVtlStatsTotalCellsTxd indicates the number of valid ATM cells transmitted by the VTL including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmVtlStatsTotalClp0CellsRxd	UINT128	tAtmVtlStatsTotalClp0Cel lsRxd	The value of tAtmVtlStatsTotalClp0CellsRxd indicates the number of valid ATM CLP=0 cells received by the VTL. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmVtlStatsTotalClp0CellsTxd	UINT128	tAtmVtlStatsTotalClp0Cel lsTxd	The value of tAtmVtlStatsTotalClp0CellsTxd indicates the number of valid ATM CLP=0 cells transmitted by the VTL. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
IlmiStatistics MIB table name: TIMETRA-ATM-MIB.tAtmIlmiLinkStatisticsTable Monitored class: atm.IlmiLink			

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5620 SAM counter name	Type	MIB counter name	Description
inBadValueErrors	long	tAtmIlmiLinkInBadValueErrors	The value of tAtmIlmiLinkInBadValueErrors indicates the total number SNMP `BadValue' error messages received on this ILMI link.
inGeneralErrors	long	tAtmIlmiLinkInGeneralErrors	The value of tAtmIlmiLinkInGeneralErrors indicates the total number SNMP `General' error messages received on this ILMI link.
inGetNextRequest	long	tAtmIlmiLinkInGetNextRequestPdus	The value of tAtmIlmiLinkInGetNextRequestPdus indicates the total number 'GetNextRequest' SNMP PDUs received on this ILMI link.
inGetRequest	long	tAtmIlmiLinkInGetRequestPdus	The value of tAtmIlmiLinkInGetRequestPdus indicates the total number GetRequest SNMP PDUs received on this ILMI link.
inGetResponse	long	tAtmIlmiLinkInGetResponsePdus	The value of tAtmIlmiLinkInGetResponsePdus indicates the total number 'GetResponse' SNMP PDUs received on this ILMI link in response to 'GetRequest', 'GetNextRequest' and 'SetRequests' sent.
inNoSuchNameErrors	long	tAtmIlmiLinkInNoSuchNameErrors	The value of tAtmIlmiLinkInNoSuchNameErrors indicates the total number SNMP `NoSuchName' error messages received on this ILMI link.
inPdu	long	tAtmIlmiLinkInPdus	The value of tAtmIlmiLinkInPdus indicates the total number SNMP PDUs received on this ILMI link.
inReadOnlyErrors	long	tAtmIlmiLinkInReadOnlyErrors	The value of tAtmIlmiLinkInReadOnlyErrors indicates the total number SNMP `ReadOnly' error messages received on this ILMI link.
inSetRequestPackets	long	tAtmIlmiLinkInSetRequestPdus	The value of tAtmIlmiLinkInSetRequestPdus indicates the total number 'SetRequest' SNMP PDUs received on this ILMI link.
inTooBigErrors	long	tAtmIlmiLinkInTooBigErrors	The value of tAtmIlmiLinkInTooBigErrors indicates the total number SNMP `TooBig' error messages received on this ILMI link.
inTraps	long	tAtmIlmiLinkInTrapPdus	The value of tAtmIlmiLinkInTrapPdus indicates the total number Trap SNMP PDUs received on this ILMI link.
outBadValueErrors	long	tAtmIlmiLinkOutBadValueErrors	The value of tAtmIlmiLinkOutBadValueErrors indicates the total number SNMP `BadValue' error messages sent on this ILMI link.
outGeneralErrors	long	tAtmIlmiLinkOutGeneralErrors	The value of tAtmIlmiLinkOutGeneralErrors indicates the total number SNMP `General' error messages sent on this ILMI link.

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5620 SAM counter name	Type	MIB counter name	Description
outGetNextRequest	long	tAtmIlmiLinkOutGetNext RequestPdus	The value of tAtmIlmiLinkOutGetNextRequestPdus indicates the total number GetNextRequest SNMP PDUs sent on this ILMI link.
outGetRequest	long	tAtmIlmiLinkOutGetRequestPdus	The value of tAtmIlmiLinkOutGetRequestPdus indicates the total number GetRequest SNMP PDUs sent on this ILMI link.
outGetResponse	long	tAtmIlmiLinkOutGetResponsePdus	The value of tAtmIlmiLinkOutGetResponsePdus indicates the total number GetResponse SNMP PDUs sent on this ILMI link in response to GetRequest, GetNextRequest and 'SetRequests' received.
outNoSuchNameErrors	long	tAtmIlmiLinkOutNoSuchNameErrors	The value of tAtmIlmiLinkOutNoSuchNameErrors indicates the total number SNMP `NoSuchName' error messages sent on this ILMI link.
outPdu	long	tAtmIlmiLinkOutPdus	The value of tAtmIlmiLinkOutPdus indicates the total number SNMP PDUs sent on this ILMI link.
outReadOnlyErrors	long	tAtmIlmiLinkOutReadOnlyErrors	The value of tAtmIlmiLinkOutReadOnlyErrors indicates the total number SNMP `ReadOnly' error messages sent on this ILMI link.
outSetRequestPackets	long	tAtmIlmiLinkOutSetRequestPdus	The value of tAtmIlmiLinkOutSetRequestPdus indicates the total number 'SetRequest' SNMP PDUs sent on this ILMI link.
outTooBigErrors	long	tAtmIlmiLinkOutTooBigErrors	The value of tAtmIlmiLinkOutTooBigErrors indicates the total number SNMP `TooBig' error messages sent on this ILMI link.
outTraps	long	tAtmIlmiLinkOutTrapPdus	The value of tAtmIlmiLinkOutTrapPdus indicates the total number Trap SNMP PDUs sent on this ILMI link.
snmpCommStringErrors	long	tAtmIlmiLinkInInvalidSnmpCommunityStringPdus	The value of tAtmIlmiLinkInInvalidSnmpCommunityStringPdus indicates the total number SNMP PDUs received with invalid community string on this ILMI link.
snmpFormatErrors	long	tAtmIlmiLinkInInvalidSnmpFormatPdus	The value of tAtmIlmiLinkInInvalidSnmpFormatPdus indicates the total number SNMP PDUs received with invalid ASN.1 format on this ILMI link.
snmpVersionErrors	long	tAtmIlmiLinkInInvalidSnmpVersionPdus	The value of tAtmIlmiLinkInInvalidSnmpVersionPdus indicates the total number SNMP PDUs received with invalid version on this ILMI link.
InterfaceAal5Stats MIB table name: TIMETRA-ATM-MIB.tAtmIntfAal5StatsTable Monitored class: atm.Interface			

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5620 SAM counter name	Type	MIB counter name	Description
tAtmInterfaceAal5StatsTotalCrc32Errors	UINT128	tAtmIntfAal5StatsTotalCrc32Err	The value of tAtmIntfAal5StatsTotalCrc32Err indicates the number of Errors detected by the 32 bit cyclic redundancy check.
tAtmInterfaceAal5StatsTotalPktsDroppedRxd	UINT128	tAtmIntfAal5StatsTotalPktsDrpRxd	The value of tAtmIntfAal5StatsTotalPktsDrpRxd indicates the number of AAL5 PDUs dropped by the ATM interface in the receive direction. This count does not include crc32 Errors or oversized SDU discards.
tAtmInterfaceAal5StatsTotalPktsDroppedTxd	UINT128	tAtmIntfAal5StatsTotalPktsDrpTxd	The value of tAtmIntfAal5StatsTotalPktsDrpTxd indicates the number of AAL5 PDUs dropped in the transmit direction. This count does not include crc32 Errors or oversized SDU discards.
tAtmInterfaceAal5StatsTotalPktsRxd	UINT128	tAtmIntfAal5StatsTotalPktsRxd	The value of tAtmIntfAal5StatsTotalPktsRxd indicates the number of AAL5 PDUs that are received by the ATM interface.
tAtmInterfaceAal5StatsTotalPktsTxd	UINT128	tAtmIntfAal5StatsTotalPktsTxd	The value of tAtmIntfAal5StatsTotalPktsTxd indicates the number of AAL5 PDUs that are transmitted by the ATM interface.
InterfaceStats MIB table name: TIMETRA-ATM-MIB.tAtmIntfStatsTable Monitored class: atm.Interface			
tAtmInterfaceStatsTotalBytesRxd	UINT128	tAtmIntfStatsTotalBytesRxd	The value of tAtmIntfStatsTotalBytesRxd indicates the number of bytes received on this interface. This is the number of tAtmIntfStatsTotalCellsRxd multiplied by 53.
tAtmInterfaceStatsTotalBytesTxd	UINT128	tAtmIntfStatsTotalBytesTxd	The value of tAtmIntfStatsTotalBytesTxd indicates the number of bytes transmitted on this interface. This is the number of tAtmIntfStatsTotalCellsTxd multiplied by 53.
tAtmInterfaceStatsTotalCellsRxd	UINT128	tAtmIntfStatsTotalCellsRxd	The value of tAtmIntfStatsTotalCellsRxd indicates the number of valid ATM cells received by the ATM interface including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
tAtmInterfaceStatsTotalCellsTxd	UINT128	tAtmIntfStatsTotalCellsTxd	The value of tAtmIntfStatsTotalCellsTxd indicates the number of valid ATM cells transmitted by the ATM interface including both CLP=0 and CLP=1 cells.
tAtmInterfaceStatsTotalUnknownCellsDropped	long	tAtmIntfStatsTotalUnknCellsDrp	The value of tAtmIntfStatsTotalUnknCellsDrp indicates the number of cells dropped due to an unknown VPI/VCI.

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5620 SAM counter name	Type	MIB counter name	Description
PvcConnectionAal5PerformanceStats MIB table name: ATM-MIB.aal5VccTable Monitored class: atm.PvcConnection			
aal5CrcErrors	long	aal5VccCrcErrors	The number of AAL5 CPCS PDUs received with CRC-32 errors on this AAL5 VCC at the interface associated with an AAL5 entity.
aal5OverSizedSDUs	long	aal5VccOverSizedSDUs	The number of AAL5 CPCS PDUs discarded on this AAL5 VCC at the interface associated with an AAL5 entity because the AAL5 SDUs were too large.
aal5SarTimeOuts	long	aal5VccSarTimeOuts	The number of partially re-assembled AAL5 CPCS PDUs which were discarded on this AAL5 VCC at the interface associated with an AAL5 entity because they were not fully re-assembled within the required time period. If the re-assembly timer is not supported, then this object contains a zero value.
PvcConnectionAal5Stats MIB table name: TIMETRA-ATM-MIB.tAal5VccStatisticsTable Monitored class: atm.PvcConnection			
aal5DroppedPacketsRxd	UINT128	tAal5VccStatsDrpPackets Rxd	The value of tAal5VccStatsDrpPacketsRxd indicates the number of dropped AAL-5 SDUs that have been received on the AAL-5 VCC.
aal5DroppedPacketsTxd	UINT128	tAal5VccStatsDrpPackets Txd	The value of tAal5VccStatsDrpPacketsTxd indicates the number of dropped AAL-5 SDUs that would have been transmitted on the AAL-5 VCC.
aal5PacketsRxd	UINT128	tAal5VccStatsPacketsRxd	The value of tAal5VccStatsPacketsRxd indicates the number of valid AAL-5 SDUs and AAL-5 SDUs with CRC-32 errors received by the AAL-5 VCC.
aal5PacketsTxd	UINT128	tAal5VccStatsPacketsTxd	The value of tAal5VccStatsPacketsTxd indicates the number of AAL-5 SDUs transmitted by the AAL-5 VCC.
PvcConnectionOamStats MIB table name: TIMETRA-ATM-MIB.tAtmOamVclStatisticsTable Monitored class: atm.PvcConnection			
oamAISCellsRxd	long	tAtmOamVclStatsAISCells Rxd	The value of tAtmOamVclStatsAISCellsRxd indicates the number of AIS cells received on this VC for both end to end and segment.
oamAISCellsTxd	long	tAtmOamVclStatsAISCells Txd	The value of tAtmOamVclStatsAISCellsTxd indicates the number of AIS cells transmitted on this VC for both end to end and segment.
oamCrc10Errors	long	tAtmOamVclStatsCrc10Er r	The value of tAtmOamVclStatsCrc10Err indicates the number of oam cells discarded with CRC 10 Errors.

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5620 SAM counter name	Type	MIB counter name	Description
oamLoopbackCellsRxd	long	tAtmOamVclStatsLoopbackCellsRxd	The value of tAtmOamVclStatsLoopbackCellsRxd indicates the number of loopback requests and responses received on this VC for both end to end and segment.
oamLoopbackCellsTxd	long	tAtmOamVclStatsLoopbackCellsTxd	The value of tAtmOamVclStatsLoopbackCellsTxd indicates the number of loopback requests and responses transmitted on this VC for both end to end and segment.
oamOtherCellsRxd	long	tAtmOamVclStatsOtherCellsRxd	This value of tAtmOamVclStatsOtherCellsRxd indicates the number of oam cells that are received but not identified.
oamRDICellsRxd	long	tAtmOamVclStatsRDICellsRxd	The value of tAtmOamVclStatsRDICellsRxd indicates the number of RDI cells received on this VC for both end to end and segment.
oamRDICellsTxd	long	tAtmOamVclStatsRDICellsTxd	The value of tAtmOamVclStatsRDICellsTxd indicates the number of RDI cells transmitted on this VC for both end to end and segment.
PvcConnectionStats MIB table name: TIMETRA-ATM-MIB.tAtmVclStatisticsTable Monitored class: atm.PvcConnection			
totalBytesRxd	UINT128	tAtmVclStatsTotalBytesRxd	The value of tAtmVclStatsTotalBytesRxd indicates the number of bytes received by this Vcl. This is the number of tAtmVclStatsTotalCellsRxd multiplied by 53.
totalBytesTxd	UINT128	tAtmVclStatsTotalBytesTxd	The value of tAtmVclStatsTotalBytesTxd indicates the number of bytes transmitted by this Vcl. This is the number of tAtmVclStatsTotalCellsTxd multiplied by 53.
totalPacketsRxd	UINT128	tAtmVclStatsTotalCellsRxd	The value of tAtmVclStatsTotalCellsRxd indicates the number of valid ATM cells received by the VCL including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
totalPacketsTxd	UINT128	tAtmVclStatsTotalCellsTxd	The value of tAtmVclStatsTotalCellsTxd indicates the number of valid ATM cells transmitted by the VCL including both CLP=0 and CLP=1 cells. If traffic policing is implemented, then cells are counted prior to the application of traffic policing.
TCStats MIB table name: ATM-MIB.atmInterfaceTCTable Monitored class: atm.Interface			

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5620 SAM counter name	Type	MIB counter name	Description
ocdEvents	long	atmInterfaceOCDEvents	The number of times the Out of Cell Delineation (OCD) events occur. If seven consecutive ATM cells have Header Error Control (HEC) violations, an OCD event occurs. A high number of OCD events may indicate a problem with the TC Sublayer.
TCSubLayerStats MIB table name: TIMETRA-ATM-MIB.tAtmTCSublayerTable Monitored class: atm.Interface			
hecErrors	long	tAtmTCSublayerHecErrors	The value of tAtmTCSublayerHecErrors indicates the number of cells with uncorrectable HEC Errors on this interface.
hecErrorsFixed	long	tAtmTCSublayerHecErrorsFixed	The value of tAtmTCSublayerHecErrorsFixed indicates the number of cells with correctable HEC Errors on this interface.

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Table A-7 bgp statistics

5620 SAM counter name	Type	MIB counter name	Description
PeerAdditionalStats MIB table name: BGP4-MIB.bgpPeerTable Monitored class: bgp.Peer			
fsmEstablishedTime	long	bgpPeerFsmEstablishedTime	This timer indicates how long (in seconds) this peer has been in the Established state or how long since this peer was last in the Established state. It is set to zero when a new peer is configured or the router is booted.
PeerStats MIB table name: TIMETRA-BGP-MIB.tBgpPeerNgOperTable Monitored class: bgp.Peer			
flaps	long	tBgpPeerNgOperFlaps	tBgpPeerNgOperFlaps indicates the number of flaps of updates from this peer.
inputQueueMessages	long	tBgpPeerNgOperInputQueueMsgs	tBgpPeerNgOperInputQueueMsgs indicates the number of unprocessed messages in the queue, from this peer.
lastEvent	long	tBgpPeerNgOperLastEvent	tBgpPeerNgOperLastEvent indicates the last BGP event of this peer.
lastRestartTime	long	tBgpPeerNgOperLastRestartTime	tBgpPeerNgOperLastRestartTime indicates the last time the peer attempted restart.
lastState	long	tBgpPeerNgOperLastState	tBgpPeerNgOperLastState indicates the last BGP state of this peer.
mcastActivePrefixes	long	tBgpPeerNgOperMCastV4ActivePfxs	The value of tBgpPeerNgOperMCastV4ActivePfxs indicates the number of active IPv4 multicast prefixes from this peer.

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5620 SAM counter name	Type	MIB counter name	Description
mcastPrefixesSuppressedByDamping	long	tBgpPeerNgOperMCastV4SuppPfxDamp	The value of tBgpPeerNgOperMCastV4SuppPfxDamp indicates the number of IPv4 multicast prefixes from this peer, which have been suppressed by damping.
mcastReceivedPrefixes	long	tBgpPeerNgOperMCastV4RecvPfxs	The value of tBgpPeerNgOperMCastV4RecvPfxs indicates the number of IPv4 multicast prefixes received from this peer.
mcastSentPrefixes	long	tBgpPeerNgOperMCastV4SentPfxs	The value of tBgpPeerNgOperMCastV4SentPfxs indicates the number of IPv4 multicast prefixes transmitted to this peer.
mdtSafiActivePrefixes	long	tBgpPeerNgOperMdtSafiActivePfxs	The value of tBgpPeerNgOperMdtSafiActivePfxs indicates the number of active MDT-SAFI prefixes from this peer.
mdtSafiPrefixesSuppressedByDamping	long	tBgpPeerNgOperMdtSafiSuppPfxDamp	The value of tBgpPeerNgOperMdtSafiSuppPfxDamp indicates the number of MDT-SAFI prefixes from this peer, which have been suppressed by damping.
mdtSafiReceivedPrefixes	long	tBgpPeerNgOperMdtSafiRecvPfxs	The value of tBgpPeerNgOperMdtSafiRecvPfxs indicates the number of MDT-SAFI prefixes received from this peer.
mdtSafiSentPrefixes	long	tBgpPeerNgOperMdtSafiSentPfxs	The value of tBgpPeerNgOperMdtSafiSentPfxs indicates the number of MDT-SAFI prefixes transmitted to this peer.
messageOctetsReceived	UINT128	tBgpPeerNgOperMsgOctetsRcvd	tBgpPeerNgOperMsgOctetsRcvd indicates the number of octets received from this peer.
messageOctetsSent	UINT128	tBgpPeerNgOperMsgOctetsSent	tBgpPeerNgOperMsgOctetsSent indicates the number of octets transmitted to this peer.
numberOfRestarts	long	tBgpPeerNgOperNumRestarts	tBgpPeerNgOperNumRestarts indicates the number of times the peer has attempted restart.
outputQueueMessages	long	tBgpPeerNgOperOutputQueueMsgs	tBgpPeerNgOperOutputQueueMsgs indicates the number of untransmitted messages in the queue, to this peer.
pathsReceived	long	tBgpPeerNgOperReceivedPaths	tBgpPeerNgOperReceivedPaths indicates the number of paths received from this peer.
prefixesActive	long	tBgpPeerNgOperActivePrefixes	tBgpPeerNgOperActivePrefixes indicates the number of active IPv4 prefixes from this peer.
prefixesReceived	long	tBgpPeerNgOperReceivedPrefixes	tBgpPeerNgOperReceivedPrefixes indicates the number of IPv4 prefixes received from this peer.
prefixesSent	long	tBgpPeerNgOperSentPrefixes	tBgpPeerNgOperSentPrefixes indicates the number of IPv4 prefixes transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
prefixesSuppressedByDamping	long	tBgpPeerNgOperV4SuppPfxDamp	The value of tBgpPeerNgOperV4SuppPfxDamp indicates the number of IPv6 prefixes from this peer, which have been suppressed by damping.
v6ActivePrefixes	long	tBgpPeerNgOperV6ActivePrefixes	The value of tBgpPeerNgOperV6ActivePrefixes indicates the number of active IPv6 prefixes from this peer.
v6PrefixesSuppressedByDamping	long	tBgpPeerNgOperV6SuppPfxDamp	The value of tBgpPeerNgOperV6SuppPfxDamp indicates the number of IPv6 prefixes from this peer, which have been suppressed by damping.
v6ReceivedPrefixes	long	tBgpPeerNgOperV6ReceivedPrefixes	The value of tBgpPeerNgOperV6ReceivedPrefixes indicates the number of IPv6 prefixes received from this peer.
v6SentPrefixes	long	tBgpPeerNgOperV6SentPrefixes	The value of tBgpPeerNgOperV6SentPrefixes indicates the number of IPv6 prefixes transmitted to this peer.
vpnActivePrefixes	long	tBgpPeerNgOperVpnActivePrefixes	tBgpPeerNgOperVpnActivePrefixes indicates the number of active VPN IPv4 prefixes from this BGP peer.
vpnPrefixesSuppressedByDamping	long	tBgpPeerNgOperVpnSuppPfxDamp	The value of tBgpPeerNgOperVpnSuppPfxDamp indicates the number of VPN IPv4 prefixes from this peer, which have been suppressed by damping.
vpnReceivedPrefixes	long	tBgpPeerNgOperVpnRecvPrefixes	tBgpPeerNgOperVpnRecvPrefixes indicates the number of received VPN IPv4 prefixes.
vpnSentPrefixes	long	tBgpPeerNgOperVpnSentPrefixes	tBgpPeerNgOperVpnSentPrefixes indicates the number of transmitted VPN IPv4 prefixes.
PeerVprnIpv6Stats MIB table name: TIMETRA-BGP-MIB.tBgpPeerNgOperTable Monitored class: bgp.Peer			
vpnIpv6ActivePfxs	long	tBgpPeerNgOperVpnIpv6ActivePfxs	The value of tBgpPeerNgOperVpnIpv6ActivePfxs indicates the number of active VPN IPv6 prefixes from this peer.
vpnIpv6RecvPfxs	long	tBgpPeerNgOperVpnIpv6RecvPfxs	The value of tBgpPeerNgOperVpnIpv6RecvPfxs indicates the number of VPN IPv6 prefixes received from this peer.
vpnIpv6SentPfxs	long	tBgpPeerNgOperVpnIpv6SentPfxs	The value of tBgpPeerNgOperVpnIpv6SentPfxs indicates the number of VPN IPv6 prefixes transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
vpnIpv6SuppPfxDamp	long	tBgpPeerNgOperVpnIpv6SuppPfxDamp	The value of tBgpPeerNgOperVpnIpv6SuppPfxDamp indicates the number of VPN IPv6 prefixes from this peer, which have been suppressed by damping.

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Table A-8 bundle statistics

5620 SAM counter name	Type	MIB counter name	Description
BundleStats MIB table name: TIMETRA-PORT-MIB.tmnxBundleTable Monitored class: bundle.Interface			
inputDiscards	long	tmnxBundleInputDiscards	tmnxBundleInputDiscards indicates the number of LCP packets that were discarded. This object is only supported for a tmnxBundleType value of mlppp.
upTime	long	tmnxBundleUpTime	tmnxBundleUpTime indicates the time since the bundle is operationally 'inService'.
MultiClassMlpppStats MIB table name: TIMETRA-PORT-MIB.tmnxMcMlpppStatsTable Monitored class: bundle.MultiClassMlpppSpecifics			
mcMlpppStatsEgressErrPkt	long	tmnxMcMlpppStatsEgressErrPkt	The value of tmnxMcMlpppStatsEgressErrPkt indicates the total number of packets discarded due to segmentation errors on the bundle for the given class on egress.
mcMlpppStatsEgressOct	long	tmnxMcMlpppStatsEgressOct	The value of tmnxMcMlpppStatsEgressOct indicates the total number of octets in all packets received on the bundle for the given class on egress before segmentation.
mcMlpppStatsEgressPkt	long	tmnxMcMlpppStatsEgressPkt	The value of tmnxMcMlpppStatsEgressPkt indicates the total number of packets forwarded on the bundle for the given class on egress towards the line.
mcMlpppStatsIngressErrPkt	long	tmnxMcMlpppStatsIngressErrPkt	The value of tmnxMcMlpppStatsIngressErrPkt indicates the total number of packets discarded due to reassembly errors on the bundle for the given class on ingress.
mcMlpppStatsIngressOct	long	tmnxMcMlpppStatsIngressOct	The value of tmnxMcMlpppStatsIngressOct indicates the total number of octets in all packets received on the bundle for the given class on ingress before reassembly.
mcMlpppStatsIngressPkt	long	tmnxMcMlpppStatsIngressPkt	The value of tmnxMcMlpppStatsIngressPkt indicates the total number of packets forwarded on the bundle for the given class on ingress towards higher layer protocols.

Table A-9 cflowd statistics

5620 SAM counter name	Type	MIB counter name	Description
AAGroupCflowdStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxCflowdStatusTable Monitored class: cflowd.AAGroupCflowd			
activeFlowCurrent	long	tmnxBsxCflowdStatusActFlowsCurr	The value of tmnxBsxCflowdStatusActFlowsCurr indicates the number of active flows currently marked for export using Cflowd in the ISA-AA MDA(s).
activeRateCurrent	long	tmnxBsxCflowdStatusRecRateCurr	The value of tmnxBsxCflowdStatusRecRateCurr indicates the number of flow records per second being exported using Cflowd from the ISA-AA MDA(s). The calculation is based on the number of flow records inserted into Cflowd packets within the last 10 seconds.
discontinueTime	long	tmnxBsxCflowdStatusDiscontTime	The value of tmnxBsxCflowdStatusDiscontTime indicates the SNMPv2-MIB::sysUpTime (hundredths of a second) when the ISA-AA MDA within the group has last changed status.
expType	int	tmnxBsxCflowdExpType	The value of tmnxBsxCflowdExpType specifies the type of the Application Assurance statistic exported using Cflowd.
flowExported	long	tmnxBsxCflowdStatusFlowsNoRes	The value of tmnxBsxCflowdStatusFlowsNoRes indicates the total number of flows that were selected for export but failed to obtain Cflows resources in the ISA-AA MDA(s).
hcFlowExported	UINT128	tmnxBsxCflowdStatusHCFlowsNoRes	The value of tmnxBsxCflowdStatusHCFlowsNoRes indicates the total number of flows that were selected for export but failed to obtain Cflows resources in the ISA-AA MDA(s). This object is the 64-bit version of tmnxBsxCflowdStatusFlowsNoRes.
hcPacketsSent	UINT128	tmnxBsxCflowdStatusHCPktsSent	The value of tmnxBsxCflowdStatusHCPktsSent indicates the total number of Cflowd packets sent from the ISA-AA MDA(s). This object is the 64-bit version of tmnxBsxCflowdStatusPktsSent.
hcRecDropped	UINT128	tmnxBsxCflowdStatusHCRecDropped	The value of tmnxBsxCflowdStatusHCRecDropped indicates the total number of flow records dropped in the ISA-AA MDA(s). This object is the 64-bit version of tmnxBsxCflowdStatusRecDropped.

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5620 SAM counter name	Type	MIB counter name	Description
hcRecReported	UINT128	tmnxBsxCflowdStatusHCRecReported	The value of tmnxBsxCflowdStatusHCRecReported indicates the total number of flow records reported from the ISA-AA MDA(s). This object is the 64-bit version of tmnxBsxCflowdStatusRecReported.
packetRateCurrent	long	tmnxBsxCflowdStatusPktRateCurr	The value of tmnxBsxCflowdStatusPktRateCurr indicates the number of Cflowd packets per second being exported from the ISA-AA MDA(s). The calculation is based on the number of Cflowd packets generated within the last 10 seconds.
packetsSent	long	tmnxBsxCflowdStatusPktsSent	The value of tmnxBsxCflowdStatusPktsSent indicates the total number of Cflowd packets sent from the ISA-AA MDA(s).
recDropped	long	tmnxBsxCflowdStatusRecDropped	The value of tmnxBsxCflowdStatusRecDropped indicates the total number of flow records dropped in the ISA-AA MDA(s).
recReported	long	tmnxBsxCflowdStatusRecReported	The value of tmnxBsxCflowdStatusRecReported indicates the total number of flow records reported from the ISA-AA MDA(s).
AAGroupCollectorStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxCflowdCollStatTable Monitored class: cflowd.AAGroupCollector			
discontinueTime	long	tmnxBsxCflowdCollStatDiscontTime	The value of tmnxBsxCflowdCollStatDiscontTime indicates the SNMPv2-MIB::sysUpTime (hundredths of a second) when the Cflowd collector has last changed status.
hcRecordSent	UINT128	tmnxBsxCflowdCollStatHCRecSent	The value of tmnxBsxCflowdCollStatHCRecSent indicates the total number of flow records sent to the remote Cflowd collector. This object is the 64-bit version of tmnxBsxCflowdCollStatRecSent.
recordSent	long	tmnxBsxCflowdCollStatRecSent	The value of tmnxBsxCflowdCollStatRecSent indicates the total number of flow records sent to the remote Cflowd collector.
CflowdPerfExpStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxCflowdExpStatTable Monitored class: cflowd.AAGroupCflowd			
discontinueTime	long	tmnxBsxCflowdExpStatDiscontTime	The value of tmnxBsxCflowdExpStatDiscontTime indicates the SNMPv2-MIB::sysUpTime (hundredths of a second) when the export of cflowd records has last changed status.
expType	int	tmnxBsxCflowdExpType	The value of tmnxBsxCflowdExpType specifies the type of the Application Assurance statistic exported using Cflowd.

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5620 SAM counter name	Type	MIB counter name	Description
flowExported	long	tmnxBsxCflowdExpStatFlowsNoRes	The value of tmnxBsxCflowdExpStatFlowsNoRes indicates the total number of flows that were selected for export but failed to obtain Cflowd resources.
hcFlowExported	UINT128	tmnxBsxCflowdExpStatHCFlowsNoRes	The value of tmnxBsxCflowdExpStatHCFlowsNoRes indicates the total number of flows that were selected for export but failed to obtain Cflowd resources. This object is the 64-bit version of tmnxBsxCflowdExpStatFlowsNoRes.
hcRecDropped	UINT128	tmnxBsxCflowdExpStatHCRecDropped	The value of tmnxBsxCflowdExpStatHCRecDropped indicates the total number of Cflowd flow records dropped. This object is the 64-bit version of tmnxBsxCflowdExpStatRecDropped.
hcRecReport	UINT128	tmnxBsxCflowdExpStatHCRecReport	The value of tmnxBsxCflowdExpStatHCRecReport indicates the total number of flow records reported. This object is the 64-bit version of tmnxBsxCflowdExpStatRecReport.
recDropped	long	tmnxBsxCflowdExpStatRecDropped	The value of tmnxBsxCflowdExpStatRecDropped indicates the total number of flow records dropped.
recReport	long	tmnxBsxCflowdExpStatRecReport	The value of tmnxBsxCflowdExpStatRecReport indicates the total number of flow records reported.
NeCflowdStats MIB table name: TIMETRA-CFLOWD-MIB.tmnxCflowdVersionStatsTable Monitored class: cflowd.NeCollector			
packetErrors	long	tmnxCflowdVersionErrors	The value of tmnxCflowdVersionErrors indicates the number of errored packets for the specified version.
packetsOpen	long	tmnxCflowdVersionOpen	The value of tmnxCflowdVersionOpen indicates the number of open packets pending for the specified version.
packetsSent	long	tmnxCflowdVersionSent	The value of tmnxCflowdVersionSent indicates the number of packets transmitted for the specified version.
version	long	tmnxCflowdVersionIndex	The value of tmnxCflowdVersionIndex specifies the row in the tmnxCflowdVersionStatsTable that pertains to the cflowd collector version.
versionStatus	int	tmnxCflowdVersionStatus	The value of tmnxCflowdVersionStatus indicates whether or not the version is in use in the system.
NeCollectorV5Stats MIB table name: TIMETRA-CFLOWD-MIB.tmnxCflowdV5StatsTable Monitored class: cflowd.NeCollector			

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5620 SAM counter name	Type	MIB counter name	Description
v5PacketErrors	long	tmnxCflowdV5Errors	The value of tmnxCflowdV5Errors indicates the number of errored packets for the specified remote collector host.
v5PacketOpen	long	tmnxCflowdV5Open	The value of tmnxCflowdV5Open indicates the number of open packets pending for the specified remote collector host.
v5PacketSent	long	tmnxCflowdV5Sent	The value of tmnxCflowdV5Sent indicates the number of packets transmitted for the specified remote collector host.
NeCollectorV8Stats MIB table name: TIMETRA-CFLOWD-MIB.tmnxCflowdAggregationStatsTable Monitored class: cflowd.NeCollector			
aggPacketErrors	long	tmnxCflowdAggregationErrors	The value of tmnxCflowdAggregationErrors indicates the number of errored packets for the specified aggregation type.
aggPacketOpen	long	tmnxCflowdAggregationOpen	The value of tmnxCflowdAggregationOpen indicates the number of open packets pending for the specified aggregation type.
aggPacketSent	long	tmnxCflowdAggregationSent	The value of tmnxCflowdAggregationSent indicates the number of packets transmitted for the specified aggregation type.
aggregationIndex	int	tmnxCflowdAggregationIndex	The value of tmnxCflowdAggregationIndex specifies the row in the tmnxCflowdAggregationStatsTable that pertains to the cflowd collector aggregation type.
aggregationStatus	int	tmnxCflowdAggregationStatus	The value of tmnxCflowdAggregationStatus indicates whether or not the aggregation is in use in the remote collector host entry.
NeCollectorV9Stats MIB table name: TIMETRA-CFLOWD-MIB.tmnxCflowdTemplateStatsTable Monitored class: cflowd.NeCollector			
templateErrors	long	tmnxCflowdTemplateErrors	The value of tmnxCflowdTemplateErrors indicates the number of errored packets for the specified Template type.
templateFlowIndex	int	tmnxCflowdTemplateFlowIndex	The value of tmnxCflowdTemplateFlowIndex specifies the row in the tmnxCflowdTemplateStatsTable that pertains to the cflowd collector Template type.
templateOpen	long	tmnxCflowdTemplateOpen	The value of tmnxCflowdTemplateOpen indicates the number of open packets pending for the specified Template type.

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5620 SAM counter name	Type	MIB counter name	Description
templateSent	long	tmnxCflowdTemplateSent	The value of tmnxCflowdTemplateSent indicates the number of packets transmitted for the specified Template type.
transmitTime	long	tmnxCflowdTemplateLastTxTime	The value of tmnxCflowdTemplateLastTxTime indicates the time, since system startup, when the specified template was last transmitted.

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Table A-10 dhcp statistics

5620 SAM counter name	Type	MIB counter name	Description
LocalDhcpServerFailoverStats MIB table name: TIMETRA-DHCP-SERVER-MIB.tmnxDhcpsFoStatsTable Monitored class: dhcp.LocalDhcpServerFailover			
addressConflictPkts	UINT128	tmnxDhcpsFoStatsAddressConflict	The value of tmnxDhcpsFoStatsAddressConflict indicates how many BNDUPD 'add' packets were dropped because this DHCP server instance has already leased another address to this host.
dropInvalidPkts	UINT128	tmnxDhcpsFoStatsDropInvalidPkts	The value of tmnxDhcpsFoStatsDropInvalidPkts indicates how many BNDUPD packets were dropped because the packet was malformed.
hostConflictPkts	UINT128	tmnxDhcpsFoStatsHostConflict	The value of tmnxDhcpsFoStatsHostConflict indicates how many BNDUPD 'add' packets were dropped because this DHCP server instance has already leased this address to another host.
leaseExpiredPkts	UINT128	tmnxDhcpsFoStatsExpired	The value of tmnxDhcpsFoStatsExpired indicates how many BNDUPD 'add' packets were dropped because the corresponding lease has expired. This may indicate that the clock of the failover peer is not in sync with the clock of this system.
leaseNotFoundPkts	UINT128	tmnxDhcpsFoStatsLeaseNotFound	The value of tmnxDhcpsFoStatsLeaseNotFound indicates how many Binding Database Update (BNDUPD) 'remove' packets were dropped because the corresponding lease could not be found.
maxLeasePkts	UINT128	tmnxDhcpsFoStatsMaxReached	The value of tmnxDhcpsFoStatsMaxReached indicates how many BNDUPD 'add' packets were dropped because the maximum number of leases was reached. The maximum number of leases is indicated by the value of the object tmnxDhcpSvrMaxLeases.

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5620 SAM counter name	Type	MIB counter name	Description
peerConflictPkts	UINT128	tmnxDhcpsFoStatsPeerConflict	The value of tmnxDhcpsFoStatsPeerConflict indicates how many BNDUPD 'add' packets were dropped because the failover peer has leased an address within a subnet range of which the failover control is set to 'local' on this local DHCP server instance.
rangeNotFoundPkts	UINT128	tmnxDhcpsFoStatsRangeNotFound	The value of tmnxDhcpsFoStatsSubnetNotFound indicates how many BNDUPD 'add' packets were dropped because a valid include range could not be found for the lease.
shutdownPkts	UINT128	tmnxDhcpsFoStatsFoShutdown	The value of tmnxDhcpsFoStatsFoShutdown indicates how many BNDUPD packets were dropped because the failover state if the DHCP Server instance is 'shutdown'.
subnetNotFoundPkts	UINT128	tmnxDhcpsFoStatsSubnetNotFound	The value of tmnxDhcpsFoStatsSubnetNotFound indicates how many BNDUPD 'add' packets were dropped because a valid subnet could not be found for the lease.
LocalDhcpServerStats MIB table name: TIMETRA-DHCP-SERVER-MIB.tmnxDhcpServerStatsTable Monitored class: dhcp.LocalDhcpServer			
addressUnavailableDropped	long	tmnxDhcpSvrStatsDropAddrUnavail	The value of tmnxDhcpSvrStatsDropAddrUnavail indicates the number of DHCP requests dropped by the server instance because the requested address is not available.
corruptedPacketsDropped	long	tmnxDhcpSvrStatsDropBadPackets	The value of tmnxDhcpSvrStatsDropBadPackets indicates the number of DHCP packets received which were corrupt.
destinedToOtherDropped	long	tmnxDhcpSvrStatsDropDestOther	The value of tmnxDhcpSvrStatsDropDestOther indicates the number of DHCP requests dropped by the server instance because the (broadcast) request was not destined to this server.
genericErrorDropped	long	tmnxDhcpSvrStatsDropGenError	The value of tmnxDhcpSvrStatsDropGenError indicates the number of DHCP packets dropped by the server instance because of a generic error.
invalidMessageTypesDropped	long	tmnxDhcpSvrStatsDropInvalidTypes	The value of tmnxDhcpSvrStatsDropInvalidTypes indicates the number of DHCP packets received which had an invalid message type (option 53).

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5620 SAM counter name	Type	MIB counter name	Description
invalidUserDropped	long	tmnxDhcpSvrStatsDropInvalidUsr	The value of tmnxDhcpSvrStatsDropInvalidUsr indicates the number of DHCP packets dropped by the server instance because the MAC address of the sender or the option 82 didn't match the host lease state.
leaseNotFoundDropped	long	tmnxDhcpSvrStatsDropNoLeaseFound	The value of tmnxDhcpSvrStatsDropNoLeaseFound indicates the number of DHCP packets dropped by the server instance because no (valid) lease was found.
leaseNotReadyDropped	long	tmnxDhcpSvrStatsDropLseNotReady	The value of tmnxDhcpSvrStatsDropLseNotReady indicates the number of DHCP packets dropped by the server instance before the lease database was ready.
leasesExpired	long	tmnxDhcpSvrStatsLeasesExpired	The value of tmnxDhcpSvrStatsLeasesExpired indicates the number of DHCP leases that were expired (because no release was received).
localUserDbNotFoundDropped	long	tmnxDhcpSvrStatsDropNoUsrDbFound	The value of tmnxDhcpSvrStatsDropNoUsrDbFound indicates the number of DHCP packets dropped because the value of the object tmnxDhcpServerCfgUserDatabase of this server instance is not equal to the default value and a local user database with that name could not be found.
noFreeAddressesInPoolDropped	long	tmnxDhcpSvrStatsDropNotSrvngPool	The value of tmnxDhcpSvrStatsDropNotSrvngPool indicates the number of DHCP packets dropped by the server instance because there were no more free addresses in the pool.
offersIgnored	long	tmnxDhcpSvrStatsOffersIgnore	The value of tmnxDhcpSvrStatsOffersIgnore indicates the number of DHCPOFFER (option 52 with value 2) packets sent by the DHCP server instance that were ignored by he clients.
overloadDropped	long	tmnxDhcpSvrStatsDropOverload	The value of tmnxDhcpSvrStatsDropOverload indicates the number of DHCP packets dropped by the server instance because they were received in excess of what the server instance can handle.
persistenceOverloadDropped	long	tmnxDhcpSvrStatsDropPersOverload	The value of tmnxDhcpSvrStatsDropPersOverload indicates the number of DHCP packets dropped by the server instance because they were received in excess of what the DHCP persistence system can handle. If this occurs, only releases and declines are still processed.

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5620 SAM counter name	Type	MIB counter name	Description
receivedDhcpDeclines	UINT128	tmnxDhcpSvrStatsRxDeclines	The value of tmnxDhcpSvrStatsRxDeclines indicates the number of DHCPDECLINE (option 53 with value 4) packets received by the DHCP server instance.
receivedDhcpDiscovers	UINT128	tmnxDhcpSvrStatsRxDiscovers	The value of tmnxDhcpSvrStatsRxDiscovers indicates the number of DHCPDISCOVER (option 53 with value 1) packets received by the DHCP server instance.
receivedDhcpInforms	UINT128	tmnxDhcpSvrStatsRxInforms	The value of tmnxDhcpSvrStatsRxInforms indicates the number of DHCPINFORM (option 53 with value 8) packets received by the DHCP server instance.
receivedDhcpReleases	UINT128	tmnxDhcpSvrStatsRxReleases	The value of tmnxDhcpSvrStatsRxReleases indicates the number of DHCPRELEASE (option 53 with value 7) packets received by the DHCP server instance.
receivedDhcpRequests	UINT128	tmnxDhcpSvrStatsRxRequests	The value of tmnxDhcpSvrStatsRxRequests indicates the number of DHCPREQUEST (option 53 with value 3) packets received by the DHCP server instance.
sentDhcpAcks	UINT128	tmnxDhcpSvrStatsTxAcks	The value of tmnxDhcpSvrStatsTxAcks indicates the number of DHCPACK (option 53 with value 5) packets sent by the DHCP server instance.
sentDhcpForceRenews	UINT128	tmnxDhcpSvrStatsTxForceRenews	The value of tmnxDhcpSvrStatsTxForceRenews indicates the number of DHCPFORCERENEW (option 53 with value 9) packets sent by the DHCP server instance.
sentDhcpNaks	UINT128	tmnxDhcpSvrStatsTxNaks	The value of tmnxDhcpSvrStatsTxNaks indicates the number of DHCPNAK (option 53 with value 6) packets sent by the DHCP server instance.
sentDhcpOffers	UINT128	tmnxDhcpSvrStatsTxOffers	The value of tmnxDhcpSvrStatsTxOffers indicates the number of DHCPOFFER (option 53 with value 2) packets sent by the DHCP server instance.
unknownHostsDropped	long	tmnxDhcpSvrStatsDropUnknownHosts	The value of tmnxDhcpSvrStatsDropUnknownHosts indicates the number of DHCP packets dropped from hosts which were not found in the user database when tmnxDhcpServerCfgUseGiAddress was disabled.
userNotAllowedDropped	long	tmnxDhcpSvrStatsDropUserNotAllow	The value of tmnxDhcpSvrStatsDropUserNotAllow indicates the number of DHCP packets dropped from hosts which are found in the user database, but which have no address or pool specified, nor has tmnxDhcpServerCfgUseGiAddress set to 'true'.

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5620 SAM counter name	Type	MIB counter name	Description
LocalDhcpServerSubnetStats MIB table name: TIMETRA-DHCP-SERVER-MIB.tmnxDhcpSvrSubnetStatsTable Monitored class: dhcp.Subnet			
declinedAddresses	long	tmnxDhcpSvrSubnetStats Declined	The value of tmnxDhcpSvrSubnetStatsDeclined indicates the number of addresses in this subnet that are declined.
forceRenewPendingLeases	long	tmnxDhcpSvrSubnetStats FRPending	The value of tmnxDhcpSvrSubnetStatsFRPending indicates the number of leases in this subnet that are in state 'forceRenewPending.
freeAddresses	long	tmnxDhcpSvrSubnetStats Free	The value of tmnxDhcpSvrSubnetStatsFree indicates the number of addresses in this subnet that are free.
offeredLeases	long	tmnxDhcpSvrSubnetStats Offered	The value of tmnxDhcpSvrSubnetStatsOffered indicates the number of leases in this subnet that are in state 'offered'.
removePendingLeases	long	tmnxDhcpSvrSubnetStats RemPending	The value of tmnxDhcpSvrSubnetStatsRemPending indicates the number of leases in this subnet that are in state 'removePending'.
stableLeases	long	tmnxDhcpSvrSubnetStats Stable	The value of tmnxDhcpSvrSubnetStatsStable indicates the number of leases in this subnet that are in state 'stable'.

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Table A-11 diameter statistics

5620 SAM counter name	Type	MIB counter name	Description
DiameterPeerStats MIB table name: TIMETRA-DIAMETER-MIB.tmnxDiamPlcyPeerStatsTable Monitored class: diameter.DiameterPeer			
asaTx	long	tmnxDiamPeerStAsaTx	The value of tmnxDiamPeerStAsaTx indicates the number of Abort-Session-Answer messages that are transmitted to the server. REFERENCE RFC 3588 Diameter Based Protocol, section 8.5.2.
asrRx	long	tmnxDiamPeerStAsrRx	The value of tmnxDiamPeerStAsrRx indicates the number of Abort-Session-Request messages that are received from the server. REFERENCE RFC 3588 Diameter Based Protocol, section 8.5.1.

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5620 SAM counter name	Type	MIB counter name	Description
ccaInitialRx	long	tmnxDiamPeerStCcaInitialRx	The value of tmnxDiamPeerStCcaInitialRx indicates the number of Credit Control Answer messages in response to the CCR INITIAL_REQUEST that are received from the server. REFERENCE RFC 4006 Diameter Credit-Control Application, section 8.3 and Appendix A1.
ccaTerminateRx	long	tmnxDiamPeerStCcaTerminateRx	The value of tmnxDiamPeerStCcaTerminateRx indicates the number of Credit Control Answer messages in response to the CCR TERMINATION_REQUEST that are received from the server. REFERENCE RFC 4006 Diameter Credit-Control Application, section 8.3 and Appendix A1.
ccaUpdateRx	long	tmnxDiamPeerStCcaUpdateRx	The value of tmnxDiamPeerStCcaUpdateRx indicates the number of Credit Control Answer messages in response to the CCR UPDATE_REQUEST that are received from the server. REFERENCE RFC 4006 Diameter Credit-Control Application, section 8.3 and Appendix A1.
ccrInitialTx	long	tmnxDiamPeerStCcrInitialTx	The value of tmnxDiamPeerStCcrInitialTx indicates the number of Credit Control Request messages with CC-Request-Type AVP equal to INITIAL_REQUEST that are transmitted to the server. REFERENCE RFC 4006 Diameter Credit-Control Application, section 8.3 and Appendix A1.
ccrTerminateTx	long	tmnxDiamPeerStCcrTerminateTx	The value of tmnxDiamPeerStCcrTerminateTx indicates the number of Credit Control Request messages with CC-Request-Type AVP equal to TERMINATION_REQUEST that are transmitted to the server. REFERENCE RFC 4006 Diameter Credit-Control Application, section 8.3 and Appendix A1.
ccrUpdateTx	long	tmnxDiamPeerStCcrUpdateTx	The value of tmnxDiamPeerStCcrUpdateTx indicates the number of Credit Control Request messages with CC-Request-Type AVP equal to UPDATE_REQUEST that are transmitted to the server. REFERENCE RFC 4006 Diameter Credit-Control Application, section 8.3 and Appendix A1.
ceaRx	long	tmnxDiamPeerStCeaRx	The value of tmnxDiamPeerStCeaRx indicates the number of Capabilities-Exchange-Answer messages that are received from the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.3.2.
cerTx	long	tmnxDiamPeerStCerTx	The value of tmnxDiamPeerStCerTx indicates the number of Capabilities-Exchange-Request messages that are transmitted to the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.3.1.

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5620 SAM counter name	Type	MIB counter name	Description
clientInitiatedPendingMsgsPMQ	long	tmnxDiamPeerStCiPendMsgsPMQ	The value of tmnxDiamPeerStCiPendMsgsPMQ indicates client initiated roundtrip DIAMETER statistics regarding the number of request messages in the Pending Message Queue waiting to be matched with corresponding response messages from the server.
clientInitiatedReqTimoutsPMQ	long	tmnxDiamPeerStCiReqTimeoutsPMQ	The value of tmnxDiamPeerStCiReqTimeoutsPMQ indicates client initiated roundtrip DIAMETER statistics regarding the number of request messages that were removed from the Pending Message Queue due to a match timeout.
dpaRx	long	tmnxDiamPeerStDpaRx	The value of tmnxDiamPeerStDpaRx indicates the number of Disconnect-Peer-Answer messages that are received from the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.4.2.
dpaTx	long	tmnxDiamPeerStDpaTx	The value of tmnxDiamPeerStDpaTx indicates the number of Disconnect-Peer-Answer messages that are transmitted to the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.4.2.
dprRx	long	tmnxDiamPeerStDprRx	The value of tmnxDiamPeerStDprRx indicates the number of Disconnect-Peer-Request messages that are received from the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.4.1.
dprTx	long	tmnxDiamPeerStDprTx	The value of tmnxDiamPeerStDprTx indicates the number of Disconnect-Peer-Request messages that are transmitted to the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.4.1.
raaTx	long	tmnxDiamPeerStRaaTx	The value of tmnxDiamPeerStRaaTx indicates the number of Re-Auth-Answer messages that are transmitted to the server. REFERENCE RFC 3588 Diameter Based Protocol, section 8.3.2.
rarRx	long	tmnxDiamPeerStRarRx	The value of tmnxDiamPeerStRarRx indicates the number of Re-Auth-Request messages that are received from the server. REFERENCE RFC 3588 Diameter Based Protocol, section 8.3.1.
siDiameterRxDropCount	long	tmnxDiamPeerStSiDiamRxDropCnt	The value of tmnxDiamPeerStSiDiamRxDropCnt indicates client initiated roundtrip DIAMETER statistics regarding the number of dropped request messages upon reception from server.

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5620 SAM counter name	Type	MIB counter name	Description
siDiameterRxRequests	long	tmnxDiamPeerStSiDiamRxReqs	The value of tmnxDiamPeerStSiDiamRxReqs indicates client initiated roundtrip DIAMETER statistics regarding the number of request messages received from server.
siDiameterTxResponses	long	tmnxDiamPeerStSiDiamTxResps	The value of tmnxDiamPeerStSiDiamTxResps indicates client initiated roundtrip DIAMETER statistics regarding the number of response messages sent to server.
siTcpSendFailed	long	tmnxDiamPeerStSiTcpSendFailed	The value of tmnxDiamPeerStSiTcpSendFailed indicates client initiated roundtrip DIAMETER statistics regarding the number of TCP send failures.
wdaRx	long	tmnxDiamPeerStWdaRx	The value of tmnxDiamPeerStWdaRx indicates the number of Device-Watchdog-Answer messages that are received from the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.5.2.
wdaTx	long	tmnxDiamPeerStWdaTx	The value of tmnxDiamPeerStWdaTx indicates the number of Device-Watchdog-Answer messages that are transmitted to the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.5.2.
wdrRx	long	tmnxDiamPeerStWdrRx	The value of tmnxDiamPeerStWdrRx indicates the number of Device-Watchdog-Request messages that are received from the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.5.1.
wdrTx	long	tmnxDiamPeerStWdrTx	The value of tmnxDiamPeerStWdrTx indicates the number of Device-Watchdog-Request messages that are transmitted to the server. REFERENCE RFC 3588 Diameter Based Protocol, section 5.5.1.

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Table A-12 equipment statistics

5620 SAM counter name	Type	MIB counter name	Description
AllocatedMemoryStats MIB table name: TIMETRA-SYSTEM-MIB.sgiMemoryPoolAllocated Monitored class: equipment.SystemStatsHolder			
allocatedMemory	long	sgiMemoryPoolAllocated	The value of sgiMemoryPoolAllocated indicates the total memory currently allocated in memory-pools on the system. This memory may or may not be currently in use, but is pre-allocated should the software need to use it.

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5620 SAM counter name	Type	MIB counter name	Description
AvailableMemoryStats MIB table name: TIMETRA-SYSTEM-MIB.sgiMemoryAvailable Monitored class: equipment.SystemStatsHolder			
availableMemory	long	sgiMemoryAvailable	The value of sgiMemoryAvailable indicates the amount of free memory in the overall system that is not allocated to memory pools, but is available in case a memory pool needs to grow.
CiscoHDLCStats MIB table name: TIMETRA-PORT-MIB.tmnxCiscoHDLCStatsTable Monitored classes: • tdmequipment.DS3E3Channel • tdmequipment.DS0ChannelGroup			
discardStatInPkts	long	tmnxCiscoHDLCDiscardStatInPkts	tmnxCiscoHDLCDiscardStatInPkts indicates the number of inbound Cisco HDLC packets discarded.
discardStatOutPkts	long	tmnxCiscoHDLCDiscardStatOutPkts	tmnxCiscoHDLCDiscardStatOutPkts indicates the number of outbound Cisco HDLC packets discarded.
statInOctets	long	tmnxCiscoHDLCStatInOctets	tmnxCiscoHDLCStatInOctets indicates the number of inbound Cisco HDLC octets.
statInPkts	long	tmnxCiscoHDLCStatInPkts	tmnxCiscoHDLCStatInPkts indicates the number of inbound Cisco HDLC packets.
statOutOctets	long	tmnxCiscoHDLCStatOutOctets	tmnxCiscoHDLCStatOutOctets indicates the number of outbound Cisco HDLC octets.
statOutPkts	long	tmnxCiscoHDLCStatOutPkts	tmnxCiscoHDLCStatOutPkts indicates the number of outbound Cisco HDLC packets.
FibNextHopStats MIB table name: TIMETRA-VRTR-MIB.vRtrFibStatNextHopTable Monitored class: equipment.BaseCard			
ipActive	long	vRtrFibStatNextHopIPActive	vRtrFibStatNextHopIPActive indicates current active IP next-hop counts for the FIB on the IOM.
ipAvailable	long	vRtrFibStatNextHopIPAvailable	vRtrFibStatNextHopIPAvailable indicates the available IP next-hop counts for the FIB on the IOM.
tunnelActive	long	vRtrFibStatNextHopTunnelActive	vRtrFibStatNextHopTunnelActive indicates current active Tunnel next-hop counts for the FIB on the IOM.
tunnelAvailable	long	vRtrFibStatNextHopTunnelAvailable	vRtrFibStatNextHopTunnelAvailable indicates the available Tunnel next-hop counts for the FIB on the IOM.
FibStats MIB table name: TIMETRA-VRTR-MIB.vRtrFibStatTable Monitored class: equipment.BaseCard			
aggrRoutes	long	vRtrFibStatAggrRoutes	vRtrFibStatAggrRoutes indicates current aggregate route counts for the virtual router.

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5620 SAM counter name	Type	MIB counter name	Description
alarmCount	long	vRtrFibStatAlarmCount	vRtrFibStatAlarmCount indicates the number of times the FIB has raised an alarm due to high FIB usage.
bgpRoutes	long	vRtrFibStatBGPRoutes	vRtrFibStatBGPRoutes indicates current BGP route counts for the virtual router.
bgpVpnRoutes	long	vRtrFibStatBGPVpnRoutes	vRtrFibStatBGPVpnRoutes indicates current BGP VPN route counts for the virtual router.
directRoutes	long	vRtrFibStatDirectRoutes	vRtrFibStatDirectRoutes indicates current direct route counts for the virtual router.
highUtilization	boolean	vRtrFibStatHighUtilizatio n	vRtrFibStatHighUtilization indicates whether or not the FIB on the IOM is experiences persistent high occupancy.
hostRoutes	long	vRtrFibStatHostRoutes	vRtrFibStatHostRoutes indicates current host route counts for the virtual router.
isisRoutes	long	vRtrFibStatISISRoutes	vRtrFibStatISISRoutes indicates current ISIS route counts for the virtual router.
lastAlarmTime	long	vRtrFibStatLastAlarmTim e	vRtrFibStatLastAlarmTime indicates the last time a high FIB usage alarm was raised.
managedRoutes	long	vRtrFibStatManagedRoute s	vRtrFibStatManagedRoutes indicates current managed route counts for the virtual router.
ospfRoutes	long	vRtrFibStatOSPFRoutes	vRtrFibStatOSPFRoutes indicates current OSPF route counts for the virtual router.
overflows	long	vRtrFibStatOverflows	vRtrFibStatOverflows indicates the number of times the FIB has run out of space.
ripRoutes	long	vRtrFibStatRIPRoutes	vRtrFibStatRIPRoutes indicates current RIP route counts for the virtual router.
staticRoutes	long	vRtrFibStatStaticRoutes	vRtrFibStatStaticRoutes indicates current static route counts for the virtual router.
subMgmtRoutes	long	vRtrFibStatSubMgmtRout es	vRtrFibStatSubMgmtRoutes indicates current Sub-management route counts for the virtual router.
v6AggrRoutes	long	vRtrFibStatV6AggrRoutes	vRtrFibStatV6AggrRoutes indicates current aggregate route counts for the virtual router.
v6BGPRoutes	long	vRtrFibStatV6BGPRoutes	vRtrFibStatV6BGPRoutes indicates current BGP route counts for the virtual router.
v6BGPVpnRoutes	long	vRtrFibStatV6BGPVpnRou tes	vRtrFibStatV6BGPVpnRoutes indicates current BGP VPN route counts for the virtual router.
v6DirectRoutes	long	vRtrFibStatV6DirectRoute s	vRtrFibStatV6DirectRoutes indicates current direct route counts for the virtual router.
v6HostRoutes	long	vRtrFibStatV6HostRoutes	vRtrFibStatV6HostRoutes indicates current host route counts for the virtual router.

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5620 SAM counter name	Type	MIB counter name	Description
v6ISISRoutes	long	vRtrFibStatV6ISISRoutes	vRtrFibStatV6ISISRoutes indicates current ISIS route counts for the virtual router.
v6ManagedRoutes	long	vRtrFibStatV6ManagedRoutes	vRtrFibStatV6ManagedRoutes indicates current managed route counts for the virtual router.
v6OSPFRoutes	long	vRtrFibStatV6OSPFRoutes	vRtrFibStatV6OSPFRoutes indicates current OSPF route counts for the virtual router.
v6RIPRoutes	long	vRtrFibStatV6RIPRoutes	vRtrFibStatV6RIPRoutes indicates current RIP route counts for the virtual router.
v6StaticRoutes	long	vRtrFibStatV6StaticRoutes	vRtrFibStatV6StaticRoutes indicates current static route counts for the virtual router.
v6SubMgmtRoutes	long	vRtrFibStatV6SubMgmtRoutes	vRtrFibStatV6SubMgmtRoutes indicates current Sub-management route counts for the virtual router.
v6VpnLeakRoutes	long	vRtrFibStatV6VPNLeakRoutes	vRtrFibStatV6VPNLeakRoutes indicates current IPv6 VPN Leak route counts for the virtual router.
vpnLeakRoutes	long	vRtrFibStatVPNLeakRoutes	vRtrFibStatVPNLeakRoutes indicates current VPN Leak route counts for the virtual router.
InterfaceAdditionalStats MIB table name: IF-MIB.ifXTable Monitored classes: equipment.PhysicalPort; equipment.ManagementPort; lag.Interface; bundle.Interface; sonetequipment.Sts1Channel; sonetequipment.Sts3Channel; sonetequipment.Sts12Channel; sonetequipment.Sts48Channel; sonetequipment.Sts192Channel; tdmequipment.DS3E3Channel; tdmequipment.DS1E1Channel; tdmequipment.DS0ChannelGroup; ccag.CcagPathCcNetSap; ccag.CcagPathCcSapNet; ccag.CcagPathCcSapSap; sonetequipment.Tu3Channel; sonetequipment.TributaryChannel			
receivedBroadcastPackets	UINT128	ifHCInBroadcastPkts	The number of packets, delivered by this sub-layer to a higher (sub-)layer, which were addressed to a broadcast address at this sub-layer. This object is a 64-bit version of ifInBroadcastPkts. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
receivedMulticastPackets	UINT128	ifHCInMulticastPkts	The number of packets, delivered by this sub-layer to a higher (sub-)layer, which were addressed to a multicast address at this sub-layer. For a MAC layer protocol, this includes both Group and Functional addresses. This object is a 64-bit version of ifInMulticastPkts. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.

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5620 SAM counter name	Type	MIB counter name	Description
receivedTotalOctets	UINT128	ifHCInOctets	The total number of octets received on the interface, including framing characters. This object is a 64-bit version of ifInOctets. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
receivedUnicastPackets	UINT128	ifHCInUcastPkts	The number of packets, delivered by this sub-layer to a higher (sub-)layer, which were not addressed to a multicast or broadcast address at this sub-layer. This object is a 64-bit version of ifInUcastPkts. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
transmittedBroadcastPackets	UINT128	ifHCOutBroadcastPkts	The total number of packets that higher-level protocols requested be transmitted, and which were addressed to a broadcast address at this sub-layer, including those that were discarded or not sent. This object is a 64-bit version of ifOutBroadcastPkts. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
transmittedMulticastPackets	UINT128	ifHCOutMulticastPkts	The total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses. This object is a 64-bit version of ifOutMulticastPkts. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
transmittedTotalOctets	UINT128	ifHCOutOctets	The total number of octets transmitted out of the interface, including framing characters. This object is a 64-bit version of ifOutOctets. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.

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5620 SAM counter name	Type	MIB counter name	Description
transmittedUnicastPackets	UINT128	ifHCOutUcastPkts	The total number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at this sub-layer, including those that were discarded or not sent. This object is a 64-bit version of ifOutUcastPkts. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
InterfaceStats MIB table name: IF-MIB.ifTable Monitored classes: equipment.PhysicalPort; equipment.ManagementPort; lag.Interface; bundle.Interface; sonetequipment.Sts1Channel; sonetequipment.Sts3Channel; sonetequipment.Sts12Channel; sonetequipment.Sts48Channel; sonetequipment.Sts192Channel; tdmequipment.DS3E3Channel; tdmequipment.DS1E1Channel; tdmequipment.DS0ChannelGroup; ccag.CcagPathCcNetSap; ccag.CcagPathCcSapNet; ccag.CcagPathCcSapSap; sonetequipment.Tu3Channel; sonetequipment.TributaryChannel			
outboundBadPackets	long	ifOutErrors	For packet-oriented interfaces, the number of outbound packets that could not be transmitted because of errors. For character-oriented or fixed-length interfaces, the number of outbound transmission units that could not be transmitted because of errors. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
outboundPacketsDiscarded	long	ifOutDiscards	The number of outbound packets which were chosen to be discarded even though no errors had been detected to prevent their being transmitted. One possible reason for discarding such a packet could be to free up buffer space. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
receivedBadPackets	long	ifInErrors	For packet-oriented interfaces, the number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol. For character- oriented or fixed-length interfaces, the number of inbound transmission units that contained errors preventing them from being deliverable to a higher-layer protocol. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.

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5620 SAM counter name	Type	MIB counter name	Description
receivedOctets	long	ifInOctets	The total number of octets received on the interface, including framing characters. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
receivedPacketsDiscarded	long	ifInDiscards	The number of inbound packets which were chosen to be discarded even though no errors had been detected to prevent their being deliverable to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
receivedUnicastPackets	long	ifInUcastPkts	The number of packets, delivered by this sub-layer to a higher (sub-)layer, which were not addressed to a multicast or broadcast address at this sub-layer. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
receivedUnknownProtocolPackets	long	ifInUnknownProtos	For packet-oriented interfaces, the number of packets received via the interface which were discarded because of an unknown or unsupported protocol. For character-oriented or fixed-length interfaces that support protocol multiplexing the number of transmission units received via the interface which were discarded because of an unknown or unsupported protocol. For any interface that does not support protocol multiplexing, this counter will always be 0. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
transmittedOctets	long	ifOutOctets	The total number of octets transmitted out of the interface, including framing characters. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.

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5620 SAM counter name	Type	MIB counter name	Description
transmittedUnicastPackets	long	ifOutUcastPkts	The total number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at this sub-layer, including those that were discarded or not sent. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.
IpSecMDAStats MIB table name: TIMETRA-IPSEC-MIB.tmnxIPsecMdaDpStatsTable Monitored class: equipment.DaughterCardSlot			
decryptBytes	UINT128	tmnxIPsecMdaDpStatsDecryptBytes	The value of tmnxIPsecMdaDpStatsDecryptBytes indicates the number of bytes encrypted by the IPsec data path.
decryptPackets	UINT128	tmnxIPsecMdaDpStatsDecryptPkts	The value of tmnxIPsecMdaDpStatsDecryptPkts indicates the number of packets encrypted by the IPsec data path.
encryptBytes	UINT128	tmnxIPsecMdaDpStatsEncryptBytes	The value of tmnxIPsecMdaDpStatsEncryptBytes indicates the number of bytes encrypted by the IPsec data path.
encryptPackets	UINT128	tmnxIPsecMdaDpStatsEncryptPkts	The value of tmnxIPsecMdaDpStatsEncryptPkts indicates the number of packets encrypted by the IPsec data path.
inboundIPDropPackets	UINT128	tmnxIPsecMdaDpStatsInBDropPkts	The value of tmnxIPsecMdaDpStatsInBDropPkts indicates the number of packets dropped before and during inbound (decryption) processing by the IPsec data path.
inboundIPDstSrcMismatches	long	tmnxIPsecMdaDpStatsInBIPDstSrcMismatches	The value of tmnxIPsecMdaDpStatsInBIPDstSrcMismatches indicates the number of packets dropped before inbound (decryption) processing by the IPsec data path due to the received packet's outer IP destination or source address does not match the Tunnel's local or peer gateway address.
inboundSaMisses	UINT128	tmnxIPsecMdaDpStatsInBSAMisses	The value of tmnxIPsecMdaDpStatsInBSAMisses indicates the number of packets dropped before inbound (decryption) processing by the IPsec data path due to no SA (security association) present.
outboundIPDropPackets	UINT128	tmnxIPsecMdaDpStatsOutBDropPkts	The value of tmnxIPsecMdaDpStatsOutBDropPkts indicates the number of packets dropped before and during outbound (encryption) processing by the IPsec data path.

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5620 SAM counter name	Type	MIB counter name	Description
outboundPolicyEntryMisses	long	tmnxIPsecMdaDpStatsOutBPolicyEntryMisses	The value of tmnxIPsecMdaDpStatsOutBPolicyEntryMisses indicates the number of packets dropped before outbound (encryption) processing by the IPsec data path due to no matching Policy Entry.
outboundSaMisses	UINT128	tmnxIPsecMdaDpStatsOutBSAMisses	The value of tmnxIPsecMdaDpStatsOutBSAMisses indicates the number of packets dropped before outbound (encryption) processing by the IPsec data path due to no SA (security association) present.
transmitPacketErrors	long	tmnxIPsecMdaDpStatsTxPktErrs	The value of tmnxIPsecMdaDpStatsTxPktErrs indicates the number of packets transmit failures by the IPsec data path.
MediaIndependentStats MIB table name: HC-RMON-MIB.mediaIndependentTable Monitored classes: • equipment.PhysicalPort • equipment.ManagementPort			
dropEvents	long	mediaIndependentDropEvents	The total number of events in which packets were dropped by the probe due to lack of resources. Note that this number is not necessarily the number of packets dropped; it is just the number of times this condition has been detected.
droppedFrames	long	mediaIndependentDroppedFrames	The total number of frames which were received by the probe and therefore not accounted for in the mediaIndependentDropEvents, but for which the probe chose not to count for this entry for whatever reason. Most often, this event occurs when the probe is out of some resources and decides to shed load from this collection. This count does not include packets that were not counted because they had MAC-layer errors. Note that, unlike the dropEvents counter, this number is the exact number of frames dropped.
duplex	int	mediaIndependentDuplexMode	The current mode of this link. Note that if the link has full-duplex capabilities but is operating in half-duplex mode, this value will be halfduplex(1).
duplexChanges	long	mediaIndependentDuplexChanges	The number of times this link has changed from full-duplex mode to half-duplex mode or from half-duplex mode to full-duplex mode.
inputSpeed	long	mediaIndependentInputSpeed	The nominal maximum speed in kilobits per second of this half-duplex link or on the inbound connection of this full-duplex link. If the speed is unknown or there is no fixed maximum (e.g. a compressed link), this value shall be zero.

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5620 SAM counter name	Type	MIB counter name	Description
outputSpeed	long	mediaIndependentOutputSpeed	The nominal maximum speed in kilobits per second of this full-duplex link in the direction of the network. If the speed is unknown, the link is half-duplex, or there is no fixed maximum (e.g. a compressed link), this value shall be zero.
receivedBadPackets	long	mediaIndependentInErrors	The total number of bad packets received on a half-duplex link or on the inbound connection of a full-duplex link.
receivedNonUnicastPackets	UINT128	mediaIndependentInNUCastHighCapacityPkts	The total number of non-unicast packets (including bad packets) received on a half-duplex link or on the inbound connection of a full-duplex link.
receivedOctets	UINT128	mediaIndependentInHighCapacityOctets	The total number of octets of data (including those in bad packets) received (excluding framing bits but including FCS octets) on a half-duplex link or on the inbound connection of a full-duplex link.
receivedPackets	UINT128	mediaIndependentInHighCapacityPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received on a half-duplex link or on the inbound connection of a full-duplex link.
transmittedBadPackets	long	mediaIndependentOutErrors	The total number of bad packets received on a full-duplex link in the direction of the network.
transmittedNonUnicastPackets	UINT128	mediaIndependentOutNUCastHighCapacityPkts	The total number of packets (including bad packets) received on a full-duplex link in the direction of the network.
transmittedOctets	UINT128	mediaIndependentOutHighCapacityOctets	The total number of octets of data (including those in bad packets) received on a full-duplex link in the direction of the network (excluding framing bits but including FCS octets).
transmittedPackets	UINT128	mediaIndependentOutHighCapacityPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received on a full-duplex link in the direction of the network.
PortNetEgressStats MIB table name: TIMETRA-PORT-MIB.tmnxPortNetEgressStatsTable Monitored class: equipment.PhysicalPort			
inProfileOctetsDropped	UINT128	tmnxPortNetEgressDroInProfOcts	tmnxPortNetEgressDroInProfOcts indicates the number of conforming network egress octets dropped on this port using this queue.
inProfileOctetsForwarded	UINT128	tmnxPortNetEgressFwdInProfOcts	tmnxPortNetEgressFwdInProfOcts indicates the number of conforming network egress octets forwarded on this port using this queue.
inProfilePacketsDropped	UINT128	tmnxPortNetEgressDroInProfPkts	tmnxPortNetEgressDroInProfPkts indicates the number of conforming network egress packets dropped on this port using this queue.

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5620 SAM counter name	Type	MIB counter name	Description
inProfilePacketsForwarded	UINT128	tmnxPortNetEgressFwdInProfPkts	tmnxPortNetEgressFwdInProfPkts indicates the number of conforming network egress packets forwarded on this port using this queue.
outOfProfileOctetsDropped	UINT128	tmnxPortNetEgressDroOutProfOcts	tmnxPortNetEgressDroOutProfOcts indicates the number of exceeding network egress octets dropped on this port using this queue.
outOfProfileOctetsForwarded	UINT128	tmnxPortNetEgressFwdOutProfOcts	tmnxPortNetEgressFwdOutProfOcts indicates the number of exceeding network egress octets forwarded on this port using this queue.
outOfProfilePacketsDropped	UINT128	tmnxPortNetEgressDroOutProfPkts	tmnxPortNetEgressDroOutProfPkts indicates the number of exceeding network egress packets dropped on this port using this queue.
outOfProfilePacketsForwarded	UINT128	tmnxPortNetEgressFwdOutProfPkts	tmnxPortNetEgressFwdOutProfPkts indicates the number of exceeding network egress packets forwarded on this port using this queue.
queueId	long	tmnxPortNetEgressQueueIndex	tmnxPortNetEgressQueueIndex serves as the tertiary index. When used in conjunction with tmnxChassisIndex and tmnxPortPortID, it uniquely identifies a network egress queue for the specified port in the managed system.
PortNetIngressStats MIB table name: TIMETRA-PORT-MIB.tmnxPortNetIngressStatsTable Monitored class: equipment.PhysicalPort			
inProfileOctetsDropped	UINT128	tmnxPortNetIngressDroInProfOcts	tmnxPortNetIngressDroInProfOcts indicates the number of conforming network ingress octets dropped on this port using this queue.
inProfileOctetsForwarded	UINT128	tmnxPortNetIngressFwdInProfOcts	tmnxPortNetIngressFwdInProfOcts indicates the number of conforming network ingress octets forwarded on this port using this queue.
inProfilePacketsDropped	UINT128	tmnxPortNetIngressDroInProfPkts	tmnxPortNetIngressDroInProfPkts indicates the number of conforming network ingress packets dropped on this port using this queue.
inProfilePacketsForwarded	UINT128	tmnxPortNetIngressFwdInProfPkts	tmnxPortNetIngressFwdInProfPkts indicates the number of conforming network ingress packets forwarded on this port using this queue.
outOfProfileOctetsDropped	UINT128	tmnxPortNetIngressDroOutProfOcts	tmnxPortNetIngressDroOutProfOcts indicates the number of exceeding network ingress octets dropped on this port using this queue.
outOfProfileOctetsForwarded	UINT128	tmnxPortNetIngressFwdOutProfOcts	tmnxPortNetIngressFwdOutProfOcts indicates the number of exceeding network ingress octets forwarded on this port using this queue.

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5620 SAM counter name	Type	MIB counter name	Description
outOfProfilePacketsDropped	UINT128	tmnxPortNetIngressDroOutProfPkts	tmnxPortNetIngressDroOutProfPkts indicates the number of exceeding network ingress packets dropped on this port using this queue.
outOfProfilePacketsForwarded	UINT128	tmnxPortNetIngressFwdOutProfPkts	tmnxPortNetIngressFwdOutProfPkts indicates the number of exceeding network ingress packets forwarded on this port using this queue.
PortTerminationStats MIB table name: TIMETRA-PORT-MIB.tmnxBundleMemberImaTable Monitored class: bundle.PortTermination			
bundleMemberImaErrorIcpCells	long	tmnxBundleMemberImaErrorIcpCells	tmnxBundleMemberImaErrorIcpCells indicates the number of ICP cells with HEC or CRC-10 errors.
bundleMemberImaFeRxNumFails	long	tmnxBundleMemberImaFeRxNumFails	tmnxBundleMemberImaFeRxNumFails indicates the number of times that a far-end receive alarm is set on the IMA link.
bundleMemberImaFeRxUnuseSecs	long	tmnxBundleMemberImaFeRxUnuseSecs	tmnxBundleMemberImaFeRxUnuseSecs indicates the number of unavailable seconds at the far-end receive link state machine.
bundleMemberImaFeSevErrSecs	long	tmnxBundleMemberImaFeSevErrSecs	tmnxBundleMemberImaFeSevErrSecs indicates the number of one second intervals in which the far-end contains IMA-RDI defects.
bundleMemberImaFeTxNumFails	long	tmnxBundleMemberImaFeTxNumFails	tmnxBundleMemberImaFeTxNumFails indicates the number of times that a far-end transmit alarm is set on the IMA link.
bundleMemberImaFeTxUnuseSecs	long	tmnxBundleMemberImaFeTxUnuseSecs	tmnxBundleMemberImaFeTxUnuseSecs indicates the number of unavailable seconds at the far-end transmit link state machine.
bundleMemberImaFeUnavailSecs	long	tmnxBundleMemberImaFeUnavailSecs	tmnxBundleMemberImaFeUnavailSecs indicates the number of unavailable seconds at the near-end.
bundleMemberImaLstRxIcpCells	long	tmnxBundleMemberImaLstRxIcpCells	tmnxBundleMemberImaLstRxIcpCells indicates the number of lost ICP cells at the expected offset.
bundleMemberImaNeRxNumFails	long	tmnxBundleMemberImaNeRxNumFails	tmnxBundleMemberImaNeRxNumFails indicates the number of times that a near-end receive alarm is set on the IMA link.
bundleMemberImaNeRxUnuseSecs	long	tmnxBundleMemberImaNeRxUnuseSecs	tmnxBundleMemberImaNeRxUnuseSecs indicates the number of unavailable seconds at the near-end receive link state machine.
bundleMemberImaNeSevErrSecs	long	tmnxBundleMemberImaNeSevErrSecs	tmnxBundleMemberImaNeSevErrSecs indicates the number of one second intervals in which thirty percent or more of the near-end ICP cells are in violation, or link defects have occurred.

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5620 SAM counter name	Type	MIB counter name	Description
bundleMemberImaNeTxNumFails	long	tmnxBundleMemberImaNeTxNumFails	tmnxBundleMemberImaNeTxNumFails indicates the number of times that a near-end transmit alarm is set on the IMA link.
bundleMemberImaNeTxUnuseSecs	long	tmnxBundleMemberImaNeTxUnuseSecs	tmnxBundleMemberImaNeTxUnuseSecs indicates the number of unavailable seconds at the near-end transmit link state machine.
bundleMemberImaNeUnavailSecs	long	tmnxBundleMemberImaNeUnavailSecs	tmnxBundleMemberImaNeUnavailSecs indicates the number of unavailable seconds at the near-end.
bundleMemberImaOifAnomalies	long	tmnxBundleMemberImaOifAnomalies	tmnxBundleMemberImaOifAnomalies indicates the number of OIF anomalies at the near-end.
bundleMemberImaRxIcpCells	long	tmnxBundleMemberImaRxIcpCells	tmnxBundleMemberImaRxIcpCells indicates the number of ICP cells that have been received on the IMA link.
bundleMemberImaTxIcpCells	long	tmnxBundleMemberImaTxIcpCells	tmnxBundleMemberImaTxIcpCells indicates the number of ICP cells that have been transmitted on the IMA link.
bundleMemberImaViolations	long	tmnxBundleMemberImaViolations	tmnxBundleMemberImaViolations indicates the number of ICP violations including errored, invalid or missing ICP cells.
SystemCpuStats MIB table name: TIMETRA-SYSTEM-MIB.sgiCpuUsage Monitored class: equipment.SystemStatsHolder			
systemCpuUsage	long	sgiCpuUsage	The value of sgiCpuUsage indicates the current CPU utilization for the system.
SystemMemoryStats MIB table name: TIMETRA-SYSTEM-MIB.sgiMemoryUsed Monitored class: equipment.SystemStatsHolder			
systemMemoryUsage	long	sgiMemoryUsed	The value of sgiMemoryUsed indicates the total pre-allocated pool memory currently in use on the system.

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Table A-13 ethernetequipment statistics

5620 SAM counter name	Type	MIB counter name	Description
AdditionalEthernetStats MIB table name: TIMETRA-PORT-MIB.tmnxPortEtherTable Monitored classes: • equipment.PhysicalPort • equipment.ManagementPort			

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5620 SAM counter name	Type	MIB counter name	Description
highCapacityPackets1519toMaxFrameSize	UINT128	tmnxPortEtherHCPkts1519toMax	The total number of packets (including bad packets) received that were between 1519 octets in length and the maximum frame size, usually 12287 octets inclusive (excluding framing bits but including FCS octets). The lower 32-bits of this 64-bit counter will equal the value of tmnxPortEtherHCPkts1519toMax. The high 32-bits of this counter will equal the value of tmnxPortEtherHCOverPkts1519toMax.
packets1519toMaxFrameSize	long	tmnxPortEtherPkts1519toMax	The total number of packets received that were longer than 1518 octets but less than the maximum frame size for the particular medium, usually 12287 octets (excluding framing bits, but including FCS octets) and were otherwise well formed.
Dot3Stats MIB table name: EtherLike-MIB.dot3StatsTable Monitored class: equipment.PhysicalPort			
alignmentErrors	long	dot3StatsAlignmentErrors	A count of frames received on a particular interface that are not an integral number of octets in length and do not pass the FCS check. The count represented by an instance of this object is incremented when the alignmentError status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions pertain are, according to the conventions of IEEE 802.3 Layer Management, counted exclusively according to the error status presented to the LLC. This counter does not increment for group encoding schemes greater than 4 bits per group. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsAlignmentErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.7, aAlignmentErrors.

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5620 SAM counter name	Type	MIB counter name	Description
carrierSenseErrors	long	dot3StatsCarrierSenseErrors	The number of times that the carrier sense condition was lost or never asserted when attempting to transmit a frame on a particular interface. The count represented by an instance of this object is incremented at most once per transmission attempt, even if the carrier sense condition fluctuates during a transmission attempt. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.13, aCarrierSenseErrors.
deferredTransmissions	long	dot3StatsDeferredTransmissions	A count of frames for which the first transmission attempt on a particular interface is delayed because the medium is busy. The count represented by an instance of this object does not include frames involved in collisions. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.9, aFramesWithDeferredXmissions.
duplex	int	dot3StatsDuplexStatus	The current mode of operation of the MAC entity. 'unknown' indicates that the current duplex mode could not be determined. Management control of the duplex mode is accomplished through the MAU MIB. When an interface does not support autonegotiation, or when autonegotiation is not enabled, the duplex mode is controlled using ifMauDefaultType. When autonegotiation is supported and enabled, duplex mode is controlled using ifMauAutoNegAdvertisedBits. In either case, the currently operating duplex mode is reflected both in this object and in ifMauType. Note that this object provides redundant information with ifMauType. Normally, redundant objects are discouraged. However, in this instance, it allows a management application to determine the duplex status of an interface without having to know every possible value of ifMauType. This was felt to be sufficiently valuable to justify the redundancy. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.32, aDuplexStatus.

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5620 SAM counter name	Type	MIB counter name	Description
excessiveCollisions	long	dot3StatsExcessiveCollisions	A count of frames for which transmission on a particular interface fails due to excessive collisions. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.11, aFramesAbortedDueToXSColls.
fcsErrors	long	dot3StatsFCSErrors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check. This count does not include frames received with frame-too-long or frame-too-short error. The count represented by an instance of this object is incremented when the frameCheckError status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions pertain are, according to the conventions of IEEE 802.3 Layer Management, counted exclusively according to the error status presented to the LLC. Note: Coding errors detected by the physical layer for speeds above 10 Mb/s will cause the frame to fail the FCS check. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsFCSErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.6, aFrameCheckSequenceErrors.

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5620 SAM counter name	Type	MIB counter name	Description
frameTooLongs	long	dot3StatsFrameTooLongs	A count of frames received on a particular interface that exceed the maximum permitted frame size. The count represented by an instance of this object is incremented when the frameTooLong status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions pertain are, according to the conventions of IEEE 802.3 Layer Management, counted exclusively according to the error status presented to the LLC. For interfaces operating at 10 Gb/s, this counter can roll over in less than 80 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsFrameTooLongs object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.25, aFrameTooLongErrors.
internalMacReceiveErrors	long	dot3StatsInternalMacReceiveErrors	A count of frames for which reception on a particular interface fails due to an internal MAC sublayer receive error. A frame is only counted by an instance of this object if it is not counted by the corresponding instance of either the dot3StatsFrameTooLongs object, the dot3StatsAlignmentErrors object, or the dot3StatsFCSErrors object. The precise meaning of the count represented by an instance of this object is implementation-specific. In particular, an instance of this object may represent a count of receive errors on a particular interface that are not otherwise counted. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsInternalMacReceiveErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.15, aFramesLostDueToIntMACRcvError.

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5620 SAM counter name	Type	MIB counter name	Description
internalMacTransmitErrors	long	dot3StatsInternalMacTransmitErrors	A count of frames for which transmission on a particular interface fails due to an internal MAC sublayer transmit error. A frame is only counted by an instance of this object if it is not counted by the corresponding instance of either the dot3StatsLateCollisions object, the dot3StatsExcessiveCollisions object, or the dot3StatsCarrierSenseErrors object. The precise meaning of the count represented by an instance of this object is implementation- specific. In particular, an instance of this object may represent a count of transmission errors on a particular interface that are not otherwise counted. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsInternalMacTransmitErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.12, aFramesLostDueToIntMACXmitError.
lateCollisions	long	dot3StatsLateCollisions	The number of times that a collision is detected on a particular interface later than one slotTime into the transmission of a packet. A (late) collision included in a count represented by an instance of this object is also considered as a (generic) collision for purposes of other collision-related statistics. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.10, aLateCollisions.

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5620 SAM counter name	Type	MIB counter name	Description
multipleCollisionFrames	long	dot3StatsMultipleCollisionFrames	A count of frames that are involved in more than one collision and are subsequently transmitted successfully. A frame that is counted by an instance of this object is also counted by the corresponding instance of either the ifOutUcastPkts, ifOutMulticastPkts, or ifOutBroadcastPkts, and is not counted by the corresponding instance of the dot3StatsSingleCollisionFrames object. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.4, aMultipleCollisionFrames.
singleCollisionFrames	long	dot3StatsSingleCollisionFrames	A count of frames that are involved in a single collision, and are subsequently transmitted successfully. A frame that is counted by an instance of this object is also counted by the corresponding instance of either the ifOutUcastPkts, ifOutMulticastPkts, or ifOutBroadcastPkts, and is not counted by the corresponding instance of the dot3StatsMultipleCollisionFrames object. This counter does not increment when the interface is operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.1.1.3, aSingleCollisionFrames.
sqeTestErrors	long	dot3StatsSQETestErrors	A count of times that the SQE TEST ERROR is received on a particular interface. The SQE TEST ERROR is set in accordance with the rules for verification of the SQE detection mechanism in the PLS Carrier Sense Function as described in IEEE Std. 802.3, 2000 Edition, section 7.2.4.6. This counter does not increment on interfaces operating at speeds greater than 10 Mb/s, or on interfaces operating in full-duplex mode. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 7.2.4.6, also 30.3.2.1.4, aSQETestErrors.

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5620 SAM counter name	Type	MIB counter name	Description
symbolErrors	long	dot3StatsSymbolErrors	For an interface operating at 100 Mb/s, the number of times there was an invalid data symbol when a valid carrier was present. For an interface operating in half-duplex mode at 1000 Mb/s, the number of times the receiving media is non-idle (a carrier event) for a period of time equal to or greater than slotTime, and during which there was at least one occurrence of an event that causes the PHY to indicate 'Data reception error' or 'carrier extend error' on the GMII. For an interface operating in full-duplex mode at 1000 Mb/s, the number of times the receiving media is non-idle (a carrier event) for a period of time equal to or greater than minFrameSize, and during which there was at least one occurrence of an event that causes the PHY to indicate 'Data reception error' on the GMII. For an interface operating at 10 Gb/s, the number of times the receiving media is non-idle (a carrier event) for a period of time equal to or greater than minFrameSize, and during which there was at least one occurrence of an event that causes the PHY to indicate 'Receive Error' on the XGMII. The count represented by an instance of this object is incremented at most once per carrier event, even if multiple symbol errors occur during the carrier event. This count does not increment if a collision is present. This counter does not increment when the interface is operating at 10 Mb/s. For interfaces operating at 10 Gb/s, this counter can roll over in less than 5 minutes if it is incrementing at its maximum rate. Since that amount of time could be less than a management station's poll cycle time, in order to avoid a loss of information, a management station is advised to poll the dot3HCStatsSymbolErrors object for 10 Gb/s or faster interfaces. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime. REFERENCE [IEEE 802.3 Std.], 30.3.2.1.5, aSymbolErrorDuringCarrier.
EthernetHighCapacityStats MIB table name: HC-RMON-MIB.etherStatsHighCapacityTable Monitored classes: • equipment.PhysicalPort • equipment.ManagementPort			
packets1024to1518Octets	UINT128	etherStatsHighCapacityPkts1024to1518Octets	The total number of packets (including bad packets) received that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).

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5620 SAM counter name	Type	MIB counter name	Description
packets128to255Octets	UINT128	etherStatsHighCapacityPkts128to255Octets	The total number of packets (including bad packets) received that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
packets256to511Octets	UINT128	etherStatsHighCapacityPkts256to511Octets	The total number of packets (including bad packets) received that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
packets512to1023Octets	UINT128	etherStatsHighCapacityPkts512to1023Octets	The total number of packets (including bad packets) received that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
packets64Octets	UINT128	etherStatsHighCapacityPkts64Octets	The total number of packets (including bad packets) received that were 64 octets in length (excluding framing bits but including FCS octets).
packets65to127Octets	UINT128	etherStatsHighCapacityPkts65to127Octets	The total number of packets (including bad packets) received that were between 65 and 127 octets in length inclusive (excluding framing bits but including FCS octets).

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5620 SAM counter name	Type	MIB counter name	Description
totalOctets	UINT128	etherStatsHighCapacityOctets	The total number of octets of data (including those in bad packets) received on the network (excluding framing bits but including FCS octets). If the network is half-duplex Fast Ethernet, this object can be used as a reasonable estimate of utilization. If greater precision is desired, the etherStatsHighCapacityPkts and etherStatsHighCapacityOctets objects should be sampled before and after a common interval. The differences in the sampled values are Pkts and Octets, respectively, and the number of seconds in the interval is Interval. These values are used to calculate the Utilization as follows: Pkts * (.96 + .64) + (Octets * .08) Utilization = ---------- Interval * 10,000 The result of this equation is the value Utilization which is the percent utilization of the ethernet segment on a scale of 0 to 100 percent. This table is not appropriate for monitoring full-duplex ethernets. If the network is a full-duplex ethernet and the mediaIndependentTable is monitoring that network, the utilization can be calculated as follows: 1) Determine the utilization of the inbound path by using the appropriate equation (for ethernet or fast ethernet) to determine the utilization, substituting mediaIndependentInPkts for etherStatsHighCapacityPkts, and mediaIndependentInOctets for etherStatsHighCapacityOctets. Call the resulting utilization inUtilization. 2) Determine the utilization of the outbound path by using the same equation to determine the utilization, substituting mediaIndependentOutPkts for etherStatsHighCapacityPkts, and mediaIndependentOutOctets for etherStatsHighCapacityOctets. Call the resulting utilization outUtilization. 3) The utilization is the maximum of inUtilization and outUtilization. This metric shows the amount of percentage of bandwidth that is left before congestion will be experienced on the link.
totalPackets	UINT128	etherStatsHighCapacityPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received.
EthernetStats MIB table name: RMON-MIB.etherStatsTable Monitored classes: • equipment.PhysicalPort • equipment.ManagementPort			
broadcastPackets	long	etherStatsBroadcastPkts	The total number of good packets received that were directed to the broadcast address. Note that this does not include multicast packets.

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5620 SAM counter name	Type	MIB counter name	Description
collisions	long	etherStatsCollisions	The best estimate of the total number of collisions on this Ethernet segment. The value returned will depend on the location of the RMON probe. Section 8.2.1.3 (10BASE-5) and section 10.3.1.3 (10BASE-2) of IEEE standard 802.3 states that a station must detect a collision, in the receive mode, if three or more stations are transmitting simultaneously. A repeater port must detect a collision when two or more stations are transmitting simultaneously. Thus a probe placed on a repeater port could record more collisions than a probe connected to a station on the same segment would. Probe location plays a much smaller role when considering 10BASE-T. 14.2.1.4 (10BASE-T) of IEEE standard 802.3 defines a collision as the simultaneous presence of signals on the DO and RD circuits (transmitting and receiving at the same time). A 10BASE-T station can only detect collisions when it is transmitting. Thus probes placed on a station and a repeater, should report the same number of collisions. Note also that an RMON probe inside a repeater should ideally report collisions between the repeater and one or more other hosts (transmit collisions as defined by IEEE 802.3k) plus receiver collisions observed on any coax segments to which the repeater is connected.
crcAlignErrors	long	etherStatsCRCAlignErrors	The total number of packets received that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets, inclusive, but had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
dropEvents	long	etherStatsDropEvents	The total number of events in which packets were dropped by the probe due to lack of resources. Note that this number is not necessarily the number of packets dropped; it is just the number of times this condition has been detected.
fragments	long	etherStatsFragments	The total number of packets received that were less than 64 octets in length (excluding framing bits but including FCS octets) and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error). Note that it is entirely normal for etherStatsFragments to increment. This is because it counts both runts (which are normal occurrences due to collisions) and noise hits.

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5620 SAM counter name	Type	MIB counter name	Description
jabbers	long	etherStatsJabbers	The total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets), and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error). Note that this definition of jabber is different than the definition in IEEE-802.3 section 8.2.1.5 (10BASE5) and section 10.3.1.4 (10BASE2). These documents define jabber as the condition where any packet exceeds 20 ms. The allowed range to detect jabber is between 20 ms and 150 ms.
multicastPackets	long	etherStatsMulticastPkts	The total number of good packets received that were directed to a multicast address. Note that this number does not include packets directed to the broadcast address.
oversizePackets	long	etherStatsOversizePkts	The total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets) and were otherwise well formed.
packets1024to1518Octets	long	etherStatsPkts1024to1518Octets	The total number of packets (including bad packets) received that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).
packets128to255Octets	long	etherStatsPkts128to255Octets	The total number of packets (including bad packets) received that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
packets256to511Octets	long	etherStatsPkts256to511Octets	The total number of packets (including bad packets) received that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
packets512to1023Octets	long	etherStatsPkts512to1023Octets	The total number of packets (including bad packets) received that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
packets64Octets	long	etherStatsPkts64Octets	The total number of packets (including bad packets) received that were 64 octets in length (excluding framing bits but including FCS octets).
packets65to127Octets	long	etherStatsPkts65to127Octets	The total number of packets (including bad packets) received that were between 65 and 127 octets in length inclusive (excluding framing bits but including FCS octets).

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5620 SAM counter name	Type	MIB counter name	Description
totalOctets	long	etherStatsOctets	The total number of octets of data (including those in bad packets) received on the network (excluding framing bits but including FCS octets). This object can be used as a reasonable estimate of 10-Megabit ethernet utilization. If greater precision is desired, the etherStatsPkts and etherStatsOctets objects should be sampled before and after a common interval. The differences in the sampled values are Pkts and Octets, respectively, and the number of seconds in the interval is Interval. These values are used to calculate the Utilization as follows: Pkts * (9.6 + 6.4) + (Octets * .8) Utilization = ---------- Interval * 10,000 The result of this equation is the value Utilization which is the percent utilization of the ethernet segment on a scale of 0 to 100 percent.
totalPackets	long	etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received.
undersizePackets	long	etherStatsUndersizePkts	The total number of packets received that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well formed.
OtuIfStats MIB table name: TIMETRA-OTU-MIB.tmnxOtuIfRawStatsTable Monitored class: equipment.PhysicalPort			
fecCorrOnes	long	tmnxOtuIfRawStatsFECCorrOnes	The value of tmnxOtuIfRawStatsFECCorrOnes indicates the number of Forward Error Correction (FEC) corrected ones.
fecCorrZeros	long	tmnxOtuIfRawStatsFECCorrZeros	The value of tmnxOtuIfRawStatsFECCorrZeros indicates the number of Forward Error Correction (FEC) corrected zeros.
fecSes	long	tmnxOtuIfRawStatsFECSES	The value of tmnxOtuIfRawStatsFECSES indicates the number of Forward Error Correction (FEC) Severely Errors Seconds (SES).
fecUncorrSr	long	tmnxOtuIfRawStatsFECUncorrSR	The value of tmnxOtuIfRawStatsFECUncorrSR indicates the number of Forward Error Correction (FEC) Uncorrectable Sub-Rows.
hcFecCorrOnes	UINT128	tmnxOtuIfRawStatsHCFECCorrOnes	The value of tmnxOtuIfRawStatsFECCorrOnes indicates the High Capacity number of Forward Error Correction (FEC) corrected ones.
hcFecCorrZeros	UINT128	tmnxOtuIfRawStatsHCFECCorrZeros	The value of tmnxOtuIfRawStatsHCFECCorrZeros indicates the High Capacity number of Forward Error Correction (FEC) corrected zeros.

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5620 SAM counter name	Type	MIB counter name	Description
hcFecUncorrSr	UINT128	tmnxOtuIfRawStatsHCFEC UncorrSR	The value of tmnxOtuIfRawStatsHCFECUncorrSR indicates the High Capacity number of Forward Error Correction (FEC) Uncorrectable Sub-Rows.
hcPmBei	UINT128	tmnxOtuIfRawStatsHCPM BEI	The value of tmnxOtuIfRawStatsPMBEI indicates the High Capacity number of Path Monitoring (PM) Backward Error Indication (BEI) errors.
hcPmBip8	UINT128	tmnxOtuIfRawStatsHCPM BIP8	The value of tmnxOtuIfRawStatsHCPMBIP8 indicates the High Capacity number of Path Monitoring (PM) BIP8 errors.
hcSmBei	UINT128	tmnxOtuIfRawStatsHCSM BEI	The value of tmnxOtuIfRawStatsHCSMBEI indicates the High Capacity number of Section Monitoring (SM) Backward Error Indication (BEI) errors.
hcSmBip8	UINT128	tmnxOtuIfRawStatsHCSM BIP8	The value of tmnxOtuIfRawStatsHCSMBIP8 indicates the High Capacity number of Section Monitoring (SM) BIP8 errors.
ofFecCorrOnes	long	tmnxOtuIfRawStatsOFFEC CorrOnes	The value of tmnxOtuIfRawStatsFECCorrOnes indicates the number of times the tmnxOtuIfRawStatsFECCorrOnes overflowed.
ofFecCorrZeros	long	tmnxOtuIfRawStatsOFFEC CorrZeros	The value of tmnxOtuIfRawStatsOFFECCorrZeros indicates the number of times the tmnxOtuIfRawStatsFECCorrZeros overflowed.
ofFecUncorrSr	long	tmnxOtuIfRawStatsOFFEC UncorrSR	The value of tmnxOtuIfRawStatsOFFECUncorrSR indicates the number of times the tmnxOtuIfRawStatsFECUncorrSR overflowed.
ofPmBei	long	tmnxOtuIfRawStatsOFPM BEI	The value of tmnxOtuIfRawStatsOFPMBEI indicates the number of times tmnxOtuIfRawStatsPMBEI overflowed.
ofPmBip8	long	tmnxOtuIfRawStatsOFPM BIP8	The value of tmnxOtuIfRawStatsOFPMBIP8 indicates the number of times the tmnxOtuIfRawStatsPMBIP8 overflowed.
ofSmBei	long	tmnxOtuIfRawStatsOFSMB EI	The value of tmnxOtuIfRawStatsOFSMBEI indicates the number of times the tmnxOtuIfRawStatsSMBEI overflowed.
ofSmBip8	long	tmnxOtuIfRawStatsOFSMB IP8	The value of tmnxOtuIfRawStatsOFSMBIP8 indicates the number of times the tmnxOtuIfRawStatsSMBIP8 overflowed.
pmBei	long	tmnxOtuIfRawStatsPMBEI	The value of tmnxOtuIfRawStatsPMBEI indicates the number of Path Monitoring (PM) Backward Error Indication (BEI) errors.
pmBip8	long	tmnxOtuIfRawStatsPMBIP 8	The value of tmnxOtuIfRawStatsPMBIP8 indicates the number of Path Monitoring (PM) BIP8 errors.

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5620 SAM counter name	Type	MIB counter name	Description
pmSes	long	tmnxOtuIfRawStatsPMSES	The value of tmnxOtuIfRawStatsPMSES indicates the number of Path Monitoring (PM) Severely Errored Seconds (SES).
smBei	long	tmnxOtuIfRawStatsSMBEI	The value of tmnxOtuIfRawStatsSMBEI indicates the number of Section Monitoring (SM) Backward Error Indication (BEI) errors.
smBip8	long	tmnxOtuIfRawStatsSMBIP8	The value of tmnxOtuIfRawStatsSMBIP8 indicates the number of Section Monitoring (SM) BIP8 errors.
smSes	long	tmnxOtuIfRawStatsSMSES	The value of tmnxOtuIfRawStatsSMSES indicates the number of Section Monitoring (SM) Severely Errored Seconds (SES).
PortEgrQosQueueStat MIB table name: TIMETRA-PORT-MIB.tmnxPortEgrQosQStatTable Monitored class: ethernetequipment.AccessEgrQGroup			
portEgrQosQStatDpdInProfOcts	UINT128	tmnxPortEgrQosQStatDpdInProfOcts	The value of tmnxPortEgrQosQStatDpdInProfOcts indicates the number of in-profile octets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
portEgrQosQStatDpdInProfPkts	UINT128	tmnxPortEgrQosQStatDpdInProfPkts	The value of tmnxPortEgrQosQStatDpdInProfPkts indicates the number of in-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
portEgrQosQStatDpdOutProfOcts	UINT128	tmnxPortEgrQosQStatDpdOutProfOcts	The value of tmnxPortEgrQosQStatDpdOutProfOcts indicates the number of out-of-profile octets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
portEgrQosQStatDpdOutProfPkts	UINT128	tmnxPortEgrQosQStatDpdOutProfPkts	The value of tmnxPortEgrQosQStatDpdOutProfPkts indicates the number of out-of-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
portEgrQosQStatFwdInProfOcts	UINT128	tmnxPortEgrQosQStatFwdInProfOcts	The value of tmnxPortEgrQosQStatFwdInProfOcts indicates the number of in-profile octets (rate below CIR) forwarded by the egress Qchip.
portEgrQosQStatFwdInProfPkts	UINT128	tmnxPortEgrQosQStatFwdInProfPkts	The value of tmnxPortEgrQosQStatFwdInProfPkts indicates the number of in-profile packets (rate below CIR) forwarded by the egress Qchip.
portEgrQosQStatFwdOutProfOcts	UINT128	tmnxPortEgrQosQStatFwdOutProfOcts	The value of tmnxPortEgrQosQStatFwdOutProfOcts indicates the number of out-of-profile octets (rate above CIR) forwarded by the egress Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
portEgrQosQStatFwdOutProfPkts	UINT128	tmnxPortEgrQosQStatFwdOutProfPkts	The value of tmnxPortEgrQosQStatFwdOutProfPkts indicates the number of out-of-profile packets (rate above CIR) forwarded by the egress Qchip.
portEgrQosQStatQueueId	long	tmnxPortEgrQosQStatQueueId	The value of tmnxPortEgrQosQStatQueueId specifies the queue-group queue ID which is used as the fourth index to the table entry.
PortIngQosQueueStat MIB table name: TIMETRA-PORT-MIB.tmnxPortIngQosQStatTable Monitored class: ethernetequipment.AccessIngrQGroup			
portIngQosQStatDpdHiPrioOcts	UINT128	tmnxPortIngQosQStatDpdHiPrioOcts	The value of tmnxPortIngQosQStatDpdHiPrioOcts indicates the number of high priority octets, as determined by the port ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
portIngQosQStatDpdHiPrioPkts	UINT128	tmnxPortIngQosQStatDpdHiPrioPkts	The value of tmnxPortIngQosQStatDpdHiPrioPkts indicates the number of high priority packets, as determined by the port ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
portIngQosQStatDpdLoPrioOcts	UINT128	tmnxPortIngQosQStatDpdLoPrioOcts	The value of tmnxPortIngQosQStatDpdLoPrioOcts indicates the number of low priority octets, as determined by the port ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
portIngQosQStatDpdLoPrioPkts	UINT128	tmnxPortIngQosQStatDpdLoPrioPkts	The value of tmnxPortIngQosQStatDpdLoPrioPkts indicates the number of low priority packets, as determined by the port ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
portIngQosQStatFwdInProfOcts	UINT128	tmnxPortIngQosQStatFwdInProfOcts	The value of tmnxPortIngQosQStatFwdInProfOcts indicates the number of in-profile octets (rate below CIR) forwarded by the ingress Qchip.
portIngQosQStatFwdInProfPkts	UINT128	tmnxPortIngQosQStatFwdInProfPkts	The value of tmnxPortIngQosQStatFwdInProfPkts indicates the number of in-profile packets (rate below CIR) forwarded by the ingress Qchip.
portIngQosQStatFwdOutProfOcts	UINT128	tmnxPortIngQosQStatFwdOutProfOcts	The value of tmnxPortIngQosQStatFwdOutProfOcts indicates the number of out-of-profile octets (rate above CIR) forwarded by the ingress Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
portIngQosQStatFwdOutProfPkts	UINT128	tmnxPortIngQosQStatFwdOutProfPkts	The value of tmnxPortIngQosQStatFwdOutProfPkts indicates the number of out-of-profile packets (rate above CIR) forwarded by the ingress Qchip.
portIngQosQStatOffHiPrioOcts	UINT128	tmnxPortIngQosQStatOffHiPrioOcts	The value of tmnxPortIngQosQStatOffHiPrioOcts indicates the number of high priority octets, as determined by the port ingress QoS policy, offered by the Pchip to the Qchip.
portIngQosQStatOffHiPrioPkts	UINT128	tmnxPortIngQosQStatOffHiPrioPkts	The value of tmnxPortIngQosQStatOffHiPrioPkts indicates the number of high priority packets, as determined by the port ingress QoS policy, offered by the Pchip to the Qchip.
portIngQosQStatOffLoPrioOcts	UINT128	tmnxPortIngQosQStatOffLoPrioOcts	The value of tmnxPortIngQosQStatOffLoPrioOcts indicates the number of low priority octets, as determined by the port ingress QoS policy, offered by the Pchip to the Qchip.
portIngQosQStatOffLoPrioPkts	UINT128	tmnxPortIngQosQStatOffLoPrioPkts	The value of tmnxPortIngQosQStatOffLoPrioPkts indicates the number of low priority packets, as determined by the port ingress QoS policy, offered by the Pchip to the Qchip.
portIngQosQStatQueueId	long	tmnxPortIngQosQStatQueueId	The value of tmnxPortIngQosQStatQueueId specifies the queue-group queue ID which is used as the fourth index to the table entry.
portIngQosQStatUncolOctsOff	UINT128	tmnxPortIngQosQStatUncolOctsOff	The value of tmnxPortIngQosQStatUncolOctsOff indicates the number of uncolored octets offered to the ingress Qchip.
portIngQosQStatUncolPktsOff	UINT128	tmnxPortIngQosQStatUncolPktsOff	The value of tmnxPortIngQosQStatUncolPktsOff indicates the number of uncolored packets offered to the ingress Qchip.
PortNetEgrQueueStat MIB table name: TIMETRA-PORT-MIB.tmnxPortNetEgrQStatTable Monitored class: ethernetequipment.NetworkEgrQGroup			
portNetEgrQDroInProfOcts	UINT128	tmnxPortNetEgrQDroInProfOcts	The value of tmnxPortNetEgrQDroInProfOcts indicates the number of conforming network egress octets dropped on this port using this queue-group queue.
portNetEgrQDroInProfPkts	UINT128	tmnxPortNetEgrQDroInProfPkts	The value of tmnxPortNetEgrQDroInProfPkts indicates the number of conforming network egress packets dropped on this port using this queue-group queue.

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5620 SAM counter name	Type	MIB counter name	Description
portNetEgrQDroOutProfOcts	UINT128	tmnxPortNetEgrQDroOutProfOcts	The value of tmnxPortNetEgrQDroOutProfOcts indicates the number of exceeding network egress octets dropped on this port using this queue-group queue.
portNetEgrQDroOutProfPkts	UINT128	tmnxPortNetEgrQDroOutProfPkts	The value of tmnxPortNetEgrQDroOutProfPkts indicates the number of exceeding network egress packets dropped on this port using this queue-group queue.
portNetEgrQFwdInProfOcts	UINT128	tmnxPortNetEgrQFwdInProfOcts	The value of tmnxPortNetEgrQFwdInProfOcts indicates the number of conforming network egress octets forwarded on this port using this queue-group queue.
portNetEgrQFwdInProfPkts	UINT128	tmnxPortNetEgrQFwdInProfPkts	The value of tmnxPortNetEgrQFwdInProfPkts indicates the number of conforming network egress packets forwarded on this port using this queue-group queue.
portNetEgrQFwdOutProfOcts	UINT128	tmnxPortNetEgrQFwdOutProfOcts	The value of tmnxPortNetEgrQFwdOutProfOcts indicates the number of exceeding network egress octets forwarded on this port using this queue-group queue.
portNetEgrQFwdOutProfPkts	UINT128	tmnxPortNetEgrQFwdOutProfPkts	The value of tmnxPortNetEgrQFwdOutProfPkts indicates the number of exceeding network egress packets forwarded on this port using this queue-group queue.
portNetEgrQStatQueueId	long	tmnxPortEgrQosQStatQueueId	The value of tmnxPortEgrQosQStatQueueId specifies the queue-group queue ID which is used as the fourth index to the table entry.
QosDroppedOctetStats MIB table name: TIMETRA-PORT-MIB.tmnxPortIngrMdaQosStatTable Monitored class: equipment.PhysicalPort			
qosClassifier0DroppedOctets	UINT128	tmnxPortIngrMdaQos00StatDropOcts	tmnxPortIngrMdaQos00StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier10DroppedOctets	UINT128	tmnxPortIngrMdaQos10StatDropOcts	tmnxPortIngrMdaQos10StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier11DroppedOctets	UINT128	tmnxPortIngrMdaQos11StatDropOcts	tmnxPortIngrMdaQos11StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.

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5620 SAM counter name	Type	MIB counter name	Description
qosClassifier12DroppedOctets	UINT128	tmnxPortIngrMdaQos12StatDropOcts	tmnxPortIngrMdaQos12StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier13DroppedOctets	UINT128	tmnxPortIngrMdaQos13StatDropOcts	tmnxPortIngrMdaQos13StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier14DroppedOctets	UINT128	tmnxPortIngrMdaQos14StatDropOcts	tmnxPortIngrMdaQos14StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier15DroppedOctets	UINT128	tmnxPortIngrMdaQos15StatDropOcts	tmnxPortIngrMdaQos15StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier1DroppedOctets	UINT128	tmnxPortIngrMdaQos01StatDropOcts	tmnxPortIngrMdaQos01StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier2DroppedOctets	UINT128	tmnxPortIngrMdaQos02StatDropOcts	tmnxPortIngrMdaQos02StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier3DroppedOctets	UINT128	tmnxPortIngrMdaQos03StatDropOcts	tmnxPortIngrMdaQos03StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier4DroppedOctets	UINT128	tmnxPortIngrMdaQos04StatDropOcts	tmnxPortIngrMdaQos04StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier5DroppedOctets	UINT128	tmnxPortIngrMdaQos05StatDropOcts	tmnxPortIngrMdaQos05StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier6DroppedOctets	UINT128	tmnxPortIngrMdaQos06StatDropOcts	tmnxPortIngrMdaQos06StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier7DroppedOctets	UINT128	tmnxPortIngrMdaQos07StatDropOcts	tmnxPortIngrMdaQos07StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.

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5620 SAM counter name	Type	MIB counter name	Description
qosClassifier8DroppedOctets	UINT128	tmnxPortIngrMdaQos08StatDropOcts	tmnxPortIngrMdaQos08StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier9DroppedOctets	UINT128	tmnxPortIngrMdaQos09StatDropOcts	tmnxPortIngrMdaQos09StatDropOcts indicates the number of octets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
QosDroppedPacketStats MIB table name: TIMETRA-PORT-MIB.tmnxPortIngrMdaQosStatTable Monitored class: equipment.PhysicalPort			
qosClassifier0DroppedPackets	UINT128	tmnxPortIngrMdaQos00StatDropPkts	tmnxPortIngrMdaQos00StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier10DroppedPackets	UINT128	tmnxPortIngrMdaQos10StatDropPkts	tmnxPortIngrMdaQos10StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier11DroppedPackets	UINT128	tmnxPortIngrMdaQos11StatDropPkts	tmnxPortIngrMdaQos11StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier12DroppedPackets	UINT128	tmnxPortIngrMdaQos12StatDropPkts	tmnxPortIngrMdaQos12StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier13DroppedPackets	UINT128	tmnxPortIngrMdaQos13StatDropPkts	tmnxPortIngrMdaQos13StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier14DroppedPackets	UINT128	tmnxPortIngrMdaQos14StatDropPkts	tmnxPortIngrMdaQos14StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier15DroppedPackets	UINT128	tmnxPortIngrMdaQos15StatDropPkts	tmnxPortIngrMdaQos15StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier1DroppedPackets	UINT128	tmnxPortIngrMdaQos01StatDropPkts	tmnxPortIngrMdaQos01StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.

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5620 SAM counter name	Type	MIB counter name	Description
qosClassifier2DroppedPackets	UINT128	tmnxPortIngrMdaQos02StatDropPkts	tmnxPortIngrMdaQos02StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier3DroppedPackets	UINT128	tmnxPortIngrMdaQos03StatDropPkts	tmnxPortIngrMdaQos03StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier4DroppedPackets	UINT128	tmnxPortIngrMdaQos04StatDropPkts	tmnxPortIngrMdaQos04StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier5DroppedPackets	UINT128	tmnxPortIngrMdaQos05StatDropPkts	tmnxPortIngrMdaQos05StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier6DroppedPackets	UINT128	tmnxPortIngrMdaQos06StatDropPkts	tmnxPortIngrMdaQos06StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier7DroppedPackets	UINT128	tmnxPortIngrMdaQos07StatDropPkts	tmnxPortIngrMdaQos07StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier8DroppedPackets	UINT128	tmnxPortIngrMdaQos08StatDropPkts	tmnxPortIngrMdaQos08StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.
qosClassifier9DroppedPackets	UINT128	tmnxPortIngrMdaQos09StatDropPkts	tmnxPortIngrMdaQos09StatDropPkts indicates the number of packets dropped on the oversubscribed MDA for given Qos classifier result because of an overload condition on the MDA.

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Table A-14 fr statistics

5620 SAM counter name	Type	MIB counter name	Description
InterfaceStats MIB table name: TIMETRA-PORT-MIB.tmnxFRDlcmiTable Monitored class: fr.Interface			
lmiDiscardedMessages	long	tmnxFRDlcmiDiscardedMsgs	tmnxFRDlcmiDiscardedMsgs indicates the number of times the LMI agent discarded a received message because it wasn't expecting it, the type of message was incorrect, or the contents of the message were invalid.

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5620 SAM counter name	Type	MIB counter name	Description
lmiInvalidRxSeqNumMessages	long	tmnxFRDlcmiInvRxSeqNumMsgs	tmnxFRDlcmiInvRxSeqNumMsgs indicates the number of times the LMI agent received a message with an invalid receive sequence number: i.e. a sequence number that does not match the last transmitted sequence number of the agent.
lmiRxStatusEnquiryMessages	long	tmnxFRDlcmiRxStatusEnqMsgs	tmnxFRDlcmiRxStatusEnqMsgs indicates the number of LMI Status Enquiry messages received on this Frame Relay interface.
lmiRxStatusMessages	long	tmnxFRDlcmiRxStatusMsgs	tmnxFRDlcmiRxStatusMsgs indicates the number of LMI Status messages received on this Frame Relay interface.
lmiStatusEnquiryMsgTimeouts	long	tmnxFRDlcmiStatusEnqMsgTimeouts	tmnxFRDlcmiStatusEnqMsgTimeouts indicates the number of times the LMI agent did not receive a Status Enquiry message within the allotted time.
lmiStatusMsgTimeouts	long	tmnxFRDlcmiStatusMsgTimeouts	tmnxFRDlcmiStatusMsgTimeouts indicates the number of times the LMI agent did not receive a Status message within the allotted time.
lmiTxStatusEnquiryMessages	long	tmnxFRDlcmiTxStatusEnqMsgs	tmnxFRDlcmiTxStatusEnqMsgs indicates the number of LMI Status Enquiry messages transmitted on this Frame Relay interface.
lmiTxStatusMessages	long	tmnxFRDlcmiTxStatusMsgs	tmnxFRDlcmiTxStatusMsgs indicates the number of LMI Status messages transmitted on this Frame Relay interface.

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Table A-15 gsmp statistics

5620 SAM counter name	Type	MIB counter name	Description
GsmpSessionStats MIB table name: TIMETRA-GSMP-MIB.tmnxAncpSessionStatsTable Monitored class: gsmp.GsmpGroupNeighborSession			
ancpAckReceived	long	tmnxAncpSesStatRxAck	The value of tmnxAncpSesStatRxAck indicates the number of GSMP ACK messages received in this ANCP session.
ancpAckTransmitted	long	tmnxAncpSesStatTxAck	The value of tmnxAncpSesStatTxAck indicates the number of GSMP ACK messages that were transmitted to the ANCP neighbor in this ANCP session.
ancpLoopBackReceived	long	tmnxAncpSesStatRxLoopback	The value of tmnxAncpSesStatRxLoopback indicates the number of GSMP Loopback messages received in this ANCP session.
ancpLoopBackTransmitted	long	tmnxAncpSesStatTxLoopback	The value of tmnxAncpSesStatTxLoopback indicates the number of GSMP Loopback messages that were transmitted to the ANCP neighbor in this ANCP session.

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5620 SAM counter name	Type	MIB counter name	Description
ancpPortDownReceived	long	tmnxAncpSesStatRxPortDown	The value of tmnxAncpSesStatRxPortDown indicates the number of GSMP 'PortDown' messages received in this ANCP session.
ancpPortDownTransmitted	long	tmnxAncpSesStatTxPortDown	The value of tmnxAncpSesStatTxPortDown indicates the number of GSMP 'PortDown' messages that were transmitted to the ANCP neighbor in this session.
ancpPortUpReceived	long	tmnxAncpSesStatRxPortUp	The value of tmnxAncpSesStatRxPortUp indicates the number of GSMP 'PortUp' messages received in this ANCP session.
ancpPortUpTransmitted	long	tmnxAncpSesStatTxPortUp	The value of tmnxAncpSesStatTxPortUp indicates the number of GSMP 'PortUp' messages that were transmitted to the ANCP neighbor in this session.
ancpRstAckReceived	long	tmnxAncpSesStatRxRstAck	The value of tmnxAncpSesStatRxRstAck indicates the number of GSMP RST ACK messages received in this ANCP session.
ancpRstAckTransmitted	long	tmnxAncpSesStatTxRstAck	The value of tmnxAncpSesStatTxRstAck indicates the number of GSMP RST ACK messages that were transmitted to the ANCP neighbor in this session.
ancpSynAckReceived	long	tmnxAncpSesStatRxSynAck	The value of tmnxAncpSesStatRxSynAck indicates the number of GSMP SYN ACK messages received in this ANCP session.
ancpSynAckTransmitted	long	tmnxAncpSesStatTxSynAck	The value of tmnxAncpSesStatTxSynAck indicates the number of GSMP SYN ACK messages that were transmitted to the ANCP neighbor in this ANCP session.
ancpSynReceived	long	tmnxAncpSesStatRxSyn	The value of tmnxAncpSesStatRxSyn indicates the number of GSMP SYN messages received in this ANCP session.
ancpSynTransmitted	long	tmnxAncpSesStatTxSyn	The value of tmnxAncpSesStatTxSyn indicates the number of GSMP SYN messages that were transmitted to the ANCP neighbor in this ANCP session.
ancpTransmittedDropped	long	tmnxAncpSesStatTxDrop	The value of tmnxAncpSesStatTxDrop indicates the number of GSMP protocol messages that were created by the system in order for them to be sent to the ACNP neighbor, but were never transmitted.

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Table A-16 igmp statistics

5620 SAM counter name	Type	MIB counter name	Description
InterfaceStats MIB table name: TIMETRA-IGMP-MIB.vRtrIgmpIfStatsTable Monitored class: igmp.Interface			

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5620 SAM counter name	Type	MIB counter name	Description
importPolicyDrops	long	vRtrIgmpIfImportPolicyDrops	The value of vRtrIgmpIfImportPolicyDrops indicates the total number of times IGMP protocol instance matched the host IP address or group/source addresses specified in the import policy vRtrIgmpIfImportPolicy.
mcacPolicyDrops	long	vRtrIgmpIfStatsMcacPolicyDrops	The value of the object vRtrIgmpIfStatsMcacPolicyDrops indicates the number times an IGMP Group is dropped because of applying a multicast CAC policy on this interface.
rxBadChecksumPkts	long	vRtrIgmpIfRxBadChecksumPkts	The value of vRtrIgmpIfRxBadChecksumPkts indicates the total number of IGMP packets with bad checksum received on this interface.
rxBadEncodings	long	vRtrIgmpIfRxBadEncodings	The value of vRtrIgmpIfRxBadEncodings indicates the total number of IGMP packets received on this interface which were not encoded correctly.
rxBadLenPkts	long	vRtrIgmpIfRxBadLenPkts	The value of vRtrIgmpIfRxBadLenPkts indicates the total number of IGMP packets with bad length received on this interface.
rxBadReceiveIfPkts	long	vRtrIgmpIfRxBadReceiveIfPkts	The value of vRtrIgmpIfRxBadReceiveIfPkts indicates the total number of IGMP packets incorrectly received on this interface.
rxGenQueries	long	vRtrIgmpIfRxGenQueries	The value of vRtrIgmpIfRxGenQueries indicates the total number of IGMP General Queries received on this interface.
rxGrpQueries	long	vRtrIgmpIfRxGrpQueries	The value of vRtrIgmpIfRxGrpQueries indicates the number of IGMP Group Specific Queries received on this interface.
rxGrpSrcQueries	long	vRtrIgmpIfRxGrpSrcQueries	The value of vRtrIgmpIfRxGrpSrcQueries indicates the number of IGMP Group and Source Specific Queries received on this interface.
rxLeaves	long	vRtrIgmpIfRxLeaves	The value of vRtrIgmpIfRxLeaves indicates the total number of IGMP V2 Leaves received on this interface.
rxNonLocal	long	vRtrIgmpIfRxNonLocal	The value of vRtrIgmpIfRxNonLocal indicates the total number of IGMP packets received from a non-local sender.
rxNoRtrAlertPkts	long	vRtrIgmpIfRxNoRtrAlertPkts	The value of vRtrIgmpIfRxNoRtrAlertPkts indicates the total number of IGMPv3 packets received on this interface which did not have the router alert flag set.
rxPktDrops	long	vRtrIgmpIfRxPktDrops	The value of vRtrIgmpIfRxPktDrops indicates the total number of IGMP packets that were received on this interface but were dropped.

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5620 SAM counter name	Type	MIB counter name	Description
rxUnknownTypePkts	long	vRtrIgmpIfRxUnknownTypePkts	The value of vRtrIgmpIfRxUnknownTypePkts indicates the total number of IGMP packets with unknown type received on this interface.
rxV1Reports	long	vRtrIgmpIfRxV1Reports	The value of vRtrIgmpIfRxV1Reports indicates the total number of IGMP V1 Reports received on this interface.
rxV2Reports	long	vRtrIgmpIfRxV2Reports	The value of vRtrIgmpIfRxV2Reports indicates the total number of IGMP V2 Reports received on this interface.
rxV3Reports	long	vRtrIgmpIfRxV3Reports	The value of vRtrIgmpIfRxV3Reports indicates the total number of IGMP V3 Reports received on this interface.
rxWrongVersions	long	vRtrIgmpIfRxWrongVersions	The value of vRtrIgmpIfRxWrongVersions indicates the total number of IGMP packets with wrong versions received on this interface.
statsSGTypes	long	vRtrIgmpIfStatsSGTypes	The value of vRtrIgmpIfStatsSGTypes indicates the number of entries on this interface for which the source type is 'sg'.
statsStarGTypes	long	vRtrIgmpIfStatsStarGTypes	vRtrIgmpIfStatsStarGTypes indicates the number of entries on this interface for which the source type is 'starG'.
txErrors	long	vRtrIgmpIfTxErrors	The value of vRtrIgmpIfTxErrors indicates the total number of times there was an error transmitting IGMP packets on this interface..
txGenQueries	long	vRtrIgmpIfTxGenQueries	The value of vRtrIgmpIfTxGenQueries indicates the number of IGMP General Queries transmitted on this interface.
txGrpQueries	long	vRtrIgmpIfTxGrpQueries	The value of vRtrIgmpIfTxGrpQueries indicates the number of IGMP Group Specific Queries transmitted on this interface.
txGrpSrcQueries	long	vRtrIgmpIfTxGrpSrcQueries	The value of vRtrIgmpIfTxGrpSrcQueries indicates the number of IGMP Group and Source Specific Queries transmitted on this interface.
txLeaves	long	vRtrIgmpIfTxLeaves	The value of vRtrIgmpIfTxLeaves indicates the total number of IGMP Leaves transmitted on this interface.
txV1Reports	long	vRtrIgmpIfTxV1Reports	The value of vRtrIgmpIfTxV1Reports indicates the total number of IGMP V1 Reports transmitted on this interface.
txV2Reports	long	vRtrIgmpIfTxV2Reports	The value of vRtrIgmpIfTxV2Reports indicates the total number of IGMP V2 Reports transmitted on this interface.
txV3Reports	long	vRtrIgmpIfTxV3Reports	The value of vRtrIgmpIfTxV3Reports indicates the total number of IGMP V3 Reports transmitted on this interface.
InterfaceStatsExtension MIB table name: TIMETRA-IGMP-MIB.vRtrIgmpIfStatsTable Monitored class: igmp.Interface			

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5620 SAM counter name	Type	MIB counter name	Description
rxLocalScopePkts	long	vRtrIgmpIfRxLocalScopePkts	The value of the object vRtrIgmpIfRxLocalScopePkts indicates the number of IGMP packets received on the link-local scope IPv4 multicast address.
rxRsvdScopePkts	long	vRtrIgmpIfRxRsvdScopePkts	The value of the object vRtrIgmpIfRxRsvdScopePkts indicates the number of IGMP packets received on the reserved scope IPv4 multicast address.

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Table A-17 ipsec statistics

5620 SAM counter name	Type	MIB counter name	Description
IPSecSAStats MIB table name: TIMETRA-IPSEC-MIB.tmnxIPsecSAStatsTable Monitored class: ipsec.IPSecSecurityAssociation			
bytesProcessed	UINT128	tmnxIPsecSAStatsBytesProcessed	The value of tmnxIPsecSAStatsBytesProcessed indicates the number of bytes successfully processed for this SA.
cryptoErrors	long	tmnxIPsecSAStatsCryptoErrors	The value of tmnxIPsecSAStatsCryptoErrors indicates the number of crypto errors encountered on this SA. The crypto errors include errors on packets where protocol does not match or if the check on authentication header length failed.
pktsProcessed	UINT128	tmnxIPsecSAStatsPktsProcessed	The value of tmnxIPsecSAStatsPktsProcessed indicates the number of packets successfully processed for this SA.
policyErrors	long	tmnxIPsecSAStatsPolicyErrors	The value of tmnxIPsecSAStatsPolicyErrors indicates the number of policy errors encountered on this SA. The policy errors include bundled SA, selector check and policy direction error.
replayErrors	long	tmnxIPsecSAStatsReplayErrors	The value of tmnxIPsecSAStatsReplayErrors indicates the number of replay errors encountered on this SA.
saErrors	long	tmnxIPsecSAStatsSAErrors	The value of tmnxIPsecSAStatsSAErrors indicates the number of SA errors encountered on this SA. The SA errors include sequence number failure, invalid SA, ploicy version mismatch, illegal authentication algorithm, expanded packet too big, illegal configured algorithm and ttl decrement error.
IPSecTunnelStats MIB table name: TIMETRA-IPSEC-MIB.tmnxIPsecTunnelStatsTable Monitored class: ipsec.IPSecTunnel			

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5620 SAM counter name	Type	MIB counter name	Description
isakmpEstabTime	long	tmnxIPsecTunnelIsakmpEstabTime	The value of tmnxIPsecTunnelIsakmpEstabTime indicates the sysUpTime at the time the IPsec phase 1 negotiation completed.
isakmpNegLifeTime	long	tmnxIPsecTunnelIsakmpNegLifeTime	The value of tmnxIPsecTunnelIsakmpNegLifeTime indicates the lifetime negotiated for phase1 Ike key.
isakmpState	long	tmnxIPsecTunnelIsakmpState	The value of tmnxIPsecTunnelIsakmpState indicates the state of phase 1 IPsec negotiation.
numCtrlPktsRx	long	tmnxIPsecTunnelNumCtrlPktsRx	The value of tmnxIPsecTunnelNumCtrlPktsRx indicates the number of control packets this IPsec Tunnel has received.
numCtrlPktsTx	long	tmnxIPsecTunnelNumCtrlPktsTx	The value of tmnxIPsecTunnelNumCtrlPktsTx indicates the number of control packets this IPsec Tunnel has sent.
numCtrlRxErrors	long	tmnxIPsecTunnelNumCtrlRxErrors	The value of tmnxIPsecTunnelNumCtrlRxErrors indicates the number of control packet receive errors.
numCtrlTxErrors	long	tmnxIPsecTunnelNumCtrlTxErrors	The value of tmnxIPsecTunnelNumCtrlTxErrors indicates the number of control packet transmit errors.
numDpdAckRx	long	tmnxIPsecTunnelNumDpdAckRx	The value of tmnxIPsecTunnelNumDpdAckRx indicates the number of Dead-Peer-Detection acknowledgement packets received.
numDpdAckTx	long	tmnxIPsecTunnelNumDpdAckTx	The value of tmnxIPsecTunnelNumDpdAckTx indicates the number of Dead-Peer-Detection acknowledgement packets transmitted.
numDpdRx	long	tmnxIPsecTunnelNumDpdRx	The value of tmnxIPsecTunnelNumDpdRx indicates the number of Dead-Peer-Detection packets received.
numDpdTx	long	tmnxIPsecTunnelNumDpdTx	The value of tmnxIPsecTunnelNumDpdTx indicates the number of Dead-Peer-Detection packets transmitted.
numExpRx	long	tmnxIPsecTunnelNumExpRx	The value of tmnxIPsecTunnelNumExpRx indicates the number of DPD R-U-THERE packets that have not been acknowledged.
numInvalidDpdRx	long	tmnxIPsecTunnelNumInvalidDpdRx	The value of tmnxIPsecTunnelNumInvalidDpdRx indicates the number of malformed DPD R-U-THERE acknowledgement packets received.

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Table A-18 isa statistics

5620 SAM counter name	Type	MIB counter name	Description
AaGroupEgrQStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxGrpStatusEgrQTable Monitored class: isa.AaEgrQueue			
droInProfOcts	long	tmnxBsxGrpStatusEgrQDroInPOcts	The value of tmnxBsxGrpStatusEgrQDroInPOcts indicates the number of in profile bytes discarded from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
droInProfPkts	long	tmnxBsxGrpStatusEgrQDroInPPkts	The value of tmnxBsxGrpStatusEgrQDroInPPkts indicates the number of in profile packets discarded from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
droOutProfOcts	long	tmnxBsxGrpStatusEgrQDroOutPOcts	The value of tmnxBsxGrpStatusEgrQDroOutPOcts indicates the number of out of profile bytes discarded from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
droOutProfPkts	long	tmnxBsxGrpStatusEgrQDroOutPPkts	The value of tmnxBsxGrpStatusEgrQDroOutPPkts indicates the number of out of profile packets discarded from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
fwdInProfOcts	long	tmnxBsxGrpStatusEgrQFwdInPOcts	The value of tmnxBsxGrpStatusEgrQFwdInPOcts indicates the number of in profile bytes diverted from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
fwdInProfPkts	long	tmnxBsxGrpStatusEgrQFwdInPPkts	The value of tmnxBsxGrpStatusEgrQFwdInPPkts indicates the number of in profile packets diverted from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
fwdOutProfOcts	long	tmnxBsxGrpStatusEgrQFwdOutPOcts	The value of tmnxBsxGrpStatusEgrQFwdOutPOcts indicates the number of out of profile bytes diverted from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
fwdOutProfPkts	long	tmnxBsxGrpStatusEgrQFwdOutPPkts	The value of tmnxBsxGrpStatusEgrQFwdOutPPkts indicates the number of out of profile packets diverted from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.

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5620 SAM counter name	Type	MIB counter name	Description
hCDroInProfOcts	UINT128	tmnxBsxGrpStatusEgrQHCDroInPOcts	The value of tmnxBsxGrpStatusEgrQHCDroInPOcts indicates the number of in profile bytes discarded from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
hCDroInProfPkts	UINT128	tmnxBsxGrpStatusEgrQHCDroInPPkts	The value of tmnxBsxGrpStatusEgrQHCDroInPPkts indicates the number of in profile packets discarded from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
hCDroOutProfOcts	UINT128	tmnxBsxGrpStatusEgrQHCDroOutPOcts	The value of tmnxBsxGrpStatusEgrQHCDroOutPOcts indicates the number of out of profile bytes discarded from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
hCDroOutProfPkts	UINT128	tmnxBsxGrpStatusEgrQHCDroOutPPkts	The value of tmnxBsxGrpStatusEgrQHCDroOutPPkts indicates the number of out of profile packets discarded from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
hCFwdInProfOcts	UINT128	tmnxBsxGrpStatusEgrQHCFwdInPOcts	The value of tmnxBsxGrpStatusEgrQHCFwdInPOcts indicates the number of in profile bytes diverted from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
hCFwdInProfPkts	UINT128	tmnxBsxGrpStatusEgrQHCFwdInPPkts	The value of tmnxBsxGrpStatusEgrQHCFwdInPPkts indicates the number of in profile packets diverted from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
hCFwdOutProfOcts	UINT128	tmnxBsxGrpStatusEgrQHCFwdOutPOcts	The value of tmnxBsxGrpStatusEgrQHCFwdOutPOcts indicates the number of out of profile bytes diverted from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
hCFwdOutProfPkts	UINT128	tmnxBsxGrpStatusEgrQHCFwdOutPPkts	The value of tmnxBsxGrpStatusEgrQHCFwdOutPPkts indicates the number of out of profile packets diverted from ingress IOMs towards the ISA-AA MDA within this group for the particular queue.
AaGroupIngQStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxGrpStatusIngQTable Monitored class: isa.AaIngQueue			
droInProfOcts	long	tmnxBsxGrpStatusIngQDroInPOcts	The value of tmnxBsxGrpStatusIngQDroInPOcts indicates the number of in profile bytes discarded towards egress IOMs from the ISA-AA MDA within this group for the particular queue.

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5620 SAM counter name	Type	MIB counter name	Description
droInProfPkts	long	tmnxBsxGrpStatusIngQDroInPPkts	The value of tmnxBsxGrpStatusIngQDroInPPkts indicates the number of in profile packets discarded towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
droOutProfOcts	long	tmnxBsxGrpStatusIngQDroOutPOcts	The value of tmnxBsxGrpStatusIngQDroOutPOcts indicates the number of out of profile bytes discarded towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
droOutProfPkts	long	tmnxBsxGrpStatusIngQDroOutPPkts	The value of tmnxBsxGrpStatusIngQDroOutPPkts indicates the number of out of profile packets discarded towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
fwdInProfOcts	long	tmnxBsxGrpStatusIngQFwdInPOcts	The value of tmnxBsxGrpStatusIngQFwdInPOcts indicates the number of in profile bytes diverted towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
fwdInProfPkts	long	tmnxBsxGrpStatusIngQFwdInPPkts	The value of tmnxBsxGrpStatusIngQFwdInPPkts indicates the number of in profile packets diverted towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
fwdOutProfOcts	long	tmnxBsxGrpStatusIngQFwdOutPOcts	The value of tmnxBsxGrpStatusIngQFwdOutPOcts indicates the number of out of profile bytes diverted towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
fwdOutProfPkts	long	tmnxBsxGrpStatusIngQFwdOutPPkts	The value of tmnxBsxGrpStatusIngQFwdOutPPkts indicates the number of out of profile packets diverted towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
hCDroInProfOcts	UINT128	tmnxBsxGrpStatusIngQHCDroInPOcts	The value of tmnxBsxGrpStatusIngQHCDroInPOcts indicates the number of in profile bytes discarded towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
hCDroInProfPkts	UINT128	tmnxBsxGrpStatusIngQHCDroInPPkts	The value of tmnxBsxGrpStatusIngQHCDroInPPkts indicates the number of in profile packets discarded towards egress IOMs from the ISA-AA MDA within this group for the particular queue.

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5620 SAM counter name	Type	MIB counter name	Description
hCDroOutProfOcts	UINT128	tmnxBsxGrpStatusIngQHCDroOutPOcts	The value of tmnxBsxGrpStatusIngQHCDroOutPOcts indicates the number of out of profile bytes discarded towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
hCDroOutProfPkts	UINT128	tmnxBsxGrpStatusIngQHCDroOutPPkts	The value of tmnxBsxGrpStatusIngQHCDroOutPPkts indicates the number of out of profile packets discarded towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
hCFwdInProfOcts	UINT128	tmnxBsxGrpStatusIngQHCFwdInPOcts	The value of tmnxBsxGrpStatusIngQHCFwdInPOcts indicates the number of in profile bytes diverted towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
hCFwdInProfPkts	UINT128	tmnxBsxGrpStatusIngQHCFwdInPPkts	The value of tmnxBsxGrpStatusIngQHCFwdInPPkts indicates the number of in profile packets diverted towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
hCFwdOutProfOcts	UINT128	tmnxBsxGrpStatusIngQHCFwdOutPOcts	The value of tmnxBsxGrpStatusIngQHCFwdOutPOcts indicates the number of out of profile bytes diverted towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
hCFwdOutProfPkts	UINT128	tmnxBsxGrpStatusIngQHCFwdOutPPkts	The value of tmnxBsxGrpStatusIngQHCFwdOutPPkts indicates the number of out of profile packets diverted towards egress IOMs from the ISA-AA MDA within this group for the particular queue.
AaSapSumStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxAaSubSumTable Monitored class: service.AccessInterface			
activeFlowsFromSub	long	tmnxBsxAaSubSumActFlwsFmSb	The value of tmnxBsxAaSubSumActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxAaSubSumActFlwsToSb	The value of tmnxBsxAaSubSumActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxAaSubSumHCLngDurFlws	The value of tmnxBsxAaSubSumHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumLngDurFlws.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsMedium	UINT128	tmnxBsxAaSubSumHCMedDurFlws	The value of tmnxBsxAaSubSumHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxAaSubSumHCShrtDurFlws	The value of tmnxBsxAaSubSumHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCFlwsAdmFmSb	The value of tmnxBsxAaSubSumHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxAaSubSumHCFlwsAdmToSb	The value of tmnxBsxAaSubSumHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxAaSubSumHCFlwsDnyFmSb	The value of tmnxBsxAaSubSumHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxAaSubSumHCFlwsDnyToSb	The value of tmnxBsxAaSubSumHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxAaSubSumFlwsDnyToSb.
mdaMdaNum	int	tmnxBsxAaSubSumMdaMdaNum	The value of tmnxBsxAaSubSumMdaMdaNum indicates the MDA number of the ISA-AA MDA servicing the subscriber.
mdaSlotNum	int	tmnxBsxAaSubSumMdaSlotNum	The value of tmnxBsxAaSubSumMdaSlotNum indicates the slot number of the ISA-AA MDA servicing the subscriber.
octsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCOctsAdmFmSb	The value of tmnxBsxAaSubSumHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsAdmFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
octsAdmitToSub	UINT128	tmnxBsxAaSubSumHCOcts AdmToSb	The value of tmnxBsxAaSubSumHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxAaSubSumHCOcts DnyFmSb	The value of tmnxBsxAaSubSumHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxAaSubSumHCOcts DnyToSb	The value of tmnxBsxAaSubSumHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCPkts AdmFmSb	The value of tmnxBsxAaSubSumHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxAaSubSumHCPkts AdmToSb	The value of tmnxBsxAaSubSumHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxAaSubSumHCPkts DnyFmSb	The value of tmnxBsxAaSubSumHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxAaSubSumHCPkts DnyToSb	The value of tmnxBsxAaSubSumHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterv al	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxAaSubSumHCTer mFlwDur	The value of tmnxBsxAaSubSumHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxAaSubSumTermFlwDur.
termFlows	UINT128	tmnxBsxAaSubSumHCTer mFlws	The value of tmnxBsxAaSubSumHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxAaSubSumTermFlws.

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5620 SAM counter name	Type	MIB counter name	Description
AaSpokeSdpBindingSumStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxAaSubSumTable Monitored class: svt.SpokeSdpBinding			
aaSpokeSdpBinding	String	tmnxBsxAaSubscriber	The Application Assurance Subscriber identifier. The format of this object is determined by the value of the tmnxBsxAaSubscriberType.
activeFlowsFromSub	long	tmnxBsxAaSubSumActFlwsFmSb	The value of tmnxBsxAaSubSumActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxAaSubSumActFlwsToSb	The value of tmnxBsxAaSubSumActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxAaSubSumHCLngDurFlws	The value of tmnxBsxAaSubSumHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxAaSubSumHCMedDurFlws	The value of tmnxBsxAaSubSumHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxAaSubSumHCShrtDurFlws	The value of tmnxBsxAaSubSumHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCFlwsAdmFmSb	The value of tmnxBsxAaSubSumHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxAaSubSumHCFlwsAdmToSb	The value of tmnxBsxAaSubSumHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxAaSubSumHCFlwsDnyFmSb	The value of tmnxBsxAaSubSumHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsDenyToSub	UINT128	tmnxBsxAaSubSumHCFlwsDnyToSb	The value of tmnxBsxAaSubSumHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxAaSubSumFlwsDnyToSb.
mdaMdaNum	int	tmnxBsxAaSubSumMdaMdaNum	The value of tmnxBsxAaSubSumMdaMdaNum indicates the MDA number of the ISA-AA MDA servicing the subscriber.
mdaSlotNum	int	tmnxBsxAaSubSumMdaSlotNum	The value of tmnxBsxAaSubSumMdaSlotNum indicates the slot number of the ISA-AA MDA servicing the subscriber.
octsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCOctsAdmFmSb	The value of tmnxBsxAaSubSumHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxAaSubSumHCOctsAdmToSb	The value of tmnxBsxAaSubSumHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxAaSubSumHCOctsDnyFmSb	The value of tmnxBsxAaSubSumHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxAaSubSumHCOctsDnyToSb	The value of tmnxBsxAaSubSumHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCPktsAdmFmSb	The value of tmnxBsxAaSubSumHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxAaSubSumHCPktsAdmToSb	The value of tmnxBsxAaSubSumHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxAaSubSumHCPktsDnyFmSb	The value of tmnxBsxAaSubSumHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsDenyToSub	UINT128	tmnxBsxAaSubSumHCPktsDnyToSb	The value of tmnxBsxAaSubSumHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxAaSubSumHCTermFlwDur	The value of tmnxBsxAaSubSumHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxAaSubSumTermFlwDur.
termFlows	UINT128	tmnxBsxAaSubSumHCTermFlws	The value of tmnxBsxAaSubSumHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxAaSubSumTermFlws.
AaSubSumStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxAaSubSumTable Monitored class: ressubscr.ResidentialSubscriberInstance			
activeFlowsFromSub	long	tmnxBsxAaSubSumActFlwsFmSb	The value of tmnxBsxAaSubSumActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxAaSubSumActFlwsToSb	The value of tmnxBsxAaSubSumActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxAaSubSumHCLngDurFlws	The value of tmnxBsxAaSubSumHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxAaSubSumHCMedDurFlws	The value of tmnxBsxAaSubSumHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxAaSubSumHCShrtDurFlws	The value of tmnxBsxAaSubSumHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxAaSubSumShrtDurFlws.

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5620 SAM counter name	Type	MIB counter name	Description
flowsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCFlwsAdmFmSb	The value of tmnxBsxAaSubSumHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxAaSubSumHCFlwsAdmToSb	The value of tmnxBsxAaSubSumHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxAaSubSumHCFlwsDnyFmSb	The value of tmnxBsxAaSubSumHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxAaSubSumHCFlwsDnyToSb	The value of tmnxBsxAaSubSumHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxAaSubSumFlwsDnyToSb.
mdaMdaNum	int	tmnxBsxAaSubSumMdaMdaNum	The value of tmnxBsxAaSubSumMdaMdaNum indicates the MDA number of the ISA-AA MDA servicing the subscriber.
mdaSlotNum	int	tmnxBsxAaSubSumMdaSlotNum	The value of tmnxBsxAaSubSumMdaSlotNum indicates the slot number of the ISA-AA MDA servicing the subscriber.
octsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCOctsAdmFmSb	The value of tmnxBsxAaSubSumHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxAaSubSumHCOctsAdmToSb	The value of tmnxBsxAaSubSumHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxAaSubSumHCOctsDnyFmSb	The value of tmnxBsxAaSubSumHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxAaSubSumHCOctsDnyToSb	The value of tmnxBsxAaSubSumHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumOctsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsAdmitFromSub	UINT128	tmnxBsxAaSubSumHCPktsAdmFmSb	The value of tmnxBsxAaSubSumHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxAaSubSumHCPktsAdmToSb	The value of tmnxBsxAaSubSumHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxAaSubSumHCPktsDnyFmSb	The value of tmnxBsxAaSubSumHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxAaSubSumHCPktsDnyToSb	The value of tmnxBsxAaSubSumHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxAaSubSumPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxAaSubSumHCTermFlwDur	The value of tmnxBsxAaSubSumHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxAaSubSumTermFlwDur.
termFlows	UINT128	tmnxBsxAaSubSumHCTermFlws	The value of tmnxBsxAaSubSumHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxAaSubSumTermFlws.
BsxMdaStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxGrpStatusTable Monitored classes: • isa.AaGroup • isa.AaGroupMember			
flows	long	tmnxBsxGrpStatusFlows	The value of tmnxBsxGrpStatusFlows indicates the number of flows seen by the ISA-AA MDA(s). Note that if the same 5-tuple is seen for a different flow within the flow timeout, it will still be considered one flow.
flowsCurrent	long	tmnxBsxGrpStatusFlowsCurrent	The value of tmnxBsxGrpStatusFlowsCurrent indicates the number of flows currently being tracked by the ISA-AA MDA(s).

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5620 SAM counter name	Type	MIB counter name	Description
flowSetupRate	long	tmnxBsxGrpStatusFlowSetupRate	The value of tmnxBsxGrpStatusFlowSetupRate indicates the number of flow setups per second. The calculation is weighted to give half of the weight to flows setup within the last five minutes and 25 weighting to flows setup in the previous five minutes, etc.
hCFlows	UINT128	tmnxBsxGrpStatusHCFlows	The value of tmnxBsxGrpStatusHCFlows indicates the number of flows seen by the ISA-AA MDA(s). Note that if the same 5-tuple is seen for a different flow within the flow timeout, it will still be considered one flow.
hCOctsDiscCongIn	UINT128	tmnxBsxGrpStatusHCOctsDiscCongIn	The value of tmnxBsxGrpStatusHCOctsDiscCongIn indicates the number of bytes discarded by the IOMs prior to the ISA-AA MDA(s) due to egress IOM congestion.
hCOctsDiscCongMda	UINT128	tmnxBsxGrpStatusHCOctsDisCongMda	The value of tmnxBsxGrpStatusHCOctsDisCongMda indicates the number of bytes discarded by the ISA-AA MDA(s) due to congestion.
hCOctsDiscCongOut	UINT128	tmnxBsxGrpStatusHCOctsDisCongOut	The value of tmnxBsxGrpStatusHCOctsDisCongOut indicates the number of bytes discarded by the IOMs after the ISA-AA MDA(s) due to ingress IOM congestion.
hCOctsDiscErrors	UINT128	tmnxBsxGrpStatusHCOctsDiscErrors	The value of tmnxBsxGrpStatusHCOctsDiscErrors indicates the number of bytes discarded due to unrecoverable errors.
hCOctsDiscPolicy	UINT128	tmnxBsxGrpStatusHCOctsDiscPolicy	The value of tmnxBsxGrpStatusHCOctsDiscPolicy indicates the number of bytes discarded by the ISA-AA MDA(s) due to policy policers or discard actions.
hCOctsFromMda	UINT128	tmnxBsxGrpStatusHCOctsFromMda	The value of tmnxBsxGrpStatusHCOctsFromMda indicates the number of bytes sent from the ISA-AA MDA(s) to the local IOM.
hCOctsIn	UINT128	tmnxBsxGrpStatusHCOctsIn	The value of tmnxBsxGrpStatusHCOctsIn indicates the number of bytes diverted from ingress IOMs towards the ISA-AA MDA(s).
hCOctsInMda	UINT128	tmnxBsxGrpStatusHCOctsInMda	The value of tmnxBsxGrpStatusHCOctsInMda indicates the number of bytes buffered by the ISA-AA MDA(s).
hCOctsInspected	UINT128	tmnxBsxGrpStatusHCOctsInspected	The value of tmnxBsxGrpStatusHCOctsInspected indicates the number of bytes sent for protocol determination by the ISA-AA MDA(s).

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5620 SAM counter name	Type	MIB counter name	Description
hCOctsOut	UINT128	tmnxBsxGrpStatusHCOctsOut	The value of tmnxBsxGrpStatusHCOctsOut indicates the number of bytes sent to egress IOMs from the ISA-AA MDA(s).
hCOctsPolicyByPass	UINT128	tmnxBsxGrpStatusHCOctsPolicyByps	The value of tmnxBsxGrpStatusHCOctsPolicyByps indicates the number of bytes passed untouched that did not have statistics or policy applied.
hCOctsToMda	UINT128	tmnxBsxGrpStatusHCOctsToMda	The value of tmnxBsxGrpStatusHCOctsToMda indicates the number of bytes sent from an IOM towards the ISA-AA MDA(s).
hCPktsDiscCongIn	UINT128	tmnxBsxGrpStatusHCPktsDiscCongIn	The value of tmnxBsxGrpStatusHCPktsDiscCongIn indicates the number of packets discarded by the IOMs prior to the ISA-AA MDA(s) due to egress IOM congestion.
hCPktsDiscCongMda	UINT128	tmnxBsxGrpStatusHCPktsDisCongMda	The value of tmnxBsxGrpStatusHCPktsDisCongMda indicates the number of packets discarded by the ISA-AA MDA(s) due to congestion.
hCPktsDiscCongOut	UINT128	tmnxBsxGrpStatusHCPktsDisCongOut	The value of tmnxBsxGrpStatusHCPktsDisCongOut indicates the number of packets discarded by the IOMs after the ISA-AA MDA(s) due to ingress IOM congestion.
hCPktsDiscErrors	UINT128	tmnxBsxGrpStatusHCPktsDiscErrors	The value of tmnxBsxGrpStatusHCPktsDiscErrors indicates the number of packets discarded due to unrecoverable errors.
hCPktsDiscPolicy	UINT128	tmnxBsxGrpStatusHCPktsDiscPolicy	The value of tmnxBsxGrpStatusHCPktsDiscPolicy indicates the number of packets discarded by the ISA-AA MDA(s) due to policy policers or discard actions.
hCPktsFromMda	UINT128	tmnxBsxGrpStatusHCPktsFromMda	The value of tmnxBsxGrpStatusHCPktsFromMda indicates the number of packets sent from the ISA-AA MDA(s) to the local IOM.
hCPktsIn	UINT128	tmnxBsxGrpStatusHCPktsIn	The value of tmnxBsxGrpStatusHCPktsIn indicates the number of packets diverted from ingress IOMs towards the ISA-AA MDA(s).
hCPktsInMda	UINT128	tmnxBsxGrpStatusHCPktsInMda	The value of tmnxBsxGrpStatusHCPktsInMda indicates the number of packets buffered by the ISA-AA MDA(s).
hCPktsInPchipErrors	UINT128	tmnxBsxGrpStatusHCPktsInPChipErs	The value of tmnxBsxGrpStatusHCPktsInPChipErs indicates the number of packets discarded by the egress P-chip due to errors in the packets.

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5620 SAM counter name	Type	MIB counter name	Description
hCPktsInspected	UINT128	tmnxBsxGrpStatusHCPktsInspected	The value of tmnxBsxGrpStatusHCPktsInspected indicates the number of packets sent for protocol determination by the ISA-AA MDA(s).
hCPktsOut	UINT128	tmnxBsxGrpStatusHCPktsOut	The value of tmnxBsxGrpStatusHCPktsOut indicates the number of packets sent to egress IOMs from the ISA-AA MDA(s).
hCPktsOutPchipErrors	UINT128	tmnxBsxGrpStatusHCPktsOutPChipEr	The value of tmnxBsxGrpStatusHCPktsOutPChipEr indicates the number of packets discarded by the ingress P-chip due to errors in the packets.
hCPktsPolicyByPass	UINT128	tmnxBsxGrpStatusHCPktsPolicyByps	The value of tmnxBsxGrpStatusHCPktsPolicyByps indicates the number of packets passed untouched that did not have statistics or policy applied.
hCPktsToMda	UINT128	tmnxBsxGrpStatusHCPktsToMda	The value of tmnxBsxGrpStatusHCPktsToMda indicates the number of packets sent from an IOM towards the ISA-AA MDA(s).
octsDiscCongIn	long	tmnxBsxGrpStatusOctsDiscCongIn	The value of tmnxBsxGrpStatusOctsDiscCongIn indicates the number of bytes discarded by the IOMs prior to the ISA-AA MDA(s) due to egress IOM congestion.
octsDiscCongMda	long	tmnxBsxGrpStatusOctsDisCongMda	The value of tmnxBsxGrpStatusOctsDisCongMda indicates the number of bytes discarded by the ISA-AA MDA(s) due to congestion.
octsDiscCongOut	long	tmnxBsxGrpStatusOctsDisCongOut	The value of tmnxBsxGrpStatusOctsDisCongOut indicates the number of bytes discarded by the IOMs after the ISA-AA MDA(s) due to ingress IOM congestion.
octsDiscErrors	long	tmnxBsxGrpStatusOctsDiscErrors	The value of tmnxBsxGrpStatusOctsDiscErrors indicates the number of bytes discarded due to unrecoverable errors.
octsDiscPolicy	long	tmnxBsxGrpStatusOctsDiscPolicy	The value of tmnxBsxGrpStatusOctsDiscPolicy indicates the number of bytes discarded by the ISA-AA MDA(s) due to policy.
octsFromMda	long	tmnxBsxGrpStatusOctsFromMda	The value of tmnxBsxGrpStatusOctsFromMda indicates the number of bytes sent from the ISA-AA MDA(s) to the local IOM.
octsIn	long	tmnxBsxGrpStatusOctsIn	The value of tmnxBsxGrpStatusOctsIn indicates the number of bytes diverted from ingress IOMs towards the ISA-AA MDA(s).
octsInMda	long	tmnxBsxGrpStatusOctsInMda	The value of tmnxBsxGrpStatusOctsInMda indicates the number of bytes buffered by the ISA-AA MDA(s).

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5620 SAM counter name	Type	MIB counter name	Description
octsInspected	long	tmnxBsxGrpStatusOctsInspected	The value of tmnxBsxGrpStatusOctsInspected indicates the number of bytes sent for protocol determination by the ISA-AA MDA(s).
octsOut	long	tmnxBsxGrpStatusOctsOut	The value of tmnxBsxGrpStatusOctsOut indicates the number of bytes sent to egress IOMs from the ISA-AA MDA(s).
octsPolicyByPass	long	tmnxBsxGrpStatusOctsPolicyByps	The value of tmnxBsxGrpStatusOctsPolicyByps indicates the number of bytes passed untouched that did not have statistics or policy applied.
octsToMda	long	tmnxBsxGrpStatusOctsToMda	The value of tmnxBsxGrpStatusOctsToMda indicates the number of bytes sent from an IOM towards the ISA-AA MDA(s).
pktsDiscCongIn	long	tmnxBsxGrpStatusPktsDiscCongIn	The value of tmnxBsxGrpStatusPktsDiscCongIn indicates the number of packets discarded by the IOMs prior to the ISA-AA MDA(s) due to egress IOM congestion.
pktsDiscCongMda	long	tmnxBsxGrpStatusPktsDisCongMda	The value of tmnxBsxGrpStatusPktsDisCongMda indicates the number of packets discarded by the ISA-AA MDA(s) due to congestion.
pktsDiscCongOut	long	tmnxBsxGrpStatusPktsDisCongOut	The value of tmnxBsxGrpStatusPktsDisCongOut indicates the number of packets discarded by the IOMs after the ISA-AA MDA(s) due to ingress IOM congestion.
pktsDiscErrors	long	tmnxBsxGrpStatusPktsDiscErrors	The value of tmnxBsxGrpStatusPktsDiscErrors indicates the number of packets discarded due to unrecoverable errors.
pktsDiscPolicy	long	tmnxBsxGrpStatusPktsDiscPolicy	The value of tmnxBsxGrpStatusPktsDiscPolicy indicates the number of packets discarded by the ISA-AA MDA(s) due to policy.
pktsFromMda	long	tmnxBsxGrpStatusPktsFromMda	The value of tmnxBsxGrpStatusPktsFromMda indicates the number of packets sent from the ISA-AA MDA(s) to the local IOM.
pktsIn	long	tmnxBsxGrpStatusPktsIn	The value of tmnxBsxGrpStatusPktsIn indicates the number of packets diverted from ingress IOMs towards the ISA-AA MDA(s).
pktsInMda	long	tmnxBsxGrpStatusPktsInMda	The value of tmnxBsxGrpStatusPktsInMda indicates the number of packets buffered by the ISA-AA MDA(s).
pktsInPChipErrors	long	tmnxBsxGrpStatusPktsInPChipErs	The value of tmnxBsxGrpStatusPktsInPChipErs indicates the number of packets discarded by the egress P-chip due to errors in the packets.

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5620 SAM counter name	Type	MIB counter name	Description
pktsInspected	long	tmnxBsxGrpStatusPktsInspected	The value of tmnxBsxGrpStatusPktsInspected indicates the number of packets sent for protocol determination by the ISA-AA MDA(s).
pktsOut	long	tmnxBsxGrpStatusPktsOut	The value of tmnxBsxGrpStatusPktsOut indicates the number of packets sent to egress IOMs from the ISA-AA MDA(s).
pktsOutPChipErrors	long	tmnxBsxGrpStatusPktsOutPChipEr	The value of tmnxBsxGrpStatusPktsOutPChipEr indicates the number of packets discarded by the ingress P-chip due to errors in the packets.
pktsPolicyByPass	long	tmnxBsxGrpStatusPktsPolicyByps	The value of tmnxBsxGrpStatusPktsPolicyByps indicates the number of packets passed untouched that did not have statistics or policy applied.
pktsToMda	long	tmnxBsxGrpStatusPktsToMda	The value of tmnxBsxGrpStatusPktsToMda indicates the number of packets sent from an IOM towards the ISA-AA MDA(s).
subsCurrent	long	tmnxBsxGrpStatusSubsCurrent	The value of tmnxBsxGrpStatusSubsCurrent indicates the number of subscribers currently with flow records in the ISA-AA MDA(s).
subsDiverted	long	tmnxBsxGrpStatusSubsDiverted	The value of tmnxBsxGrpStatusSubsDiverted indicates the number of subscribers defined in TIMETRA-SUBSCRIBER-MGMT-MIB::tmnxSubInfoAppProfile in the tmnxSubscriberInfoTable with tmnxBsxAppProfDivert set to 'true'.
trafficRate	long	tmnxBsxGrpStatusTrafficRate	The value of tmnxBsxGrpStatusTrafficRate indicates the traffic rate in kilo-bits per second (kbps) incoming to the ISA-AA MDA(s).
LnsGroupMemberStats MIB table name: TIMETRA-L2TP-MIB.tmnxL2tpIsaMdaStatTable Monitored class: isa.LnsGroupMember			
operState	int	tmnxL2tpIsaMdaStatOperState	The value of tmnxL2tpIsaMdaStatOperState indicates the operational state of this L2TP ISA MDA.
sessions	long	tmnxL2tpIsaMdaStatSessions	The value of tmnxL2tpIsaMdaStatOperState indicates the actual number of PPP sessions on this L2TP ISA MDA.
MgCardFlowStats MIB table name: TIMETRA-MOBILE-SERVING-MIB.tmnxMobServProcsTable Monitored classes: • equipment.BaseCard • lte.ServingGateway			
epcId	long	tmnxMobGwId	The value of tmnxMobGwId uniquely identifies a mobile gateway configured in the system.

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5620 SAM counter name	Type	MIB counter name	Description
servProcAttach	long	tmnxMobServProcAttach	The value of tmnxMobServProcAttach indicates the number of attach procedures sent by the User Equipments (UEs) and executed succesfully on this card.
servProcAttachFailures	long	tmnxMobServProcAttachFailures	The value of tmnxMobServProcAttachFailures indicates the number of attach procedure failures.
servProcAttachPiggyBack	long	tmnxMobServProcAttachPiggyBack	The value of tmnxMobServProcAttachPiggyBack indicates the number of attach procedures sent by the User Equipments (UEs) and executed succesfully on this card with piggybacking.
servProcAttachPiggyFail	long	tmnxMobServProcAttachPiggyFail	The value of tmnxMobServProcAttachPiggyFail indicates the number of attach procedure failures with piggybacking.
servProcDetach	long	tmnxMobServProcDetach	The value of tmnxMobServProcDetach indicates the number of detach procedures executed succesfully on this card.
servProcDetachFailures	long	tmnxMobServProcDetachFailures	The value of tmnxMobServProcDetachFailures indicates the number of detach procedure failures.
servProcEhrpdLteHo	long	tmnxMobServProcEhrpdLteHo	The value of tmnxMobServProcEhrpdLteHo indicates the number of evolved High Rate Packet Data (eHRPD) to Long Term Evolution (LTE) handovers served successfully by this card.
servProcEhrpdLteHoFails	long	tmnxMobServProcEhrpdLteHoFails	The value of tmnxMobServProcEhrpdLteHoFails indicates the number of evolved High Rate Packet Data (eHRPD) to Long Term Evolution (LTE) handover failures served by this card.
servProcHssQosModificatn	long	tmnxMobServProcHssQosModificatn	The value of tmnxMobServProcHssQosModificatn indicates the number of successful HSS initiated QoS modification procedures served by this card.
servProcHssQosModifyFails	long	tmnxMobServProcHssQosModifyFails	The value of tmnxMobServProcHssQosModifyFails indicates the number of QoS modification procedure failures.
servProcInterMmeIdleTau	long	tmnxMobServProcInterMmeIdleTau	The value of tmnxMobServProcInterMmeIdleTau indicates the number of incoming intra Serving Gateway (SGW) inter Mobility Management Entitiy (MME) Idle mode Tracking Area Updates (TAU) served successfully by this card.

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5620 SAM counter name	Type	MIB counter name	Description
servProcInterMmeIdlTauFls	long	tmnxMobServProcInterMmeIdlTauFls	The value of tmnxMobServProcInterMmeIdlTauFls indicates the number of incoming intra Serving Gateway (SGW) inter Mobility Management Entitiy (MME) Idle mode Tracking Area Updates (TAU) served unsuccessfully by this card.
servProcInterMmeRelocs	long	tmnxMobServProcInterMmeRelocs	The value of tmnxMobServProcInterMmeRelocs indicates the number of incoming intra Serving Gateway (SGW) inter Mobility Management Entitiy (MME) detected by this card.
servProcInterMmeS1RlTnFls	long	tmnxMobServProcInterMmeS1RlTnFls	The value of tmnxMobServProcInterMmeS1RlTnFls indicates the number of intra Serving Gateway (SGW) inter Mobility Management Entitiy (MME) S1-based relocation failures with indirect tunnels served by this card.
servProcInterMmeS1RlTnSuc	long	tmnxMobServProcInterMmeS1RlTnSuc	The value of tmnxMobServProcInterMmeS1RlTnSuc indicates the number of intra Serving Gateway (SGW) inter Mobility Management Entitiy (MME) S1-based relocation with indirect tunnels served successfully by this card.
servProcInterMmeS1X2RlFls	long	tmnxMobServProcInterMmeS1X2RlFls	The value of tmnxMobServProcInterMmeS1X2RlFls indicates the number of intra Serving Gateway (SGW) inter Mobility Management Entitiy (MME) X2-based and S1-based relocation failures served by this card.
servProcInterMmeS1X2RlSuc	long	tmnxMobServProcInterMmeS1X2RlSuc	The value of tmnxMobServProcInterMmeS1X2RlSuc indicates the number of intra Serving Gateway (SGW) inter Mobility Management Entitiy (MME) X2-based and S1-based relocation served successfully by this card.
servProcInterSgwHoOut	long	tmnxMobServProcInterSgwHoOut	The value of tmnxMobServProcInterSgwHoOut indicates the number of outgoing inter Serving Gateway (SGW) handovers served successfully by this card.
servProcIntraIdleTauFails	long	tmnxMobServProcIntraIdleTauFails	The value of tmnxMobServProcIntraIdleTauFails indicates the number of intra Serving Gateway (SGW) idle mode Tracking Area Updates (TAU) failures served by this card.
servProcIntraS1IndTnlFail	long	tmnxMobServProcIntraS1IndTnlFail	The value of tmnxMobServProcIntraS1IndTnlFail indicates the number of incoming intra Serving Gateway (SGW) S1-based handover failures with indirect tunnels served by this card.

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5620 SAM counter name	Type	MIB counter name	Description
servProcIntraSgwHndvr	long	tmnxMobServProcIntraSgwHndvr	The value of tmnxMobServProcIntraSgwHndvr indicates the number of incoming intra Serving Gateway (SGW) X2-based and S1-based handovers with and without indirect tunnels served successfully by this card.
servProcIntraSgwHndvrFail	long	tmnxMobServProcIntraSgwHndvrFail	The value of tmnxMobServProcIntraSgwHndvrFail indicates the number of incoming intra Serving Gateway (SGW) X2-based and S1-based handover failures with and without indirect tunnels served by this card.
servProcIntraSgwS1IndTnl	long	tmnxMobServProcIntraSgwS1IndTnl	The value of tmnxMobServProcIntraSgwS1IndTnl indicates the number of incoming intra Serving Gateway (SGW) S1-based handovers with indirect tunnels served successfully by this card.
servProcMmeDedBrDeAcFails	long	tmnxMobServProcMmeDedBrDeAcFails	The value of tmnxMobServProcMmeDedBrDeAcFails indicates the number of Mobility Management Entitiy (MME) initiated dedicated bearer de-activation procedure failures.
servProcMmeDedBrDeActiv	long	tmnxMobServProcMmeDedBrDeActiv	The value of tmnxMobServProcMmeDedBrDeActiv indicates the number of successful Mobility Management Entitiy (MME) initiated dedicated bearer de-activation procedures served by this card.
servProcNwBrModify	long	tmnxMobServProcNwBrModify	The value of tmnxMobServProcNwBrModify indicates the number of network initiated bearer modification procedures served by this card.
servProcNwBrModifyFail	long	tmnxMobServProcNwBrModifyFail	The value of tmnxMobServProcNwBrModifyFail indicates the number of network initiated bearer modification procedure failures in this card.
servProcNwDedBrActivtn	long	tmnxMobServProcNwDedBrActivtn	The value of tmnxMobServProcNwDedBrActivtn indicates the number of successful network initiated dedicated bearer activation procedures served by this card.
servProcNwDedBrActvFails	long	tmnxMobServProcNwDedBrActvFails	The value of tmnxMobServProcNwDedBrActvFails indicates the number of Policy and Charging Rules Function (PCRF) initiated dedicated bearer activation procedure failures.

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5620 SAM counter name	Type	MIB counter name	Description
servProcNwDedBrDeActFails	long	tmnxMobServProcNwDedBrDeActFails	The value of tmnxMobServProcNwDedBrDeActFails indicates the number of Policy and Charging Rules Function (PCRF) initiated dedicated bearer de-activation procedure failures.
servProcNwDedBrDeActiv	long	tmnxMobServProcNwDedBrDeActiv	The value of tmnxMobServProcNwDedBrDeActiv indicates the number of successful network initiated dedicated bearer de-activation procedures served by this card.
servProcNwPdnSesDeActFail	long	tmnxMobServProcNwPdnSesDeActFail	The value of tmnxMobServProcNwPdnSesDeActFail indicates the number of network initiated Packet Data Network (PDN) session de-activation procedure failures serverd by this card.
servProcNwPdnSessDeActiv	long	tmnxMobServProcNwPdnSessDeActiv	The value of tmnxMobServProcNwPdnSessDeActiv indicates the number of network initiated Packet Data Network (PDN) session de-activation procedures served by this card.
servProcPagingAttempts	long	tmnxMobServProcPagingAttempts	The value of tmnxMobServProcPagingAttempts indicates the number of paging attempts served by this card.
servProcPagingFails	long	tmnxMobServProcPagingFails	The value of tmnxMobServProcPagingFails indicates the number of paging failures served by this card.
servProcS1Release	long	tmnxMobServProcS1Release	The value of tmnxMobServProcS1Release indicates the number of successful Evolved NodeB (eNodeB) amd Mobility Management Entitiy (MME) initiated S1 release procedures served by this card.
servProcS1ReleaseFailures	long	tmnxMobServProcS1ReleaseFailures	The value of tmnxMobServProcS1ReleaseFailures indicates the number of Evolved NodeB (eNodeB) amd Mobility Management Entitiy (MME) initiated S1 release procedure failures.
servProcUeDedBrActivation	long	tmnxMobServProcUeDedBrActivation	The value of tmnxMobServProcUeDedBrActivation indicates the number of successful User Equipment (UE) initiated dedicated bearer activation procedures served by this card.
servProcUeDedBrActvFails	long	tmnxMobServProcUeDedBrActvFails	The value of tmnxMobServProcUeDedBrActvFails indicates the number of User Equipment (UE) initiated dedicated bearer activation procedure failures.

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5620 SAM counter name	Type	MIB counter name	Description
servProcUeDedBrDeActv	long	tmnxMobServProcUeDedBrDeActv	The value of tmnxMobServProcUeDedBrDeActv indicates the number of User-Equipment (UE) initiated dedicated bearer deactivation procedures served by this card.
servProcUeDedBrDeActvFail	long	tmnxMobServProcUeDedBrDeActvFail	The value of tmnxMobServProcUeDedBrDeActvFail indicates the number of User-Equipment (UE) initiated dedicated bearer deactivation procedure failures in this card.
servProcUeDedBrModify	long	tmnxMobServProcUeDedBrModify	The value of tmnxMobServProcUeDedBrModify indicates the number of User-Equipment (UE) initiated dedicated bearer modification procedures served by this card.
servProcUeDedBrModifyFail	long	tmnxMobServProcUeDedBrModifyFail	The value of tmnxMobServProcUeDedBrModifyFail indicates the number of User-Equipment (UE) initiated dedicated bearer modification procedure failures in this card.
servProcUeServiceReq	long	tmnxMobServProcUeServiceReq	The value of tmnxMobServProcUeServiceReq indicates the number of successful User Equipment (UE) initiated service request procedures served by this card.
servProcUeServiceReqFails	long	tmnxMobServProcUeServiceReqFails	The value of tmnxMobServProcUeServiceReqFails indicates the number of User Equipment (UE) initiated service request procedure failures.
MgCardStats MIB table name: TIMETRA-MOBILE-SERVING-MIB.tmnxMobServStatTable Monitored classes: • equipment.BaseCard • lte.ServingGateway			
epcId	long	tmnxMobGwId	The value of tmnxMobGwId uniquely identifies a mobile gateway configured in the system.
servStatActiveBearers	long	tmnxMobServStatActiveBearers	The value of tmnxMobServStatActiveBearers indicates the number of active bearers being served by this card.
servStatApn	long	tmnxMobServStatApn	The value of tmnxMobServStatApn indicates the number of Access Point Names (APNs) being served by this card.
servStatBearers	long	tmnxMobServStatBearers	The value of tmnxMobServStatBearers indicates the number of bearers being served by this card.

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5620 SAM counter name	Type	MIB counter name	Description
servStatBuffersAllocated	long	tmnxMobServStatBuffers Allocated	The value of tmnxMobServStatBuffersAllocated indicates the number of allocated paging buffers on this card.
servStatBuffersAllocErr	long	tmnxMobServStatBuffers AllocErr	The value of tmnxMobServStatBuffersAllocErr indicates the number of paging buffers not available errors on this card.
servStatBuffersAvailable	long	tmnxMobServStatBuffers Available	The value of tmnxMobServStatBuffersAvailable indicates the number of available paging buffers on this card.
servStatDedicatedBearers	long	tmnxMobServStatDedicat edBearers	The value of tmnxMobServStatDedicatedBearers indicates the number of dedicated bearers being served by this card.
servStatDefaultBearers	long	tmnxMobServStatDefault Bearers	The value of tmnxMobServStatDefaultBearers indicates the number of default bearers being served by this card.
servStatHomers	long	tmnxMobServStatHomers	The value of tmnxMobServStatHomers indicates the number of homers being served by this card.
servStatIdleBearers	long	tmnxMobServStatIdleBear ers	The value of tmnxMobServStatIpv4v6Bearers indicates the number of idle bearers being served by this card.
servStatIdleUes	long	tmnxMobServStatIdleUes	The value of tmnxMobServStatIdleUes indicates the number of idle User Equipments (UE) being served by this card.
servStatIpv4Bearers	long	tmnxMobServStatIpv4Bea rers	The value of tmnxMobServStatIpv4Bearers indicates the number of IPv4 bearers being served by this card.
servStatIpv4v6Bearers	long	tmnxMobServStatIpv4v6B earers	The value of tmnxMobServStatIpv4v6Bearers indicates the number of IPv4v6 bearers being served by this card.
servStatIpv6Bearers	long	tmnxMobServStatIpv6Bea rers	The value of tmnxMobServStatIpv6Bearers indicates the number of IPv6 bearers being served by this card.
servStatPagingInProgress	long	tmnxMobServStatPagingIn Progress	The value of tmnxMobServStatPagingInProgress indicates the number of paging processes in progress on this card.
servStatRfAcctIntBuf	long	tmnxMobServStatRfAcctIn tBuf	The value of tmnxMobServStatRfAcctIntBuf indicates the number of Accounting Request (ACR) Interim messages buffered by this card.
servStatRfAcctStartBuf	long	tmnxMobServStatRfAcctS tartBuf	The value of tmnxMobServStatRfAcctStartBuf indicates the number of Accounting Request (ACR) Start messages buffered by this card.

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5620 SAM counter name	Type	MIB counter name	Description
servStatRfAcctStopBuf	long	tmnxMobServStatRfAcctStopBuf	The value of tmnxMobServStatRfAcctStopBuf indicates the number of Accounting Request (ACR) Stop messages buffered by this card.
servStatRfPeer	long	tmnxMobServStatRfPeer	The value of tmnxMobServStatRfPeer indicates the number of peers on the Rf reference point being served by this card.
servStatRoamers	long	tmnxMobServStatRoamers	The value of tmnxMobServStatRoamers indicates the number of roamers being served by this card.
servStatVisitors	long	tmnxMobServStatVisitors	The value of tmnxMobServStatVisitors indicates the number of visitors being served by this card.
slotId	long	tmnxMobServCardSlotNum	The value of tmnxMobServCardSlotNum indicates the slot number of this card.
PdnGwCardFlowStats MIB table name: TIMETRA-MOBILE-PDN-MIB.tmnxMobPdnProcTable Monitored classes: • equipment.BaseCard • lte.PDNGateway			
attach	long	tmnxMobPdnProcAttach	The value of tmnxMobPdnProcAttach indicates the number of successful default attach-procedures executed on this card.
attachFail	long	tmnxMobPdnProcAttachFail	The value of tmnxMobPdnProcAttachFail indicates the number of failed default attach-procedures executed on this card.
attachPiggyBack	long	tmnxMobPdnProcAttachPiggyBack	The value of tmnxMobPdnProcAttachPiggyBack indicates the number of successful default attach-procedures executed on this card with piggybacking.
detach	long	tmnxMobPdnProcDetach	The value of tmnxMobPdnProcDetach indicates the number of detach-procedures executed succesfully on this card.
epcId	long	tmnxMobGwId	The value of tmnxMobGwId uniquely identifies a mobile gateway configured in the system.
nwDedBrActv	long	tmnxMobPdnProcNwDedBrActv	The value of tmnxMobPdnProcNwDedBrActv indicates the number of network initiated dedicated bearer activation procedures served by this card.
nwDedBrDeActv	long	tmnxMobPdnProcNwDedBrDeActv	The value of tmnxMobPdnProcNwDedBrDeActv indicates the number of network initiated dedicated bearer activation procedures served by this card.
nwDedBrModify	long	tmnxMobPdnProcNwDedBrModify	The value of tmnxMobPdnProcNwDedBrModify indicates the number of network initiated dedicated bearer activation procedures served by this card.

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5620 SAM counter name	Type	MIB counter name	Description
pgwPdnSessDel	long	tmnxMobPdnProcPgwPdnSessDel	The value of tmnxMobPdnProcPgwPdnSessDel indicates the number of successful PDN session-deletion initiated by PDN Gateway (PGW).
sessDelFail	long	tmnxMobPdnProcPgwPdnSessDelFail	The value of tmnxMobPdnProcPgwPdnSessDelFail indicates the number of failed PDN session-deletion initiated by PDN Gateway (PGW).
slotId	long	tmnxMobPdnCardSlotNum	The value of tmnxMobPdnCardSlotNum indicates the slot number of this card.
PdnGwCardStats MIB table name: TIMETRA-MOBILE-PDN-MIB.tmnxMobPdnStatTable Monitored classes: • equipment.BaseCard • lte.PDNGateway			
bearers	long	tmnxMobPdnStatBearers	The value of tmnxMobPdnStatBearers indicates the number of bearers being served by this card.
dedicatedBearers	long	tmnxMobPdnStatDedicatedBearers	The value of tmnxMobPdnStatDedicatedBearers indicates the number of dedicated bearers being served by this card.
defaultBearers	long	tmnxMobPdnStatDefaultBearers	The value of tmnxMobPdnStatDefaultBearers indicates the number of default bearers being served by this card.
epcId	long	tmnxMobGwId	The value of tmnxMobGwId uniquely identifies a mobile gateway configured in the system.
ipLocalPools	long	tmnxMobPdnStatIpLocalPools	The value of tmnxMobPdnStatIpLocalPools indicates the number of IP local pools being served by this card.
ipv4Bearers	long	tmnxMobPdnStatIpv4Bearers	The value of tmnxMobPdnStatIpv4Bearers indicates the number of IPv4 bearers being served by this card.
ipv4PdnSessions	long	tmnxMobPdnStatIpv4PdnSessions	The value of tmnxMobPdnStatIpv4PdnSessions indicates the number of IPv4 PDN Sessions being served by this card.
ipv4Sdf	long	tmnxMobPdnStatIpv4Sdf	The value of tmnxMobPdnStatIpv4Sdf indicates the number of IPv4 Service Data Flows (SDFs) on this card.
ipv4v6Bearers	long	tmnxMobPdnStatIpv4v6Bearers	The value of tmnxMobPdnStatIpv4v6Bearers indicates the number of IPv4v6 bearers being served by this card.
ipv4v6PdnSessions	long	tmnxMobPdnStatIpv4v6PdnSessions	The value of tmnxMobPdnStatIpv4v6PdnSessions indicates the number of IPv4v6 PDN Sessions being served by this card.

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5620 SAM counter name	Type	MIB counter name	Description
ipv6Bearers	long	tmnxMobPdnStatIpv6Bearers	The value of tmnxMobPdnStatIpv6Bearers indicates the number of IPv6 bearers being served by this card.
ipv6PdnSessions	long	tmnxMobPdnStatIpv6PdnSessions	The value of tmnxMobPdnStatIpv6PdnSessions indicates the number of IPv6 PDN Sessions being served by this card.
ipv6Sdf	long	tmnxMobPdnStatIpv6Sdf	The value of tmnxMobPdnStatIpv6Sdf indicates the number of IPv6 Service Data Flows (SDFs) on this card.
realApn	long	tmnxMobPdnStatRealApn	The value of tmnxMobPdnStatRealApn indicates the number of real Access Point Names (APNs) being served by this card.
roamers	long	tmnxMobPdnStatRoamers	The value of tmnxMobPdnStatRoamers indicates the number of roamers being served by this card.
slotId	long	tmnxMobPdnCardSlotNum	The value of tmnxMobPdnCardSlotNum indicates the slot number of this card.
vPRNs	long	tmnxMobPdnStatVPRNs	The value of tmnxMobPdnStatVPRNs indicates the number of VPRNs being served by this card.
VideoGroupMemberStats MIB table name: TIMETRA-VIDEO-MIB.tmnxVdoGrpMDATable Monitored class: isa.VideoGroupMember			
vdoGrpMdaActiveRtcpSessions	long	tmnxVdoGrpMdaActiveRtcpSessions	The value of tmnxVdoGrpMdaActiveRtcpSessions indicates the number of active Real Time Transport Control Protocol (RTCP) sessions on this MDA.
vdoGrpMdaAdStreamAborts	long	tmnxVdoGrpMdaAdStreamAborts	The value of tmnxVdoGrpMdaAdStreamAborts indicates the number of ad stream aborts on this MDA. An ad stream abort could happen when an egress reset happens.
vdoGrpMdaAdStreamResets	long	tmnxVdoGrpMdaAdStreamResets	The value of tmnxVdoGrpMdaAdStreamResets indicates the number of ad stream resets on this MDA. An ad stream reset occurs when the ingress ad stream stops.
vdoGrpMdaAvailableMemory	long	tmnxVdoGrpMdaAvailableMemory	The value of tmnxVdoGrpMdaAvailableMemory indicates the amount of cache available on the MDA for storing the video stream.
vdoGrpMdaBwInUse	long	tmnxVdoGrpMdaBwInUse	The value of tmnxVdoGrpMdaBwInUse indicates the total aggregate bandwidth of the currently running egress streams.
vdoGrpMdaChannelAllocFails	long	tmnxVdoGrpMdaChannelAllocFails	The value of tmnxVdoGrpMdaChannelAllocFails indicates the number of failed channel allocations on this MDA.
vdoGrpMdaChannels	long	tmnxVdoGrpMdaChannels	The value of tmnxVdoGrpMdaChannels indicates the number of channels being served on this MDA.

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5620 SAM counter name	Type	MIB counter name	Description
vdoGrpMdaEgressStreamResets	long	tmnxVdoGrpMdaEgressStreamResets	The value of tmnxVdoGrpMdaEgressStreamResets indicates the number of egress stream resets on this MDA. An egress stream reset occurs when there are no packets to transmit on the MDA.
vdoGrpMdaHighPktPoolLimitHit	long	tmnxVdoGrpMdaHighPktPoolLimitHit	The value of tmnxVdoGrpMdaHighPktPoolLimitHit indicates the number of times the high packet pool limit has been hit. A high value of this object indicates potential failure in ingress packet storage.
vdoGrpMdaIngressStreamResets	long	tmnxVdoGrpMdaIngressStreamResets	The value of tmnxVdoGrpMdaIngressStreamResets indicates the number of ingress stream resets on this MDA. An ingress stream reset occurs when the ingress stream stopped coming in for more than one second.
vdoGrpMdaMaxBwExceeded	long	tmnxVdoGrpMdaMaxBwExceeded	The value of tmnxVdoGrpMdaMaxBwExceeded indicates the number of times maximum allowed bandwidth has been exceeded for each egress stream.
vdoGrpMdaRequestedRtpPkts	long	tmnxVdoGrpMdaRequestedRtpPkts	The value of tmnxVdoGrpMdaRequestedRtpPkts indicates the number of Real-time Transport Protocol (RTP) packets requested in the Real-time Transport Control Protocol (RTCP) feedback (FB) messages received on this MDA.
vdoGrpMdaRtcpConfigErrors	long	tmnxVdoGrpMdaRtcpConfigErrors	The value of tmnxVdoGrpMdaRtcpConfigErrors indicates the number of Real-time Transport Control Protocol (RTCP) config errors on this MDA. These errors occur when there is inconsistency between the RTCP values and the configured values.
vdoGrpMdaRtcpIntErrors	long	tmnxVdoGrpMdaRtcpIntErrors	The value of tmnxVdoGrpMdaRtcpIntErrors indicates the number of Real-time Transport Control Protocol (RTCP) interface related errors on this MDA.
vdoGrpMdaRtcpIpcErrors	long	tmnxVdoGrpMdaRtcpIpcErrors	The value of tmnxVdoGrpMdaRtcpIpcErrors indicates the number of Real-time Transport Control Protocol (RTCP) inter-process communication message processing errors on this MDA.
vdoGrpMdaRtcpParseErrors	long	tmnxVdoGrpMdaRtcpParseErrors	The value of tmnxVdoGrpMdaRtcpParseErrors indicates the number of Real-time Transport Control Protocol (RTCP) packet parsing errors on this MDA.

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5620 SAM counter name	Type	MIB counter name	Description
vdoGrpMdaRtcpSgErrors	long	tmnxVdoGrpMdaRtcpSgErrors	The value of tmnxVdoGrpMdaRtcpSgErrors indicates the number of Real-time Transport Control Protocol (RTCP) channel errors on this MDA. These errors occue when a channel is not found for a given interface to process RTCP packets.
vdoGrpMdaRtcpSubErrors	long	tmnxVdoGrpMdaRtcpSubErrors	The value of tmnxVdoGrpMdaRtcpSubErrors indicates the number of Real-time Transport Control Protocol (RTCP) subscriber parameter errors on this MDA. These errors occur when the subscriber calculations exceed the maximum allowed bandwidth.
vdoGrpMdaRxDataOctets	UINT128	tmnxVdoGrpMdaRxDataOctets	The value of tmnxVdoGrpMdaRxDataOctets indicates the number of data octets received on this MDA.
vdoGrpMdaRxDataOctetsHigh32	long	tmnxVdoGrpMdaRxDataOctetsHigh32	The value of tmnxVdoGrpMdaRxDataOctetsHigh32 indicates the higher 32 bits of the value of tmnxVdoGrpMdaRxDataOctets.
vdoGrpMdaRxDataOctetsLow32	long	tmnxVdoGrpMdaRxDataOctetsLow32	The value of tmnxVdoGrpMdaRxDataOctetsLow32 indicates the lower 32 bits of the value of tmnxVdoGrpMdaRxDataOctets.
vdoGrpMdaRxDataPacketErrors	UINT128	tmnxVdoGrpMdaRxDataPacketErrors	The value of tmnxVdoGrpMdaRxDataPacketErrors indicates the number of malformed or non-RTP (Real Time Transport Protocol) packets received on this MDA.
vdoGrpMdaRxDataPackets	UINT128	tmnxVdoGrpMdaRxDataPackets	The value of tmnxVdoGrpMdaRxDataPackets indicates the number of data packets received on this MDA.
vdoGrpMdaRxDataPacketsHigh32	long	tmnxVdoGrpMdaRxDataPacketsHigh32	The value of tmnxVdoGrpMdaRxDataPacketsHigh32 indicates the higher 32 bits of the value of tmnxVdoGrpMdaRxDataPackets.
vdoGrpMdaRxDataPacketsLow32	long	tmnxVdoGrpMdaRxDataPacketsLow32	The value of tmnxVdoGrpMdaRxDataPacketsLow32 indicates the lower 32 bits of the value of tmnxVdoGrpMdaRxDataPackets.
vdoGrpMdaRxDataPktErrsHigh32	long	tmnxVdoGrpMdaRxDataPktErrsHigh32	The value of tmnxVdoGrpMdaRxDataPktErrsHigh32 indicates the higher 32 bits of the value of tmnxVdoGrpMdaRxDataPacketErrors.
vdoGrpMdaRxDataPktErrsLow32	long	tmnxVdoGrpMdaRxDataPktErrsLow32	The value of tmnxVdoGrpMdaRxDataPktErrsLow32 indicates the lower 32 bits of the value of tmnxVdoGrpMdaRxDataPacketErrors.
vdoGrpMdaSsrcCollisions	long	tmnxVdoGrpMdaSsrcCollisions	The value of tmnxVdoGrpMdaSsrcCollisions indicates the number of synchronization source (SSRC) id collisions on this MDA.

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5620 SAM counter name	Type	MIB counter name	Description
vdoGrpMdaTxDataOctets	UINT128	tmnxVdoGrpMdaTxDataOctets	The value of tmnxVdoGrpMdaTxDataOctets indicates the number of data octets transmitted on this MDA.
vdoGrpMdaTxDataOctetsHigh32	long	tmnxVdoGrpMdaTxDataOctetsHigh32	The value of tmnxVdoGrpMdaTxDataOctetsHigh32 indicates the higher 32 bits of the value of tmnxVdoGrpMdaTxDataOctets.
vdoGrpMdaTxDataOctetsLow32	long	tmnxVdoGrpMdaTxDataOctetsLow32	The value of tmnxVdoGrpMdaTxDataOctetsLow32 indicates the lower 32 bits of the value of tmnxVdoGrpMdaTxDataOctets.
vdoGrpMdaTxDataPacketErrors	UINT128	tmnxVdoGrpMdaTxDataPacketErrors	The value of tmnxVdoGrpMdaTxDataPacketErrors indicates the number of failed data packets due to lack of resources to be transmitted on this MDA.
vdoGrpMdaTxDataPackets	UINT128	tmnxVdoGrpMdaTxDataPackets	The value of tmnxVdoGrpMdaTxDataPackets indicates the number of data packets transmitted on this MDA.
vdoGrpMdaTxDataPacketsHigh32	long	tmnxVdoGrpMdaTxDataPacketsHigh32	The value of tmnxVdoGrpMdaTxDataPacketsHigh32 indicates the higher 32 bits of the value of tmnxVdoGrpMdaTxDataPackets.
vdoGrpMdaTxDataPacketsLow32	long	tmnxVdoGrpMdaTxDataPacketsLow32	The value of tmnxVdoGrpMdaTxDataPacketsLow32 indicates the lower 32 bits of the value of tmnxVdoGrpMdaTxDataPackets.
vdoGrpMdaTxDataPktErrsHigh32	long	tmnxVdoGrpMdaTxDataPktErrsHigh32	The value of tmnxVdoGrpMdaTxDataPktErrsHigh32 indicates the higher 32 bits of the value of tmnxVdoGrpMdaTxDataPacketErrors.
vdoGrpMdaTxDataPktErrsLow32	long	tmnxVdoGrpMdaTxDataPktErrsLow32	The value of tmnxVdoGrpMdaTxDataPktErrsLow32 indicates the lower 32 bits of the value of tmnxVdoGrpMdaTxDataPacketErrors.
vdoGrpMdaTxLostPackets	long	tmnxVdoGrpMdaTxLostPackets	The value of tmnxVdoGrpMdaTxLostPackets indicates the number of packets not found in the video MDA buffer for retransmission. When a retransmission request arrives, packets are checked in the buffer and if they are not found, the value of this object is incremented.
vdoGrpMdaUsedMemory	long	tmnxVdoGrpMdaUsedMemory	The value of tmnxVdoGrpMdaUsedMemory indicates the amount of cache being used by the video group for storing the video stream.

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Table A-19 isis statistics

5620 SAM counter name	Type	MIB counter name	Description
InterfaceLevelOneReceivingStats MIB table name: ISIS-MIB.isisPacketCountTable Monitored class: isis.InterfaceLevelOneConfig			
cnspCount	long	isisPacketCountCSNP	The number of IS-IS CSNPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
helloCount	long	isisPacketCountHello	The number of IS-IS Hello PDUs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
lspCount	long	isisPacketCountLSP	The number of IS-IS LSPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
psnpCount	long	isisPacketCountPSNP	The number of IS-IS PSNPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
InterfaceLevelOneSendingStats MIB table name: ISIS-MIB.isisPacketCountTable Monitored class: isis.InterfaceLevelOneConfig			
cnspCount	long	isisPacketCountCSNP	The number of IS-IS CSNPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
helloCount	long	isisPacketCountHello	The number of IS-IS Hello PDUs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
lspCount	long	isisPacketCountLSP	The number of IS-IS LSPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
psnpCount	long	isisPacketCountPSNP	The number of IS-IS PSNPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
InterfaceLevelTwoReceivingStats MIB table name: ISIS-MIB.isisPacketCountTable Monitored class: isis.InterfaceLevelTwoConfig			
cnspCount	long	isisPacketCountCSNP	The number of IS-IS CSNPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
helloCount	long	isisPacketCountHello	The number of IS-IS Hello PDUs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
lspCount	long	isisPacketCountLSP	The number of IS-IS LSPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
psnpCount	long	isisPacketCountPSNP	The number of IS-IS PSNPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
InterfaceLevelTwoSendingStats MIB table name: ISIS-MIB.isisPacketCountTable Monitored class: isis.InterfaceLevelTwoConfig			

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5620 SAM counter name	Type	MIB counter name	Description
cnspCount	long	isisPacketCountCSNP	The number of IS-IS CSNPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
helloCount	long	isisPacketCountHello	The number of IS-IS Hello PDUs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
lspCount	long	isisPacketCountLSP	The number of IS-IS LSPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
psnpCount	long	isisPacketCountPSNP	The number of IS-IS PSNPs seen in this direction at this level. REFERENCE ISIS.aoi iSISControlPDUsSent (43).
LinkStatePduSiteStats MIB table name: TIMETRA-ISIS-MIB.vRtrIsisStatsTable Monitored class: isis.Site			
csnpDropped	long	vRtrIsisCSNPDrop	The count of link state PDUs dropped by this instance of the protocol is maintained by vRtrIsisCSNPDrop.
csnpReceived	long	vRtrIsisCSNPRecd	The count of link state PDUs received by this instance of the protocol is maintained by vRtrIsisCSNPRecd.
csnpRetransmitted	long	vRtrIsisCSNPRetrans	The count of link state PDUs that had to be retransmitted by this instance of the protocol is maintained by vRtrIsisCSNPRetrans.
csnpSent	long	vRtrIsisCSNPSent	The count of link state PDUs sent out by this instance of the protocol is maintained by vRtrIsisCSNPSent.
helloDropped	long	vRtrIsisIIHDrop	The count of link state PDUs dropped by this instance of the protocol is maintained by vRtrIsisIIHDrop.
helloReceived	long	vRtrIsisIIHRecd	The count of link state PDUs received by this instance of the protocol is maintained by vRtrIsisIIHRecd.
helloRetransmitted	long	vRtrIsisIIHRetrans	The count of link state PDUs that had to be retransmitted by this instance of the protocol is maintained by vRtrIsisIIHRetrans.
helloSent	long	vRtrIsisIIHSent	The count of link state PDUs sent out by this instance of the protocol is maintained by vRtrIsisIIHSent.
lspDropped	long	vRtrIsisLSPDrop	The count of link state PDUs dropped by this instance of the protocol is maintained by vRtrIsisLSPDrop.
lspReceived	long	vRtrIsisLSPRecd	The count of link state PDUs received by this instance of the protocol is maintained by vRtrIsisLSPRecd.
lspRetransmitted	long	vRtrIsisLSPRetrans	The count of link state PDUs that had to be retransmitted by this instance of the protocol is maintained by vRtrIsisLSPRetrans.

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5620 SAM counter name	Type	MIB counter name	Description
lspSent	long	vRtrIsisLSPSent	The count of link state PDUs sent out by this instance of the protocol is maintained by vRtrIsisLSPSent.
psnpDropped	long	vRtrIsisPSNPDrop	The count of link state PDUs dropped by this instance of the protocol is maintained by vRtrIsisPSNPDrop.
psnpReceived	long	vRtrIsisPSNPRecd	The count of link state PDUs received by this instance of the protocol is maintained by vRtrIsisPSNPRecd.
psnpRetransmitted	long	vRtrIsisPSNPRetrans	The count of link state PDUs that had to be retransmitted by this instance of the protocol is maintained by vRtrIsisPSNPRetrans.
psnpSent	long	vRtrIsisPSNPSent	The count of link state PDUs sent out by this instance of the protocol is maintained by vRtrIsisPSNPSent.
unknownDropped	long	vRtrIsisUnknownDrop	The count of link state PDUs dropped by this instance of the protocol is maintained by vRtrIsisUnknownDrop.
unknownReceived	long	vRtrIsisUnknownRecd	The count of link state PDUs received by this instance of the protocol is maintained by vRtrIsisUnknownRecd.
unknownRetransmitted	long	vRtrIsisUnknownRetrans	The count of link state PDUs that had to be retransmitted by this instance of the protocol is maintained by vRtrIsisUnknownRetrans.
unknownSent	long	vRtrIsisUnknownSent	The count of link state PDUs sent out by this instance of the protocol is maintained by vRtrIsisUnknownSent.
SiteStats MIB table name: TIMETRA-ISIS-MIB.vRtrIsisStatsTable Monitored class: isis.Site			
cspfDroppedRequests	long	vRtrIsisCSPFDroppedRequests	vRtrIsisCSPFDroppedRequests maintains the number of dropped CSPF requests by the protocol.
cspfPathsFound	long	vRtrIsisCSPFPathsFound	vRtrIsisCSPFPathsFound maintains the number of responses to CSPF requests for which paths satisfying the constraints were found.
cspfPathsNotFound	long	vRtrIsisCSPFPathsNotFound	vRtrIsisCSPFPathsFound maintains the number of responses to CSPF requests for which no paths satisfying the constraints were found.
cspfRequests	long	vRtrIsisCSPFRequests	vRtrIsisCSPFRequests maintains the number of CSPF requests made to the protocol.
initiatedPurges	long	vRtrIsisInitiatedPurges	The value of vRtrIsisInitiatedPurges counts the number of times purges have been initiated.
lspRegenerations	long	vRtrIsisLSPRegenerations	The value of vRtrIsisLSPRegenerations maintains the count of LSP regenerations.

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5620 SAM counter name	Type	MIB counter name	Description
spfRuns	long	vRtrIsisSpfRuns	The value of vRtrIsisSpfRuns indicates the number of times shortest path first calculations have been made.

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Table A-20 l2fib statistics

5620 SAM counter name	Type	MIB counter name	Description
MFibGrpSrcStats MIB table name: TIMETRA-SERV-MIB.tlsMFibStatsTable Monitored class: l2fib.MFibGrpSrc			
forwardedOctets	UINT128	tlsMFibStatsForwardedOctets	The value of tlsMFibStatsForwardedOctets indicates the number of octets that were forwarded to the SAPs and SDPs listed in the tlsMFibInfoTable.
forwardedPkts	UINT128	tlsMFibStatsForwardedPkts	The value of tlsMFibStatsForwardedPkts indicates the number of multicast packets that were forwarded to the SAPs and SDPs listed in the tlsMFibInfoTable.

Table A-21 l2fwd statistics

5620 SAM counter name	Type	MIB counter name	Description
AccessInterfaceStpStats MIB table name: TIMETRA-SAP-MIB.sapTlsInfoTable Monitored class: l2fwd.AccessInterfaceStp			
forwardTransitions	long	sapTlsStpForwardTransitions	The value of the object sapTlsStpForwardTransitions indicates the number of times this port has transitioned from the Learning state to the Forwarding state.
inBadBpdus	long	sapTlsStpInBadBpdus	This object specifies the number of bad BPDUs received on this SAP.
inConfigBpdus	long	sapTlsStpInConfigBpdus	The value of the object sapTlsStpInConfigBpdus indicates the number of Configuration BPDUs received on this SAP.
inMultipleSpanningTreeBpdus	long	sapTlsStpInMstBpdus	The value of the object sapTlsStpInMstBpdus indicates the number of Multiple Spanning Tree (MST) BPDUs received on this SAP.
inRapidSpanningTreeBpdus	long	sapTlsStpInRstBpdus	The value of the object sapTlsStpInRstBpdus indicates the number of Rapid Spanning Tree (RST) BPDUs received on this SAP.

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5620 SAM counter name	Type	MIB counter name	Description
inTcnBpdus	long	sapTlsStpInTcnBpdus	The value of the object sapTlsStpInTcnBpdus indicates the number of Topology Change Notification BPDUs received on this SAP.
outConfigBpdus	long	sapTlsStpOutConfigBpdus	The value of the object sapTlsStpOutConfigBpdus indicates the number of Configuration BPDUs sent out this SAP.
outMultipleSpanningTreeBpdus	long	sapTlsStpOutMstBpdus	The value of the object sapTlsStpOutMstBpdus indicates the number of Multiple Spanning Tree (MST) BPDUs sent out on this SAP.
outRapidSpanningTreeBpdus	long	sapTlsStpOutRstBpdus	The value of the object sapTlsStpOutRstBpdus indicates the number of Rapid Spanning Tree (RST) BPDUs sent out on this SAP.
outTcnBpdus	long	sapTlsStpOutTcnBpdus	This object specifies the number of Topology Change Notification BPDUs sent out this SAP.
CircuitMrpInfoStats MIB table name: TIMETRA-SDP-MIB.sdpBindTlsMrpTable Monitored class: l2fwd.CircuitMrpInfo			
mrpDroppedPdus	long	sdpBindTlsMrpDroppedPdus	The value of sdpBindTlsMrpDroppedPdus indicates the number of dropped MRP packets on this SDP Bind.
mrpRxEmptyEvent	long	sdpBindTlsMrpRxEmptyEvent	The value of sdpBindTlsMrpRxEmptyEvent indicates the number of 'Empty' MRP events received on this SDP Bind.
mrpRxInEvent	long	sdpBindTlsMrpRxInEvent	The value of sdpBindTlsMrpRxInEvent indicates the number of 'In' MRP events received on this SDP Bind.
mrpRxJoinEmptyEvent	long	sdpBindTlsMrpRxJoinEmptyEvent	The value of sdpBindTlsMrpRxJoinEmptyEvent indicates the number of 'Join Empty' MRP events received on this SDP Bind.
mrpRxJoinInEvent	long	sdpBindTlsMrpRxJoinInEvent	The value of sdpBindTlsMrpRxJoinInEvent indicates the number of 'Join-In' MRP events received on this SDP Bind.
mrpRxLeaveEvent	long	sdpBindTlsMrpRxLeaveEvent	The value of sdpBindTlsMrpRxLeaveEvent indicates the number of 'Leave' MRP events received on this SDP Bind.
mrpRxNewEvent	long	sdpBindTlsMrpRxNewEvent	The value of sdpBindTlsMrpRxNewEvent indicates the number of 'New' MRP events received on this SDP Bind.
mrpRxPdus	long	sdpBindTlsMrpRxPdus	The value of sdpBindTlsMrpRxPdus indicates the number of MRP packets received on this SDP Bind.
mrpTxEmptyEvent	long	sdpBindTlsMrpTxEmptyEvent	The value of sdpBindTlsMrpTxEmptyEvent indicates the number of 'Empty' MRP events transmitted on this SDP Bind.
mrpTxInEvent	long	sdpBindTlsMrpTxInEvent	The value of sdpBindTlsMrpTxInEvent indicates the number of 'In' MRP events transmitted on this SDP Bind.

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5620 SAM counter name	Type	MIB counter name	Description
mrpTxJoinEmptyEvent	long	sdpBindTlsMrpTxJoinEmptyEvent	The value of sdpBindTlsMrpTxJoinEmptyEvent indicates the number of 'Join Empty' MRP events transmitted on this SDP Bind.
mrpTxJoinInEvent	long	sdpBindTlsMrpTxJoinInEvent	The value of sdpBindTlsMrpTxJoinInEvent indicates the number of 'Join-In' MRP events transmitted on this SDP Bind.
mrpTxLeaveEvent	long	sdpBindTlsMrpTxLeaveEvent	The value of sdpBindTlsMrpTxLeaveEvent indicates the number of 'Leave' MRP events transmitted on this SDP Bind.
mrpTxNewEvent	long	sdpBindTlsMrpTxNewEvent	The value of sdpBindTlsMrpTxNewEvent indicates the number of 'New' MRP events transmitted on this SDP Bind.
mrpTxPdus	long	sdpBindTlsMrpTxPdus	The value of sdpBindTlsMrpTxPdus indicates the number of MRP packets transmitted on this SDP Bind.
CircuitStpStats MIB table name: TIMETRA-SDP-MIB.sdpBindTlsTable Monitored class: l2fwd.CircuitStp			
forwardTransitions	long	sdpBindTlsStpForwardTransitions	The value of the object sdpBindTlsStpForwardTransitions indicates the number of times this port has transitioned from the Learning state to the Forwarding state.
inBadBpdus	long	sdpBindTlsStpInBadBpdus	The value of the object sdpBindTlsStpInBadBpdus indicates the number of bad BPDUs received on this SDP Bind.
inConfigBpdus	long	sdpBindTlsStpInConfigBpdus	The value of the object sdpBindTlsStpInConfigBpdus indicates the number of Configuration BPDUs received on this SDP Bind.
inRapidSpanningTreeBpdus	long	sdpBindTlsStpInRstBpdus	The value of the object sdpBindTlsStpInRstBpdus indicates the number of Rapid Spanning Tree (Rst) BPDUs received on this SDP.
inTcnBpdus	long	sdpBindTlsStpInTcnBpdus	The value of the object sdpBindTlsStpInTcnBpdus indicates the number of Topology Change Notification BPDUs received on this SDP Bind.
outConfigBpdus	long	sdpBindTlsStpOutConfigBpdus	The value of the object sdpBindTlsStpOutConfigBpdus indicates the number of Configuration BPDUs sent out this SDP Bind.
outRapidSpanningTreeBpdus	long	sdpBindTlsStpOutRstBpdus	The value of the object sdpBindTlsStpOutRstBpdus indicates the number of Rapid Spanning Tree (Rstp) BPDUs sent out on this SDP.
outTcnBpdus	long	sdpBindTlsStpOutTcnBpdus	The value of the object sdpBindTlsStpOutTcnBpdus indicates the number of Topology Change Notification BPDUs sent out this SDP Bind.

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5620 SAM counter name	Type	MIB counter name	Description
L2AccessInterfaceMrpInfoStats MIB table name: TIMETRA-SAP-MIB.sapTlsMrpTable Monitored class: l2fwd.L2AccessInterfaceMrpInfo			
mrpDroppedPdus	long	sapTlsMrpDroppedPdus	The value of sapTlsMrpDroppedPdus indicates the number of dropped MRP packets on this SAP.
mrpRxEmptyEvent	long	sapTlsMrpRxEmptyEvent	The value of sapTlsMrpRxEmptyEvent indicates the number of 'Empty' MRP events received on this SAP.
mrpRxInEvent	long	sapTlsMrpRxInEvent	The value of sapTlsMrpRxInEvent indicates the number of 'In' MRP events received on this SAP.
mrpRxJoinEmptyEvent	long	sapTlsMrpRxJoinEmptyEvent	The value of sapTlsMrpRxJoinEmptyEvent indicates the number of 'Join Empty' MRP events received on this SAP.
mrpRxJoinInEvent	long	sapTlsMrpRxJoinInEvent	The value of sapTlsMrpRxJoinInEvent indicates the number of 'Join-In' MRP events received on this SAP.
mrpRxLeaveEvent	long	sapTlsMrpRxLeaveEvent	The value of sapTlsMrpRxLeaveEvent indicates the number of 'Leave' MRP events received on this SAP.
mrpRxNewEvent	long	sapTlsMrpRxNewEvent	The value of sapTlsMrpRxNewEvent indicates the number of 'New' MRP events received on this SAP.
mrpRxPdus	long	sapTlsMrpRxPdus	The value of sapTlsMrpRxPdus indicates the number of MRP packets received on this SAP.
mrpTxEmptyEvent	long	sapTlsMrpTxEmptyEvent	The value of sapTlsMrpTxEmptyEvent indicates the number of 'Empty' MRP events transmitted on this SAP.
mrpTxInEvent	long	sapTlsMrpTxInEvent	The value of sapTlsMrpTxInEvent indicates the number of 'In' MRP events transmitted on this SAP.
mrpTxJoinEmptyEvent	long	sapTlsMrpTxJoinEmptyEvent	The value of sapTlsMrpTxJoinEmptyEvent indicates the number of 'Join Empty' MRP events transmitted on this SAP.
mrpTxJoinInEvent	long	sapTlsMrpTxJoinInEvent	The value of sapTlsMrpTxJoinInEvent indicates the number of 'Join-In' MRP events transmitted on this SAP.
mrpTxLeaveEvent	long	sapTlsMrpTxLeaveEvent	The value of sapTlsMrpTxLeaveEvent indicates the number of 'Leave' MRP events transmitted on this SAP.
mrpTxNewEvent	long	sapTlsMrpTxNewEvent	The value of sapTlsMrpTxNewEvent indicates the number of 'New' MRP events transmitted on this SAP.
mrpTxPdus	long	sapTlsMrpTxPdus	The value of sapTlsMrpTxPdus indicates the number of MRP packets transmitted on this SAP.
PipStpInfoStats MIB table name: TIMETRA-SERV-MIB.tlsPipInfoTable Monitored class: l2fwd.PipStpInfo			

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5620 SAM counter name	Type	MIB counter name	Description
pipStpForwardTransitions	long	tlsPipStpForwardTransitions	The value of the object tlsPipStpForwardTransitions indicates the number of times this port has transitioned from the Learning state to the Forwarding state.
pipStpInBadBpdus	long	tlsPipStpInBadBpdus	This object specifies the number of bad BPDUs received on this PIP uplink.
pipStpInConfigBpdus	long	tlsPipStpInConfigBpdus	The value of the object tlsPipStpInConfigBpdus indicates the number of Configuration BPDUs received on this PIP uplink.
pipStpInMstBpdus	long	tlsPipStpInMstBpdus	The value of the object tlsPipStpInMstBpdus indicates the number of Multiple Spanning Tree (MST) BPDUs received on this PIP uplink.
pipStpInRstBpdus	long	tlsPipStpInRstBpdus	The value of the object tlsPipStpInRstBpdus indicates the number of Rapid Spanning Tree (RST) BPDUs received on this PIP uplink.
pipStpInTcnBpdus	long	tlsPipStpInTcnBpdus	The value of the object tlsPipStpInTcnBpdus indicates the number of Topology Change Notification BPDUs received on this PIP uplink.
pipStpOutConfigBpdus	long	tlsPipStpOutConfigBpdus	The value of the object tlsPipStpOutConfigBpdus indicates the number of Configuration BPDUs sent out this PIP uplink.
pipStpOutMstBpdus	long	tlsPipStpOutMstBpdus	The value of the object tlsPipStpOutMstBpdus indicates the number of Multiple Spanning Tree (MST) BPDUs sent out on this PIP uplink.
pipStpOutRstBpdus	long	tlsPipStpOutRstBpdus	The value of the object tlsPipStpOutRstBpdus indicates the number of Rapid Spanning Tree (RST) BPDUs sent out on this PIP uplink.
pipStpOutTcnBpdus	long	tlsPipStpOutTcnBpdus	This object specifies the number of Topology Change Notification BPDUs sent out this PIP uplink.
SiteFibStats MIB table name: TIMETRA-SERV-MIB.svcTlsInfoTable Monitored class: l2fwd.SiteFib			
entries	long	svcTlsFdbNumEntries	The value of the object svcTlsFdbNumEntries indicates the current number of entries in the FDB of this service.

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5620 SAM counter name	Type	MIB counter name	Description
provisionedSize	long	svcTlsFdbTableSize	The value of the object svcTlsFdbTableSize specifies the maximum number of learned and static entries allowed in the FDB of this service. The maximum value of svcTlsFdbTableSize is '511999', when the the value of TIMETRA-CHASSIS-MIB::tmnxChassisOperMode is 'd'. The maximum value of svcTlsFdbTableSize is '196607', when the the value of TIMETRA-CHASSIS-MIB::tmnxChassisOperMode is 'c'. In other cases, the maximum value of svcTlsFdbTableSize is '131071'. DEFVAL { 250 }.
staticEntries	long	svcTlsFdbNumStaticEntries	The value of the object svcTlsFdbNumStaticEntries indicates the current number of static entries in the FDB of this service.
SiteStpStats MIB table name: TIMETRA-SERV-MIB.svcTlsInfoTable Monitored class: l2fwd.SiteStp			
timeSinceTopologyChange	long	svcTlsStpTimeSinceTopologyChange	The value of the object svcTlsStpTimeSinceTopologyChange indicates the time (in hundredths of a second) since the last time a topology change was detected by the Spanning Tree Protocol instance associated with this service.
topologyChanges	long	svcTlsStpTopologyChanges	The value of the object svcTlsStpTopologyChanges indicates the total number of topology changes detected by the Spanning Tree Protocol instance associated with this service since the management entity was last reset or initialized.

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Table A-22 l2tp statistics

5620 SAM counter name	Type	MIB counter name	Description
GroupProfileStats MIB table name: TIMETRA-L2TP-MIB.tmnxL2tpTgStatTable Monitored class: l2tp.GroupProfile			
activeSessions	long	tmnxL2tpTgStatActiveSessions	The value of tmnxL2tpTgStatActiveSessions indicates the number of sessions currently established in this tunnel group.
activeTunnels	long	tmnxL2tpTgStatActiveTunnels	The value of tmnxL2tpTgStatActiveTunnels indicates the number of tunnels currently established in this tunnel group.

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5620 SAM counter name	Type	MIB counter name	Description
attemptedSessions	long	tmnxL2tpTgStatTotalSessions	The value of tmnxL2tpTgStatTotalSessions indicates the number of session creation attempts in this tunnel group since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
attemptedTunnels	long	tmnxL2tpTgStatTotalTunnels	The value of tmnxL2tpTgStatTotalTunnels indicates the total number of tunnel set up attempts in this tunnel group since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
cleared	long	tmnxL2tpTgStatCleared	The value of the object tmnxL2tpTgStatCleared indicates the value of sysUpTime when the tunnel group statistics were cleared. The value zero indicates that the statistics have not been cleared since the last re-initialization of the local network management subsystem.
controlRxOctets	UINT128	tmnxL2tpTgStatControlRxOctets	The value of tmnxL2tpTgStatControlRxOctets indicates the number of control channel octets received by the current tunnels in this tunnel group.
controlRxOctetsHw	long	tmnxL2tpTgStatControlRxOctetsHw	The value of tmnxL2tpTgStatControlRxOctetsHw indicates the higher 32-bits word of the value of tmnxL2tpTgStatControlRxOctets.
controlRxOctetsLw	long	tmnxL2tpTgStatControlRxOctetsLw	The value of tmnxL2tpTgStatControlRxOctetsLw indicates the lower 32-bits word of the value of tmnxL2tpTgStatControlRxOctets.
controlRxPkts	long	tmnxL2tpTgStatControlRxPkts	The value of tmnxL2tpTgStatControlRxPkts indicates the accumulated number of control packets received by the current tunnels in this tunnel group.
controlTxOctets	UINT128	tmnxL2tpTgStatControlTxOctets	The value of tmnxL2tpTgStatControlTxOctets indicates the accumulated number of control channel octets that were transmitted to the current tunnel endpoints in this tunnel group.
controlTxOctetsHw	long	tmnxL2tpTgStatControlTxOctetsHw	The value of tmnxL2tpTgStatControlTxOctetsHw indicates the higher 32-bits word of the value of tmnxL2tpTgStatControlTxOctets.
controlTxOctetsLw	long	tmnxL2tpTgStatControlTxOctetsLw	The value of tmnxL2tpTgStatControlTxOctetsLw indicates the lower 32-bits word of the value of tmnxL2tpTgStatControlTxOctets.

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5620 SAM counter name	Type	MIB counter name	Description
controlTxPkts	long	tmnxL2tpTgStatControlTxPkts	The value of tmnxL2tpTgStatControlTxPkts indicates the accumulated number of control packets that were transmitted to the current tunnel endpoints in this tunnel group.
errorRxPkts	long	tmnxL2tpTgStatErrorRxPkts	The value of tmnxL2tpTgStatErrorRxPkts indicates the accumulated number of errored packets that were received on the current tunnels in this tunnel group.
errorTxPkts	long	tmnxL2tpTgStatErrorTxPkts	The value of tmnxL2tpTgStatErrorTxPkts indicates the accumulated number of packet transmission errors on the current tunnels in this tunnel group.
failedSessions	long	tmnxL2tpTgStatFailedSessions	The value of tmnxL2tpTgStatFailedSessions indicates the number of sessions in this tunnel group that failed to reach the established state since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
failedTuAuth	long	tmnxL2tpTgStatFailedTuAuth	The value of tmnxL2tpTgStatFailedTuAuth indicates the number of tunnels in this tunnel group that failed authentication since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
failedTunnels	long	tmnxL2tpTgStatFailedTunnels	The value of tmnxL2tpTgStatFailedTunnels indicates the number of tunnels in this tunnel group that failed to reach the established state since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
sessionAssignMethod	int	tmnxL2tpTgStatSeAssignMethod	The value of the object tmnxL2tpTgStatSeAssignMethod indicates the latest actual method used for the authentication of the tunnels in this Layer Two Tunneling Protocol Tunnel Group. Note that the next tunnel that will be set up in this L2TP tunnel group may or may not use the same method, since the configuration of the RADIUS server may have changed in the meantime.
sessionLimit	long	tmnxL2tpTgStatSessionLimit	The value of tmnxL2tpTgStatSessionLimit indicates the actual session limit of this tunnel group.
state	int	tmnxL2tpTgStatState	The value of tmnxL2tpTgStatState indicates the operational state of this Layer Two Tunneling Protocol Tunnel Group.
totalSessions	long	tmnxL2tpTgStatSessions	The value of tmnxL2tpTgStatSessions indicates the actual number of sessions in this tunnel group.

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5620 SAM counter name	Type	MIB counter name	Description
totalTunnels	long	tmnxL2tpTgStatTunnels	The value of tmnxL2tpTgStatTunnels indicates the actual number of tunnels in this tunnel group.
PeerProtStats MIB table name: TIMETRA-L2TP-MIB.tmnxL2tpPeerProtStatsTable Monitored class: l2tp.Peer			
protInstance	long	tmnxL2tpPeerProtStatsInstance	The value of the object tmnxL2tpPeerProtStatsInstance indicates the instance identifier of the statistics contained in this conceptual row. For example: if the value of the object tmnxL2tpPeerProtStatsType is equal to 'outgoingMsgType', the value of tmnxL2tpPeerProtStatsInstance is a message identifier, e.g. instance '2' refers to '(SCCRP) Start-Control-Connection-Reply', and the value of tmnxL2tpPeerProtStatsVal indicates the number of SCCRP messages transmitted for this tunnel. Unknown protocol messages are counted with instance zero.
protName	String	tmnxL2tpPeerProtStatsName	The value of the object tmnxL2tpPeerProtStatsName indicates the human-readable identifier of the statistics contained in this conceptual row. In the same example, the value of tmnxL2tpPeerProtStatsName is '(SCCRP) Start-Control-Connection-Reply'.
protType	int	tmnxL2tpPeerProtStatsType	The value of the object tmnxL2tpPeerProtStatsType indicates the type of L2TP protocol statistics contained in this conceptual row.
protVal	long	tmnxL2tpPeerProtStatsVal	The value of the object tmnxL2tpPeerProtStatsVal indicates the value of the statistics contained in this conceptual row.
PeerStats MIB table name: TIMETRA-L2TP-MIB.tmnxL2tpPeerStatTable Monitored class: l2tp.Peer			
activeSessions	long	tmnxL2tpPeerStatActiveSessions	The value of tmnxL2tpPeerStatActiveSessions indicates the number of sessions associated with this peer that are currently established.
activeTunnels	long	tmnxL2tpPeerStatActiveTunnels	The value of tmnxL2tpPeerStatActiveTunnels indicates the number of tunnels associated with this peer that are currently established.
controlRxOct	UINT128	tmnxL2tpPeerStatControlRxOct	The value of tmnxL2tpPeerStatControlRxOct indicates the number of control channel octets received in this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.

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5620 SAM counter name	Type	MIB counter name	Description
controlRxOctHw	long	tmnxL2tpPeerStatControlRxOctHw	The value of tmnxL2tpPeerStatControlRxOctHw indicates the higher 32-bits word of the value of tmnxL2tpPeerStatControlRxOct.
controlRxOctLw	long	tmnxL2tpPeerStatControlRxOctLw	The value of tmnxL2tpPeerStatControlRxOctLw indicates the lower 32-bits word of the value of tmnxL2tpPeerStatControlRxOct.
controlRxPkts	long	tmnxL2tpPeerStatControlRxPkts	The value of tmnxL2tpPeerStatControlRxPkts indicates the number of control packets received by this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
controlTxOct	UINT128	tmnxL2tpPeerStatControlTxOct	The value of tmnxL2tpPeerStatControlTxOct indicates the number of control channel octets that were transmitted to the current tunnel endpoints in this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
controlTxOctHw	long	tmnxL2tpPeerStatControlTxOctHw	The value of tmnxL2tpPeerStatControlTxOctHw indicates the higher 32-bits word of the value of tmnxL2tpPeerStatControlTxOct.
controlTxOctLw	long	tmnxL2tpPeerStatControlTxOctLw	The value of tmnxL2tpPeerStatControlTxOctLw indicates the lower 32-bits word of the value of tmnxL2tpPeerStatControlTxOct.
controlTxPkts	long	tmnxL2tpPeerStatControlTxPkts	The value of tmnxL2tpPeerStatControlTxOct indicates the number of control packets that were transmitted to the current tunnel endpoints in this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
draining	int	tmnxL2tpPeerStatDraining	The value of tmnxL2tpPeerStatDraining indicates if this peer is being drained.
errorRxPkts	long	tmnxL2tpPeerStatErrorRxPkts	The value of tmnxL2tpPeerStatErrorRxPkts indicates the number of errored packets that were received on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
errorTxPkts	long	tmnxL2tpPeerStatErrorTxPkts	The value of tmnxL2tpPeerStatErrorTxPkts indicates the number of packet transmission errors on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.

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5620 SAM counter name	Type	MIB counter name	Description
lastCleared	long	tmnxL2tpPeerStatLastCleared	The value of the object tmnxL2tpPeerStatLastCleared indicates the value of sysUpTime when the contents of this conceptual row were cleared for the last time. The value zero means that the contents of this conceptual row have not yet been cleared.
msgAccepted	long	tmnxL2tpPeerStatMsgAccepted	The value of tmnxL2tpPeerStatMsgAccepted indicates the number of Finite State Machine (FSM) messages that were accepted from this peer since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
msgDuplicateRx	long	tmnxL2tpPeerStatMsgDuplicateRx	The value of tmnxL2tpPeerStatMsgDuplicateRx indicates the number of Finite State Machine (FSM) duplicate messages that were received from this peer since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
msgOutOfWndwRx	long	tmnxL2tpPeerStatMsgOutOfWndwRx	The value of tmnxL2tpPeerStatMsgOutOfWndwRx indicates the number of Finite State Machine (FSM) messages that were received out of the receive window from this peer since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
sessions	long	tmnxL2tpPeerStatSessions	The value of tmnxL2tpPeerStatSessions indicates the actual number of sessions associated with this peer.
tunnels	long	tmnxL2tpPeerStatTunnels	The value of tmnxL2tpPeerStatTunnels indicates the actual number of tunnels associated with this peer.
unreachableTime	long	tmnxL2tpPeerStatUnreachableTime	The value of the object tmnxL2tpPeerStatUnreachableTime indicates the value of sysUpTime when the this peer was deemed unreachable for the last time. The value zero means that this peer has not been deemed unreachable yet.
SiteStats MIB table name: TIMETRA-L2TP-MIB.tmnxL2tpStatTable Monitored class: l2tp.Site			
activeSessions	long	tmnxL2tpStatActiveSessions	The value of tmnxL2tpStatActiveSessions indicates the number of sessions currently established.
activeTunnels	long	tmnxL2tpStatActiveTunnels	The value of tmnxL2tpStatActiveTunnels indicates the number of tunnels currently established.

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5620 SAM counter name	Type	MIB counter name	Description
attemptedSessions	long	tmnxL2tpStatTotalSessions	The value of tmnxL2tpStatTotalSessions indicates the number of session creation attempts since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
attemptedTunnels	long	tmnxL2tpStatTotalTunnels	The value of tmnxL2tpStatTotalTunnels indicates the total number of tunnel set up attempts since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
cleared	long	tmnxL2tpStatCleared	The value of the object tmnxL2tpStatCleared indicates the value of sysUpTime when the system statistics were cleared. The value zero indicates that the system statistics have not been cleared since the last re-initialization of the local network management subsystem.
failedSessions	long	tmnxL2tpStatFailedSessions	The value of tmnxL2tpStatFailedSessions indicates the number of sessions that failed to reach the established state since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
failedTuAuth	long	tmnxL2tpStatFailedTuAuth	The value of tmnxL2tpStatFailedTuAuth indicates the number of tunnels that failed authentication since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
failedTunnels	long	tmnxL2tpStatFailedTunnels	The value of tmnxL2tpStatFailedTunnels indicates the number of tunnels that failed to reach the established state since the last re-initialization of the local network management subsystem, or the last time the system statistics were cleared.
totalSessions	long	tmnxL2tpStatCurrentSessions	The value of tmnxL2tpStatCurrentSessions indicates the actual number of sessions.
totalTunnels	long	tmnxL2tpStatCurrentTunnels	The value of tmnxL2tpStatCurrentTunnels indicates the actual number of tunnels.
TunnelStatusProtStats MIB table name: TIMETRA-L2TP-MIB.tmnxL2tpTuProtStatsTable Monitored class: l2tp.TunnelStatus			

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5620 SAM counter name	Type	MIB counter name	Description
protInstance	long	tmnxL2tpTuProtStatsInstance	The value of the object tmnxL2tpTuProtStatsType indicates the instance identifier of the statistics contained in this conceptual row. For example: if the value of the object tmnxL2tpTuProtStatsType is equal to 'outgoingMsgType', the value of tmnxL2tpTuProtStatsInstance is a message identifier, e.g. instance '2' refers to '(SCCRP) Start-Control-Connection-Reply', and the value of tmnxL2tpTuProtStatsVal indicates the number of SCCRP messages transmitted for this tunnel. Unknown protocol messages are counted with instance zero.
protName	String	tmnxL2tpTuProtStatsName	The value of the object tmnxL2tpTuProtStatsType indicates the human-readable identifier of the statistics contained in this conceptual row. In the same example, the value of tmnxL2tpTuProtStatsName is '(SCCRP) Start-Control-Connection-Reply'.
protType	int	tmnxL2tpTuProtStatsType	The value of the object tmnxL2tpTuProtStatsType indicates the type of L2TP protocol statistics contained in this conceptual row.
protVal	long	tmnxL2tpTuProtStatsVal	The value of the object tmnxL2tpTuProtStatsType indicates the value of the statistics contained in this conceptual row.
TunnelStatusStats MIB table name: TIMETRA-L2TP-MIB.tmnxL2tpTuStatsTable Monitored class: l2tp.TunnelStatus			
activeSessions	long	tmnxL2tpTuStatsActiveSessions	The value of tmnxL2tpTuStatsActiveSessions indicates the number of sessions currently established in this tunnel.
controlRxOctets	UINT128	tmnxL2tpTuStatsControlRxOctets	The value of tmnxL2tpTuStatsControlRxOctets indicates the number of control channel octets received in this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
controlRxOctetsHw	long	tmnxL2tpTuStatsControlRxOctetsHw	The value of tmnxL2tpTuStatsControlRxOctetsHw indicates the higher 32-bits word of the value of tmnxL2tpTuStatsControlRxOctets.
controlRxOctetsLw	long	tmnxL2tpTuStatsControlRxOctetsLw	The value of tmnxL2tpTuStatsControlRxOctetsLw indicates the lower 32-bits word of the value of tmnxL2tpTuStatsControlRxOctets.

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5620 SAM counter name	Type	MIB counter name	Description
controlRxPkts	long	tmnxL2tpTuStatsControlRxPkts	The value of tmnxL2tpTuStatsControlRxPkts indicates the number of control packets received by this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
controlTxOctets	UINT128	tmnxL2tpTuStatsControlTxOctets	The value of tmnxL2tpTuStatsControlTxOctets indicates the number of control channel octets that were transmitted to the current tunnel endpoints in this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
controlTxOctetsHw	long	tmnxL2tpTuStatsControlTxOctetsHw	The value of tmnxL2tpTuStatsControlTxOctetsHw indicates the higher 32-bits word of the value of tmnxL2tpTuStatsControlTxOctets.
controlTxOctetsLw	long	tmnxL2tpTuStatsControlTxOctetsLw	The value of tmnxL2tpTuStatsControlTxOctetsLw indicates the lower 32-bits word of the value of tmnxL2tpTuStatsControlTxOctets.
controlTxPkts	long	tmnxL2tpTuStatsControlTxPkts	The value of tmnxL2tpTuStatsControlTxOctets indicates the number of control packets that were transmitted to the current tunnel endpoints in this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
errorRxPkts	long	tmnxL2tpTuStatsErrorRxPkts	The value of tmnxL2tpTuStatsErrorRxPkts indicates the number of errored packets that were received on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
errorTxPkts	long	tmnxL2tpTuStatsErrorTxPkts	The value of tmnxL2tpTuStatsErrorTxPkts indicates the number of packet transmission errors on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
failedSessions	long	tmnxL2tpTuStatsFailedSessions	The value of tmnxL2tpTuStatsFailedSessions indicates the number of sessions in this tunnel that failed to reach the established state since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.

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5620 SAM counter name	Type	MIB counter name	Description
fsmMsgAccepted	long	tmnxL2tpTuStatsFsmMsgAccepted	The value of tmnxL2tpTuStatsFsmMsgAccepted indicates the number of Finite State Machine (FSM) messages that were accepted on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
fsmMsgDuplicateRx	long	tmnxL2tpTuStatsFsmMsgDuplicateRx	The value of tmnxL2tpTuStatsFsmMsgDuplicateRx indicates the number of Finite State Machine (FSM) duplicate messages that were received on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
fsmMsgOutOfWndwRx	long	tmnxL2tpTuStatsFsmMsgOutOfWndwRx	The value of tmnxL2tpTuStatsFsmMsgOutOfWndwRx indicates the number of Finite State Machine (FSM) messages that were received out of the receive window on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
lastCleared	long	tmnxL2tpTuStatsLastCleared	The value of the object tmnxL2tpTuStatsLastCleared indicates the value of sysUpTime when the contents of this conceptual row were cleared for the last time. The value zero means that the contents of this conceptual row have not yet been cleared.
qLengthAckCur	long	tmnxL2tpTuStatsQLengthAckCur	The value of tmnxL2tpTuStatsErrorRxPkts indicates the the current length of the acknowledged message queue on this tunnel.
qLengthAckMax	long	tmnxL2tpTuStatsQLengthAckMax	The value of tmnxL2tpTuStatsErrorRxPkts indicates the the maximum length of the acknowledged message queue on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
qLengthUnsentCur	long	tmnxL2tpTuStatsQLengthUnsentCur	The value of tmnxL2tpTuStatsErrorRxPkts indicates the the current length of the unsent message queue on this tunnel.
qLengthUnsentMax	long	tmnxL2tpTuStatsQLengthUnsentMax	The value of tmnxL2tpTuStatsQLengthUnsentMax indicates the the maximum length of the unsent message queue on this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.

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5620 SAM counter name	Type	MIB counter name	Description
totalSessions	long	tmnxL2tpTuStatsTotalSessions	The value of tmnxL2tpTuStatsTotalSessions indicates the number of session creation attempts in this tunnel since the last re-initialization of the local network management subsystem, or the last time the tunnel statistics were cleared.
windowSizeCur	long	tmnxL2tpTuStatsWindowSizeCur	The value of tmnxL2tpTuStatsErrorRxPkts indicates the the current size of the receive window on this tunnel.

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Table A-23 lag statistics

5620 SAM counter name	Type	MIB counter name	Description
LagStats MIB table name: TIMETRA-LAG-MIB.tLagOperationTable Monitored class: lag.Interface			
portThresholdFalling	long	tLagPortThresholdFalling	counts the number of linkDown or dynamicCost events for the Link Aggregation Group caused by the number of physical ports being less than or equal to tLagPortThreshold value.
portThresholdRising	long	tLagPortThresholdRising	counts the number of linkUp or dynamicCost events for the Link Aggregation Group caused by the number of physical ports being greater than tLagPortThreshold value.
MultiChassisLagMemberStats MIB table name: TIMETRA-MC-REDUNDANCY-MIB.tmnxMcLagLagStatsTable Monitored classes: • lag.MultiChassisLagMember • multichassis.MultiChassisLagMember			
configPacketsReceived	long	tmnxMcLagLagStatsPktsRxConfig	The value of tmnxMcLagLagStatsPktsRxConfig indicates how many MC-Lag control packets of type lag config were received on this system from the peer for this lag.
configPacketsTransmitted	long	tmnxMcLagLagStatsPktsTxConfig	The value of tmnxMcLagLagStatsPktsTxConfig indicates how many MC-Lag control packets of type lag config were sent on this system to the peer for this lag.
failedPacketsTransmitted	long	tmnxMcLagLagStatsPktsTxFailed	The value of tmnxMcLagLagStatsPktsTxFailed indicates how many MC-Lag control packets failed to be transmitted on this system to the peer for this lag.
statePacketsReceived	long	tmnxMcLagLagStatsPktsRxState	The value of tmnxMcLagLagStatsPktsRxState indicates how many MC-Lag control packets of type lag state were received on this system from the peer for this lag.

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5620 SAM counter name	Type	MIB counter name	Description
statePacketsTransmitted	long	tmnxMcLagLagStatsPktsTxState	The value of tmnxMcLagLagStatsPktsTxState indicates how many MC-Lag control packets of type lag state were sent on this system to the peer for this lag.

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Table A-24 ldp statistics

5620 SAM counter name	Type	MIB counter name	Description
InterfaceStats MIB table name: TIMETRA-LDP-MIB.vRtrLdpIfStatsTable Monitored class: ldp.Interface			
existingAdjacencies	long	vRtrLdpIfExistingAdjacencies	The value of vRtrLdpIfExistingAdjacencies gives a count of the total active adjacencies on this LDP interface or with this targeted peer.
LdpEgressStats MIB table name: TIMETRA-LDP-MIB.vRtrLdpEgrStatisticsTable Monitored class: ldp.AccountingFecPrefix			
ldpInProfileOctetsFc0	UINT128	vRtrLdpInProfileOctetsFc0	The value of vRtrLdpInProfileOctetsFc0 indicates the number of in profile octets received for Forwarding Class 0.
ldpInProfileOctetsFc1	UINT128	vRtrLdpInProfileOctetsFc1	The value of vRtrLdpInProfileOctetsFc1 indicates the number of in profile octets received for Forwarding Class 1.
ldpInProfileOctetsFc2	UINT128	vRtrLdpInProfileOctetsFc2	The value of vRtrLdpInProfileOctetsFc2 indicates the number of in profile octets received for Forwarding Class 2.
ldpInProfileOctetsFc3	UINT128	vRtrLdpInProfileOctetsFc3	The value of vRtrLdpInProfileOctetsFc3 indicates the number of in profile octets received for Forwarding Class 3.
ldpInProfileOctetsFc4	UINT128	vRtrLdpInProfileOctetsFc4	The value of vRtrLdpInProfileOctetsFc4 indicates the number of in profile octets received for Forwarding Class 4.
ldpInProfileOctetsFc5	UINT128	vRtrLdpInProfileOctetsFc5	The value of vRtrLdpInProfileOctetsFc5 indicates the number of in profile octets received for Forwarding Class 5.
ldpInProfileOctetsFc6	UINT128	vRtrLdpInProfileOctetsFc6	The value of vRtrLdpInProfileOctetsFc6 indicates the number of in profile octets received for Forwarding Class 6.
ldpInProfileOctetsFc7	UINT128	vRtrLdpInProfileOctetsFc7	The value of vRtrLdpInProfileOctetsFc7 indicates the number of in profile octets received for Forwarding Class 7.
ldpInProfilePktsFc0	UINT128	vRtrLdpInProfilePktsFc0	The value of vRtrLdpInProfilePktsFc0 indicates the number of in profile packets received for Forwarding Class 0.
ldpInProfilePktsFc1	UINT128	vRtrLdpInProfilePktsFc1	The value of vRtrLdpInProfilePktsFc1 indicates the number of in profile packets received for Forwarding Class 1.

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5620 SAM counter name	Type	MIB counter name	Description
ldpInProfilePktsFc2	UINT128	vRtrLdpInProfilePktsFc2	The value of vRtrLdpInProfilePktsFc2 indicates the number of in profile packets received for Forwarding Class 2.
ldpInProfilePktsFc3	UINT128	vRtrLdpInProfilePktsFc3	The value of vRtrLdpInProfilePktsFc3 indicates the number of in profile packets received for Forwarding Class 3.
ldpInProfilePktsFc4	UINT128	vRtrLdpInProfilePktsFc4	The value of vRtrLdpInProfilePktsFc4 indicates the number of in profile packets received for Forwarding Class 4.
ldpInProfilePktsFc5	UINT128	vRtrLdpInProfilePktsFc5	The value of vRtrLdpInProfilePktsFc5 indicates the number of in profile packets received for Forwarding Class 5.
ldpInProfilePktsFc6	UINT128	vRtrLdpInProfilePktsFc6	The value of vRtrLdpInProfilePktsFc6 indicates the number of in profile packets received for Forwarding Class 6.
ldpInProfilePktsFc7	UINT128	vRtrLdpInProfilePktsFc7	The value of vRtrLdpInProfilePktsFc7 indicates the number of in profile packets received for Forwarding Class 7.
ldpOutOfProfOctetsFc0	UINT128	vRtrLdpOutOfProfOctetsFc0	The value of vRtrLdpOutOfProfOctetsFc0 indicates the number of out of profile octets received for Forwarding Class 0.
ldpOutOfProfOctetsFc1	UINT128	vRtrLdpOutOfProfOctetsFc1	The value of vRtrLdpOutOfProfOctetsFc1 indicates the number of out of profile octets received for Forwarding Class 1.
ldpOutOfProfOctetsFc2	UINT128	vRtrLdpOutOfProfOctetsFc2	The value of vRtrLdpOutOfProfOctetsFc2 indicates the number of out of profile octets received for Forwarding Class 2.
ldpOutOfProfOctetsFc3	UINT128	vRtrLdpOutOfProfOctetsFc3	The value of vRtrLdpOutOfProfOctetsFc3 indicates the number of out of profile octets received for Forwarding Class 3.
ldpOutOfProfOctetsFc4	UINT128	vRtrLdpOutOfProfOctetsFc4	The value of vRtrLdpOutOfProfOctetsFc4 indicates the number of out of profile octets received for Forwarding Class 4.
ldpOutOfProfOctetsFc5	UINT128	vRtrLdpOutOfProfOctetsFc5	The value of vRtrLdpOutOfProfOctetsFc5 indicates the number of out of profile octets received for Forwarding Class 5.
ldpOutOfProfOctetsFc6	UINT128	vRtrLdpOutOfProfOctetsFc6	The value of vRtrLdpOutOfProfOctetsFc6 indicates the number of out of profile octets received for Forwarding Class 6.
ldpOutOfProfOctetsFc7	UINT128	vRtrLdpOutOfProfOctetsFc7	The value of vRtrLdpOutOfProfOctetsFc7 indicates the number of out of profile octets received for Forwarding Class 7.
ldpOutOfProfPktsFc0	UINT128	vRtrLdpOutOfProfPktsFc0	The value of vRtrLdpOutOfProfPktsFc0 indicates the number of out of profile packets received for Forwarding Class 0.
ldpOutOfProfPktsFc1	UINT128	vRtrLdpOutOfProfPktsFc1	The value of vRtrLdpOutOfProfPktsFc1 indicates the number of out of profile packets received for Forwarding Class 1.
ldpOutOfProfPktsFc2	UINT128	vRtrLdpOutOfProfPktsFc2	The value of vRtrLdpOutOfProfPktsFc2 indicates the number of out of profile packets received for Forwarding Class 2.

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5620 SAM counter name	Type	MIB counter name	Description
ldpOutOfProfPktsFc3	UINT128	vRtrLdpOutOfProfPktsFc3	The value of vRtrLdpOutOfProfPktsFc3 indicates the number of out of profile packets received for Forwarding Class 3.
ldpOutOfProfPktsFc4	UINT128	vRtrLdpOutOfProfPktsFc4	The value of vRtrLdpOutOfProfPktsFc4 indicates the number of out of profile packets received for Forwarding Class 4.
ldpOutOfProfPktsFc5	UINT128	vRtrLdpOutOfProfPktsFc5	The value of vRtrLdpOutOfProfPktsFc5 indicates the number of out of profile packets received for Forwarding Class 5.
ldpOutOfProfPktsFc6	UINT128	vRtrLdpOutOfProfPktsFc6	The value of vRtrLdpOutOfProfPktsFc6 indicates the number of out of profile packets received for Forwarding Class 6.
ldpOutOfProfPktsFc7	UINT128	vRtrLdpOutOfProfPktsFc7	The value of vRtrLdpOutOfProfPktsFc7 indicates the number of out of profile packets received for Forwarding Class 7.
SessionStats MIB table name: TIMETRA-LDP-MIB.vRtrLdpSessionStatsTable Monitored class: ldp.Session			
addressMessagesReceived	long	vRtrLdpSessStatsAddrIn	The value of vRtrLdpSessStatsAddrIn counts the number of Address Messages that have been received during this session.
addressMessagesSent	long	vRtrLdpSessStatsAddrOut	The value of vRtrLdpSessStatsAddrOut counts the number of Address Messages that have been sent during this session.
addressWithdrawMessagesReceived	long	vRtrLdpSessStatsAddrWithdrawIn	The value of vRtrLdpSessStatsAddrWithdrawIn counts the number of Address Withdraw Messages that have been received during this session.
addressWithdrawMessagesSent	long	vRtrLdpSessStatsAddrWithdrawOut	The value of vRtrLdpSessStatsAddrWithdrawOut counts the number of Address Withdraw Messages that have been sent during this session.
fecReceived	long	vRtrLdpSessStatsFECRecv	The value of vRtrLdpSessStatsFECRecv counts the number of FECs received for this session.
fecSent	long	vRtrLdpSessStatsFECSent	The value of vRtrLdpSessStatsFECSent counts the number of FECs sent for this session.
helloMessagesReceived	long	vRtrLdpSessStatsHelloIn	The value of vRtrLdpSessStatsHelloIn counts the number of Hello Messages that have been received during this session.
helloMessagesSent	long	vRtrLdpSessStatsHelloOut	The value of vRtrLdpSessStatsHelloOut counts the number of Hello Messages that have been sent during this session.
initMessagesReceived	long	vRtrLdpSessStatsInitIn	The value of vRtrLdpSessStatsInitIn counts the number of Init Messages that have been received during this session.
initMessagesSent	long	vRtrLdpSessStatsInitOut	The value of vRtrLdpSessStatsInitOut counts the number of Init Messages that have been sent during this session.

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5620 SAM counter name	Type	MIB counter name	Description
keepAliveMessagesReceived	long	vRtrLdpSessStatsKeepaliveIn	The value of vRtrLdpSessStatsKeepaliveIn counts the number of Keepalive Messages that have been received during this session.
keepAliveMessagesSent	long	vRtrLdpSessStatsKeepaliveOut	The value of vRtrLdpSessStatsKeepaliveOut counts the number of Keepalive Messages that have been sent during this session.
labelAbortsReceived	long	vRtrLdpSessStatsLabelAbortIn	The value of vRtrLdpSessStatsLabelAbortIn counts the number of Label Abort Messages that have been received during this session.
labelAbortsSent	long	vRtrLdpSessStatsLabelAbortOut	The value of vRtrLdpSessStatsLabelAbortOut counts the number of Label Abort Messages that have been sent during this session.
labelMappingsReceived	long	vRtrLdpSessStatsLabelMappingIn	The value of vRtrLdpSessStatsLabelMappingIn counts the number of Label Mapping Messages that have been received during this session.
labelMappingsSent	long	vRtrLdpSessStatsLabelMappingOut	The value of vRtrLdpSessStatsLabelMappingOut counts the number of Label Mapping Messages that have been sent during this session.
labelReleasesReceived	long	vRtrLdpSessStatsLabelReleaseIn	The value of vRtrLdpSessStatsLabelReleaseIn counts the number of Label Release Messages that have been received during this session.
labelReleasesSent	long	vRtrLdpSessStatsLabelReleaseOut	The value of vRtrLdpSessStatsLabelReleaseOut counts the number of Label Release Messages that have been sent during this session.
labelRequestsReceived	long	vRtrLdpSessStatsLabelRequestIn	The value of vRtrLdpSessStatsLabelRequestIn counts the number of Label Request Messages that have been received during this session.
labelRequestsSent	long	vRtrLdpSessStatsLabelRequestOut	The value of vRtrLdpSessStatsLabelRequestOut counts the number of Label Request Messages that have been sent during this session.
labelWithdrawsReceived	long	vRtrLdpSessStatsLabelWithdrawIn	The value of vRtrLdpSessStatsLabelWithdrawIn counts the number of Label Withdraw Messages that have been received during this session.
labelWithdrawsSent	long	vRtrLdpSessStatsLabelWithdrawOut	The value of vRtrLdpSessStatsLabelWithdrawOut counts the number of Label Withdraw Messages that have been sent during this session.
linkAdjacencies	long	vRtrLdpSessStatsLinkAdj	The value of vRtrLdpSessStatsLinkAdj specifies the number of link adjacencies for this session.

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5620 SAM counter name	Type	MIB counter name	Description
notificationMessagesReceived	long	vRtrLdpSessStatsNotificationIn	The value of vRtrLdpSessStatsNotificationIn counts the number of Notification Messages that have been received during this session.
notificationMessagesSent	long	vRtrLdpSessStatsNotificationOut	The value of vRtrLdpSessStatsNotificationOut counts the number of Notification Messages that have been sent during this session.
targetedAdjacencies	long	vRtrLdpSessStatsTargAdj	The value of vRtrLdpSessStatsTargAdj specifies the number of targeted adjacencies for this session.
SiteStats MIB table name: TIMETRA-LDP-MIB.vRtrLdpStatsTable Monitored class: ldp.Site			
activeAdjacencies	long	vRtrLdpStatsActiveAdjacencies	The value of vRtrLdpStatsActiveAdjacencies specifies the number of active adjacencies (i.e. established sessions) associated with the LDP instance.
activeInterfaces	long	vRtrLdpStatsActiveInterfaces	The value of vRtrLdpStatsActiveInterfaces specifies the number of active (i.e. operationally up) interfaces associated with the LDP instance.
activeSessions	long	vRtrLdpStatsActiveSessions	The value of vRtrLdpStatsActiveSessions specifies the number of active sessions (i.e. session in some form of creation) associated with the LDP instance.
activeTargetedSessions	long	vRtrLdpStatsActiveTargSessions	The value of vRtrLdpStatsActiveTargSessions specifies the number of active (i.e. operationally up) targeted sessions associated with the LDP instance.
addressFECsReceived	long	vRtrLdpStatsAddrFECRecv	The value of vRtrLdpStatsAddrFECRecv specifies the number of Address FECs received by the LDP instance from its neighbors.
addressFECsSent	long	vRtrLdpStatsAddrFECSent	The value of vRtrLdpStatsAddrFECSent specifies the number of Address FECs sent by the LDP instance to its neighbors.
attemptedSessions	long	vRtrLdpStatsAttemptedSessions	The value of vRtrLdpStatsAttemptedSessions specifies the total number of attempted sessions for this LDP instance.
badLdpIdentifierErrors	long	vRtrLdpStatsBadLdpIdentifierErrors	The value of vRtrLdpStatsBadLdpIdentifierErrors gives the number of Bad LDP Identifier Fatal Errors detected for sessions associated with this LDP instance. REFERENCE LDP Specification, Section 3.5.1.2.

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5620 SAM counter name	Type	MIB counter name	Description
badMessageLengthErrors	long	vRtrLdpStatsBadMessageLengthErrors	The value of vRtrLdpStatsBadMessageLengthErrors gives the number of Bad Message Length Fatal Errors detected for sessions associated with this LDP instance. REFERENCE LDP Specification, Section 3.5.1.2.
badPduLengthErrors	long	vRtrLdpStatsBadPduLengthErrors	The value of vRtrLdpStatsBadPduLengthErrors gives the number of Bad Pdu Length Fatal Errors detected for sessions associated with this LDP instance. REFERENCE LDP Specification, Section 3.5.1.2.
badTlvLengthErrors	long	vRtrLdpStatsBadTlvLengthErrors	The value of vRtrLdpStatsBadTlvLengthErrors gives the number of Bad TLV Length Fatal Errors detected for sessions associated with this LDP instance. REFERENCE LDP Specification, Section 3.5.1.2.
inactiveInterfaces	long	vRtrLdpStatsInactiveInterfaces	The value of vRtrLdpStatsInactiveInterfaces specifies the number of inactive (i.e. operationally down) interfaces associated with the LDP instance.
inactiveTargetedSessions	long	vRtrLdpStatsInactiveTargSessions	The value of vRtrLdpStatsInactiveTargSessions specifies the number of inactive (i.e. operationally down) targeted sessions associated with the LDP instance.
keepAliveExpiredErrors	long	vRtrLdpStatsKeepAliveExpiredErrors	The value of vRtrLdpStatsKeepAliveExpiredErrors gives the number of Session Keep Alive Timer Expired Errors detected for sessions associated with this LDP instance. REFERENCE LDP Specification, Section 3.5.1.2.
malformedTlvValueErrors	long	vRtrLdpStatsMalformedTlvValueErrors	The value of vRtrLdpStatsMalformedTlvValueErrors gives the number of Malformed TLV Value Fatal Errors detected for sessions associated with this LDP instance. REFERENCE LDP Specification, Section 3.5.1.2.
operDownEvents	long	vRtrLdpStatsOperDownEvents	The value of vRtrLdpStatsOperDownEvents specifies the number of times the LDP instance has gone operationally down since the instance was created.
serviceFECsReceived	long	vRtrLdpStatsSvcFECRecv	The value of vRtrLdpStatsSvcFECRecv specifies the number of Service FECs received by the LDP instance from its neighbors.
serviceFECsSent	long	vRtrLdpStatsSvcFECSent	The value of vRtrLdpStatsSvcFECSent specifies the number of Service FECs sent by the LDP instance to its neighbors.

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5620 SAM counter name	Type	MIB counter name	Description
sessionRejectedAdvertisementModeErrors	long	vRtrLdpStatsSessRejAdvErrors	The value of vRtrLdpStatsSessRejAdvErrors gives the total number of Session Rejected/Parameters Advertisement Mode Error Notification Messages sent or received by this LDP instance.
sessionRejectedLabelRangeErrors	long	vRtrLdpStatsSessRejLabelRangeErrors	The value of vRtrLdpStatsSessRejLabelRangeErrors gives the total number of Session Rejected/Parameters Label Range Error Notification Messages sent or received by this LDP instance.
sessionRejectedMaxPduLengthErrors	long	vRtrLdpStatsSessRejMaxPduErrors	The value of vRtrLdpStatsSessRejMaxPduErrors gives the total number of Session Rejected/Parameters Max Pdu Length Error Notification Messages sent or received by this LDP instance.
sessionRejectedNoHelloErrors	long	vRtrLdpStatsSessRejNoHelloErrors	The value of vRtrLdpStatsSessRejNoHelloErrors gives the total number of Session Rejected/No Hello Error Notification Messages sent or received by this LDP instance.
shutdownNotificationsReceived	long	vRtrLdpStatsShutdownNotifRecv	The value of vRtrLdpStatsShutdownNotifRecv gives the number of Shutdown Notifications received related to sessions associated with this LDP instance.
shutdownNotificationsSent	long	vRtrLdpStatsShutdownNotifSent	The value of vRtrLdpStatsShutdownNotifSent gives the number of Shutdown Notifications sent related to sessions associated with this LDP instance.
SiteStatsExtension MIB table name: TIMETRA-LDP-MIB.vRtrLdpStatsTable Monitored class: ldp.Site			
p2mpFecReceived	long	vRtrLdpStatsP2MPFECRecv	The value of vRtrLdpStatsP2MPFECRecv specifies the number of P2MP FECs received by the ldp instance from its neighbors.
p2mpFecSent	long	vRtrLdpStatsP2MPFECSent	The value of vRtrLdpStatsP2MPFECSent specifies the number of P2MP FECs sent by the ldp instance to its neighbors.
TargetedPeerStats MIB table name: TIMETRA-LDP-MIB.vRtrLdpIfStatsTable Monitored class: ldp.TargetedPeer			
existingAdjacencies	long	vRtrLdpIfExistingAdjacencies	The value of vRtrLdpIfExistingAdjacencies gives a count of the total active adjacencies on this LDP interface or with this targeted peer.

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Table A-25 lldp statistics

5620 SAM counter name	Type	MIB counter name	Description
LLDPRxPortStats MIB table name: TIMETRA-LLDP-MIB.tmnxLldpStatsRxPortTable Monitored class: lldp.LLDPPortConfiguration			
lldpStatsRxPortAgeouts	long	tmnxLldpStatsRxPortAgeouts	The counter that represents the number of age-outs that occurred on a given port. An age-out is the number of times the complete set of information advertised by a particular MSAP has been deleted from tables contained in tmnxLldpRemoteSystemsData and lldpExtensions objects because the information timeliness interval has expired. This counter is similar to lldpStatsRemTablesAgeouts, except that the counter is on a per port basis. This enables NMS to poll tables associated with the tmnxLldpRemoteSystemsData objects and all LLDP extension objects associated with remote systems on the indicated port only. This counter should be set to zero during agent initialization and its value should not be saved in non-volatile storage. When a port's admin status changes from 'disabled' to 'rxOnly', 'txOnly' or 'txAndRx', the counter associated with the same port should reset to 0. The agent should also flush all remote system information associated with the same port. This counter should be incremented only once when the complete set of information is invalidated (aged out) from all related tables on a particular port. Partial ageing is not allowed, and thus, should not change the value of this counter. REFERENCE IEEE Std 802.1AB-200X 10.5.2.
lldpStatsRxPortFrameDiscard	long	tmnxLldpStatsRxPortFrameDiscard	The number of LLDP frames received by this LLDP agent on the indicated port, and then discarded for any reason. This counter can provide an indication that LLDP header formating problems may exist with the local LLDP agent in the sending system or that LLDPDU validation problems may exist with the local LLDP agent in the receiving system. REFERENCE IEEE Std 802.1AB-200X 10.5.2.
lldpStatsRxPortFrameErrs	long	tmnxLldpStatsRxPortFrameErrs	The number of invalid LLDP frames received by this LLDP agent on the indicated port, while this LLDP agent is enabled. REFERENCE IEEE Std 802.1AB-200X 10.5.2.
lldpStatsRxPortFrames	long	tmnxLldpStatsRxPortFrames	The number of valid LLDP frames received by this LLDP agent on the indicated port, while this LLDP agent is enabled. REFERENCE IEEE Std 802.1AB-200X 10.5.2.

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5620 SAM counter name	Type	MIB counter name	Description
lldpStatsRxPortTLVDiscard	long	tmnxLldpStatsRxPortTLV Discard	The number of LLDP TLVs discarded for any reason by this LLDP agent on the indicated port. REFERENCE IEEE Std 802.1AB-200X 10.5.2.
lldpStatsRxPortTLVUnknown	long	tmnxLldpStatsRxPortTLV Unknown	The number of LLDP TLVs received on the given port that are not recognized by this LLDP agent on the indicated port. An unrecognized TLV is referred to as the TLV whose type value is in the range of reserved TLV types (000 1001 - 111 1110) in Table 9.1 of IEEE Std 802.1AB-2004. An unrecognized TLV may be a basic management TLV from a later LLDP version. REFERENCE IEEE Std 802.1AB-200X 10.5.2.
LLDPTxPortStats MIB table name: TIMETRA-LLDP-MIB.tmnxLldpStatsTxPortTable Monitored class: lldp.LLDPPortConfiguration			
lldpStatsTxLLDPDULengthErrs	long	tmnxLldpStatsTxLLDPDUL engthErrs	The number of LLDPD Length Errors recorded for the Port. REFERENCE IEEE Std 802.1AB-200X 10.2.7.2.
lldpStatsTxPortFrames	long	tmnxLldpStatsTxPortFra mes	The number of LLDP frames transmitted by this LLDP agent on the indicated port. REFERENCE IEEE Std 802.1AB-200X 10.5.2.

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Table A-26 lte statistics

5620 SAM counter name	Type	MIB counter name	Description
GxPeerStats MIB table name: TIMETRA-MOBILE-PDN-MIB.tmnxMobPdnGxStatTable Monitored class: lte.GxPeer			
bearerBindingAndEventReportingF unctionTransmitted	long	tmnxMobPdnGxStatBberfs	The value of tmnxMobPdnGxStatBberfs indicates the number of Bearer Binding and Event Reporting Function (BBERF) procedures transmitted by this peer.
capabilitiesExchangeAnswersRecei ved	long	tmnxMobPdnGxStatRxCea	The value of tmnxMobPdnGxStatRxCea indicates the number of Capabilities Exchange Answer (CEA) messages received from this peer.
capabilitiesExchangeRequestsTran smitted	long	tmnxMobPdnGxStatTxCer	The value of tmnxMobPdnGxStatTxCer indicates the number of Capabilities Exchange Request (CER) messages transmitted to this peer.
cardSlotNumber	long	tmnxCardSlotNum	—
chassisIndex	long	tmnxChassisIndex	—
connectionAttempts	long	tmnxMobPdnGxStatConnA ttempts	The value of tmnxMobPdnGxStatConnAttempts indicates the number of connections attempted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
connectionFailures	long	tmnxMobPdnGxStatConnFailures	The value of tmnxMobPdnGxStatConnFailures indicates the number of failed connections with this peer.
creditControlAnswerInitialMalformedPacketsReceived	long	tmnxMobPdnGxStatRxCcaIMalformPkt	The value of tmnxMobPdnGxStatRxCcaIMalformPkt indicates the number of Credit Control Answer (CCA) Initial malformed packets received from this peer.
creditControlAnswerInitialMissingMandatoryInformationElementPacketsReceived	long	tmnxMobPdnGxStatRxCcaIMissIePkts	The value of tmnxMobPdnGxStatRxCcaIMissIePkts indicates the number of Credit Control Answer (CCA) Initial missing mandatory Information Element (IE) packets received from this peer.
creditControlAnswerInitialUnknownPacketsReceived	long	tmnxMobPdnGxStatRxCcaIUnknownPkt	The value of tmnxMobPdnGxStatRxCcaIUnknownPkt indicates the number of Credit Control Answer (CCA) Initial unknown packets received from this peer.
creditControlAnswerInitialUnknownSessionPacketsReceived	long	tmnxMobPdnGxStatRxCcaIUnkSession	The value of tmnxMobPdnGxStatRxCcaIUnkSession indicates the number of Credit Control Answer (CCA) Initial unknown session packets received from this peer.
creditControlAnswerTerminationMalformedPacketsReceived	long	tmnxMobPdnGxStatRxCcaTMalformPkt	The value of tmnxMobPdnGxStatRxCcaTMalformPkt indicates the number of Credit Control Answer (CCA) Termination malformed packets received from this peer.
creditControlAnswerTerminationMissingMandatoryInformationElementPacketsReceived	long	tmnxMobPdnGxStatRxCcaTMissIePkts	The value of tmnxMobPdnGxStatRxCcaTMissIePkts indicates the number of Credit Control Answer (CCA) Termination missing mandatory Information Element (IE) packets received from this peer.
creditControlAnswerTerminationUnknownPacketsReceived	long	tmnxMobPdnGxStatRxCcaTUnknownPkt	The value of tmnxMobPdnGxStatRxCcaTUnknownPkt indicates the number of Credit Control Answer (CCA) Termination unknown packets received from this peer.
creditControlAnswerTerminationUnknownSessionPacketsReceived	long	tmnxMobPdnGxStatRxCcaTUnkSession	The value of tmnxMobPdnGxStatRxCcaTUnkSession indicates the number of Credit Control Answer (CCA) Termination unknown session packets received from this peer.
creditControlAnswerUpdateMalformedPacketsReceived	long	tmnxMobPdnGxStatRxCcaUMalformPkt	The value of tmnxMobPdnGxStatRxCcaUMalformPkt indicates the number of Credit Control Answer (CCA) Update malformed packets received from this peer.
creditControlAnswerUpdateMissingMandatoryInformationElementPacketsReceived	long	tmnxMobPdnGxStatRxCcaUMissIePkts	The value of tmnxMobPdnGxStatRxCcaUMissIePkts indicates the number of Credit Control Answer (CCA) Update missing mandatory Information Element (IE) packets received from this peer.

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5620 SAM counter name	Type	MIB counter name	Description
creditControlAnswerUpdateUnknownPacketsReceived	long	tmnxMobPdnGxStatRxCcaUUnknownPkt	The value of tmnxMobPdnGxStatRxCcaUUnknownPkt indicates the number of Credit Control Answer (CCA) Update unknown packets received from this peer.
creditControlAnswerUpdateUnknownSessionPacketsReceived	long	tmnxMobPdnGxStatRxCcaUUnkSession	The value of tmnxMobPdnGxStatRxCcaUUnkSession indicates the number of Credit Control Answer (CCA) Update unknown session packets received from this peer.
creditControlRequestInitialAnswersReceived	long	tmnxMobPdnGxStatRxCcaInitial	The value of tmnxMobPdnGxStatRxCcaInitial indicates the number of Credit Control Answer (CCA) Initial messages received from this peer.
creditControlRequestInitialFailuresReceived	long	tmnxMobPdnGxStatCcrInitFails	The value of tmnxMobPdnGxStatCcrInitFails indicates the number of Credit Control Request (CCR) Initial message failures.
creditControlRequestInitialRequestsTransmitted	long	tmnxMobPdnGxStatTxCcrInitial	The value of tmnxMobPdnGxStatTxCcrInitial indicates the number of Credit Control Request (CCR) Initial messages transmitted to this peer.
creditControlRequestTerminationFailuresReceived	long	tmnxMobPdnGxStatCcrTermFails	The value of tmnxMobPdnGxStatCcrTermFails indicates the number of Credit Control Request (CCR) Termination message failures.
creditControlRequestTerminationRequestsReceived	long	tmnxMobPdnGxStatRxCcaTerminate	The value of tmnxMobPdnGxStatRxCcaTerminate indicates the number of Credit Control Answer (CCA) Termination messages received from this peer.
creditControlRequestTerminationRequestsTransmitted	long	tmnxMobPdnGxStatTxCcrTerminate	The value of tmnxMobPdnGxStatTxCcrTerminate indicates the number of Credit Control Request (CCR) Termination messages transmitted to this peer.
creditControlRequestUpdateAnswersReceived	long	tmnxMobPdnGxStatRxCcaUpdate	The value of tmnxMobPdnGxStatRxCcaUpdate indicates the number of Credit Control Answer (CCA) Update messages received from this peer.
creditControlRequestUpdateFailuresReceived	long	tmnxMobPdnGxStatCcrUpdateFails	The value of tmnxMobPdnGxStatCcrUpdateFails indicates the number of Credit Control Request (CCR) Update message failures.
creditControlRequestUpdateRequestsTransmitted	long	tmnxMobPdnGxStatTxCcrUpdate	The value of tmnxMobPdnGxStatTxCcrUpdate indicates the number of Credit Control Request (CCR) Update messages transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
deviceWatchdogAnswersReceived	long	tmnxMobPdnGxStatRxDwa	The value of tmnxMobPdnGxStatRxDwa indicates the number of Device Watchdog Answer (DWA) messages received from this peer.
deviceWatchdogRequestsTransmitted	long	tmnxMobPdnGxStatTxDwr	The value of tmnxMobPdnGxStatTxDwr indicates the number of Device Watchdog Request (DWR) messages transmitted to this peer.
disconnectPeerAnswersTransmitted	long	tmnxMobPdnGxStatTxDpa	The value of tmnxMobPdnGxStatTxDpa indicates the number of Disconnect Peer Answer (DPA) messages transmitted to this peer.
disconnectPeerRequestsReceived	long	tmnxMobPdnGxStatRxDpr	The value of tmnxMobPdnGxStatRxDpr indicates the number of Disconnect Peer Request (DPR) messages received from this peer.
epcId	long	tmnxMobGwId	The value of tmnxMobGwId uniquely identifies a mobile gateway configured in the system.
invalidCapabilitiesExchangeAnswersReceived	long	tmnxMobPdnGxStatRxInvalidCea	The value of tmnxMobPdnGxStatRxInvalidCea indicates the number of invalid Capabilities Exchange Answer (CEA) messages received from this peer.
oversizedMsgReceived	long	tmnxMobPdnGxStatRxMsgTooBig	The value of tmnxMobPdnGxStatRxMsgTooBig indicates the number of oversize messages received from this peer.
peerIpAddress	String	tmnxMobPdnGxPeerAddress	The value of tmnxMobPdnGxPeerAddress indicates the IP address of the peer on Gx reference point.
peerIpAddressType	int	tmnxMobPdnGxPeerAddressType	The value of tmnxMobPdnGxPeerAddressType indicates the type of address represented by tmnxMobPdnGxPeerAddress.
peerTcpPort	int	tmnxMobPdnGxPeerPort	The value of tmnxMobPdnGxPeerPort indicates the port number of this peer.
reAuthorizationAnswersTransmitted	long	tmnxMobPdnGxStatTxRaa	The value of tmnxMobPdnGxStatTxRaa indicates the number of Re-Auth Answer (RAA) messages transmitted to this peer.
reAuthorizationRequestsMalformedPacketsReceived	long	tmnxMobPdnGxStatRxRarMalformPkts	The value of tmnxMobPdnGxStatRxRarMalformPkts indicates the number of Re-Auth Request (RAR) malformed packets received from this peer.
reAuthorizationRequestsMissingMandatoryInformationElementPacketsReceived	long	tmnxMobPdnGxStatRxRarMissIePkts	The value of tmnxMobPdnGxStatRxRarMissIePkts indicates the number of Re-Auth Request (RAR) missing mandatory Information Element (IE) packets received from this peer.

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5620 SAM counter name	Type	MIB counter name	Description
reAuthorizationRequestsNacksTransmitted	long	tmnxMobPdnGxStatTxRaaNack	The value of tmnxMobPdnGxStatTxRaaNack indicates the number of Re-Auth Answer (RAA) negative acknowledgement (NACK) messages transmitted to this peer.
reAuthorizationRequestsReceived	long	tmnxMobPdnGxStatRxRar	The value of tmnxMobPdnGxStatRxRar indicates the number of Re-Auth Request (RAR) messages received from this peer.
reAuthorizationRequestsUnknownPacketsReceived	long	tmnxMobPdnGxStatRxRarUnknownPkts	The value of tmnxMobPdnGxStatRxRarUnknownPkts indicates the number of Re-Auth Request (RAR) unknown packets received from this peer.
reAuthorizationRequestsUnknownSessionPacketsReceived	long	tmnxMobPdnGxStatRxRarUnkSession	The value of tmnxMobPdnGxStatRxRarUnkSession indicates the number of Re-Auth Request (RAR) unknown session packets received from this peer.
totalMalformedPacketsReceived	long	tmnxMobPdnGxStatRxMalformedPkts	The value of tmnxMobPdnGxStatRxMalformedPkts indicates the number of malformed packets received from this peer.
totalMissingMandatoryInformationElementPacketsReceived	long	tmnxMobPdnGxStatRxMissingIePkts	The value of tmnxMobPdnGxStatRxMissingIePkts indicates the number of missing mandatory Information Element (IE) packets received from this peer.
totalMsgReceived	long	tmnxMobPdnGxStatRxMsgs	The value of tmnxMobPdnGxStatRxMsgs indicates the total number of messages received from this peer.
totalMsgRetransmitted	long	tmnxMobPdnGxStatTxRetransmitMsgs	The value of tmnxMobPdnGxStatTxRetransmitMsgs indicates the number of retransmit messages transmitted to this peer.
totalMsgTransmitted	long	tmnxMobPdnGxStatTxMsgs	The value of tmnxMobPdnGxStatTxMsgs indicates the total number of messages transmitted to this peer.
totalUnknownPacketsReceived	long	tmnxMobPdnGxStatRxUnknownPkts	The value of tmnxMobPdnGxStatRxRarMalformPkts indicates the number of unknown packets received from this peer.
transportDisconnectionMsgReceived	long	tmnxMobPdnGxStatRxTransportDisc	The value of tmnxMobPdnGxStatRxTransportDisc indicates the number of remote transport disconnect messages received from this peer.
undersizedMsgReceived	long	tmnxMobPdnGxStatRxMsgTooSmall	The value of tmnxMobPdnGxStatRxMsgTooSmall indicates the number of small messages received from this peer.
unexpectedVersionMsgReceived	long	tmnxMobPdnGxStatRxMsgUnexpectVer	The value of tmnxMobPdnGxStatRxMsgUnexpectVer indicates the number of unexpected version messages received from this peer.
virtualRouterId	int	vRtrID	—

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5620 SAM counter name	Type	MIB counter name	Description
IpPoolEntryStats MIB table name: TIMETRA-VRTR-MIB.vRtrIpPoolStatTable Monitored class: lte.IpPoolEntry			
ipPoolNoOfAddressesAllocated	long	vRtrIpPoolStatAllocated	The value of the object vRtrIpPoolStatAllocated indicates the number of IP Addresses used.
ipPoolNoOfAddressesFree	long	vRtrIpPoolStatFree	The value of the object vRtrIpPoolStatFree indicates the number of free IP Addresses.
ipPoolNoOfAddressesHeld	long	vRtrIpPoolStatHeld	The value of the object vRtrIpPoolStatHeld indicates the number of IP Addresses held.
RfPeerStats MIB table name: TIMETRA-MOBILE-GATEWAY-MIB.tmnxMobGwRfStatTable Monitored class: lte.RfPeer			
acrInterimMsgTransmitFailed	long	tmnxMobGwRfStatTxAcrInterimFail	The value of tmnxMobGwRfStatTxAcrInterimFail indicates the number of Accounting Request (ACR) Interim message failures.
acrInterimMsgTransmitted	long	tmnxMobGwRfStatTxAcrInterim	The value of tmnxMobGwRfStatTxAcrInterim indicates the number of Accounting Request (ACR) Interim messages transmitted to this peer.
acrStartMsgTransmitFailed	long	tmnxMobGwRfStatTxAcrStartFails	The value of tmnxMobGwRfStatTxAcrStartFails indicates the number of Accounting Request (ACR) Start message failures.
acrStartMsgTransmitted	long	tmnxMobGwRfStatTxAcrStart	The value of tmnxMobGwRfStatTxAcrStart indicates the number of Accounting Request (ACR) Start messages transmitted to this peer.
acrStopMsgTransmitFailed	long	tmnxMobGwRfStatTxAcrStopFails	The value of tmnxMobGwRfStatTxAcrStopFails indicates the number of Accounting Request (ACR) Stop message failures.
acrStopMsgTransmitted	long	tmnxMobGwRfStatTxAcrStop	The value of tmnxMobGwRfStatTxAcrStop indicates the number of Accounting Request (ACR) Stop messages transmitted to this peer.
ceaReceived	long	tmnxMobGwRfStatRxCea	The value of tmnxMobGwRfStatRxCea indicates the number of Capabilities Exchange Answer (CEA) messages received from this peer.
cerTransmitted	long	tmnxMobGwRfStatTxCer	The value of tmnxMobGwRfStatTxCer indicates the number of Capabilities Exchange Request (CER) messages transmitted to this peer.
chassisIndex	long	tmnxChassisIndex	—
connAttempts	long	tmnxMobGwRfStatConnAttempts	The value of tmnxMobGwRfStatConnAttempts indicates the number of connections attempted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
connFailures	long	tmnxMobGwRfStatConnFailures	The value of tmnxMobGwRfStatConnFailures indicates the number of failed connections with this peer.
dpaTransmitted	long	tmnxMobGwRfStatTxDpa	The value of tmnxMobGwRfStatTxDpa indicates the number of Disconnect Peer Answer (DPA) messages transmitted to this peer.
dprReceived	long	tmnxMobGwRfStatRxDpr	The value of tmnxMobGwRfStatRxDpr indicates the number of Disconnect Peer Request (DPR) messages received from this peer.
dwaReceived	long	tmnxMobGwRfStatRxDwa	The value of tmnxMobGwRfStatRxDwa indicates the number of Device Watchdog Answer (DWA) messages received from this peer.
dwrTransmitted	long	tmnxMobGwRfStatTxDwr	The value of tmnxMobGwRfStatTxDwr indicates the number of Device Watchdog Request (DWR) messages transmitted to this peer.
epcId	long	tmnxMobGwId	The value of tmnxMobGwId uniquely identifies a mobile gateway configured in the system.
invalidCeaReceived	long	tmnxMobGwRfStatRxInvalidCea	The value of tmnxMobGwRfStatRxInvalidCea indicates the number of invalid Capabilities Exchange Answer (CEA) messages received from this peer.
peerIpAddress	String	tmnxMobGwRfPeerAddress	The value of tmnxMobGwRfPeerAddress indicates the IP address of the peer on Rf reference point.
peerIpAddressType	int	tmnxMobGwRfPeerAddressType	The value of tmnxMobGwRfPeerAddressType indicates the type of address represented by tmnxMobGwRfPeerAddress.
peerTcpPort	int	tmnxMobGwRfPeerPort	The value of tmnxMobGwRfPeerPort indicates the port number of this peer.
tooBigMsgReceived	long	tmnxMobGwRfStatRxMsgTooBig	The value of tmnxMobGwRfStatRxMsgTooBig indicates the number of oversize messages received from this peer.
tooSmallMsgReceived	long	tmnxMobGwRfStatRxMsgTooSmall	The value of tmnxMobGwRfStatRxMsgTooSmall indicates the number of small messages received from this peer.
totalMsgReceived	long	tmnxMobGwRfStatRxMsgs	The value of tmnxMobGwRfStatRxMsgs indicates the total number of messages received from this peer.
totalMsgRetransmitted	long	tmnxMobGwRfStatTxRetransmitMsgs	The value of tmnxMobGwRfStatTxRetransmitMsgs indicates the number of retransmit messages transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
totalMsgTransmitted	long	tmnxMobGwRfStatTxMsgs	The value of tmnxMobGwRfStatTxMsgs indicates the total number of messages transmitted to this peer.
transportDiscMsgReceived	long	tmnxMobGwRfStatRxTransportDisc	The value of tmnxMobGwRfStatRxTransportDisc indicates the number of remote transport disconnect messages received from this peer.
unexpectedVerMsgReceived	long	tmnxMobGwRfStatRxMsgUnexpectVer	The value of tmnxMobGwRfStatRxMsgUnexpectVer indicates the number of unexpected version messages received from this peer.
virtualRouterId	int	vRtrID	—
S11AgwPeerStats MIB table name: TIMETRA-MOBILE-SERVING-MIB.tmnxMobServS11StatTable Monitored class: lte.S11Peer			
cardSlotNumber	long	tmnxCardSlotNum	—
chassisIndex	long	tmnxChassisIndex	—
createBearerRequestReceived	long	tmnxMobServS11StatCreateBearrReq	The value of tmnxMobServS11StatCreateBearrReq indicates the number of create bearer request messages transmitted to this peer.
createBearerResponseTransmitted	long	tmnxMobServS11StatCreateBearrRsp	The value of tmnxMobServS11StatCreateBearrRsp indicates the number of create bearer response messages received from this peer.
createSessionRequestReceived	long	tmnxMobServS11StatCreateSessnReq	The value of tmnxMobServS11StatCreateSessnReq indicates the number of create session request messages received from this peer.
createSessionResponseTransmitted	long	tmnxMobServS11StatCreateSessnRsp	The value of tmnxMobServS11StatCreateSessnRsp indicates the number of create session response messages transmitted to this peer.
deleteBearerRequestReceived	long	tmnxMobServS11StatDeleteBearrReq	The value of tmnxMobServS11StatDeleteBearrReq indicates the number of delete bearer request messages transmitted to this peer.
deleteBearerResponseTransmitted	long	tmnxMobServS11StatDeleteBearrRsp	The value of tmnxMobServS11StatDeleteBearrRsp indicates the number of delete bearer response messages received from this peer.
deleteSessionRequestReceived	long	tmnxMobServS11StatDeleteSessnReq	The value of tmnxMobServS11StatDeleteSessnReq indicates the number of delete session request messages received from this peer.

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5620 SAM counter name	Type	MIB counter name	Description
deleteSessionResponseTransmitted	long	tmnxMobServS11StatDeleteSessnRsp	The value of tmnxMobServS11StatDeleteSessnRsp indicates the number of delete session response messages transmitted to this peer.
downlinkAcknowledgementsReceived	long	tmnxMobServS11StatRxDlAcks	The value of tmnxMobServS11StatRxDlAcks indicates the number of downlink data notification acknowledgements received from this peer.
downlinkFailureNotificationsReceived	long	tmnxMobServS11StatRxDlFailNotify	The value of tmnxMobServS11StatRxDlFailNotify indicates the number of downlink data notification failure indication messages received from this peer.
downlinkNotificationsTransmitted	long	tmnxMobServS11StatTxDlNotify	The value of tmnxMobServS11StatTxDlNotify indicates the number of downlink data notification messages transmitted to this peer.
echoRequestReceived	long	tmnxMobServS11StatRxEchoRequests	The value of tmnxMobServS11StatRxEchoRequests indicates the number of echo request messages received from this peer.
echoRequestTransmitted	long	tmnxMobServS11StatTxEchoRequests	The value of tmnxMobServS11StatTxEchoRequests indicates the number of echo request messages transmitted to this peer.
echoResponseReceived	long	tmnxMobServS11StatRxEchoResp	The value of tmnxMobServS11StatRxEchoResp indicates the number of echo response messages received from this peer.
echoResponseTransmitted	long	tmnxMobServS11StatTxEchoResp	The value of tmnxMobServS11StatTxEchoResp indicates the number of echo response messages transmitted to this peer.
malformedPacketsReceived	long	tmnxMobServS11StatRxMalfrmedPkts	The value of tmnxMobServS11StatRxMalfrmedPkts indicates the number of malformed packets received from this peer.
missingInfoElementPacketsReceived	long	tmnxMobServS11StatRxMissnglePkts	The value of tmnxMobServS11StatRxMissnglePkts indicates the number of missing mandatory Information Element (IE) packets received from this peer.
modifyBearerRequestReceived	long	tmnxMobServS11StatModifyBearrReq	The value of tmnxMobServS11StatModifyBearrReq indicates the number of modify bearer request messages received from this peer.
modifyBearerResponseTransmitted	long	tmnxMobServS11StatModifyBearrRsp	The value of tmnxMobServS11StatModifyBearrRsp indicates the number of modify bearer response messages transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
numberOfBearerCommandMsgRecd	long	tmnxMobServS11StatModifyBearrCmd	The value of tmnxMobServS11StatModifyBearrCmd indicates the number of modify bearer command messages received from this peer.
numberOfCrtIndrTnlReq	long	tmnxMobServS11StatCrtIndrTnlReq	The value of tmnxMobServS11StatCrtIndrTnlReq indicates the number of Create Indirect Data Forwarding Tunnel Request messages transmitted by this peer.
numberOfCrtIndrTnlResp	long	tmnxMobServS11StatCrtIndrTnlResp	The value of tmnxMobServS11StatCrtIndrTnlResp indicates the number of Create Indirect Data Forwarding Tunnel Response messages transmitted to this peer.
numberOfDelBearerCommandMsgRecd	long	tmnxMobServS11StatDeleteBearrCmd	The value of tmnxMobServS11StatDeleteBearrCmd indicates the number of delete bearer command messages received from this peer.
numberOfDelBearerFailMsgRecd	long	tmnxMobServS11StatDeleteBearrFlr	The value of tmnxMobServS11StatDeleteBearrFlr indicates the number of delete bearer failure messages received from this peer.
numberOfDelIndrTnlReq	long	tmnxMobServS11StatDelIndrTnlReq	The value of tmnxMobServS11StatDelIndrTnlReq indicates the number of Delete Indirect Data Forwarding Tunnel Request messages transmitted by this peer.
numberOfDelIndrTnlResp	long	tmnxMobServS11StatDelIndrTnlResp	The value of tmnxMobServS11StatDelIndrTnlResp indicates the number of Delete Indirect Data Forwarding Tunnel Response messages transmitted to this peer.
numberOfModifyBearerFailMsgRecd	long	tmnxMobServS11StatModifyBearrFlr	The value of tmnxMobServS11StatModifyBearrFlr indicates the number of modify bearer failure messages received from this peer.
numberOfRelBearersReq	long	tmnxMobServS11StatRelBearersReq	The value of tmnxMobServS11StatRelBearersReq indicates the number of Release Access Bearers Request messages transmitted by this peer.
numberOfRelBearersResp	long	tmnxMobServS11StatRelBearersResp	The value of tmnxMobServS11StatRelBearersResp indicates the number of Release Access Bearers Response messages transmitted to this peer.
numberOfUpdateBearerReqMsg	long	tmnxMobServS11StatUpdateBearrReq	The value of tmnxMobServS11StatUpdateBearrReq indicates the number of update bearer request messages transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
numberOfUpdateBearerResMsg	long	tmnxMobServS11StatUpdateBearrRsp	The value of tmnxMobServS11StatUpdateBearrRsp indicates the number of update bearer response messages received from this peer.
pagingInitiatedServiceRequestsReceived	long	tmnxMobServS11StatPagingSvcReq	The value of tmnxMobServS11StatPagingSvcReq indicates the number of paging initiated service requests received from this peer. This object was made obsolete in the 3.0 release.
pathManagementFailures	long	tmnxMobServS11StatPathMgmtFails	The value of tmnxMobServS11StatPathMgmtFails indicates the number of path management failures for this peer.
peerIpAddress	String	tmnxMobServS11PeerAddress	The value of tmnxMobServS11PeerAddress indicates the IP address of this peer on S11 reference point.
peerIpAddressType	int	tmnxMobServS11PeerAddressType	The value of tmnxMobServS11PeerAddressType indicates the type of address represented by tmnxMobServS11PeerAddress.
peerRestartCount	long	tmnxMobServS11StatPeerRestartCnt	The value of tmnxMobServS11StatPeerRestartCnt indicates the counter value of the number of times this peer restarted.
peerRestarts	long	tmnxMobServS11StatPeerRestarts	The value of tmnxMobServS11StatPeerRestarts indicates the number of times this peer restarted.
peerTcpPort	int	tmnxMobServS11PeerPort	The value of tmnxMobServS11PeerPort indicates the port number of this peer.
unknownTypePacketsReceived	long	tmnxMobServS11StatRxUnknownPkts	The value of tmnxMobServS11StatRxUnknownPkts indicates the number of unknown message type packets received from this peer.
virtualRouterId	int	vRtrID	—
S1uAgwPeerStats MIB table name: TIMETRA-MOBILE-SERVING-MIB.tmnxMobServS1uStatTable Monitored class: lte.S1uPeer			
cardSlotNumber	long	tmnxCardSlotNum	—
chassisIndex	long	tmnxChassisIndex	—
echoRequestReceived	long	tmnxMobServS1uStatRxEchoRequests	The value of tmnxMobServS1uStatRxEchoRequests indicates the number of echo request messages received from this peer.
echoRequestTransmitted	long	tmnxMobServS1uStatTxEchoRequests	The value of tmnxMobServS1uStatTxEchoRequests indicates the number of echo request messages transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
echoResponseReceived	long	tmnxMobServS1uStatRxEchoResponse	The value of tmnxMobServS1uStatRxEchoResponse indicates the number of echo response messages received from this peer.
echoResponseTransmitted	long	tmnxMobServS1uStatTxEchoResponse	The value of tmnxMobServS1uStatTxEchoResponse indicates the number of echo response messages transmitted to this peer.
pathManagementFailures	long	tmnxMobServS1uStatPathMgmtFails	The value of tmnxMobServS1uStatPathMgmtFails indicates the number of path management failures for this peer.
peerIpAddress	String	tmnxMobServS1uPeerAddress	The value of tmnxMobServS1uPeerAddress indicates the IP address of the peer on S1-U reference point.
peerIpAddressType	int	tmnxMobServS1uPeerAddressType	The value of tmnxMobServS1uPeerAddressType indicates the type of address represented by tmnxMobServS1uPeerAddress.
peerRestartCount	long	tmnxMobServS1uStatPeerRestartCnt	The value of tmnxMobServS1uStatPeerRestartCnt indicates the counter value of the number of times this peer restarted.
peerRestarts	long	tmnxMobServS1uStatPeerRestarts	The value of tmnxMobServS1uStatPeerRestarts indicates the number of times this peer restarted.
peerTcpPort	int	tmnxMobServS1uPeerPort	The value of tmnxMobServS1uPeerPort indicates the port number of this peer.
virtualRouterId	int	vRtrID	—
S5AgwPeerStats MIB table name: TIMETRA-MOBILE-GATEWAY-MIB.tmnxMobGwS5StatTable Monitored class: lte.S5Peer			
cardSlotNumber	long	tmnxCardSlotNum	—
chassisIndex	long	tmnxChassisIndex	—
createBearerRequestReceived	long	tmnxMobGwS5StatCreateBearerReq	The value of tmnxMobGwS5StatCreateBearerReq indicates the number of create bearer request messages received from this peer or transmitted to this peer.
createBearerResponseTransmitted	long	tmnxMobGwS5StatCreateBearerRsp	The value of tmnxMobGwS5StatCreateBearerRsp indicates the number of create bearer response messages received from this peer or transmitted to this peer.
createSessionRequestReceived	long	tmnxMobGwS5StatCreateSessnReq	The value of tmnxMobGwS5StatCreateSessnReq indicates the number of create session request messages received from this peer or transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
createSessionResponseTransmitted	long	tmnxMobGwS5StatCreateSessnResp	The value of tmnxMobGwS5StatCreateSessnResp indicates the number of create session response messages received from this peer or transmitted to this peer.
deleteBearerCommand	long	tmnxMobGwS5StatDeleteBearrCmd	The value of tmnxMobGwS5StatDeleteBearrCmd indicates the number of delete bearer command messages received from this peer.
deleteBearerFailure	long	tmnxMobGwS5StatDeleteBearrFlr	The value of tmnxMobGwS5StatDeleteBearrFlr indicates the number of delete bearer failure messages received from this peer.
deleteBearerRequestReceived	long	tmnxMobGwS5StatDeleteBearerReq	The value of tmnxMobGwS5StatDeleteBearerReq indicates the number of delete bearer request messages received from this peer or transmitted to this peer.
deleteBearerResponseTransmitted	long	tmnxMobGwS5StatDeleteBearerRsp	The value of tmnxMobGwS5StatDeleteBearerRsp indicates the number of delete bearer response messages received from this peer or transmitted to this peer.
deleteSessionRequestReceived	long	tmnxMobGwS5StatDeleteSessnReq	The value of tmnxMobGwS5StatDeleteSessnReq indicates the number of delete session request messages received from this peer or transmitted to this peer.
deleteSessionResponseTransmitted	long	tmnxMobGwS5StatDeleteSessnResp	The value of tmnxMobGwS5StatDeleteSessnResp indicates the number of delete session response messages received from this peer or transmitted to this peer.
echoRequestReceived	long	tmnxMobGwS5StatRxEchoRequests	The value of tmnxMobGwS5StatRxEchoRequests indicates the number of echo request messages received from this peer.
echoRequestTransmitted	long	tmnxMobGwS5StatTxEchoRequests	The value of tmnxMobGwS5StatTxEchoRequests indicates the number of echo request messages transmitted to this peer.
echoResponseReceived	long	tmnxMobGwS5StatRxEchoResponses	The value of tmnxMobGwS5StatRxEchoResponses indicates the number of echo response messages received from this peer.
echoResponseTransmitted	long	tmnxMobGwS5StatTxEchoResponses	The value of tmnxMobGwS5StatTxEchoResponses indicates the number of echo response messages transmitted to this peer.
malformedPacketsReceived	long	tmnxMobGwS5StatRxMalformedPkts	The value of tmnxMobGwS5StatRxMalformedPkts indicates the number of malformed packets received from this peer.

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5620 SAM counter name	Type	MIB counter name	Description
missingInfoElementPacketsReceived	long	tmnxMobGwS5StatRxMissinglePkts	The value of tmnxMobGwS5StatRxMissinglePkts indicates the number of missing mandatory Information Element (IE) packets received from this peer.
modifyBearerCommand	long	tmnxMobGwS5StatModifyBearrCmd	The value of tmnxMobGwS5StatModifyBearrCmd indicates the number of modify bearer command messages received from this peer.
modifyBearerFailure	long	tmnxMobGwS5StatModifyBearrFlr	The value of tmnxMobGwS5StatModifyBearrFlr indicates the number of modify bearer failure messages received from this peer.
modifyBearerRequestReceived	long	tmnxMobGwS5StatModifyBearerReq	The value of tmnxMobGwS5StatModifyBearerReq indicates the number of modify bearer request messages received from this peer or transmitted to this peer.
modifyBearerResponseTransmitted	long	tmnxMobGwS5StatModifyBearerRsp	The value of tmnxMobGwS5StatModifyBearerRsp indicates the number of modify bearer response messages received from this peer or transmitted to this peer.
pathManagementFailures	long	tmnxMobGwS5StatPathMgmtFails	The value of tmnxMobGwS5StatPathMgmtFails indicates the number of path management failures for this peer.
peerIpAddress	String	tmnxMobGwS5PeerAddress	The value of tmnxMobGwS5PeerAddress indicates the IP address of the peer on S5 reference point.
peerIpAddressType	int	tmnxMobGwS5PeerAddressType	The value of tmnxMobGwS5PeerAddressType indicates the type of address represented by tmnxMobGwS5PeerAddress.
peerRestartCount	long	tmnxMobGwS5StatPeerRestrtCount	The value of tmnxMobGwS5StatPeerRestrtCount indicates the counter value of the number of times this peer restarted.
peerRestarts	long	tmnxMobGwS5StatPeerRestarts	The value of tmnxMobGwS5StatPeerRestarts indicates the number of times this peer restarted after registering with the system.
peerTcpPort	int	tmnxMobGwS5PeerPort	The value of tmnxMobGwS5PeerPort indicates the port number of this peer.
unknownTypePacketsReceived	long	tmnxMobGwS5StatRxUnknownPkts	The value of tmnxMobGwS5StatRxUnknownPkts indicates the number of unknown message type packets received from this peer.
updateBearerRequest	long	tmnxMobGwS5StatUpdateBearerReq	The value of tmnxMobGwS5StatUpdateBearerReq indicates the number of update bearer request messages received from this peer or transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
updateBearerResponses	long	tmnxMobGwS5StatUpdateBearerRsp	The value of tmnxMobGwS5StatUpdateBearerRsp indicates the number of update bearer response messages received from this peer or transmitted to this peer.
virtualRouterId	int	vRtrID	—

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Table A-27 lteggsn statistics

5620 SAM counter name	Type	MIB counter name	Description
GnPeerStats MIB table name: TIMETRA-MOBILE-PDN-MIB.tmnxMobPdnGnStatTable Monitored class: lteggsn.GnPeer			
cardSlotNumber	long	tmnxCardSlotNum	—
chassisIndex	long	tmnxChassisIndex	—
createPdpRequest	long	tmnxMobPdnGnStatCreatePdpReq	The value of tmnxMobPdnGnStatCreatePdpReq indicates the number of create Packet Data Protocol (PDP) request messages received from this peer or transmitted to this peer.
createPdpResponse	long	tmnxMobPdnGnStatCreatePdpRsp	The value of tmnxMobPdnGnStatCreatePdpRsp indicates the number of create Packet Data Protocol (PDP) response messages received from this peer or transmitted to this peer.
deletePdpRequest	long	tmnxMobPdnGnStatDeletePdpReq	The value of tmnxMobPdnGnStatDeletePdpReq indicates the number of delete Packet Data Protocol (PDP) request messages received from this peer or transmitted to this peer.
deletePdpResponse	long	tmnxMobPdnGnStatDeletePdpRsp	The value of tmnxMobPdnGnStatDeletePdpRsp indicates the number of delete Packet Data Protocol (PDP) response messages received from this peer or transmitted to this peer.
modifyPdpRequest	long	tmnxMobPdnGnStatModifyPdpReq	The value of tmnxMobPdnGnStatModifyPdpReq indicates the number of modify Packet Data Protocol (PDP) request messages received from this peer or transmitted to this peer.
modifyPdpResponse	long	tmnxMobPdnGnStatModifyPdpRsp	The value of tmnxMobPdnGnStatModifyPdpRsp indicates the number of modify Packet Data Protocol (PDP) response messages received from this peer or transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
peerIpAddress	String	tmnxMobPdnGnPeerAddr ess	The value of tmnxMobPdnGnPeerAddress indicates the IP address of the peer on Gn reference point.
peerIpAddressType	int	tmnxMobPdnGnPeerAddr essType	The value of tmnxMobPdnGnPeerAddressType indicates the type of address represented by tmnxMobPdnGnPeerAddress.
peerPathMgmtFailures	long	tmnxMobPdnGnStatPathM gmtFails	The value of tmnxMobPdnGnStatPathMgmtFails indicates the number of path management failures for this peer.
peerRestartCount	long	tmnxMobPdnGnStatPeerR estrtCount	The value of tmnxMobPdnGnStatPeerRestrtCount indicates the counter value of the number of times this peer restarted.
peerRestarts	long	tmnxMobPdnGnStatPeerR estarts	The value of tmnxMobPdnGnStatPeerRestarts indicates the number of times this peer restarted after registering with the system.
peerTcpPort	int	tmnxMobPdnGnPeerPort	The value of tmnxMobPdnGnPeerPort indicates the port number of this peer.
rxEchoRequest	long	tmnxMobPdnGnStatRxEch oRequests	The value of tmnxMobPdnGnStatRxEchoRequests indicates the number of echo request messages received from this peer.
rxEchoResponse	long	tmnxMobPdnGnStatRxEch oResponses	The value of tmnxMobPdnGnStatRxEchoResponses indicates the number of echo response messages received from this peer.
rxErrorIndication	long	tmnxMobPdnGnStatRxErr orsIndCnt	The value of tmnxMobPdnGnStatRxErrorsIndCnt indicates the number of indication request errors transmitted to this peer.
rxMalformedPackets	long	tmnxMobPdnGnStatRxMal formedPkts	The value of tmnxMobPdnGnStatRxMalformedPkts indicates the number of malformed packets received from this peer.
rxMissinglePackets	long	tmnxMobPdnGnStatRxMis singlePkts	The value of tmnxMobPdnGnStatRxMissinglePkts indicates the number of missing mandatory Information Element (IE) packets received from this peer.
rxUnknownPackets	long	tmnxMobPdnGnStatRxUnk nownPkts	The value of tmnxMobPdnGnStatRxUnknownPkts indicates the number of unknown message type packets received from this peer.
txEchoRequest	long	tmnxMobPdnGnStatTxEch oRequests	The value of tmnxMobPdnGnStatTxEchoRequests indicates the number of echo request messages transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
txEchoResponse	long	tmnxMobPdnGnStatTxEchoResponses	The value of tmnxMobPdnGnStatTxEchoResponses indicates the number of echo response messages transmitted to this peer.
txErrorIndication	long	tmnxMobPdnGnStatTxErrorsIndCnt	The value of tmnxMobPdnGnStatTxErrorsIndCnt indicates the number of indication response errors received from this peer.
virtualRouterId	int	vRtrID	—
PgwGaPeerStats MIB table name: TIMETRA-MOBILE-PDN-MIB.tmnxMobPdnGaStatTable Monitored class: lteggsn.PgwGaPeer			
address	String	tmnxMobPdnGaStatAddress	The value of tmnxMobPdnGaStatAddress indicates the IP address of the peer on Ga reference point. When the length of tmnxMobPdnGaStatAddress is equal to 0 then the peer is a Fully Qualified Domain Name (FQDN) address and this entry represents an aggregate of all the peer IP addresses that this FQDN resolves to. In this case the value of tmnxMobPdnGaStatAddressType is unknown and the value of tmnxMobPdnGaStatPort is equal to 0.
addressType	int	tmnxMobPdnGaStatAddressType	The value of tmnxMobPdnGaStatAddressType indicates the type of address represented by tmnxMobPdnGaStatAddress. When the value of tmnxMobPdnGaStatAddressType is unknown then the peer is a Fully Qualified Domain Name (FQDN) address and this entry represents an aggregate of all the peer IP addresses that this FQDN resolves to.
cdrsRx	long	tmnxMobPdnGaStatCdrsRx	The value of tmnxMobPdnGaStatCdrsRx indicates the total number of Charging Data Records (CDR) received on this peer.
cdrsTx	long	tmnxMobPdnGaStatCdrsTx	The value of tmnxMobPdnGaStatCdrsTx indicates the total number of Charging Data Records (CDR) sent from this peer.
epcId	long	tmnxMobGwId	The value of tmnxMobGwId uniquely identifies a mobile gateway configured in the system.
gaCardSlotNumber	long	tmnxCardSlotNum	—
gaChassisIndex	long	tmnxChassisIndex	—
gtpPriGrpName	String	tmnxMobGtpPriGrpName	—
gtpPrimeFail	long	tmnxMobPdnGaStatGtpPrimeFail	The value of tmnxMobPdnGaStatGtpPrimeFail indicates the number of GPRS Tunneling Protocol (GTP) prime message failures transmitted to this peer.
gtpPriServerIndex	int	tmnxMobGtpPriServerIndex	—

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5620 SAM counter name	Type	MIB counter name	Description
nodeAlReqRetried	long	tmnxMobPdnGaStatNodeAlReqRetried	The value of tmnxMobPdnGaStatNodeAlReqRetried indicates the number of node alive request retry messages transmitted from this peer.
operState	int	tmnxMobPdnGaStatOperState	The value of tmnxMobPdnGaStatOperState indicates the current operational state of this group. The operational state may be one of: 'up' - connection goes 'up' and is used by the Ga module to send Charging Data Records (CDRs). 'down' - connection goes 'down' and is used by the Ga module to send Charging Data Records (CDRs). 'active' - connection is 'active' and is used by the Ga module to send Charging Data Records (CDRs).
port	int	tmnxMobPdnGaStatPort	The value of tmnxMobPdnGaStatPort indicates the port number of this peer. When the value of tmnxMobPdnGaStatPort is equal to 0 then the peer is a Fully Qualified Domain Name (FQDN) address and this entry represents an aggregate of all the peer IP addresses that this FQDN resolves to.
retrDataRecReqs	long	tmnxMobPdnGaStatRetrDataRecReqs	The value of tmnxMobPdnGaStatRetrDataRecReqs indicates the number of Data record transfer requests retried to this peer.
rtrEchoRequests	long	tmnxMobPdnGaStatRtrEchoRequests	The value of tmnxMobPdnGaStatRtrEchoRequests indicates the number of echo request messages retried to this peer.
rxCdrDupReqFf	long	tmnxMobPdnGaStatRxCdrDupReqFf	The value of tmnxMobPdnGaStatRxCdrDupReqFf indicates the number of Charging Data Records (CDR) responses with cause value 'duplicate requests already fulfilled' received from this peer.
rxCdrInvMsgFmat	long	tmnxMobPdnGaStatRxCdrInvMsgFmat	The value of tmnxMobPdnGaStatRxCdrInvMsgFmat indicates the number of Charging Data Records (CDR) responses with cause value 'invalid message format' received from this peer.
rxCdrMandIeInc	long	tmnxMobPdnGaStatRxCdrMandIeInc	The value of tmnxMobPdnGaStatRxCdrMandIeInc indicates the number of Charging Data Records (CDR) responses with cause value 'mandatory Information Element (IE) incorrect' received from this peer.
rxCdrMandIeMiss	long	tmnxMobPdnGaStatRxCdrMandIeMiss	The value of tmnxMobPdnGaStatRxCdrMandIeMiss indicates the number of Charging Data Records (CDR) responses with cause value 'mandatory Information Element (IE) missing' received from this peer.

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5620 SAM counter name	Type	MIB counter name	Description
rxCdrNoResAva	long	tmnxMobPdnGaStatRxCdrNoResAva	The value of tmnxMobPdnGaStatRxCdrNoResAva indicates the number of Charging Data Records (CDR) responses with cause value 'no resources available' received from this peer.
rxCdrOptIeInc	long	tmnxMobPdnGaStatRxCdrOptIeInc	The value of tmnxMobPdnGaStatRxCdrOptIeInc indicates the number of Charging Data Records (CDR) responses with cause value 'optional Information Element (IE) incorrect' received from this peer.
rxCdrReqAcc	long	tmnxMobPdnGaStatRxCdrReqAcc	The value of tmnxMobPdnGaStatRxCdrReqAcc indicates the number of Charging Data Records (CDR) responses with cause value 'requests accepted' received from this peer.
rxCdrReqFfilled	long	tmnxMobPdnGaStatRxCdrReqFfilled	The value of tmnxMobPdnGaStatRxCdrReqFfilled indicates the number of Charging Data Records (CDR) responses with cause value 'requests already fulfilled' received from this peer.
rxCdrReqNotFf	long	tmnxMobPdnGaStatRxCdrReqNotFf	The value of tmnxMobPdnGaStatRxCdrReqNotFf indicates the number of Charging Data Records (CDR) responses with cause value 'requests not fulfilled' received from this peer.
rxCdrSrvcNotSupp	long	tmnxMobPdnGaStatRxCdrSrvcNotSupp	The value of tmnxMobPdnGaStatRxCdrSrvcNotSupp indicates the number of Charging Data Records (CDR) responses with cause value 'service not supported' received from this peer.
rxCdrSystemFail	long	tmnxMobPdnGaStatRxCdrSystemFail	The value of tmnxMobPdnGaStatRxCdrSystemFail indicates the number of Charging Data Records (CDR) responses with cause value 'system failure' received from this peer.
rxCdrVerNotSupp	long	tmnxMobPdnGaStatRxCdrVerNotSupp	The value of tmnxMobPdnGaStatRxCdrVerNotSupp indicates the number of Charging Data Records (CDR) responses with cause value 'version not supported' received from this peer.
rxDataRecReqs	long	tmnxMobPdnGaStatRxDataRecReqs	The value of tmnxMobPdnGaStatRxDataRecReqs indicates the number of Data record transfer requests received by this peer.
rxEchoRequests	long	tmnxMobPdnGaStatRxEchoRequests	The value of tmnxMobPdnGaStatRxEchoRequests indicates the number of echo request messages received from this peer.

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5620 SAM counter name	Type	MIB counter name	Description
rxEchoResponses	long	tmnxMobPdnGaStatRxEchoResponses	The value of tmnxMobPdnGaStatRxEchoResponses indicates the number of echo response messages received from this peer.
rxInvalidMsgs	long	tmnxMobPdnGaStatRxInvalidMsgs	The value of tmnxMobPdnGaStatRxInvalidMsgs indicates the number of invalid messages received from this peer.
rxNodeAlRequests	long	tmnxMobPdnGaStatRxNodeAlRequests	The value of tmnxMobPdnGaStatRxNodeAlRequests indicates the number of node alive request messages received from this peer.
rxNodeAlResps	long	tmnxMobPdnGaStatRxNodeAlResps	The value of tmnxMobPdnGaStatRxNodeAlResps indicates the number of node alive response messages received on this peer.
rxRedirectionReq	long	tmnxMobPdnGaStatRxRedirectionReq	The value of tmnxMobPdnGaStatRxRedirectionReq indicates the number of redirection request messages received from this peer.
rxVerNotSupp	long	tmnxMobPdnGaStatRxVerNotSupp	The value of tmnxMobPdnGaStatRxVerNotSupp indicates the number of version not supported messages received from this peer.
txCdrMaxChngCond	long	tmnxMobPdnGaStatTxCdrMaxChngCond	The value of tmnxMobPdnGaStatTxCdrMaxChngCond indicates the number of Charging Data Records (CDR) maximum change condition requests transmitted to this peer.
txCdrMsTmzChng	long	tmnxMobPdnGaStatTxCdrMsTmzChng	The value of tmnxMobPdnGaStatTxCdrMsTmzChng indicates the number of Charging Data Records (CDR) MS Time Zone Change requests transmitted to this peer.
txCdrPlmnChange	long	tmnxMobPdnGaStatTxCdrPlmnChange	The value of tmnxMobPdnGaStatTxCdrPlmnChange indicates the number of Charging Data Records (CDR) Public Land Mobile Network (PLMN) change requests transmitted to this peer.
txCdrRatChng	long	tmnxMobPdnGaStatTxCdrRatChng	The value of tmnxMobPdnGaStatTxCdrRatChng indicates the number of Charging Data Records (CDR) Radio Access Type (RAT) change requests transmitted to this peer.
txCdrSerNdChLmt	long	tmnxMobPdnGaStatTxCdrSerNdChLmt	The value of tmnxMobPdnGaStatTxCdrSerNdChLmt indicates the number of Charging Data Records (CDR) Serving Node Change Limit requests transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
txCdrTermination	long	tmnxMobPdnGaStatTxCdrTermination	The value of tmnxMobPdnGaStatTxCdrTermination indicates the number of Charging Data Records (CDR) termination requests transmitted to this peer.
txCdrTimeLimit	long	tmnxMobPdnGaStatTxCdrTimeLimit	The value of tmnxMobPdnGaStatTxCdrTimeLimit indicates the number of Charging Data Records (CDR) time limit requests transmitted to this peer.
txCdrVolLimit	long	tmnxMobPdnGaStatTxCdrVolLimit	The value of tmnxMobPdnGaStatTxCdrVolLimit indicates the number of Charging Data Records (CDR) volume limit requests transmitted to this peer.
txDataRecReqs	long	tmnxMobPdnGaStatTxDataRecReqs	The value of tmnxMobPdnGaStatTxDataRecReqs indicates the number of Data record requests transmitted to this peer.
txDataRecTferReq	long	tmnxMobPdnGaStatTxDataRecTferReq	The value of tmnxMobPdnGaStatTxDataRecTferReq indicates the number of duplicate Data record transfer requests transmitted to this peer.
txEchoRequests	long	tmnxMobPdnGaStatTxEchoRequests	The value of tmnxMobPdnGaStatTxEchoRequests indicates the number of echo request messages transmitted to this peer.
txEchoResponses	long	tmnxMobPdnGaStatTxEchoResponses	The value of tmnxMobPdnGaStatTxEchoResponses indicates the number of echo response messages transmitted to this peer.
txNodeAlRequests	long	tmnxMobPdnGaStatTxNodeAlRequests	The value of tmnxMobPdnGaStatTxNodeAlRequests indicates the number of node alive request messages transmitted from this peer.
txNodeAlResps	long	tmnxMobPdnGaStatTxNodeAlResps	The value of tmnxMobPdnGaStatTxNodeAlResps indicates the number of node alive response messages transmitted to this peer.
txRedrnResp	long	tmnxMobPdnGaStatTxRedrnResp	The value of tmnxMobPdnGaStatTxRedrnResp indicates the number of redirection request messages transmitted to this peer.
unackDataRexReqs	long	tmnxMobPdnGaStatUnackDataRexReqs	The value of tmnxMobPdnGaStatUnackDataRexReqs indicates the number of Data record transfer requests unacknowledged by this peer.
upTime	long	tmnxMobPdnGaStatUpTime	The value of tmnxMobPdnGaStatUpTime indicates the time when the connection comes up.
virtualRouterId	int	vRtrID	—

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5620 SAM counter name	Type	MIB counter name	Description
SgwGaPeerStats MIB table name: TIMETRA-MOBILE-SERVING-MIB.tmnxMobSgwGaStatTable Monitored class: lteggsn.SgwGaPeer			
address	String	tmnxMobSgwGaStatAddress	The value of tmnxMobSgwGaStatAddress indicates the IP address of the peer on Ga reference point. When the length of tmnxMobSgwGaStatAddress is equal to 0 then the peer is a Fully Qualified Domain Name (FQDN) address and this entry represents an aggregate of all the peer IP addresses that this FQDN resolves to. In this case the value of tmnxMobSgwGaStatAddressType is unknown and the value of tmnxMobSgwGaStatPort is equal to 0.
addressType	int	tmnxMobSgwGaStatAddressType	The value of tmnxMobSgwGaStatAddressType indicates the type of address represented by tmnxMobSgwGaStatAddress. When the value of tmnxMobSgwGaStatAddressType is unknown then the peer is a Fully Qualified Domain Name (FQDN) address and this entry represents an aggregate of all the peer IP addresses that this FQDN resolves to.
cdrsRx	long	tmnxMobSgwGaStatCdrsRx	The value of tmnxMobSgwGaStatCdrsRx indicates the total number of Charging Data Records (CDR) received on this peer.
cdrsTx	long	tmnxMobSgwGaStatCdrsTx	The value of tmnxMobSgwGaStatCdrsTx indicates the total number of Charging Data Records (CDR) sent from this peer.
gaChassisIndex	long	tmnxChassisIndex	—
gtpPrimeFail	long	tmnxMobSgwGaStatGtpPrimeFail	The value of tmnxMobSgwGaStatGtpPrimeFail indicates the number of GPRS Tunneling Protocol (GTP) prime message failures transmitted to this peer.
nodeAlReqRetried	long	tmnxMobSgwGaStatNodeAlReqRetried	The value of tmnxMobSgwGaStatNodeAlReqRetried indicates the number of node alive request retry messages transmitted from this peer.
operState	int	tmnxMobSgwGaStatOperState	The value of tmnxMobSgwGaStatOperState indicates the current operational state of this group. The operational state may be one of: 'up' - connection goes 'up' and is used by the Ga module to send Charging Data Records (CDRs). 'down' - connection goes 'down' and is used by the Ga module to send Charging Data Records (CDRs). 'active' - connection is 'active' and is used by the Ga module to send Charging Data Records (CDRs).

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5620 SAM counter name	Type	MIB counter name	Description
port	int	tmnxMobSgwGaStatPort	The value of tmnxMobSgwGaStatPort indicates the port number of this peer. When the value of tmnxMobSgwGaStatPort is equal to 0 then the peer is a Fully Qualified Domain Name (FQDN) address and this entry represents an aggregate of all the peer IP addresses that this FQDN resolves to.
retrDataRecReqs	long	tmnxMobSgwGaStatRetrDataRecReqs	The value of tmnxMobSgwGaStatRetrDataRecReqs indicates the number of Data record transfer requests retried to this peer.
rtrEchoRequests	long	tmnxMobSgwGaStatRtrEchoRequests	The value of tmnxMobSgwGaStatRtrEchoRequests indicates the number of echo request messages retried to this peer.
rxCdrDupReqFf	long	tmnxMobSgwGaStatRxCdrDupReqFf	The value of tmnxMobSgwGaStatRxCdrDupReqFf indicates the number of Charging Data Records (CDR) responses with cause value 'duplicate requests already fulfilled' received from this peer.
rxCdrInvMsgFmat	long	tmnxMobSgwGaStatRxCdrInvMsgFmat	The value of tmnxMobSgwGaStatRxCdrInvMsgFmat indicates the number of Charging Data Records (CDR) responses with cause value 'invalid message format' received from this peer.
rxCdrMandIeInc	long	tmnxMobSgwGaStatRxCdrMandIeInc	The value of tmnxMobSgwGaStatRxCdrMandIeInc indicates the number of Charging Data Records (CDR) responses with cause value 'mandatory Information Element (IE) incorrect' received from this peer.
rxCdrMandIeMiss	long	tmnxMobSgwGaStatRxCdrMandIeMiss	The value of tmnxMobSgwGaStatRxCdrMandIeMiss indicates the number of Charging Data Records (CDR) responses with cause value 'mandatory Information Element (IE) missing' received from this peer.
rxCdrNoResAva	long	tmnxMobSgwGaStatRxCdrNoResAva	The value of tmnxMobSgwGaStatRxCdrNoResAva indicates the number of Charging Data Records (CDR) responses with cause value 'no resources available' received from this peer.
rxCdrOptIeInc	long	tmnxMobSgwGaStatRxCdrOptIeInc	The value of tmnxMobSgwGaStatRxCdrOptIeInc indicates the number of Charging Data Records (CDR) responses with cause value 'optional Information Element (IE) incorrect' received from this peer.
rxCdrReqAcc	long	tmnxMobSgwGaStatRxCdrReqAcc	The value of tmnxMobSgwGaStatRxCdrReqAcc indicates the number of Charging Data Records (CDR) responses with cause value 'requests accepted' received from this peer.

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5620 SAM counter name	Type	MIB counter name	Description
rxCdrReqFfilled	long	tmnxMobSgwGaStatRxCdrReqFfilled	The value of tmnxMobSgwGaStatRxCdrReqFfilled indicates the number of Charging Data Records (CDR) responses with cause value 'requests already fulfilled' received from this peer.
rxCdrReqNotFf	long	tmnxMobSgwGaStatRxCdrReqNotFf	The value of tmnxMobSgwGaStatRxCdrReqNotFf indicates the number of Charging Data Records (CDR) responses with cause value 'requests not fulfilled' received from this peer.
rxCdrSrvcNotSupp	long	tmnxMobSgwGaStatRxCdrSrvcNotSupp	The value of tmnxMobSgwGaStatRxCdrSrvcNotSupp indicates the number of Charging Data Records (CDR) responses with cause value 'Service not supported' received from this peer.
rxCdrSystemFail	long	tmnxMobSgwGaStatRxCdrSystemFail	The value of tmnxMobSgwGaStatRxCdrSystemFail indicates the number of Charging Data Records (CDR) responses with cause value 'system failure' received from this peer.
rxCdrVerNotSupp	long	tmnxMobSgwGaStatRxCdrVerNotSupp	The value of tmnxMobSgwGaStatRxCdrVerNotSupp indicates the number of Charging Data Records (CDR) responses with cause value 'version not supported' received from this peer.
rxDataRecReqs	long	tmnxMobSgwGaStatRxDataRecReqs	The value of tmnxMobSgwGaStatRxDataRecReqs indicates the number of Data record transfer requests received by this peer.
rxEchoRequests	long	tmnxMobSgwGaStatRxEchoRequests	The value of tmnxMobSgwGaStatRxEchoRequests indicates the number of echo request messages received from this peer.
rxEchoResponses	long	tmnxMobSgwGaStatRxEchoResponses	The value of tmnxMobSgwGaStatRxEchoResponses indicates the number of echo response messages received from this peer.
rxInvalidMsgs	long	tmnxMobSgwGaStatRxInvalidMsgs	The value of tmnxMobSgwGaStatRxInvalidMsgs indicates the number of invalid messages received from this peer.
rxNodeAlRequests	long	tmnxMobSgwGaStatRxNodeAlRequests	The value of tmnxMobSgwGaStatRxNodeAlRequests indicates the number of node alive request messages received from this peer.
rxNodeAlResps	long	tmnxMobSgwGaStatRxNodeAlResps	The value of tmnxMobSgwGaStatRxNodeAlResps indicates the number of node alive response messages received on this peer.

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5620 SAM counter name	Type	MIB counter name	Description
rxRedirectionReq	long	tmnxMobSgwGaStatRxRedirectionReq	The value of tmnxMobSgwGaStatRxRedirectionReq indicates the number of redirection request messages received from this peer.
rxVerNotSupp	long	tmnxMobSgwGaStatRxVerNotSupp	The value of tmnxMobSgwGaStatRxVerNotSupp indicates the number of version not supported messages received from this peer.
txCdrMaxChngCond	long	tmnxMobSgwGaStatTxCdrMaxChngCond	The value of tmnxMobSgwGaStatTxCdrMaxChngCond indicates the number of Charging Data Records (CDR) maximum change condition requests transmitted to this peer.
txCdrMsTmzChng	long	tmnxMobSgwGaStatTxCdrMsTmzChng	The value of tmnxMobSgwGaStatTxCdrMsTmzChng indicates the number of Charging Data Records (CDR) MS Time Zone Change requests transmitted to this peer.
txCdrRatChng	long	tmnxMobSgwGaStatTxCdrRatChng	The value of tmnxMobSgwGaStatTxCdrRatChng indicates the number of Charging Data Records (CDR) Radio Access Type (RAT) change requests transmitted to this peer.
txCdrTermination	long	tmnxMobSgwGaStatTxCdrTermination	The value of tmnxMobSgwGaStatTxCdrTermination indicates the number of Charging Data Records (CDR) termination requests transmitted to this peer.
txCdrTimeLimit	long	tmnxMobSgwGaStatTxCdrTimeLimit	The value of tmnxMobSgwGaStatTxCdrTimeLimit indicates the number of Charging Data Records (CDR) time limit requests transmitted to this peer.
txCdrVolLimit	long	tmnxMobSgwGaStatTxCdrVolLimit	The value of tmnxMobSgwGaStatTxCdrVolLimit indicates the number of Charging Data Records (CDR) volume limit requests transmitted to this peer.
txDataRecReqs	long	tmnxMobSgwGaStatTxDataRecReqs	The value of tmnxMobSgwGaStatTxDataRecReqs indicates the number of Data record requests transmitted to this peer.
txDataRecTferReq	long	tmnxMobSgwGaStatTxDataRecTferReq	The value of tmnxMobSgwGaStatTxDataRecTferReq indicates the number of duplicate Data record transfer requests transmitted to this peer.
txEchoRequests	long	tmnxMobSgwGaStatTxEchoRequests	The value of tmnxMobSgwGaStatTxEchoRequests indicates the number of echo request messages transmitted to this peer.

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5620 SAM counter name	Type	MIB counter name	Description
txEchoResponses	long	tmnxMobSgwGaStatTxEchoResponses	The value of tmnxMobSgwGaStatTxEchoResponses indicates the number of echo response messages transmitted to this peer.
txNodeAlRequests	long	tmnxMobSgwGaStatTxNodeAlRequests	The value of tmnxMobSgwGaStatTxNodeAlRequests indicates the number of node alive request messages transmitted from this peer.
txNodeAlResps	long	tmnxMobSgwGaStatTxNodeAlResps	The value of tmnxMobSgwGaStatTxNodeAlResps indicates the number of node alive response messages transmitted to this peer.
txRedrnResp	long	tmnxMobSgwGaStatTxRedrnResp	The value of tmnxMobSgwGaStatTxRedrnResp indicates the number of redirection request messages transmitted to this peer.
unackDataRexReqs	long	tmnxMobSgwGaStatUnackDataRexReqs	The value of tmnxMobSgwGaStatUnackDataRexReqs indicates the number of Data record transfer requests unacknowledged by this peer.
upTime	long	tmnxMobSgwGaStatUpTime	The value of tmnxMobSgwGaStatUpTime indicates the time when the connection comes up.
virtualRouterId	int	vRtrID	—

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Table A-28 lteli statistics

5620 SAM counter name	Type	MIB counter name	Description
DFPeerStat MIB table name: TIMETRA-MOBILE-GATEWAY-MIB.tmnxMobLiDfPeerTable Monitored class: lteli.DFPeer			
df2TxPackets	long	tmnxMobLiDf2PeerPktsTx	The value of tmnxMobLiDf2PeerPktsTx indicates the number of packets transmitted to the Delivery Function 2 peer.
peerId	int	tmnxMobLiDfPeer	The value of tmnxMobLiDfPeer uniquely identifies a Delivery Function (DF) peer configured for Lawful Interception (LI) in the system.

Table A-29 mld statistics

5620 SAM counter name	Type	MIB counter name	Description
InterfaceStats MIB table name: TIMETRA-MLD-MIB.vRtrMldIfStatsTable Monitored class: mld.Interface			
importPolicyDrops	long	vRtrMldIfImportPolicyDrops	The value of vRtrMldIfImportPolicyDrops indicates the total number of times the MLD protocol instance matched the host IP address or group or source addresses specified in the import policy vRtrMldIfImportPolicy.
rxBadChecksumPkts	long	vRtrMldIfRxBadChecksumPkts	The value of vRtrMldIfRxBadChecksumPkts indicates the total number of MLD packets with bad checksum received on this interface.
rxBadEncodings	long	vRtrMldIfRxBadEncodings	The value of vRtrMldIfRxBadEncodings indicates the total number of MLD packets received on this interface which were not encoded correctly.
rxBadLenPkts	long	vRtrMldIfRxBadLenPkts	The value of vRtrMldIfRxBadLenPkts indicates the total number of MLD packets with bad length received on this interface.
rxBadReceiveIfPkts	long	vRtrMldIfRxBadReceiveIfPkts	The value of vRtrMldIfRxBadReceiveIfPkts indicates the total number of MLD packets incorrectly received on this interface.
rxGenQueries	long	vRtrMldIfRxGenQueries	The value of vRtrMldIfRxGenQueries indicates the total number of MLD General Queries received on this interface.
rxGrpQueries	long	vRtrMldIfRxGrpQueries	The value of vRtrMldIfRxGrpQueries indicates the number of MLD Group Specific Queries received on this interface.
rxGrpSrcQueries	long	vRtrMldIfRxGrpSrcQueries	The value of vRtrMldIfRxGrpSrcQueries indicates the number of MLD Group and Source Specific Queries received on this interface.
rxLeaves	long	vRtrMldIfRxLeaves	The value of vRtrMldIfRxLeaves indicates the total number of MLD V2 Leaves received on this interface.
rxLocalScopePkts	long	vRtrMldIfRxLocalScopePkts	The value of the object vRtrMldIfRxLocalScopePkts indicates the number of MLD packets received on the link-local scope IPv6 multicast address.
rxNonLocal	long	vRtrMldIfRxNonLocal	The value of vRtrMldIfRxNonLocal indicates the total number of MLD packets received from a non-local sender.
rxNoRtrAlertPkts	long	vRtrMldIfRxNoRtrAlertPkts	The value of vRtrMldIfRxNoRtrAlertPkts indicates the total number of MLDv3 packets received on this interface which did not have the router alert flag set.

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5620 SAM counter name	Type	MIB counter name	Description
rxPktDrops	long	vRtrMldIfRxPktDrops	The value of vRtrMldIfRxPktDrops indicates the total number of MLD packets that were received on this interface but were dropped.
rxRsvdScopePkts	long	vRtrMldIfRxRsvdScopePkts	The value of the object vRtrMldIfRxRsvdScopePkts indicates the number of MLD packets received on the reserved scope IPv6 multicast address.
rxUnknownTypePkts	long	vRtrMldIfRxUnknownTypePkts	The value of vRtrMldIfRxUnknownTypePkts indicates the total number of MLD packets with unknown type received on this interface.
rxV1Reports	long	vRtrMldIfRxV1Reports	The value of vRtrMldIfRxV1Reports indicates the total number of MLD V1 Reports received on this interface.
rxV2Reports	long	vRtrMldIfRxV2Reports	The value of vRtrMldIfRxV2Reports indicates the total number of MLD V2 Reports received on this interface.
rxWrongVersions	long	vRtrMldIfRxWrongVersions	The value of vRtrMldIfRxWrongVersions indicates the total number of MLD packets with wrong versions received on this interface.
statsSGTypes	long	vRtrMldIfStatsSGTypes	The value of vRtrMldIfStatsSGTypes indicates the number of entries on this interface for which the source type is 'sg'.
statsStarGTypes	long	vRtrMldIfStatsStarGTypes	vRtrMldIfStatsStarGTypes indicates the number of entries on this interface for which the source type is 'starG'.
txErrors	long	vRtrMldIfTxErrors	The value of vRtrMldIfTxErrors indicates the total number of times there was an error transmitting the MLD packets on this interface.
txGenQueries	long	vRtrMldIfTxGenQueries	The value of vRtrMldIfTxGenQueries indicates the number of MLD General Queries transmitted on this interface.
txGrpQueries	long	vRtrMldIfTxGrpQueries	The value of vRtrMldIfTxGrpQueries indicates the number of MLD Group Specific Queries transmitted on this interface.
txGrpSrcQueries	long	vRtrMldIfTxGrpSrcQueries	The value of vRtrMldIfTxGrpSrcQueries indicates the number of MLD Group and Source Specific Queries transmitted on this interface.
txLeaves	long	vRtrMldIfTxLeaves	The value of vRtrMldIfTxLeaves indicates the total number of MLD Leaves transmitted on this interface.
txV1Reports	long	vRtrMldIfTxV1Reports	The value of vRtrMldIfTxV1Reports indicates the total number of MLD V1 Reports transmitted on this interface.
txV2Reports	long	vRtrMldIfTxV2Reports	The value of vRtrMldIfTxV2Reports indicates the total number of MLD V2 Reports transmitted on this interface.

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5620 SAM counter name	Type	MIB counter name	Description
SiteStats MIB table name: TIMETRA-MLD-MIB.vRtrMldGenStatsTable Monitored class: mld.Site			
statsSGTypes	long	vRtrMldGenStatsSGTypes	The value of vRtrMldGenStatsSGTypes indicates the number of entries in vRtrMldGrpSrcTable for which the source type is 'sg'.
statsStarGTypes	long	vRtrMldGenStatsStarGTypes	The value of vRtrMldGenStatsStarGTypes indicates the number of entries in vRtrMldGrpSrcTable for which the source type is 'starG'.

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Table A-30 mpls statistics

5620 SAM counter name	Type	MIB counter name	Description
DynamicLspStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsLspStatTable Monitored class: mpls.DynamicLsp			
configuredPaths	long	vRtrMplsLspConfiguredPaths	The number of paths configured for this LSP.
operationalPaths	long	vRtrMplsLspOperationalPaths	The number of operational paths for this LSP. This includes the path currently active, as well as operational standby paths.
pathChanges	long	vRtrMplsLspPathChanges	The number of path changes this LSP has had. For every path change (path down, path up, path change), a corresponding syslog/trap (if enabled) is generated for it.
standbyPaths	long	vRtrMplsLspStandbyPaths	The number of standby paths configured for this LSP.
timeSinceLastPathChange	long	vRtrMplsLspLastPathChange	The time in 10-millisecond units since the last change occurred on this LSP.
timeSinceLastPrimaryUpState	long	vRtrMplsLspPrimaryTimeUp	The total time in 10-millisecond units that this LSP's primary path has been operational. For example, the percentage contribution of the primary path to the operational time is given by (vRtrMplsLspPrimaryTimeUp/vRtrMplsLspTimeUp * 100) .
LspPathStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsLspPathStatTable Monitored class: mpls.LspPath			
cspfQueries	long	vRtrMplsLspPathCspfQueries	The value of vRtrMplsLspPathCspfQueries specifies the number of CSPF queries that have been made for this LSP path.

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5620 SAM counter name	Type	MIB counter name	Description
retryAttempts	long	vRtrMplsLspPathRetryAttempts	The number of unsuccessful attempts which have been made to signal this path. As soon as the path gets signalled, this is set to 0.
timeDown	long	vRtrMplsLspPathTimeDown	The total time in 10-millisecond units that this LSP Path has not been operational.
timeUp	long	vRtrMplsLspPathTimeUp	The total time in 10-millisecond units that this LSP path has been operational. For example, the percentage up time can be determined by computing (vRtrMplsLspPathTimeUp/vRtrMplsLspAge * 100).
transitionCount	long	vRtrMplsLspPathTransitionCount	The object vRtrMplsLspPathTransitionCount maintains the number of transitions that have occurred for this LSP.
LspStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsLspStatTable Monitored classes: • mpls.DynamicLsp • mpls.StaticLsp • mpls.BypassOnlyLsp			
age	long	vRtrMplsLspAge	The age (i.e., time from creation till now) of this LSP in 10-millisecond periods.
timeSinceLastDownState	long	vRtrMplsLspTimeDown	The total time in 10-millisecond units that this LSP has not been operational.
timeSinceLastTransition	long	vRtrMplsLspLastTransition	The time in 10-millisecond units since the last transition occurred on this LSP.
timeSinceLastUpState	long	vRtrMplsLspTimeUp	The total time in 10-millisecond units that this LSP has been been operational. For example, the percentage up time can be determined by computing (vRtrMplsLspTimeUp/vRtrMplsLspAge * 100).
transitions	long	vRtrMplsLspTransitions	The number of state transitions (up -> down and down -> up) this LSP has undergone.
MplsInterfaceStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsIfStatTable Monitored class: mpls.Interface			
receiveOctets	UINT128	vRtrMplsIfRxOctetCount	The total number of bytes in MPLS labeled packets received on this interface.
receivePackets	UINT128	vRtrMplsIfRxPktCount	The total number of MPLS labeled packets received on this interface.
transmitOctets	UINT128	vRtrMplsIfTxOctetCount	The total number of bytes in MPLS labeled packets transmitted on this interface.
transmitPackets	UINT128	vRtrMplsIfTxPktCount	The total number of MPLS labeled packets transmitted from this interface.

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5620 SAM counter name	Type	MIB counter name	Description
MplsLspEgressStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsLspStatisticsTable Monitored class: mpls.DynamicLsp			
mplsInProfileOctetsFc0	UINT128	vRtrMplsInProfileOctetsFc0	The value of vRtrMplsInProfileOctetsFc0 indicates the number of in profile octets received for Forwarding Class 0.
mplsInProfileOctetsFc1	UINT128	vRtrMplsInProfileOctetsFc1	The value of vRtrMplsInProfileOctetsFc1 indicates the number of in profile octets received for Forwarding Class 1.
mplsInProfileOctetsFc2	UINT128	vRtrMplsInProfileOctetsFc2	The value of vRtrMplsInProfileOctetsFc2 indicates the number of in profile octets received for Forwarding Class 2.
mplsInProfileOctetsFc3	UINT128	vRtrMplsInProfileOctetsFc3	The value of vRtrMplsInProfileOctetsFc3 indicates the number of in profile octets received for Forwarding Class 3.
mplsInProfileOctetsFc4	UINT128	vRtrMplsInProfileOctetsFc4	The value of vRtrMplsInProfileOctetsFc4 indicates the number of in profile octets received for Forwarding Class 4.
mplsInProfileOctetsFc5	UINT128	vRtrMplsInProfileOctetsFc5	The value of vRtrMplsInProfileOctetsFc5 indicates the number of in profile octets received for Forwarding Class 5.
mplsInProfileOctetsFc6	UINT128	vRtrMplsInProfileOctetsFc6	The value of vRtrMplsInProfileOctetsFc6 indicates the number of in profile octets received for Forwarding Class 6.
mplsInProfileOctetsFc7	UINT128	vRtrMplsInProfileOctetsFc7	The value of vRtrMplsInProfileOctetsFc7 indicates the number of in profile octets received for Forwarding Class 7.
mplsInProfilePktsFc0	UINT128	vRtrMplsInProfilePktsFc0	The value of vRtrMplsInProfilePktsFc0 indicates the number of in profile packets received for Forwarding Class 0.
mplsInProfilePktsFc1	UINT128	vRtrMplsInProfilePktsFc1	The value of vRtrMplsInProfilePktsFc1 indicates the number of in profile packets received for Forwarding Class 1.
mplsInProfilePktsFc2	UINT128	vRtrMplsInProfilePktsFc2	The value of vRtrMplsInProfilePktsFc2 indicates the number of in profile packets received for Forwarding Class 2.
mplsInProfilePktsFc3	UINT128	vRtrMplsInProfilePktsFc3	The value of vRtrMplsInProfilePktsFc3 indicates the number of in profile packets received for Forwarding Class 3.
mplsInProfilePktsFc4	UINT128	vRtrMplsInProfilePktsFc4	The value of vRtrMplsInProfilePktsFc4 indicates the number of in profile packets received for Forwarding Class 4.
mplsInProfilePktsFc5	UINT128	vRtrMplsInProfilePktsFc5	The value of vRtrMplsInProfilePktsFc5 indicates the number of in profile packets received for Forwarding Class 5.
mplsInProfilePktsFc6	UINT128	vRtrMplsInProfilePktsFc6	The value of vRtrMplsInProfilePktsFc6 indicates the number of in profile packets received for Forwarding Class 6.
mplsInProfilePktsFc7	UINT128	vRtrMplsInProfilePktsFc7	The value of vRtrMplsInProfilePktsFc7 indicates the number of in profile packets received for Forwarding Class 7.

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5620 SAM counter name	Type	MIB counter name	Description
mplsOutOfProfOctetsFc0	UINT128	vRtrMplsOutOfProfOctetsFc0	The value of vRtrMplsOutOfProfOctetsFc0 indicates the number of out of profile octets received for Forwarding Class 0.
mplsOutOfProfOctetsFc1	UINT128	vRtrMplsOutOfProfOctetsFc1	The value of vRtrMplsOutOfProfOctetsFc1 indicates the number of out of profile octets received for Forwarding Class 1.
mplsOutOfProfOctetsFc2	UINT128	vRtrMplsOutOfProfOctetsFc2	The value of vRtrMplsOutOfProfOctetsFc2 indicates the number of out of profile octets received for Forwarding Class 2.
mplsOutOfProfOctetsFc3	UINT128	vRtrMplsOutOfProfOctetsFc3	The value of vRtrMplsOutOfProfOctetsFc3 indicates the number of out of profile octets received for Forwarding Class 3.
mplsOutOfProfOctetsFc4	UINT128	vRtrMplsOutOfProfOctetsFc4	The value of vRtrMplsOutOfProfOctetsFc4 indicates the number of out of profile octets received for Forwarding Class 4.
mplsOutOfProfOctetsFc5	UINT128	vRtrMplsOutOfProfOctetsFc5	The value of vRtrMplsOutOfProfOctetsFc5 indicates the number of out of profile octets received for Forwarding Class 5.
mplsOutOfProfOctetsFc6	UINT128	vRtrMplsOutOfProfOctetsFc6	The value of vRtrMplsOutOfProfOctetsFc6 indicates the number of out of profile octets received for Forwarding Class 6.
mplsOutOfProfOctetsFc7	UINT128	vRtrMplsOutOfProfOctetsFc7	The value of vRtrMplsOutOfProfOctetsFc7 indicates the number of out of profile octets received for Forwarding Class 7.
mplsOutOfProfPktsFc0	UINT128	vRtrMplsOutOfProfPktsFc0	The value of vRtrMplsOutOfProfPktsFc0 indicates the number of out of profile packets received for Forwarding Class 0.
mplsOutOfProfPktsFc1	UINT128	vRtrMplsOutOfProfPktsFc1	The value of vRtrMplsOutOfProfPktsFc1 indicates the number of out of profile packets received for Forwarding Class 1.
mplsOutOfProfPktsFc2	UINT128	vRtrMplsOutOfProfPktsFc2	The value of vRtrMplsOutOfProfPktsFc2 indicates the number of out of profile packets received for Forwarding Class 2.
mplsOutOfProfPktsFc3	UINT128	vRtrMplsOutOfProfPktsFc3	The value of vRtrMplsOutOfProfPktsFc3 indicates the number of out of profile packets received for Forwarding Class 3.
mplsOutOfProfPktsFc4	UINT128	vRtrMplsOutOfProfPktsFc4	The value of vRtrMplsOutOfProfPktsFc4 indicates the number of out of profile packets received for Forwarding Class 4.
mplsOutOfProfPktsFc5	UINT128	vRtrMplsOutOfProfPktsFc5	The value of vRtrMplsOutOfProfPktsFc5 indicates the number of out of profile packets received for Forwarding Class 5.
mplsOutOfProfPktsFc6	UINT128	vRtrMplsOutOfProfPktsFc6	The value of vRtrMplsOutOfProfPktsFc6 indicates the number of out of profile packets received for Forwarding Class 6.
mplsOutOfProfPktsFc7	UINT128	vRtrMplsOutOfProfPktsFc7	The value of vRtrMplsOutOfProfPktsFc7 indicates the number of out of profile packets received for Forwarding Class 7.
psbMatch	boolean	vRtrMplsLspStatsPSBMatch	The value of vRtrMplsLspStatsPSBMatch indicates if a path state block (PSB) match was made against this LSP name.

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5620 SAM counter name	Type	MIB counter name	Description
MplsLspIngressStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsLspStatisticsTable Monitored class: mpls.IngStatsPolicy			
mplsInProfileOctetsFc0	UINT128	vRtrMplsInProfileOctetsFc0	The value of vRtrMplsInProfileOctetsFc0 indicates the number of in profile octets received for Forwarding Class 0.
mplsInProfileOctetsFc1	UINT128	vRtrMplsInProfileOctetsFc1	The value of vRtrMplsInProfileOctetsFc1 indicates the number of in profile octets received for Forwarding Class 1.
mplsInProfileOctetsFc2	UINT128	vRtrMplsInProfileOctetsFc2	The value of vRtrMplsInProfileOctetsFc2 indicates the number of in profile octets received for Forwarding Class 2.
mplsInProfileOctetsFc3	UINT128	vRtrMplsInProfileOctetsFc3	The value of vRtrMplsInProfileOctetsFc3 indicates the number of in profile octets received for Forwarding Class 3.
mplsInProfileOctetsFc4	UINT128	vRtrMplsInProfileOctetsFc4	The value of vRtrMplsInProfileOctetsFc4 indicates the number of in profile octets received for Forwarding Class 4.
mplsInProfileOctetsFc5	UINT128	vRtrMplsInProfileOctetsFc5	The value of vRtrMplsInProfileOctetsFc5 indicates the number of in profile octets received for Forwarding Class 5.
mplsInProfileOctetsFc6	UINT128	vRtrMplsInProfileOctetsFc6	The value of vRtrMplsInProfileOctetsFc6 indicates the number of in profile octets received for Forwarding Class 6.
mplsInProfileOctetsFc7	UINT128	vRtrMplsInProfileOctetsFc7	The value of vRtrMplsInProfileOctetsFc7 indicates the number of in profile octets received for Forwarding Class 7.
mplsInProfilePktsFc0	UINT128	vRtrMplsInProfilePktsFc0	The value of vRtrMplsInProfilePktsFc0 indicates the number of in profile packets received for Forwarding Class 0.
mplsInProfilePktsFc1	UINT128	vRtrMplsInProfilePktsFc1	The value of vRtrMplsInProfilePktsFc1 indicates the number of in profile packets received for Forwarding Class 1.
mplsInProfilePktsFc2	UINT128	vRtrMplsInProfilePktsFc2	The value of vRtrMplsInProfilePktsFc2 indicates the number of in profile packets received for Forwarding Class 2.
mplsInProfilePktsFc3	UINT128	vRtrMplsInProfilePktsFc3	The value of vRtrMplsInProfilePktsFc3 indicates the number of in profile packets received for Forwarding Class 3.
mplsInProfilePktsFc4	UINT128	vRtrMplsInProfilePktsFc4	The value of vRtrMplsInProfilePktsFc4 indicates the number of in profile packets received for Forwarding Class 4.
mplsInProfilePktsFc5	UINT128	vRtrMplsInProfilePktsFc5	The value of vRtrMplsInProfilePktsFc5 indicates the number of in profile packets received for Forwarding Class 5.
mplsInProfilePktsFc6	UINT128	vRtrMplsInProfilePktsFc6	The value of vRtrMplsInProfilePktsFc6 indicates the number of in profile packets received for Forwarding Class 6.
mplsInProfilePktsFc7	UINT128	vRtrMplsInProfilePktsFc7	The value of vRtrMplsInProfilePktsFc7 indicates the number of in profile packets received for Forwarding Class 7.

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5620 SAM counter name	Type	MIB counter name	Description
mplsOutOfProfOctetsFc0	UINT128	vRtrMplsOutOfProfOctetsFc0	The value of vRtrMplsOutOfProfOctetsFc0 indicates the number of out of profile octets received for Forwarding Class 0.
mplsOutOfProfOctetsFc1	UINT128	vRtrMplsOutOfProfOctetsFc1	The value of vRtrMplsOutOfProfOctetsFc1 indicates the number of out of profile octets received for Forwarding Class 1.
mplsOutOfProfOctetsFc2	UINT128	vRtrMplsOutOfProfOctetsFc2	The value of vRtrMplsOutOfProfOctetsFc2 indicates the number of out of profile octets received for Forwarding Class 2.
mplsOutOfProfOctetsFc3	UINT128	vRtrMplsOutOfProfOctetsFc3	The value of vRtrMplsOutOfProfOctetsFc3 indicates the number of out of profile octets received for Forwarding Class 3.
mplsOutOfProfOctetsFc4	UINT128	vRtrMplsOutOfProfOctetsFc4	The value of vRtrMplsOutOfProfOctetsFc4 indicates the number of out of profile octets received for Forwarding Class 4.
mplsOutOfProfOctetsFc5	UINT128	vRtrMplsOutOfProfOctetsFc5	The value of vRtrMplsOutOfProfOctetsFc5 indicates the number of out of profile octets received for Forwarding Class 5.
mplsOutOfProfOctetsFc6	UINT128	vRtrMplsOutOfProfOctetsFc6	The value of vRtrMplsOutOfProfOctetsFc6 indicates the number of out of profile octets received for Forwarding Class 6.
mplsOutOfProfOctetsFc7	UINT128	vRtrMplsOutOfProfOctetsFc7	The value of vRtrMplsOutOfProfOctetsFc7 indicates the number of out of profile octets received for Forwarding Class 7.
mplsOutOfProfPktsFc0	UINT128	vRtrMplsOutOfProfPktsFc0	The value of vRtrMplsOutOfProfPktsFc0 indicates the number of out of profile packets received for Forwarding Class 0.
mplsOutOfProfPktsFc1	UINT128	vRtrMplsOutOfProfPktsFc1	The value of vRtrMplsOutOfProfPktsFc1 indicates the number of out of profile packets received for Forwarding Class 1.
mplsOutOfProfPktsFc2	UINT128	vRtrMplsOutOfProfPktsFc2	The value of vRtrMplsOutOfProfPktsFc2 indicates the number of out of profile packets received for Forwarding Class 2.
mplsOutOfProfPktsFc3	UINT128	vRtrMplsOutOfProfPktsFc3	The value of vRtrMplsOutOfProfPktsFc3 indicates the number of out of profile packets received for Forwarding Class 3.
mplsOutOfProfPktsFc4	UINT128	vRtrMplsOutOfProfPktsFc4	The value of vRtrMplsOutOfProfPktsFc4 indicates the number of out of profile packets received for Forwarding Class 4.
mplsOutOfProfPktsFc5	UINT128	vRtrMplsOutOfProfPktsFc5	The value of vRtrMplsOutOfProfPktsFc5 indicates the number of out of profile packets received for Forwarding Class 5.
mplsOutOfProfPktsFc6	UINT128	vRtrMplsOutOfProfPktsFc6	The value of vRtrMplsOutOfProfPktsFc6 indicates the number of out of profile packets received for Forwarding Class 6.
mplsOutOfProfPktsFc7	UINT128	vRtrMplsOutOfProfPktsFc7	The value of vRtrMplsOutOfProfPktsFc7 indicates the number of out of profile packets received for Forwarding Class 7.
psbMatch	boolean	vRtrMplsLspStatsPSBMatch	The value of vRtrMplsLspStatsPSBMatch indicates if a path state block (PSB) match was made against this LSP name.

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5620 SAM counter name	Type	MIB counter name	Description
P2MPInstanceStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsP2mpInstStatTable Monitored class: mpls.P2MPInstance			
configuredS2ls	long	vRtrMplsP2mpInstStatConfiguredS2ls	The value of vRtrMplsP2mpInstStatConfiguredS2ls indicates the number of S2ls configured for this P2MP LSP.
lastS2lChange	long	vRtrMplsP2mpInstStatLastS2lChange	The value of vRtrMplsP2mpInstStatLastS2lChange indicates the time since the last change occurred on this P2MP LSP.
lastS2lTimeDown	long	vRtrMplsP2mpInstStatLastS2lTimeDown	The value of vRtrMplsP2mpInstStatLastS2lTimeDown indicates the total time that this S2l has not been operational.
lastTrans	long	vRtrMplsP2mpInstStatLastTrans	The value of vRtrMplsP2mpInstStatLastTrans indicates the time since the last transition occurred on this P2mp instance.
operationalS2ls	long	vRtrMplsP2mpInstStatOperationalS2ls	The value of vRtrMplsP2mpInstStatOperationalS2ls indicates the number of operational S2ls for this P2MP LSP. This includes the S2ls currently active.
s2lChanges	long	vRtrMplsP2mpInstStatS2lChanges	The value of vRtrMplsP2mpInstStatS2lChanges indicates the number of S2l changes this P2MP LSP has had. For every S2l change (S2l down, S2l up, S2l change), a corresponding syslog/trap (if enabled) is generated for it.
s2lTimeUp	long	vRtrMplsP2mpInstStatLastS2lTimeUp	The value of vRtrMplsP2mpInstStatLastS2lTimeUp indicates the total time that this S2l has been operational.
timeDown	long	vRtrMplsP2mpInstStatTimeDown	The value of vRtrMplsP2mpInstStatTimeDown indicates the total time that this P2MP instance has not been operational.
timeUp	long	vRtrMplsP2mpInstStatTimeUp	The value of vRtrMplsP2mpInstStatTimeUp indicates the total time that this P2MP instance has been operational.
transitions	long	vRtrMplsP2mpInstStatTransitions	The The value of vRtrMplsP2mpInstStatTransitions indicates the number of state transitions (up -> down and down -> up) this P2mp instance has undergone.
S2LPathStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsS2lSubLspStatTable Monitored class: mpls.S2LPath			

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5620 SAM counter name	Type	MIB counter name	Description
cspfQueries	long	vRtrMplsS2lSubLspCspfQueries	The value of vRtrMplsS2lSubLspCspfQueries indicates the number of CSPF queries that have been made for this LSP S2l.
retryAttempts	long	vRtrMplsS2lSubLspRetryAttempts	The value of vRtrMplsS2lSubLspRetryAttempts indicates the number of unsuccessful attempts which have been made to signal this S2l. As soon as the S2l gets signalled, this is set to 0.
timeDown	long	vRtrMplsS2lSubLspTimeDown	The value of vRtrMplsS2lSubLspTimeUp indicates the total time that this LSP S2l has not been operational.
timeUp	long	vRtrMplsS2lSubLspTimeUp	The value of vRtrMplsS2lSubLspTimeUp indicates the total time that this LSP S2l has been operational. For example, the percentage up time can be determined by computing (vRtrMplsS2lSubLspTimeUp/vRtrMplsLspAge * 100).
transitionCount	long	vRtrMplsS2lSubLspTransitionCount	The value of vRtrMplsS2lSubLspTransitionCount indicates the number of transitions that have occurred for this LSP.
SiteStats MIB table name: TIMETRA-MPLS-MIB.vRtrMplsGeneralStatTable Monitored class: mpls.Site			
detourOriginate	long	vRtrMplsGeneralDetourLspOriginate	The value of vRtrMplsGeneralDetourLspOriginate indicates the number of detour LSPs that originate at this virtual router.
detourTerminate	long	vRtrMplsGeneralDetourLspTerminate	The value of vRtrMplsGeneralDetourLspTerminate indicates the number of detour LSPs that terminate at this virtual router.
detourTransit	long	vRtrMplsGeneralDetourLspTransit	The value of vRtrMplsGeneralDetourLspTransit indicates the number of detour LSPs that transit through this virtual router.
dynamicOriginate	long	vRtrMplsGeneralDynamicLspOriginate	The value of vRtrMplsGeneralDynamicLspOriginate indicates the number of dynamic LSPs that originate at this virtual router.
dynamicTerminate	long	vRtrMplsGeneralDynamicLspTerminate	The value of vRtrMplsGeneralDynamicLspTerminate indicates the number of dynamic LSPs that terminate at this virtual router.
dynamicTransit	long	vRtrMplsGeneralDynamicLspTransit	The value of vRtrMplsGeneralDynamicLspTransit indicates the number of dynamic LSPs that transit through this virtual router.
staticOriginate	long	vRtrMplsGeneralStaticLspOriginate	The value of vRtrMplsGeneralStaticLspOriginate indicates the number of static LSPs that originate at this virtual router.

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5620 SAM counter name	Type	MIB counter name	Description
staticTerminate	long	vRtrMplsGeneralStaticLsp Terminate	The value of vRtrMplsGeneralStaticLspTerminate indicates the number of static LSPs that terminate at this virtual router.
staticTransit	long	vRtrMplsGeneralStaticLsp Transit	The value of vRtrMplsGeneralStaticLspTransit indicates the number of static LSPs that transit through this virtual router.

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Table A-31 msdp statistics

5620 SAM counter name	Type	MIB counter name	Description
PeerStats MIB table name: TIMETRA-MSDP-MIB.tmnxMsdpPeerStatsTable Monitored classes: • msdp.Peer • msdp.GroupPeer			
errorMsgsReceived	long	tmnxMsdpPeerStatsError MsgsRecvd	The value of tmnxMsdpPeerStatsErrorMsgsRecvd indicates number of error messages received.
keepAliveMsgsReceived	long	tmnxMsdpPeerStatsKAMsg sRecvd	The value of tmnxMsdpPeerStatsKAMsgsRecvd indicates the number of keep-alive messages received.
keepAliveMsgsSent	long	tmnxMsdpPeerStatsKAMsg sSent	The value of tmnxMsdpPeerStatsKAMsgsSent indicates the number of keep-alive messages sent.
lastMsgPeer	long	tmnxMsdpPeerStatsLastM sgPeer	The value of tmnxMsdpPeerStatsLastMsgPeer indicates how long ago the last message was received from this peer instance.
lastStateChange	long	tmnxMsdpPeerStatsLastSt Change	The value of tmnxMsdpPeerStatsLastStChange indicates how long ago the peer state changed.
peerTimeouts	long	tmnxMsdpPeerStatsPeerT imeouts	The value of tmnxMsdpPeerStatsPeerTimeouts indicates the number of peer timeouts.
remoteCloses	long	tmnxMsdpPeerStatsRemo teCloses	The value of tmnxMsdpPeerStatsRemoteCloses indicates the number of times the remote peer closed.
reservedMsgsReceived	long	tmnxMsdpPeerStatsResvM sgsRecvd	The value of tmnxMsdpPeerStatsResvMsgsRecvd indicates the number of MSDP messages received with type 'Reserved'.
rpfFailures	long	tmnxMsdpPeerStatsRPFFa ilures	The value of tmnxMsdpPeerStatsRPFFailures indicates number of reverse path forwarding (RPF) failures.

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5620 SAM counter name	Type	MIB counter name	Description
saLearned	long	tmnxMsdpPeerStatsSALearnt	The value of tmnxMsdpPeerStatsSALearnt indicates the number of unique source active entries in the cache learned from the peer.
saLimitExceeded	long	tmnxMsdpPeerStatsActSrcLimExcd	The value of tmnxMsdpPeerStatsActSrcLimExcd indicates the number of times the global active source limit has been exceeded by this peer instance.
saMsgsReceived	long	tmnxMsdpPeerStatsSAMsgsRecvd	The value of tmnxMsdpPeerStatsSAMsgsRecvd indicates the number of source-active messages received.
saMsgsSent	long	tmnxMsdpPeerStatsSAMsgsSent	The value of tmnxMsdpPeerStatsSAMsgsSent indicates the number of source-active messages sent.
saRejectExportPolicy	long	tmnxMsdpPeerStatsSARejImpPolicy	The value of tmnxMsdpPeerStatsSARejImpPolicy indicates the number of source active messages from the peer that were rejected due to import policy.
saRejectImportPolicy	long	tmnxMsdpPeerStatsSARejExpPolicy	The value of tmnxMsdpPeerStatsSARejExpPolicy indicates the number of source active messages from the peer that were not sent due to export policy.
saRequestMsgsReceived	long	tmnxMsdpPeerStatsSAReqMsgsRecvd	The value of tmnxMsdpPeerStatsSAReqMsgsRecvd indicates the number of source-active request messages received.
saRequestMsgsSent	long	tmnxMsdpPeerStatsSAReqMsgsSent	The value of tmnxMsdpPeerStatsSAReqMsgsSent indicates the number of source-active request messages sent.
saResponseMsgsReceived	long	tmnxMsdpPeerStatsSAResMsgsRecvd	The value of tmnxMsdpPeerStatsSAResMsgsRecvd indicates the number of source-active response messages received.
saResponseMsgsSent	long	tmnxMsdpPeerStatsSAResMsgsSent	The value of tmnxMsdpPeerStatsSAResMsgsSent indicates the number of source-active response messages sent.
unknownMsgsReceived	long	tmnxMsdpPeerStatsUnknMsgsRecvd	The value of tmnxMsdpPeerStatsUnknMsgsRecvd indicates the number of unknown messages received.

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Table A-32 multicast statistics

5620 SAM counter name	Type	MIB counter name	Description
McastCacChannelServiceStats MIB table name: TIMETRA-MCAST-CAC-MIB.tmnxMcacServStatsTable Monitored class: multicast.McastCacPolicy			
action	int	tmnxMcacServStatsAction	The value of tmnxMcacServStatsAction indicates the action specified by the mcac policy for the service application to act upon.
algorithmReapply	boolean	tmnxMcacServStatsAlgoReapply	The value of tmnxMcacServStatsAlgoReapply indicates if the mcac policy was reapplied on the already accepted channel due lag constraints or if this was the first request for this channel from the service application.
bundleAvailBw	long	tmnxMcacServStatsBundleAvailBW	The value of tmnxMcacServStatsBundleAvailBW indicates the available bundle bandwidth after the requested channel was either accepted or discarded by the mcac policy.
channelBw	long	tmnxMcacServStatsChannelBW	The value of tmnxMcacServStatsChannelBW indicates the channel bandwidth configured at the mcac policy at the time of request from the service application.
channelRequestCount	long	tmnxMcacServStatsApplyAttempts	The value of tmnxMcacServStatsApplyAttempts indicates the number of times the mcac policy was applied for a particular channel entry by the service application.
channelType	int	tmnxMcacServStatsChannelType	The value of tmnxMcacServStatsChannelType indicates the channel type configured at the mcac policy at the time of request from the service application.
encapValueOrVCId	String	tmnxMcacServStatsEncapValue	The value of tmnxMcacServStatsEncapValue indicates the SAP/SDP Encap value of which the mcac policy is applied.
interfaceAvailBw	long	tmnxMcacServStatsIntfAvailBW	The value of tmnxMcacServStatsIntfAvailBW indicates the available interface bandwidth after the requested channel was either accepted or discarded by the mcac policy.
portIdOrTunnelId	String	tmnxMcacServStatsPortId	The value of tmnxMcacServStatsPortId indicates the port Id of the SAP/SDP on which the mcac policy is applied.
reason	int	tmnxMcacServStatsReason	The value of tmnxMcacServStatsReason indicates the reason for the action specified by the mcac policy for the service application to act upon.

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5620 SAM counter name	Type	MIB counter name	Description
timeStamp	long	tmnxMcacServStatsTimeStamp	The value of tmnxMcacServStatsTimeStamp indicates the timestamp of the last time the mcac policy was applied for this channel entry.
McastCacChannelStats MIB table name: TIMETRA-MCAST-CAC-MIB.tmnxMcacStatsTable Monitored class: multicast.McastCacPolicy			
action	int	tmnxMcacStatsAction	The value of tmnxMcacStatsAction indicates the action specified by the mcac policy for the application interface to act upon.
algorithmReapply	boolean	tmnxMcacStatsAlgoReapply	The value of tmnxMcacStatsAlgoReapply indicates if the mcac policy was reapplied on the already accepted channel due lag constraints or if this was the first request for this channel from the application.
bundleAvailBw	long	tmnxMcacStatsBundleAvailBW	The value of tmnxMcacStatsBundleAvailBW indicates the available bundle bandwidth after the requested channel was either accepted or discarded by the mcac policy.
bundleName	String	tmnxMcacStatsBundleName	The value of tmnxMcacStatsBundleName indicates the name of the multicast CAC policy bundle. The value of tmnxMcacStatsBundleName could be an empty string, meaning that this particular statistics entry's channel did not belong to any bundle in the policy.
channelAddress	String	tmnxMcacStatsChlAddr	The value of tmnxMcacStatsChlAddr indicates the address of the multicast channel that mcac policy was applied upon when requested by the application interface. Address type is indicated by tmnxMcacStatsChlAddrType.
channelAddressType	int	tmnxMcacStatsChlAddrType	The value of tmnxMcacStatsChlAddrType indicates the address type of tmnxMcacStatsChlAddr.
channelBw	long	tmnxMcacStatsChannelBW	The value of tmnxMcacStatsChannelBW indicates the channel bandwidth configured at the mcac policy at the time of request from the application interface.
channelRequestCount	long	tmnxMcacStatsApplyAttempts	The value of tmnxMcacStatsApplyAttempts indicates the number of times the mcac policy was applied for a particular channel entry by the application.
channelType	int	tmnxMcacStatsChannelType	The value of tmnxMcacStatsChannelType indicates the channel type configured at the mcac policy at the time of request from the application interface.
interfaceAvailBw	long	tmnxMcacStatsIntfAvailBW	The value of tmnxMcacStatsIntfAvailBW indicates the available interface bandwidth after the requested channel was either accepted or discarded by the mcac policy.

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5620 SAM counter name	Type	MIB counter name	Description
interfaceId	long	tmnxMcacStatsIfIndex	The value of tmnxMcacStatsIfIndex indicates the application interface index that has applied mcac policy.
protocolName	int	tmnxMcacStatsProtocolIndex	The value of tmnxMcacStatsProtocolIndex indicates the application that has applied mcac policy.
reason	int	tmnxMcacStatsReason	The value of tmnxMcacStatsReason indicates the reason for the action specified by the mcac policy for the application interface to act upon.
timeStamp	long	tmnxMcacStatsTimeStamp	The value of tmnxMcacStatsTimeStamp indicates the timestamp of the last time the mcac policy was applied for this channel entry.
McastCacOper MIB table name: TIMETRA-MCAST-CAC-MIB.tmnxMcacOperTable Monitored class: multicast.McastCacPolicy			
activeChannels	long	tmnxMcacOperActiveChannels	The value of tmnxMcacOperActiveChannels indicates the number of active channels for this entry.
availMandBw	long	tmnxMcacOperAvailMandBw	The value of tmnxMcacOperAvailMandBw indicates the operational pre-reserved bandwidth in kilo-bits per second(kbps) for the mandatory channels on the bundle for this protocol interface instance.
availOptionalBw	long	tmnxMcacOperAvailOptnlBw	The value of tmnxMcacOperAvailOptnlBw indicates the operational available bandwidth in kilo-bits per second(kbps) on the bundle for this protocol interface instance.
currConstrtLvl	long	tmnxMcacOperCurrConstrtLvl	The value of tmnxMcacOperCurrConstrtLvl indicates the current lag constraints bundle level id for the number of ports down (tmnxMcacOperPortsDown). This value is used to index the table tmnxMcacLevelTable to get the bundle level bandwidth.
inUseMandBw	long	tmnxMcacOperInUseMandBw	The value of tmnxMcacOperInUseMandBw indicates the operational in-use bandwidth in kilo-bits per second(kbps) for the mandatory channels on the bundle for this protocol interface instance.
inUseOptionalBw	long	tmnxMcacOperInUseOptnlBw	The value of tmnxMcacOperInUseOptnlBw indicates the operational in-use bandwidth in kilo-bits per second(kbps) for the optional channels on the bundle for this protocol interface instance.
maxBw	long	tmnxMcacOperMaxBw	The value of tmnxMcacOperMaxBw indicates the operational maximum bandwidth in kilo-bits per second(kbps) on the bundle for this protocol interface instance.

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5620 SAM counter name	Type	MIB counter name	Description
portsDown	long	tmnxMcacOperPortsDown	The value of tmnxMcacOperPortsDown indicates the the number of ports down on the application interface. This value is used to index the table tmnxMcacLagTable to get the bundle level id.
valuesInTransit	boolean	tmnxMcacOperValuesInTransit	The value of tmnxMcacOperValuesInTransit indicates that the operational (available and in-use mandatory/optional) value for the following objects are in transition due to configuration change: tmnxMcacOperAvailOptnlBw tmnxMcacOperAvailMandBw tmnxMcacOperInUseMandBw tmnxMcacOperInUseOptnlBw When Multicast CAC Policy is applied on the interface for the join of the next channel, the operational values will be recalculated and applied to the above objects and the value for tmnxMcacOperValuesInTransit will be set to 'false'. If the value of tmnxMcacOperValuesInTransit is 'true' then the values are in transition.
McastCacServOperStats MIB table name: TIMETRA-MCAST-CAC-MIB.tmnxMcacServOperTable Monitored class: multicast.McastCacPolicy			
activeChannels	long	tmnxMcacServOperActiveChannels	The value of tmnxMcacServOperActiveChannels indicates the number of active channels for this entry.
availMandBw	long	tmnxMcacServOperAvailMandBw	The value of tmnxMcacServOperAvailMandBw indicates the operational pre-reserved bandwidth in kilo-bits per second(kbps) for the mandatory channels on the bundle for this service application on sap/sdp instance.
availOptionalBw	long	tmnxMcacServOperAvailOptnlBw	The value of tmnxMcacServOperAvailOptnlBw indicates the operational available bandwidth in kilo-bits per second(kbps) on the bundle for this service application on sap/sdp instance.
currConstrtLvl	long	tmnxMcacServOperCurrConstrtLvl	The value of tmnxMcacServOperCurrConstrtLvl indicates the current lag constraints bundle level id for the number of ports down (tmnxMcacServOperPortsDown). This value is used to index the table tmnxMcacLevelTable to get the bundle level bandwidth.
inUseMandBw	long	tmnxMcacServOperInUseMandBw	The value of tmnxMcacServOperInUseMandBw indicates the operational in-use bandwidth in kilo-bits per second(kbps) for the mandatory channels on the bundle for this service application on sap/sdp instance.

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5620 SAM counter name	Type	MIB counter name	Description
inUseOptionalBw	long	tmnxMcacServOperInUseOptnlBw	The value of tmnxMcacServOperInUseOptnlBw indicates the operational in-use bandwidth in kilo-bits per second(kbps) for the optional channels on the bundle for this service application on sap/sdp instance.
maxBw	long	tmnxMcacServOperMaxBw	The value of tmnxMcacServOperMaxBw indicates the operational maximum bandwidth in kilo-bits per second(kbps) on the bundle for this service application on sap/sdp instance.
portsDown	long	tmnxMcacServOperPortsDown	The value of tmnxMcacServOperPortsDown indicates the the number of ports down on the service application on sap/sdp. This value is used to index the table tmnxMcacLagTable to get the bundle level id.
valuesInTransit	boolean	tmnxMcacServOperValuesInTransit	The value of tmnxMcacServOperValuesInTransit indicates that the operational (available and in-use mandatory/optional) value for the following objects are in transition due to configuration change: tmnxMcacServOperAvailOptnlBw tmnxMcacServOperAvailMandBw tmnxMcacServOperInUseMandBw tmnxMcacServOperInUseOptnlBw When Multicast CAC Policy is applied on the sap/sdp for the join of the next channel, the operational values will be recalculated and applied to the above objects and the value for tmnxMcacServOperValuesInTransit will be set to 'false'. If the value of tmnxMcacServOperValuesInTransit is 'true' then the values are in transition.

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Table A-33 multichassis statistics

5620 SAM counter name	Type	MIB counter name	Description
McEPPeerStats MIB table name: TIMETRA-MC-REDUNDANCY-MIB.tmnxMcEPPeerStatsTable Monitored class: multichassis.MultiChassisEndpoint			
configPacketsReceived	long	tmnxMcEPPeerStatsPktsRxConfig	The value of tmnxMcEPPeerStatsPktsRxConfig indicates how many valid MC-Endpoint control packets of type end-point config were received on this system from the peer.

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5620 SAM counter name	Type	MIB counter name	Description
failedMD5AuthenticationPacketsDropped	long	tmnxMcEPPeerStatsDropMD5	The value of tmnxMcEPPeerStatsDropMD5 indicates how many MC-Endpoint control packets were dropped on this system from the peer because the packet failed MD5 authentication.
failedPacketsTransmitted	long	tmnxMcEPPeerStatsPktsTxFailed	The value of tmnxMcEPPeerStatsPktsTxFailed indicates how many MC-Endpoint control packets failed to be transmitted from this system to the peer.
invalidLagIdPacketsDropped	long	tmnxMcEPPeerStatsDropTlvInvldId	The value of tmnxMcEPPeerStatsDropTlvInvldId indicates how many MC-Endpoint control packets were dropped on this system from the peer because the packet referred to an invalid or non multi-chassis end-point.
invalidSizePacketsDropped	long	tmnxMcEPPeerStatsDropTlvInvldSz	The value of tmnxMcEPPeerStatsDropTlvInvldSz indicates how many MC-Endpoint control packets were dropped on this system from the peer because the packet size was invalid.
keepAlivePacketsReceived	long	tmnxMcEPPeerStatsPktsRxKpalive	The value of tmnxMcEPPeerStatsPktsRxKpalive indicates how many valid MC-Endpoint control packets of type keepalive were received on this system from the peer.
keepalivePacketsTransmitted	long	tmnxMcEPPeerStatsPktsTxKpalive	The value of tmnxMcEPPeerStatsPktsTxKpalive indicates how many MC-Endpoint control packets of type keepalive were transmitted from this system to the peer.
noEpPeerPacketsDropped	long	tmnxMcEPPeerStatsDropEpNoPeer	The value of tmnxMcEPPeerStatsDropEpNoPeer indicates how many pkts were dropped because MC-Endpoint does not have a MC-peer assigned yet or MC-Endpoint is attached to a different peer.
outOfSequencePacketsDropped	long	tmnxMcEPPeerStatsDropOutOfSeq	The value of tmnxMcEPPeerStatsDropOutOfSeq indicates how many MC-Endpoint control packets were dropped on this system from the peer because the packet was out of sequence.
packetsReceived	long	tmnxMcEPPeerStatsPktsRx	The value of tmnxMcEPPeerStatsPktsRx indicates how many valid MC-Endpoint control packets were received on this system from the peer.
packetsTransmitted	long	tmnxMcEPPeerStatsPktsTx	The value of tmnxMcEPPeerStatsPktsTx indicates how many MC-Endpoint control packets were transmitted from this system to the peer.
peerConfigPacketsReceived	long	tmnxMcEPPeerStatsPktsRxPeerCfg	The value of tmnxMcEPPeerStatsPktsRxPeerCfg indicates how many valid MC-Endpoint control packets of type peer config were received on this system from the peer.

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5620 SAM counter name	Type	MIB counter name	Description
peerConfigPacketsTransmitted	long	tmnxMcEPPeerStatsPktsTxPeerCfg	The value of tmnxMcEPPeerStatsPktsTxPeerCfg indicates how many MC-Endpoint control packets of type peer config were transmitted from this system to the peer.
stateDisabledPacketsDropped	long	tmnxMcEPPeerStatsDropStateDsbld	The value of tmnxMcEPPeerStatsDropStateDsbld indicates how many MC-Endpoint control packets were dropped on this system from the peer because the peer was administratively disabled.
statePacketsReceived	long	tmnxMcEPPeerStatsPktsRxState	The value of tmnxMcEPPeerStatsPktsRxState indicates how many valid MC-Endpoint control packets of type end-point state were received on this system from the peer.
tooShortPacketsDropped	long	tmnxMcEPPeerStatsDropPktTooShrt	The value of tmnxMcEPPeerStatsDropPktTooShrt indicates how many MC-Endpoint control packets were dropped on this system from the peer because the packet was too short.
unknownTlvPacketsDropped	long	tmnxMcEPPeerStatsDropUnknownTlv	The value of tmnxMcEPPeerStatsDropUnknownTlv indicates how many MC-Endpoint control packets were dropped on this system from the peer because the packet contained an unknown TLV.
MultiChassisPeerRingStats MIB table name: TIMETRA-MC-REDUNDANCY-MIB.tmnxMcrPeerStatsTable Monitored class: multichassis.Peer			
keepAlivePacketsTransmitted	long	tmnxMcrPeerStatsTxKeepAlive	The value of tmnxMcrPeerStatsTxKeepAlive indicates how many valid MC-Ring control packets of type 'keepalive' were transmitted to the peer.
mcsIdRequestPacketsReceived	long	tmnxMcrPeerStatsRxMcsIdReq	The value of tmnxMcrPeerStatsRxMcsIdReq indicates how many valid MCS ID requests were received from the peer.
mcsIdRequestPacketsTransmitted	long	tmnxMcrPeerStatsTxMcsIdReq	The value of tmnxMcrPeerStatsTxMcsIdReq indicates how many valid MCS ID requests were transmitted to the peer.
mcsIdResponsePacketsReceived	long	tmnxMcrPeerStatsRxMcsIdRsp	The value of tmnxMcrPeerStatsRxMcsIdRsp indicates how many valid MCS ID responses were received from the peer.
mcsIdResponsePacketsTransmitted	long	tmnxMcrPeerStatsTxMcsIdRsp	The value of tmnxMcrPeerStatsTxMcsIdRsp indicates how many valid MCS ID responses were transmitted to the peer.
ringExistsRequestPacketsReceived	long	tmnxMcrPeerStatsRxRingExistsReq	The value of tmnxMcrPeerStatsRxRingExistsReq indicates how many valid 'ring exists' requests were received from the peer.

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5620 SAM counter name	Type	MIB counter name	Description
ringExistsRequestPacketsTransmitted	long	tmnxMcrPeerStatsTxRingExistsReq	The value of tmnxMcrPeerStatsTxRingExistsReq indicates how many valid 'ring exists' requests were transmitted to the peer.
ringExistsResponsePacketsReceived	long	tmnxMcrPeerStatsRxRingExistsRsp	The value of tmnxMcrPeerStatsRxRingExistsRsp indicates how many valid 'ring exists' responses were received from the peer.
ringExistsResponsePacketsTransmitted	long	tmnxMcrPeerStatsTxRingExistsRsp	The value of tmnxMcrPeerStatsTxRingExistsRsp indicates how many valid 'ring exists' responses were transmitted to the peer.
ringKeepAlivePacketsReceived	long	tmnxMcrPeerStatsRxKeepAlive	The value of tmnxMcrPeerStatsRxKeepAlive indicates how many valid MC-Ring control packets of type 'keepalive' were received from the peer.
ringSignallingPacketsReceived	long	tmnxMcrPeerStatsRx	The value of tmnxMcrPeerStatsRx indicates how many valid MC-Ring signalling messages were received from the peer.
ringSignallingPacketsTransmitted	long	tmnxMcrPeerStatsTx	The value of tmnxMcrPeerStatsTx indicates how many valid MC-Ring signalling messages were transmitted to the peer.
MultiChassisRingNodeStats MIB table name: TIMETRA-MC-REDUNDANCY-MIB.tmnxMcrRingNodeStatsTable Monitored class: multichassis.MultiChassisRingNode			
detectedPacketsAcknowledged	long	tmnxMcrRingNodeStatsTxDetectAck	The value of tmnxMcrRingNodeStatsTxDetectAck indicates how many valid 'detected ring node' signalling messages were acknowledged to the peer for this multi-chassis ring node.
detectedPacketsPeerAcknowledged	long	tmnxMcrRingNodeStatsRxDetectAck	The value of tmnxMcrRingNodeStatsRxDetectAck indicates how many valid 'detected ring node' signalling messages were acknowledged by the peer for this multi-chassis ring node.
detectedPacketsReceived	long	tmnxMcrRingNodeStatsRxDetect	The value of tmnxMcrRingNodeStatsRxDetect indicates how many valid 'detected ring node' signalling messages were received from the peer for this multi-chassis ring node.
detectedPacketsTransmitted	long	tmnxMcrRingNodeStatsTxDetect	The value of tmnxMcrRingNodeStatsTxDetect indicates how many valid 'detected ring node' signalling messages were transmitted to the peer for this multi-chassis ring node.
rncvPacketsReceived	long	tmnxMcrRingNodeStatsRncvRxResp	The value of tmnxMcrRingNodeStatsRncvRxResp indicates how many valid connectivity verification messages were received from this multi-chassis ring node.

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5620 SAM counter name	Type	MIB counter name	Description
rncvPacketsRoundTripTime	long	tmnxMcrRingNodeStatsRncvRtTime	The value of tmnxMcrRingNodeStatsRncvRtTime indicates the round-trip-time of the last successful connectivity verification for this multi-chassis ring node. If there has not been a successful connectivity verification, the value of tmnxMcrRingNodeStatsRncvRtTime is zero.
rncvPacketsTransmitted	long	tmnxMcrRingNodeStatsRncvTxReq	The value of tmnxMcrRingNodeStatsRncvTxReq indicates how many valid connectivity verification messages were transmitted to this multi-chassis ring node.
MultiChassisRingStats MIB table name: TIMETRA-MC-REDUNDANCY-MIB.tmnxMcrRingStatsTable Monitored class: multichassis.MultiChassisRing			
opaquePacketsReceivedDelivered	long	tmnxMcrRingStatsRxOpaqueDelivrd	The value of tmnxMcrRingStatsRxOpaqueDelivrd indicates how many valid opaque signalling messages were received from the peer and delivered for this multi-chassis ring.
opaquePacketsReceivedNoDestination	long	tmnxMcrRingStatsRxOpaqueNoDest	The value of tmnxMcrRingStatsRxOpaqueNoDest indicates how many valid opaque signalling messages were received from the peer and for which no destination could be found.
opaquePacketsTransmitted	long	tmnxMcrRingStatsTxOpaque	The value of tmnxMcrRingStatsTxOpaque indicates how many valid opaque signalling messages were transmitted to the peer for this multi-chassis ring.
sapsChangedPacketsReceived	long	tmnxMcrRingStatsRxSapsChanged	The value of tmnxMcrRingStatsRxSapsChanged indicates how many valid 'SAPs changed info' signalling messages were received from the peer for this multi-chassis ring.
sapsChangedPacketsTransmitted	long	tmnxMcrRingStatsTxSapsChanged	The value of tmnxMcrRingStatsTxSapsChanged indicates how many valid 'SAPs changed info' signalling messages were transmitted to the peer for this multi-chassis ring.
PeerStats MIB table name: TIMETRA-MC-REDUNDANCY-MIB.tmnxMcLagPeerStatsTable Monitored class: multichassis.Peer			
configPacketsReceived	long	tmnxMcLagPeerStatsPktsRxConfig	The value of tmnxMcLagPeerStatsPktsRxConfig indicates how many valid MC-Lag control packets of type lag config were received on this system from the peer.

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5620 SAM counter name	Type	MIB counter name	Description
failedMD5AuthenticationPacketsDropped	long	tmnxMcLagPeerStatsDropMD5	The value of tmnxMcLagPeerStatsDropMD5 indicates how many MC-Lag control packets were dropped on this system from the peer because the packet failed MD5 authentication.
failedPacketsTransmitted	long	tmnxMcLagPeerStatsPktsTxFailed	The value of tmnxMcLagPeerStatsPktsTxFailed indicates how many MC-Lag control packets failed to be transmitted from this system to the peer.
invalidLagIdPacketsDropped	long	tmnxMcLagPeerStatsDropTlvInvldId	The value of tmnxMcLagPeerStatsDropTlvInvldId indicates how many MC-Lag control packets were dropped on this system from the peer because the packet referred to an invalid or non multi-chassis lag.
invalidSizePacketsDropped	long	tmnxMcLagPeerStatsDropTlvInvldSz	The value of tmnxMcLagPeerStatsDropTlvInvldSz indicates how many MC-Lag control packets were dropped on this system from the peer because the packet size was invalid.
keepAlivePacketsReceived	long	tmnxMcLagPeerStatsPktsRxKpalive	The value of tmnxMcLagPeerStatsPktsRxKpalive indicates how many valid MC-Lag control packets of type keepalive were received on this system from the peer.
keepalivePacketsTransmitted	long	tmnxMcLagPeerStatsPktsTxKpalive	The value of tmnxMcLagPeerStatsPktsTxKpalive indicates how many MC-Lag control packets of type keepalive were transmitted from this system to the peer.
outOfSequencePacketsDropped	long	tmnxMcLagPeerStatsDropOutOfSeq	The value of tmnxMcLagPeerStatsDropOutOfSeq indicates how many MC-Lag control packets were dropped on this system from the peer because the packet was out of sequence.
packetsReceived	long	tmnxMcLagPeerStatsPktsRx	The value of tmnxMcLagPeerStatsPktsRx indicates how many valid MC-Lag control packets were received on this system from the peer.
packetsTransmitted	long	tmnxMcLagPeerStatsPktsTx	The value of tmnxMcLagPeerStatsPktsTx indicates how many MC-Lag control packets were transmitted from this system to the peer.
peerConfigPacketsReceived	long	tmnxMcLagPeerStatsPktsRxPeerCfg	The value of tmnxMcLagPeerStatsPktsRxPeerCfg indicates how many valid MC-Lag control packets of type peer config were received on this system from the peer.
peerConfigPacketsTransmitted	long	tmnxMcLagPeerStatsPktsTxPeerCfg	The value of tmnxMcLagPeerStatsPktsTxPeerCfg indicates how many MC-Lag control packets of type peer config were transmitted from this system to the peer.

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5620 SAM counter name	Type	MIB counter name	Description
stateDisabledPacketsDropped	long	tmnxMcLagPeerStatsDropStateDsbld	The value of tmnxMcLagPeerStatsDropStateDsbld indicates how many MC-Lag control packets were dropped on this system from the peer because the peer was administratively disabled.
statePacketsReceived	long	tmnxMcLagPeerStatsPktsRxState	The value of tmnxMcLagPeerStatsPktsRxState indicates how many valid MC-Lag control packets of type lag state were received on this system from the peer.
tooShortPacketsDropped	long	tmnxMcLagPeerStatsDropPktTooShrt	The value of tmnxMcLagPeerStatsDropPktTooShrt indicates how many MC-Lag control packets were dropped on this system from the peer because the packet was too short.
unknownTlvPacketsDropped	long	tmnxMcLagPeerStatsDropUnknownTlv	The value of tmnxMcLagPeerStatsDropUnknownTlv indicates how many MC-Lag control packets were dropped on this system from the peer because the packet contained an unknown TLV.
PeerSynchronizationProtocolStats MIB table name: TIMETRA-MC-REDUNDANCY-MIB.tmnxMcPeerSyncStatsTable Monitored class: multichassis.PeerSynchronizationProtocol			
bodyDecodeErrorPacketsReceived	long	tmnxMcPeerSyncPktsRxErrBody	The value of tmnxMcPeerSyncPktsRxErrBody indicates the number of packets with body decode errors received from the multi-chassis peer.
dataPacketsReceived	long	tmnxMcPeerSyncPktsRxData	The value of tmnxMcPeerSyncPktsRxData indicates the number of hello packets received from the multi-chassis peer.
dataPacketsTransmitted	long	tmnxMcPeerSyncPktsTxData	The value of tmnxMcPeerSyncPktsTxData indicates the number of data packets transmitted to the multi-chassis peer.
erroneousPacketsReceived	long	tmnxMcPeerSyncPktsRxErr	The value of tmnxMcPeerSyncPktsRxErr indicates the number of erroneous packets received from the multi-chassis peer.
headerDecodeErrorPacketsReceived	long	tmnxMcPeerSyncPktsRxErrHeader	The value of tmnxMcPeerSyncPktsRxErrHeader indicates the number of packets with header decode errors received from the multi-chassis peer.
helloPacketsReceived	long	tmnxMcPeerSyncPktsRxHello	The value of tmnxMcPeerSyncPktsRxHello indicates the number of hello packets received from the multi-chassis peer.
helloPacketsTransmitted	long	tmnxMcPeerSyncPktsTxHello	The value of tmnxMcPeerSyncPktsTxHello indicates the number of hello packets transmitted to the multi-chassis peer.

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5620 SAM counter name	Type	MIB counter name	Description
otherPacketsReceived	long	tmnxMcPeerSyncPktsRxOther	The value of tmnxMcPeerSyncPktsRxOther indicates the number of all other packet types received from the multi-chassis peer.
otherPacketsTransmitted	long	tmnxMcPeerSyncPktsTxOther	The value of tmnxMcPeerSyncPktsTxOther indicates the number of all other packet types transmitted to the multi-chassis peer.
packetTransmissionErrors	long	tmnxMcPeerSyncPktsTxErr	The value of tmnxMcPeerSyncPktsTxErr indicates the number of packet transmission errors.
sequenceNumberErrorPacketsReceived	long	tmnxMcPeerSyncPktsRxErrSeqNum	The value of tmnxMcPeerSyncPktsRxErrSeqNum indicates the number of packets with sequence number errors received from the multi-chassis peer.
totalPacketsReceived	long	tmnxMcPeerSyncPktsRxAll	The value of tmnxMcPeerSyncPktsRxAll indicates the total number of packets received from the multi-chassis peer.
totalPacketsTransmitted	long	tmnxMcPeerSyncPktsTxAll	The value of tmnxMcPeerSyncPktsTxAll indicates the total number of packets transmitted to the multi-chassis peer.

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Table A-34 nat statistics

5620 SAM counter name	Type	MIB counter name	Description
IsaMemberStats MIB table name: TIMETRA-NAT-MIB.tmnxNatIsaMemberStatsTable Monitored class: nat.IsaMda			
statsName	String	tmnxNatIsaMemberStatsName	The value of the object tmnxNatIsaMemberStatsName indicates the human-readable identifier of the statistics contained in this conceptual row.
statsType	int	tmnxNatIsaMemberStatsType	The value of tmnxNatIsaMemberStatsType indicates the type of NAT session statistics contained in this conceptual row.
statsValue	long	tmnxNatIsaMemberStatsVal	The value of the object tmnxNatIsaMemberStatsVal indicates the value of the statistics contained in this conceptual row.
L2AwSubscriberStats MIB table name: TIMETRA-NAT-MIB.tmnxNatL2AwSubStatTable Monitored class: nat.L2AwSubscriber			
icmpPortUsage	int	tmnxNatL2AwSubStatIcmpPortUsage	The value of the object tmnxNatL2AwSubStatIcmpPortUsage indicates the ICMP port usage of this NAT subscriber.

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5620 SAM counter name	Type	MIB counter name	Description
icmpPortUsageHi	boolean	tmnxNatL2AwSubStatIcmpPortUsageH	The value of the object tmnxNatL2AwSubStatIcmpPortUsageH indicates if the ICMP port usage of this NAT subscriber is high according to the values of the objects tmnxNatPlcyPortWatermarkHigh and tmnxNatPlcyPortWatermarkLow.
sessions	int	tmnxNatL2AwSubStatSessions	The value of tmnxNatL2AwSubStatSessions indicates the current number of active sessions of this NAT subscriber. In other words, it is the number of ports in use out of the nonreserved range.
sessionsPrio	int	tmnxNatL2AwSubStatSessionsPrio	The value of tmnxNatL2AwSubStatSessionsPrio indicates the current number of active prioritized sessions of this subscriber. In other words, it is the number of reserved ports in use.
sessionUsage	int	tmnxNatL2AwSubStatSessionUsage	The value of the object tmnxNatL2AwSubStatSessionUsage indicates the session usage of this NAT subscriber.
tcpPortUsage	int	tmnxNatL2AwSubStatTcpPortUsage	The value of the object tmnxNatL2AwSubStatTcpPortUsage indicates the TCP port usage of this NAT subscriber.
tcpPortUsageHi	boolean	tmnxNatL2AwSubStatTcpPortUsageHi	The value of the object tmnxNatL2AwSubStatTcpPortUsageHi indicates if the TCP port usage of this NAT subscriber is high according to the values of the objects tmnxNatPlcyPortWatermarkHigh and tmnxNatPlcyPortWatermarkLow.
udpPortUsage	int	tmnxNatL2AwSubStatUdpPortUsage	The value of the object tmnxNatL2AwSubStatUdpPortUsage indicates the UDP port usage of this NAT subscriber.
udpPortUsageHi	boolean	tmnxNatL2AwSubStatUdpPortUsageHi	The value of the object tmnxNatL2AwSubStatUdpPortUsageHi indicates if the UDP port usage of this NAT subscriber is high according to the values of the objects tmnxNatPlcyPortWatermarkHigh and tmnxNatPlcyPortWatermarkLow.
LsnSubscriberStats MIB table name: TIMETRA-NAT-MIB.tmnxNatLsnSubStatTable Monitored class: nat.LsnSubscriber			
icmpPortUsage	int	tmnxNatLsnSubStatIcmpPortUsage	The value of the object tmnxNatLsnSubStatIcmpPortUsage indicates the ICMP port usage of this NAT subscriber.

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5620 SAM counter name	Type	MIB counter name	Description
icmpPortUsageHi	boolean	tmnxNatLsnSubStatIcmpPortUsageHi	The value of the object tmnxNatLsnSubStatIcmpPortUsageHi indicates if the ICMP port usage of this NAT subscriber is high according to the values of the objects tmnxNatPlcyPortWatermarkHigh and tmnxNatPlcyPortWatermarkLow.
lsnSubId	long	tmnxNatLsnSubId	The value of tmnxNatLsnSubId indicates the identifier of this Large Scale NAT subscriber.
sessions	int	tmnxNatLsnSubStatSessions	The value of tmnxNatLsnSubStatSessions indicates the current number of active sessions of this NAT subscriber. In other words, it is the number of ports in use out of the nonreserved range.
sessionsPrio	int	tmnxNatLsnSubStatSessionsPrio	The value of tmnxNatLsnSubStatSessionsPrio indicates the current number of active prioritized sessions of this subscriber. In other words, it is the number of reserved ports in use.
sessionUsage	int	tmnxNatLsnSubStatSessionUsage	The value of the object tmnxNatLsnSubStatSessionUsage indicates the session usage of this NAT subscriber.
tcpPortUsage	int	tmnxNatLsnSubStatTcpPortUsage	The value of the object tmnxNatLsnSubStatTcpPortUsage indicates the TCP port usage of this NAT subscriber.
tcpPortUsageHi	boolean	tmnxNatLsnSubStatTcpPortUsageHi	The value of the object tmnxNatLsnSubStatTcpPortUsageHi indicates if the TCP port usage of this NAT subscriber is high according to the values of the objects tmnxNatPlcyPortWatermarkHigh and tmnxNatPlcyPortWatermarkLow.
udpPortUsage	int	tmnxNatLsnSubStatUdpPortUsage	The value of the object tmnxNatLsnSubStatUdpPortUsage indicates the UDP port usage of this NAT subscriber.
udpPortUsageHi	boolean	tmnxNatLsnSubStatUdpPortUsageHi	The value of the object tmnxNatLsnSubStatUdpPortUsageHi indicates if the UDP port usage of this NAT subscriber is high according to the values of the objects tmnxNatPlcyPortWatermarkHigh and tmnxNatPlcyPortWatermarkLow.
NatPolicyStats MIB table name: TIMETRA-NAT-MIB.tmnxNatPlcyStatsTable Monitored class: nat.IsaMda			
cardSlot	int	tmnxCardSlotNum	—
chassisIndex	int	tmnxChassisIndex	—
mdaSlot	int	tmnxMDASlotNum	—
policyName	String	tmnxNatPlcyName	The value of tmnxNatPlcyName specifies the name of this NAT policy.

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5620 SAM counter name	Type	MIB counter name	Description
statsName	String	tmnxNatPlcyStatsName	The value of the object tmnxNatPlcyStatsName indicates the human-readable identifier of the statistics contained in this conceptual row.
statsType	int	tmnxNatPlcyStatsType	The value of tmnxNatPlcyStatsType indicates the type of NAT usage statistics contained in this conceptual row.
statsValue	long	tmnxNatPlcyStatsVal	The value of the object tmnxNatPlcyStatsVal indicates the value of the statistics contained in this conceptual row.

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Table A-35 ospf statistics

5620 SAM counter name	Type	MIB counter name	Description
AreaBasicStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfAreaTable Monitored class: ospf.AreaSite			
nssaTranslatorEvents	long	tmnxOspfAreaNssaTranslatorEvents	The value of tmnxOspfAreaNssaTranslatorEvents indicates the number of Translator State changes that have occurred since the last boot-up.
totalLSACount	long	tmnxOspfAreaScopeLsaCount	The value of tmnxOspfAreaScopeLsaCount indicates the total number of Area-Scope link state advertisements in this area's link-state database.
totalSpfRuns	long	tmnxOspfAreaSpfRuns	The value of tmnxOspfAreaSpfRuns indicates the number of times that the intra-area route table has been calculated using this area's link-state database. This is typically done using Dijkstra's algorithm.
totalUnknownLSACount	long	tmnxOspfAreaScopeUnkLsaCount	The value of tmnxOspfAreaScopeUnkLsaCount indicates the total number of unknown Area-Scope link-state advertisements in this area's link-state database.
InterfaceGeneralStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfIfStatsTable Monitored class: ospf.Interface			
events	long	tmnxOspfIfEvents	The value of tmnxOspfIfEvents indicates the number of times this OSPF interface has changed its state, or an error has occurred.
InterfaceReceiveStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfIfStatsTable Monitored class: ospf.Interface			

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5620 SAM counter name	Type	MIB counter name	Description
databaseDescriptionPackets	long	tmnxOspfIfRxDBDs	The value of tmnxOspfIfRxDBDs indicates the total number of OSPF Database Description packets received on this interface since tmnxOspfAdminState was last set to 'enabled'.
databaseDescriptionPackets	long	tmnxOspfIfTxDBDs	The value of tmnxOspfIfTxDBDs indicates the total number of OSPF Database Description packets transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
helloPackets	long	tmnxOspfIfRxHellos	The value of tmnxOspfIfRxHellos indicates the total number of OSPF Hello packets received on this interface since tmnxOspfAdminState was last set to 'enabled'.
helloPackets	long	tmnxOspfIfTxHellos	The value of tmnxOspfIfTxHellos indicates the total number of OSPF Hello packets transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateAcknowledgements	long	tmnxOspfIfRxLSAcks	The value of tmnxOspfIfRxLSAcks indicates the total number of Link State Acknowledgements received on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateAcknowledgements	long	tmnxOspfIfTxLSAcks	The value of tmnxOspfIfTxLSAcks indicates the total number of OSPF Link State Acknowledgements transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateRequests	long	tmnxOspfIfRxLSRs	The value of tmnxOspfIfRxLSRs indicates the total number of Link State Requests (LSRs) received on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateRequests	long	tmnxOspfIfTxLSRs	The value of tmnxOspfIfTxLSRs indicates the total number of OSPF Link State Requests (LSRs)transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateUpdates	long	tmnxOspfIfRxLSUs	The value of tmnxOspfIfRxLSUs indicates the total number of Link State Updates (LSUs) received on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateUpdates	long	tmnxOspfIfTxLSUs	The value of tmnxOspfIfTxLSUs indicates the total number of OSPF Link State Updates (LSUs) transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
lsasWithBadChecksums	long	tmnxOspfIfRxBadChecksums	The value of tmnxOspfIfRxBadChecksums indicates the count of LSAs received with bad checksums.

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5620 SAM counter name	Type	MIB counter name	Description
totalPackets	long	tmnxOspfIfRxPackets	The value of tmnxOspfIfRxPackets indicates the total number of OSPF packets received on this interface since tmnxOspfAdminState was last set to 'enabled'.
totalPackets	long	tmnxOspfIfTxPackets	The value of tmnxOspfIfTxPackets indicates the total number of OSPF packets transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
InterfaceStatusStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfIfStatsTable Monitored class: ospf.Interface			
authorizationFailures	long	tmnxOspfIfAuthFailures	The value of tmnxOspfIfAuthFailures indicates the total number of OSPF packets received with an invalid authorization key since tmnxOspfAdminState was last set to 'enabled'.
badAreas	long	tmnxOspfIfBadAreas	The value of tmnxOspfIfBadAreas indicates the total number of OSPF packets received with an area mismatch since tmnxOspfAdminState was last set to 'enabled'.
badAuthorizationTypes	long	tmnxOspfIfBadAuthTypes	The value of tmnxOspfIfBadAuthTypes indicates the total number of OSPF packets received with an invalid authorization type since tmnxOspfAdminState was last set to 'enabled'.
badDeadIntervals	long	tmnxOspfIfBadDeadIntervals	The value of tmnxOspfIfBadDeadIntervals indicates the total number of OSPF packets received where the dead interval given in the packet was not equal to that configured on this interface since tmnxOspfAdminState was last set to 'enabled'.
badDestinationAddresses	long	tmnxOspfIfBadDstAddrs	The value of tmnxOspfIfBadDstAddrs indicates the total number of OSPF packets received with the incorrect IP destination address since tmnxOspfAdminState was last set to 'enabled'.
badHelloIntervals	long	tmnxOspfIfBadHelloIntervals	The value of tmnxOspfIfBadHelloIntervals indicates the total number of OSPF packets received where the hello interval given in packet was not equal to that configured on this interface since tmnxOspfAdminState was last set to 'enabled'.
badLengths	long	tmnxOspfIfBadLengths	The value of tmnxOspfIfBadLengths indicates the total number of OSPF packets received on this interface with a total length not equal to the length given in the packet itself since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
badNeighbors	long	tmnxOspfIfBadNeighbors	The value of tmnxOspfIfBadNeighbors indicates the total number of OSPF packets received where the neighbor information does not match the information this router has for the neighbor since tmnxOspfAdminState was last set to 'enabled'.
badNetworks	long	tmnxOspfIfBadNetworks	The value of tmnxOspfIfBadNetworks indicates the total number of OSPF packets received with invalid network or mask since tmnxOspfAdminState was last set to 'enabled'.
badOptions	long	tmnxOspfIfBadOptions	The value of tmnxOspfIfBadOptions indicates the total number of OSPF packets received with an option that does not match those configured for this interface or area since tmnxOspfAdminState was last set to 'enabled'.
badPacketTypes	long	tmnxOspfIfBadPacketTypes	The value of tmnxOspfIfBadPacketTypes indicates the total number of OSPF packets received with an invalid OSPF packet type since tmnxOspfAdminState was last set to 'enabled'.
badVersions	long	tmnxOspfIfBadVersions	The value of tmnxOspfIfBadVersions indicates the total number of OSPF packets received with bad OSPF version numbers since tmnxOspfAdminState was last set to 'enabled'.
badVirtualLinks	long	tmnxOspfIfBadVirtualLinks	The value of tmnxOspfIfBadVirtualLinks indicates the total number of OSPF packets received on this interface that are destined to a virtual link that does not exist since tmnxOspfAdminState was last set to 'enabled'.
discardPackets	long	tmnxOspfIfDiscardPackets	The value of tmnxOspfIfDiscardPackets indicates the total number of OSPF packets discarded on this interface since tmnxOspfAdminState was last set to 'enabled'.
retransmitOuts	long	tmnxOspfIfRetransmitOuts	The value of tmnxOspfIfRetransmitOuts indicates the total number of OSPF Retransmits sent on this interface since tmnxOspfAdminState was last set to 'enabled'.
InterfaceTransmitStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfIfStatsTable Monitored class: ospf.Interface			
databaseDescriptionPackets	long	tmnxOspfIfRxDBDs	The value of tmnxOspfIfRxDBDs indicates the total number of OSPF Database Description packets received on this interface since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
databaseDescriptionPackets	long	tmnxOspfIfTxDBDs	The value of tmnxOspfIfTxDBDs indicates the total number of OSPF Database Description packets transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
helloPackets	long	tmnxOspfIfRxHellos	The value of tmnxOspfIfRxHellos indicates the total number of OSPF Hello packets received on this interface since tmnxOspfAdminState was last set to 'enabled'.
helloPackets	long	tmnxOspfIfTxHellos	The value of tmnxOspfIfTxHellos indicates the total number of OSPF Hello packets transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateAcknowledgements	long	tmnxOspfIfRxLSAcks	The value of tmnxOspfIfRxLSAcks indicates the total number of Link State Acknowledgements received on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateAcknowledgements	long	tmnxOspfIfTxLSAcks	The value of tmnxOspfIfTxLSAcks indicates the total number of OSPF Link State Acknowledgements transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateRequests	long	tmnxOspfIfRxLSRs	The value of tmnxOspfIfRxLSRs indicates the total number of Link State Requests (LSRs) received on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateRequests	long	tmnxOspfIfTxLSRs	The value of tmnxOspfIfTxLSRs indicates the total number of OSPF Link State Requests (LSRs)transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateUpdates	long	tmnxOspfIfRxLSUs	The value of tmnxOspfIfRxLSUs indicates the total number of Link State Updates (LSUs) received on this interface since tmnxOspfAdminState was last set to 'enabled'.
linkStateUpdates	long	tmnxOspfIfTxLSUs	The value of tmnxOspfIfTxLSUs indicates the total number of OSPF Link State Updates (LSUs) transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.
totalPackets	long	tmnxOspfIfRxPackets	The value of tmnxOspfIfRxPackets indicates the total number of OSPF packets received on this interface since tmnxOspfAdminState was last set to 'enabled'.
totalPackets	long	tmnxOspfIfTxPackets	The value of tmnxOspfIfTxPackets indicates the total number of OSPF packets transmitted on this interface since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
NeighborGeneralStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfNbrStatsTable Monitored classes: • ospf.Neighbor • ospf.OspfNeighbor			
events	long	tmnxOspfNbrEvents	The value of tmnxOspfNbrEvents indicates the number of times this neighbor relationship has changed state, or an error has occurred.
retransmissionQueueLength	long	tmnxOspfNbrLsRetransQLen	The value of tmnxOspfNbrLsRetransQLen indicates the current length of the retransmission queue.
NeighborStatusStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfNbrStatsTable Monitored class: ospf.Neighbor			
badMtus	long	tmnxOspfNbrBadMTUs	The value of tmnxOspfNbrBadMTUs indicates the total number of times when the MTU in a received database description packet was larger than the MTU of the receiving interface since tmnxOspfAdminState was last set to 'enabled'.
badNeighborStates	long	tmnxOspfNbrBadNbrStates	The value of tmnxOspfNbrBadNbrStates indicates the total number of OSPF packets received when the neighbor state was not expecting to receive this packet type since tmnxOspfAdminState was last set to 'enabled'.
badPackets	long	tmnxOspfNbrBadPackets	The value of tmnxOspfNbrBadPackets indicates the total number of times when an LS update was received with an illegal LS type or an option mismatch since tmnxOspfAdminState was last set to 'enabled'.
badSequenceNumbers	long	tmnxOspfNbrBadSeqNums	The value of tmnxOspfNbrBadSeqNums indicates the total number of times when a database description packet was received with a sequence number mismatch since tmnxOspfAdminState was last set to 'enabled'.
duplicates	long	tmnxOspfNbrDuplicates	The value of tmnxOspfNbrDuplicates indicates the total number of times when a duplicate database description packet was received during the Exchange state since tmnxOspfAdminState was last set to 'enabled'.
lsaInstallFailed	long	tmnxOspfNbrLsaInstallFailed	The value of tmnxOspfNbrLsaInstallFailed indicates the total number of times an LSA could not be installed into the LSDB due to a resource allocation issue since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
lsaNotInLSDB	long	tmnxOspfNbrLsaNotInLsdbs	The value of tmnxOspfNbrLsaNotInLsdbs indicates the total number of times when an LS request was received for an LSA not installed in the LSDB of this router since tmnxOspfAdminState was last set to 'enabled'.
numberOfRestarts	long	tmnxOspfNbrNumRestarts	The value of tmnxOspfNbrNumRestarts indicates the number of times the neighbor has attempted restart.
optionMismatches	long	tmnxOspfNbrOptionMismatches	The value of tmnxOspfNbrOptionMismatches indicates the total number of times when a LS update was received with an option mismatch since tmnxOspfAdminState was last set to 'enabled'.
ShamLinkGeneralStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfShamIfStatsTable Monitored class: ospf.ShamLink			
events	long	tmnxOspfShamIfEvents	The value of tmnxOspfShamIfEvents indicates the number of state changes or error events on this sham link.
ShamLinkNeighborGeneralStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfShamNbrStatsTable Monitored class: ospf.ShamLinkNeighbor			
events	long	tmnxOspfShamNbrEvents	The value of tmnxOspfShamNbrEvents indicates the number of times this sham link has changed its state, or an error has occurred.
retransmissionQueueLength	long	tmnxOspfShamNbrLsRetransQLen	The value of tmnxOspfShamNbrLsRetransQLen indicates the current length of the retransmission queue.
ShamLinkNeighborStatusStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfShamNbrStatsTable Monitored class: ospf.ShamLinkNeighbor			
badMtus	long	tmnxOspfShamNbrBadMTUs	The value of tmnxOspfShamNbrBadMTUs indicates the total number of times when the MTU in a received database description packet was larger than the MTU of the receiving interface since tmnxOspfAdminState was last set to 'enabled'.
badPackets	long	tmnxOspfShamNbrBadPackets	The value of tmnxOspfShamNbrBadPackets indicates the total number of times when an LS update was received with an illegal LS type or an option mismatch since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
badSequenceNumbers	long	tmnxOspfShamNbrBadSeqNums	The value of tmnxOspfShamNbrBadSeqNums indicates the total number of times when a database description packet was received with a sequence number mismatch since tmnxOspfAdminState was last set to 'enabled'.
badVirtualNeighborStates	long	tmnxOspfShamNbrBadNbrStates	The value of tmnxOspfShamNbrBadNbrStates indicates the total number of OSPF packets received when the sham link neighbor state was not expecting to receive this packet type since tmnxOspfAdminState was last set to 'enabled'.
duplicates	long	tmnxOspfShamNbrDuplicates	The value of tmnxOspfShamNbrDuplicates indicates the total number of times when a duplicate database description packet was received during the Exchange state since tmnxOspfAdminState was last set to 'enabled'.
lsaInstallFailed	long	tmnxOspfShamNbrLsaInstallFail	The value of tmnxOspfShamNbrLsaInstallFail indicates the total number of times when an LSA could not be installed into the LSDB due to a resource allocation issue since tmnxOspfAdminState was last set to 'enabled'.
lsaNotInLSDB	long	tmnxOspfShamNbrLsaNotInLsdbs	The value of tmnxOspfShamNbrLsaNotInLsdbs indicates the total number of times when an LS request was received for an LSA not installed in the LSDB of this router since tmnxOspfAdminState was last set to 'enabled'.
numberOfRestarts	long	tmnxOspfShamNbrNumRestarts	The value of tmnxOspfShamNbrNumRestarts indicates the number of times the sham link neighbor has attempted restart since tmnxOspfAdminState was last set to 'enabled'.
optionMismatches	long	tmnxOspfShamNbrOptionMismatch	The value of tmnxOspfShamNbrOptionMismatch indicates the total number of times when a LS update was received with an option mismatch since tmnxOspfAdminState was last set to 'enabled'.
ShamLinkReceiveStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfShamIfStatsTable Monitored class: ospf.ShamLink			
databaseDescriptionPackets	long	tmnxOspfShamIfRxDBDs	The value of tmnxOspfShamIfRxDBDs indicates the total number of OSPF Database Description packets received on this sham link since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
databaseDescriptionPackets	long	tmnxOspfShamIfTxDBDs	The value of tmnxOspfShamIfTxDBDs indicates the total number of OSPF Database Description packets transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
helloPackets	long	tmnxOspfShamIfRxHellos	The value of tmnxOspfShamIfRxHellos indicates the total number of OSPF Hello packets received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
helloPackets	long	tmnxOspfShamIfTxHellos	The value of tmnxOspfShamIfTxHellos indicates the total number of OSPF Hello packets transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateAcknowledgements	long	tmnxOspfShamIfRxLSAcks	The value of tmnxOspfShamIfRxLSAcks indicates the total number of Link State Acknowledgements received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateAcknowledgements	long	tmnxOspfShamIfTxLSAcks	The value of tmnxOspfShamIfTxLSAcks indicates the total number of OSPF Link State Acknowledgements transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateRequests	long	tmnxOspfShamIfRxLSRs	The value of tmnxOspfShamIfRxLSRs indicates the total number of Link State Requests (LSRs) received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateRequests	long	tmnxOspfShamIfTxLSRs	The value of tmnxOspfShamIfTxLSRs indicates the total number of OSPF Link State Requests (LSRs) transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateUpdates	long	tmnxOspfShamIfRxLSUs	The value of tmnxOspfShamIfRxLSUs indicates the total number of Link State Updates (LSUs) received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateUpdates	long	tmnxOspfShamIfTxLSUs	The value of tmnxOspfShamIfTxLSUs indicates the total number of OSPF Link State Updates (LSUs) transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
lsasWithBadChecksums	long	tmnxOspfShamIfRxBadChecksums	The value of tmnxOspfShamIfRxBadChecksums indicates the count of LSAs received with bad checksums.
totalPackets	long	tmnxOspfShamIfRxPackets	The value of tmnxOspfShamIfRxPackets indicates the total number of OSPF packets received on this sham link since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
totalPackets	long	tmnxOspfShamIfTxPackets	The value of tmnxOspfShamIfTxPackets indicates the total number of OSPF packets transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
ShamLinkStatusStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfShamIfStatsTable Monitored class: ospf.ShamLink			
authorizationFailures	long	tmnxOspfShamIfAuthFailures	The value of tmnxOspfShamIfAuthFailures indicates the total number of OSPF packets received with an invalid authorization key since tmnxOspfAdminState was last set to 'enabled'.
badAreas	long	tmnxOspfShamIfBadAreas	The value of tmnxOspfShamIfBadAreas indicates the total number of OSPF packets received with an area mismatch since tmnxOspfAdminState was last set to 'enabled'.
badAuthorizationTypes	long	tmnxOspfShamIfBadAuthTypes	The value of tmnxOspfShamIfBadAuthTypes indicates the total number of OSPF packets received with an invalid authorization type since tmnxOspfAdminState was last set to 'enabled'.
badDeadIntervals	long	tmnxOspfShamIfBadDeadIntervals	The value of tmnxOspfShamIfBadDeadIntervals indicates the total number of OSPF packets received where the dead interval given in the packet was not equal to that configured on this sham link since tmnxOspfAdminState was last set to 'enabled'.
badDestinationAddresses	long	tmnxOspfShamIfBadDstAddrs	The value of tmnxOspfShamIfBadDstAddrs indicates the total number of OSPF packets received with the incorrect IP destination address since tmnxOspfAdminState was last set to 'enabled'.
badHelloIntervals	long	tmnxOspfShamIfBadHelloIntervals	The value of tmnxOspfShamIfBadHelloIntervals indicates the total number of OSPF packets received where the hello interval given in packet was not equal to that configured on this sham link since tmnxOspfAdminState was last set to 'enabled'.
badLengths	long	tmnxOspfShamIfBadLengths	The value of tmnxOspfShamIfBadLengths indicates the total number of OSPF packets received on this sham link with a total length not equal to the length given in the packet itself since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
badNeighbors	long	tmnxOspfShamIfBadNeighbors	The value of tmnxOspfShamIfBadNeighbors indicates the total number of OSPF packets received where the neighbor information does not match the information this router has for the neighbor since tmnxOspfAdminState was last set to 'enabled'.
badNetworks	long	tmnxOspfShamIfBadNetworks	The value of tmnxOspfShamIfBadNetworks indicates the total number of OSPF packets received with invalid network or mask since tmnxOspfAdminState was last set to 'enabled'.
badOptions	long	tmnxOspfShamIfBadOptions	The value of tmnxOspfShamIfBadOptions indicates the total number of OSPF packets received with an option that does not match those configured for this sham link or area since tmnxOspfAdminState was last set to 'enabled'.
badPacketTypes	long	tmnxOspfShamIfBadPacketTypes	The value of tmnxOspfShamIfBadPacketTypes indicates the total number of OSPF packets received with an invalid OSPF packet type since tmnxOspfAdminState was last set to 'enabled'.
badVersions	long	tmnxOspfShamIfBadVersions	The value of tmnxOspfShamIfBadVersions indicates the total number of OSPF packets received with bad OSPF version numbers since tmnxOspfAdminState was last set to 'enabled'.
discardPackets	long	tmnxOspfShamIfDiscardPackets	The value of tmnxOspfShamIfDiscardPackets indicates the total number of OSPF packets discarded on this sham link since tmnxOspfAdminState was last set to 'enabled'.
retransmitOuts	long	tmnxOspfShamIfRetransmitOuts	The value of tmnxOspfShamIfRetransmitOuts indicates the total number of OSPF Retransmits sent on this sham link since tmnxOspfAdminState was last set to 'enabled'.
ShamLinkTransmitStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfShamIfStatsTable Monitored class: ospf.ShamLink			
databaseDescriptionPackets	long	tmnxOspfShamIfRxDBDs	The value of tmnxOspfShamIfRxDBDs indicates the total number of OSPF Database Description packets received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
databaseDescriptionPackets	long	tmnxOspfShamIfTxDBDs	The value of tmnxOspfShamIfTxDBDs indicates the total number of OSPF Database Description packets transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
helloPackets	long	tmnxOspfShamIfRxHellos	The value of tmnxOspfShamIfRxHellos indicates the total number of OSPF Hello packets received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
helloPackets	long	tmnxOspfShamIfTxHellos	The value of tmnxOspfShamIfTxHellos indicates the total number of OSPF Hello packets transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateAcknowledgements	long	tmnxOspfShamIfRxLSAcks	The value of tmnxOspfShamIfRxLSAcks indicates the total number of Link State Acknowledgements received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateAcknowledgements	long	tmnxOspfShamIfTxLSAcks	The value of tmnxOspfShamIfTxLSAcks indicates the total number of OSPF Link State Acknowledgements transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateRequests	long	tmnxOspfShamIfRxLSRs	The value of tmnxOspfShamIfRxLSRs indicates the total number of Link State Requests (LSRs) received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateRequests	long	tmnxOspfShamIfTxLSRs	The value of tmnxOspfShamIfTxLSRs indicates the total number of OSPF Link State Requests (LSRs) transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateUpdates	long	tmnxOspfShamIfRxLSUs	The value of tmnxOspfShamIfRxLSUs indicates the total number of Link State Updates (LSUs) received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
linkStateUpdates	long	tmnxOspfShamIfTxLSUs	The value of tmnxOspfShamIfTxLSUs indicates the total number of OSPF Link State Updates (LSUs) transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
totalPackets	long	tmnxOspfShamIfRxPackets	The value of tmnxOspfShamIfRxPackets indicates the total number of OSPF packets received on this sham link since tmnxOspfAdminState was last set to 'enabled'.
totalPackets	long	tmnxOspfShamIfTxPackets	The value of tmnxOspfShamIfTxPackets indicates the total number of OSPF packets transmitted on this sham link since tmnxOspfAdminState was last set to 'enabled'.
SiteStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfStatisticsTable Monitored class: ospf.Site			

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5620 SAM counter name	Type	MIB counter name	Description
addRouteFailed	long	tmnxOspfRoutesAddsFailed	The value of tmnxOspfRoutesAddsFailed indicates the number of times an attempt to add a route to the Route Table Manager (RTM) failed for this OSPF instance.
cspfDroppedRequests	long	tmnxOspfCSPFDroppedRequests	The value of tmnxOspfCSPFDroppedRequests indicates the number of dropped CSPF requests made by the OSPF protocol.
cspfPathsFound	long	tmnxOspfCSPFPathsFound	The value of tmnxOspfCSPFPathsFound indicates the number of of paths found for the requests made to OSPF protocol.
cspfPathsNotFound	long	tmnxOspfCSPFPathsNotFound	The value of tmnxOspfCSPFPathsNotFound indicates the number of of paths not found for the requests made to OSPF protocol.
cspfRequests	long	tmnxOspfCSPFRequests	The value of tmnxOspfCSPFRequests indicates the number of CSPF requests made to the OSPF protocol.
deleteRouteFailed	long	tmnxOspfRoutesDelsFailed	The value of tmnxOspfRoutesDelsFailed indicates the number of times an attempt to delete a route from the Route Table Manager (RTM) failed for this instance of OSPF.
inOverflowCount	long	tmnxOspfNumTimesInOverflow	The value of tmnxOspfNumTimesInOverflow indicates the count of the number of times the system was in the overflow state.
inOverloadCount	long	tmnxOspfNumTimesInOverload	The value of tmnxOspfNumTimesInOverload indicates the count of the number of times the system was overloaded.
modifyRouteFailed	long	tmnxOspfRoutesModsFailed	The value of tmnxOspfRoutesModsFailed indicates the number of times an attempt to modify a route in the Route Table Manager (RTM) failed for this instance of OSPF.
newLsasOriginated	long	tmnxOspfOriginateNewLsas	The value of tmnxOspfOriginateNewLsas indicates the number of new link-state advertisements that have been originated. This number is incremented each time the router originates a new LSA.
newLsasReceived	long	tmnxOspfRxNewLsas	The value of tmnxOspfRxNewLsas indicates the number of link-state advertisements received determined to be new instantiations. This number does not include newer instantiations of self-originated link-state advertisements.
spfAttemptsFailed	long	tmnxOspfSpfAttemptsFailed	The value of tmnxOspfSpfAttemptsFailed indicates the number of times an attempt to run SPF has failed because SPF runs have been stopped as a result of insufficient memory resources.

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5620 SAM counter name	Type	MIB counter name	Description
VirtualLinkGeneralStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfVirtIfStatsTable Monitored class: ospf.VirtualLink			
events	long	tmnxOspfVirtIfEvents	The value of tmnxOspfVirtIfEvents indicates the number of state changes or error events on this Virtual Link.
VirtualLinkReceiveStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfVirtIfStatsTable Monitored class: ospf.VirtualLink			
databaseDescriptionPackets	long	tmnxOspfVirtIfRxDBDs	The value of tmnxOspfVirtIfRxDBDs indicates the total number of OSPF Database Description packets received on this virtual interface.
databaseDescriptionPackets	long	tmnxOspfVirtIfTxDBDs	The value of tmnxOspfVirtIfTxDBDs indicates the total number of OSPF Database Description packets transmitted on this virtual interface.
helloPackets	long	tmnxOspfVirtIfRxHellos	The value of tmnxOspfVirtIfRxHellos indicates the total number of OSPF Hello packets received on this virtual interface.
helloPackets	long	tmnxOspfVirtIfTxHellos	The value of tmnxOspfVirtIfTxHellos indicates the total number of OSPF Hello packets transmitted on this virtual interface since it was created.
linkStateAcknowledgements	long	tmnxOspfVirtIfRxLSAcks	The value of tmnxOspfVirtIfRxLSAcks indicates the total number of Link State Acknowledgements received on this virtual interface.
linkStateAcknowledgements	long	tmnxOspfVirtIfTxLSAcks	The value of tmnxOspfVirtIfTxLSAcks indicates the total number of OSPF Link State Acknowledgements transmitted on this virtual interface.
linkStateRequests	long	tmnxOspfVirtIfRxLSRs	The value of tmnxOspfVirtIfRxLSRs indicates the total number of OSPF Link State Requests (LSRs) received on this virtual interface.
linkStateRequests	long	tmnxOspfVirtIfTxLSRs	The value of tmnxOspfVirtIfTxLSRs indicates the total number of OSPF Link State Requests (LSRs) transmitted on this virtual interface.
linkStateUpdates	long	tmnxOspfVirtIfRxLSUs	The value of tmnxOspfVirtIfRxLSUs indicates the total number of OSPF Link State Updates (LSUs) received on this virtual interface.
linkStateUpdates	long	tmnxOspfVirtIfTxLSUs	The value of tmnxOspfVirtIfTxLSUs indicates the total number of OSPF Link State Updates (LSUs) transmitted on this virtual interface.
lsasWithBadChecksums	long	tmnxOspfVirtIfRxBadChecksums	The value of tmnxOspfVirtIfRxBadChecksums indicates the count of LSAs received with bad checksums.

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5620 SAM counter name	Type	MIB counter name	Description
totalPackets	long	tmnxOspfVirtIfRxPackets	The value of tmnxOspfVirtIfRxPackets indicates the total number of OSPF packets received on this virtual interface since it was created.
totalPackets	long	tmnxOspfVirtIfTxPackets	The value of tmnxOspfVirtIfTxPackets indicates the total number of OSPF packets transmitted on this virtual interface since it was created.
VirtualLinkStatusStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfVirtIfStatsTable Monitored class: ospf.VirtualLink			
authorizationFailures	long	tmnxOspfVirtIfAuthFailures	The value of tmnxOspfVirtIfAuthFailures indicates the total number of OSPF packets received on this virtual interface with invalid authentication keys.
badAreas	long	tmnxOspfVirtIfBadAreas	The value of tmnxOspfVirtIfBadAreas indicates the total number of OSPF packets received on this virtual interface with area mismatches.
badAuthorizationTypes	long	tmnxOspfVirtIfBadAuthTypes	The value of tmnxOspfVirtIfBadAuthTypes indicates the total number of OSPF packets received on this virtual interface with invalid authentication types.
badDeadIntervals	long	tmnxOspfVirtIfBadDeadIntervals	The value of tmnxOspfVirtIfBadDeadIntervals indicates the total number of OSPF packets received where the dead interval given in the packet was not equal to that configured on this virtual interface since tmnxOspfAdminState was last set to 'enabled'.
badDestinationAddresses	long	tmnxOspfVirtIfBadDstAddrs	The value of tmnxOspfVirtIfBadDstAddrs indicates the total number of OSPF packets received on this virtual interface with invalid destination IP address.
badHelloIntervals	long	tmnxOspfVirtIfBadHelloIntervls	The value of tmnxOspfVirtIfBadHelloIntervls indicates the total number of OSPF packets received where the hello interval given in packet was not equal to that configured on this virtual interface since tmnxOspfAdminState was last set to 'enabled'.
badLengths	long	tmnxOspfVirtIfBadLengths	The value of tmnxOspfVirtIfBadLengths indicates the total number of OSPF packets received on this virtual interface with a total length not equal to the length given in the packet itself since tmnxOspfAdminState was last set to 'enabled'.
badNeighbors	long	tmnxOspfVirtIfBadNeighbors	The value of tmnxOspfVirtIfBadNeighbors indicates the total number of OSPF packets received where the neighbor information does not match the configuration this router has for the neighbor.

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5620 SAM counter name	Type	MIB counter name	Description
badNetworks	long	tmnxOspfVirtIfBadNetworks	The value of tmnxOspfVirtIfBadNetworks indicates the total number of OSPF packets received on this virtual interface with invalid network or mask fields.
badOptions	long	tmnxOspfVirtIfBadOptions	The value of tmnxOspfVirtIfBadOptions indicates the total number of OSPF packets received with an option that does not match those configured for this virtual interface or transit-area since tmnxOspfAdminState was last set to 'enabled'.
badPacketTypes	long	tmnxOspfVirtIfBadPacketTypes	The value of tmnxOspfVirtIfBadPacketTypes indicates the total number of OSPF packets received on this virtual interface with invalid OSPF packet types.
badVersions	long	tmnxOspfVirtIfBadVersions	The value of tmnxOspfVirtIfBadVersions indicates the total number of OSPF packets received on this virtual interface with invalid OSPF version numbers.
discardPackets	long	tmnxOspfVirtIfDiscardPackets	The value of tmnxOspfVirtIfDiscardPackets indicates the total number of OSPF packets discarded on this virtual interface.
retransmitOuts	long	tmnxOspfVirtIfRetransmitOuts	The value of tmnxOspfVirtIfRetransmitOuts indicates the total number of OSPF packets retransmitted on this virtual interface.
VirtualLinkTransmitStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfVirtIfStatsTable Monitored class: ospf.VirtualLink			
databaseDescriptionPackets	long	tmnxOspfVirtIfRxDBDs	The value of tmnxOspfVirtIfRxDBDs indicates the total number of OSPF Database Description packets received on this virtual interface.
databaseDescriptionPackets	long	tmnxOspfVirtIfTxDBDs	The value of tmnxOspfVirtIfTxDBDs indicates the total number of OSPF Database Description packets transmitted on this virtual interface.
helloPackets	long	tmnxOspfVirtIfRxHellos	The value of tmnxOspfVirtIfRxHellos indicates the total number of OSPF Hello packets received on this virtual interface.
helloPackets	long	tmnxOspfVirtIfTxHellos	The value of tmnxOspfVirtIfTxHellos indicates the total number of OSPF Hello packets transmitted on this virtual interface since it was created.
linkStateAcknowledgements	long	tmnxOspfVirtIfRxLSAcks	The value of tmnxOspfVirtIfRxLSAcks indicates the total number of Link State Acknowledgements received on this virtual interface.
linkStateAcknowledgements	long	tmnxOspfVirtIfTxLSAcks	The value of tmnxOspfVirtIfTxLSAcks indicates the total number of OSPF Link State Acknowledgements transmitted on this virtual interface.

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5620 SAM counter name	Type	MIB counter name	Description
linkStateRequests	long	tmnxOspfVirtIfRxLSRs	The value of tmnxOspfVirtIfRxLSRs indicates the total number of OSPF Link State Requests (LSRs) received on this virtual interface.
linkStateRequests	long	tmnxOspfVirtIfTxLSRs	The value of tmnxOspfVirtIfTxLSRs indicates the total number of OSPF Link State Requests (LSRs) transmitted on this virtual interface.
linkStateUpdates	long	tmnxOspfVirtIfRxLSUs	The value of tmnxOspfVirtIfRxLSUs indicates the total number of OSPF Link State Updates (LSUs) received on this virtual interface.
linkStateUpdates	long	tmnxOspfVirtIfTxLSUs	The value of tmnxOspfVirtIfTxLSUs indicates the total number of OSPF Link State Updates (LSUs) transmitted on this virtual interface.
totalPackets	long	tmnxOspfVirtIfRxPackets	The value of tmnxOspfVirtIfRxPackets indicates the total number of OSPF packets received on this virtual interface since it was created.
totalPackets	long	tmnxOspfVirtIfTxPackets	The value of tmnxOspfVirtIfTxPackets indicates the total number of OSPF packets transmitted on this virtual interface since it was created.
VirtualNeighborGeneralStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfVirtNbrStatsTable Monitored class: ospf.VirtualNeighbor			
events	long	tmnxOspfVirtNbrEvents	The value of tmnxOspfVirtNbrEvents indicates the number of times this virtual link has changed its state, or an error has occurred.
retransmissionQueueLength	long	tmnxOspfVirtNbrLsRetransQLen	The value of tmnxOspfVirtNbrLsRetransQLen indicates the current length of the retransmission queue.
VirtualNeighborStatusStats MIB table name: TIMETRA-OSPF-NG-MIB.tmnxOspfVirtNbrStatsTable Monitored class: ospf.VirtualNeighbor			
badMtus	long	tmnxOspfVirtNbrBadMTUs	The value of tmnxOspfVirtNbrBadMTUs indicates the total number of times when the MTU in a received database description packet was larger than the MTU of the receiving interface since tmnxOspfAdminState was last set to 'enabled'.
badPackets	long	tmnxOspfVirtNbrBadPackets	The value of tmnxOspfVirtNbrBadPackets indicates the total number of times when an LS update was received with an illegal LS type or an option mismatch since tmnxOspfAdminState was last set to 'enabled'.

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5620 SAM counter name	Type	MIB counter name	Description
badSequenceNumbers	long	tmnxOspfVirtNbrBadSeqNums	The value of tmnxOspfVirtNbrBadSeqNums indicates the total number of times when a database description packet was received with a sequence number mismatch since tmnxOspfAdminState was last set to 'enabled'.
badVirtualNeighborStates	long	tmnxOspfVirtNbrBadNbrStates	The value of tmnxOspfVirtNbrBadNbrStates indicates the total number of OSPF packets received when the virtual neighbor state was not expecting to receive this packet type since tmnxOspfAdminState was last set to 'enabled'.
duplicates	long	tmnxOspfVirtNbrDuplicates	The value of tmnxOspfVirtNbrDuplicates indicates the total number of times when a duplicate database description packet was received during the Exchange state since tmnxOspfAdminState was last set to 'enabled'.
lsaInstallFailed	long	tmnxOspfVirtNbrLsaInstallFail	The value of tmnxOspfVirtNbrLsaInstallFail indicates the total number of times when an LSA could not be installed into the LSDB due to a resource allocation issue since tmnxOspfAdminState was last set to 'enabled'.
lsaNotInLSDB	long	tmnxOspfVirtNbrLsaNotInLsdbs	The value of tmnxOspfVirtNbrLsaNotInLsdbs indicates the total number of times when an LS request was received for an LSA not installed in the LSDB of this router since tmnxOspfAdminState was last set to 'enabled'.
numberOfRestarts	long	tmnxOspfVirtNbrNumRestarts	The value of tmnxOspfVirtNbrNumRestarts indicates the number of times the virtual neighbor has attempted restart since tmnxOspfAdminState was last set to 'enabled'.
optionMismatches	long	tmnxOspfVirtNbrOptionMismatch	The value of tmnxOspfVirtNbrOptionMismatch indicates the total number of times when a LS update was received with an option mismatch since tmnxOspfAdminState was last set to 'enabled'.

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Table A-36 pae802_1x statistics

5620 SAM counter name	Type	MIB counter name	Description
PaePortAuthenticatorDiagStats MIB table name: IEEE8021-PAE-MIB.dot1xAuthDiagTable Monitored classes: • equipment.PhysicalPort • equipment.ManagementPort			
dot1xAuthAuthEapLogoffWhileAuthenticated	long	dot1xAuthAuthEapLogoffWhileAuthenticated	Counts the number of times that the state machine transitions from AUTHENTICATED to DISCONNECTED, as a result of an EAPOL-Logoff message being received from the Supplicant. REFERENCE 9.4.2, 8.5.4.2.12.
dot1xAuthAuthEapLogoffWhileAuthenticating	long	dot1xAuthAuthEapLogoffWhileAuthenticating	Counts the number of times that the state machine transitions from AUTHENTICATING to ABORTING, as a result of an EAPOL-Logoff message being received from the Supplicant. REFERENCE 9.4.2, 8.5.4.2.9.
dot1xAuthAuthEapStartsWhileAuthenticated	long	dot1xAuthAuthEapStartsWhileAuthenticated	Counts the number of times that the state machine transitions from AUTHENTICATED to CONNECTING, as a result of an EAPOL-Start message being received from the Supplicant. REFERENCE 9.4.2, 8.5.4.2.11.
dot1xAuthAuthEapStartsWhileAuthenticating	long	dot1xAuthAuthEapStartsWhileAuthenticating	Counts the number of times that the state machine transitions from AUTHENTICATING to ABORTING, as a result of an EAPOL-Start message being received from the Supplicant. REFERENCE 9.4.2, 8.5.4.2.8.
dot1xAuthAuthFailWhileAuthenticating	long	dot1xAuthAuthFailWhileAuthenticating	Counts the number of times that the state machine transitions from AUTHENTICATING to HELD, as a result of the Backend Authentication state machine indicating authentication failure (authFail = TRUE). REFERENCE 9.4.2, 8.5.4.2.6.
dot1xAuthAuthReauthsWhileAuthenticated	long	dot1xAuthAuthReauthsWhileAuthenticated	Counts the number of times that the state machine transitions from AUTHENTICATED to CONNECTING, as a result of a reauthentication request (reAuthenticate = TRUE). REFERENCE 9.4.2, 8.5.4.2.10.
dot1xAuthAuthReauthsWhileAuthenticating	long	dot1xAuthAuthReauthsWhileAuthenticating	Counts the number of times that the state machine transitions from AUTHENTICATING to ABORTING, as a result of a reauthentication request (reAuthenticate = TRUE). REFERENCE 9.4.2, 8.5.4.2.7.

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5620 SAM counter name	Type	MIB counter name	Description
dot1xAuthAuthSuccessWhileAuthenticating	long	dot1xAuthAuthSuccessWhileAuthenticating	Counts the number of times that the state machine transitions from AUTHENTICATING to AUTHENTICATED, as a result of the Backend Authentication state machine indicating successful authentication of the Supplicant (authSuccess = TRUE). REFERENCE 9.4.2, 8.5.4.2.4.
dot1xAuthAuthTimeoutsWhileAuthenticating	long	dot1xAuthAuthTimeoutsWhileAuthenticating	Counts the number of times that the state machine transitions from AUTHENTICATING to ABORTING, as a result of the Backend Authentication state machine indicating authentication timeout (authTimeout = TRUE). REFERENCE 9.4.2, 8.5.4.2.5.
dot1xAuthBackendAccessChallenges	long	dot1xAuthBackendAccessChallenges	Counts the number of times that the state machine receives an initial Access-Challenge packet from the Authentication server (i.e., aReq becomes TRUE, causing exit from the RESPONSE state). Indicates that the Authentication Server has communication with the Authenticator. REFERENCE 9.4.2, 8.5.6.2.2.
dot1xAuthBackendAuthFails	long	dot1xAuthBackendAuthFails	Counts the number of times that the state machine receives an EAP-Failure message from the Authentication Server (i.e., aFail becomes TRUE, causing a transition from RESPONSE to FAIL). Indicates that the Supplicant has not authenticated to the Authentication Server. REFERENCE 9.4.2, 8.5.6.2.6.
dot1xAuthBackendAuthSuccesses	long	dot1xAuthBackendAuthSuccesses	Counts the number of times that the state machine receives an EAP-Success message from the Authentication Server (i.e., aSuccess becomes TRUE, causing a transition from RESPONSE to SUCCESS). Indicates that the Supplicant has successfully authenticated to the Authentication Server. REFERENCE 9.4.2, 8.5.6.2.5.
dot1xAuthBackendNonNakResponsesFromSupplicant	long	dot1xAuthBackendNonNakResponsesFromSupplicant	Counts the number of times that the state machine receives a response from the Supplicant to an initial EAP-Request, and the response is something other than EAP-NAK (i.e., rxResp becomes TRUE, causing the state machine to transition from REQUEST to RESPONSE, and the response is not an EAP-NAK). Indicates that the Supplicant can respond to the Authenticator's chosen EAP-method. REFERENCE 9.4.2, 8.5.6.2.4.
dot1xAuthBackendOtherRequestsToSupplicant	long	dot1xAuthBackendOtherRequestsToSupplicant	Counts the number of times that the state machine sends an EAP-Request packet (other than an Identity, Notification, Failure or Success message) to the Supplicant (i.e., executes txReq on entry to the REQUEST state). Indicates that the Authenticator chose an EAP-method. REFERENCE 9.4.2, 8.5.6.2.3.

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5620 SAM counter name	Type	MIB counter name	Description
dot1xAuthBackendResponses	long	dot1xAuthBackendRespon ses	Counts the number of times that the state machine sends an initial Access-Request packet to the Authentication server (i.e., executes sendRespToServer on entry to the RESPONSE state). Indicates that the Authenticator attempted communication with the Authentication Server. REFERENCE 9.4.2, 8.5.6.2.1.
dot1xAuthEapLogoffsWhileConnec ting	long	dot1xAuthEapLogoffsWhil eConnecting	Counts the number of times that the state machine transitions from CONNECTING to DISCONNECTED as a result of receiving an EAPOL-Logoff message. REFERENCE 9.4.2, 8.5.4.2.2.
dot1xAuthEntersAuthenticating	long	dot1xAuthEntersAuthenti cating	Counts the number of times that the state machine transitions from CONNECTING to AUTHENTICATING, as a result of an EAP-Response/Identity message being received from the Supplicant. REFERENCE 9.4.2, 8.5.4.2.3.
dot1xAuthEntersConnecting	long	dot1xAuthEntersConnecti ng	Counts the number of times that the state machine transitions to the CONNECTING state from any other state. REFERENCE 9.4.2, 8.5.4.2.1.
PaePortAuthenticatorSessionStats MIB table name: IEEE8021-PAE-MIB.dot1xAuthSessionStatsTable Monitored classes: • equipment.PhysicalPort • equipment.ManagementPort			
dot1xAuthSessionAuthenticMethod	int	dot1xAuthSessionAuthent icMethod	The authentication method used to establish the session. REFERENCE 9.4.4, Session Authentication Method.
dot1xAuthSessionFramesRx	long	dot1xAuthSessionFrames Rx	The number of user data frames received on this Port during the session. REFERENCE 9.4.4, Session Frames Received.
dot1xAuthSessionFramesTx	long	dot1xAuthSessionFrames Tx	The number of user data frames transmitted on this Port during the session. REFERENCE 9.4.4, Session Frames Transmitted.
dot1xAuthSessionOctetsRx	UINT128	dot1xAuthSessionOctetsR x	The number of octets received in user data frames on this Port during the session. REFERENCE 9.4.4, Session Octets Received.
dot1xAuthSessionOctetsTx	UINT128	dot1xAuthSessionOctetsT x	The number of octets transmitted in user data frames on this Port during the session. REFERENCE 9.4.4, Session Octets Transmitted.
dot1xAuthSessionTerminateCause	int	dot1xAuthSessionTermina teCause	The reason for the session termination. REFERENCE 9.4.4, Session Terminate Cause.
dot1xAuthSessionTime	long	dot1xAuthSessionTime	The duration of the session in seconds. REFERENCE 9.4.4, Session Time.

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5620 SAM counter name	Type	MIB counter name	Description
PaePortAuthenticatorStats MIB table name: IEEE8021-PAE-MIB.dot1xAuthStatsTable Monitored classes: • equipment.PhysicalPort • equipment.ManagementPort			
dot1xAuthEapLengthErrorFramesRx	long	dot1xAuthEapLengthErrorFramesRx	The number of EAPOL frames that have been received by this Authenticator in which the Packet Body Length field is invalid. REFERENCE 9.4.2, EAP length error frames received.
dot1xAuthEapolFramesRx	long	dot1xAuthEapolFramesRx	The number of valid EAPOL frames of any type that have been received by this Authenticator. REFERENCE 9.4.2, EAPOL frames received.
dot1xAuthEapolFramesTx	long	dot1xAuthEapolFramesTx	The number of EAPOL frames of any type that have been transmitted by this Authenticator. REFERENCE 9.4.2, EAPOL frames transmitted.
dot1xAuthEapolLogoffFramesRx	long	dot1xAuthEapolLogoffFramesRx	The number of EAPOL Logoff frames that have been received by this Authenticator. REFERENCE 9.4.2, EAPOL Logoff frames received.
dot1xAuthEapolReqFramesTx	long	dot1xAuthEapolReqFramesTx	The number of EAP Request frames (other than Rq/Id frames) that have been transmitted by this Authenticator. REFERENCE 9.4.2, EAPOL Request frames transmitted.
dot1xAuthEapolReqIdFramesTx	long	dot1xAuthEapolReqIdFramesTx	The number of EAP Req/Id frames that have been transmitted by this Authenticator. REFERENCE 9.4.2, EAPOL Req/Id frames transmitted.
dot1xAuthEapolRespFramesRx	long	dot1xAuthEapolRespFramesRx	The number of valid EAP Response frames (other than Resp/Id frames) that have been received by this Authenticator. REFERENCE 9.4.2, EAPOL Response frames received.
dot1xAuthEapolRespIdFramesRx	long	dot1xAuthEapolRespIdFramesRx	The number of EAP Resp/Id frames that have been received by this Authenticator. REFERENCE 9.4.2, EAPOL Resp/Id frames received.
dot1xAuthEapolStartFramesRx	long	dot1xAuthEapolStartFramesRx	The number of EAPOL Start frames that have been received by this Authenticator. REFERENCE 9.4.2, EAPOL Start frames received.
dot1xAuthInvalidEapolFramesRx	long	dot1xAuthInvalidEapolFramesRx	The number of EAPOL frames that have been received by this Authenticator in which the frame type is not recognized. REFERENCE 9.4.2, Invalid EAPOL frames received.
dot1xAuthLastEapolFrameVersion	long	dot1xAuthLastEapolFrameVersion	The protocol version number carried in the most recently received EAPOL frame. REFERENCE 9.4.2, Last EAPOL frame version.

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Table A-37 pim statistics

5620 SAM counter name	Type	MIB counter name	Description
InterfaceAdditionalStats MIB table name: TIMETRA-PIM-NG-MIB.vRtrPimNgIfStatsTable Monitored class: pim.Interface			
bootstrapExpPolicyDrops	long	vRtrPimNgIfBtrExpPolicyDrops	The value of vRtrPimNgIfBtrExpPolicyDrops indicates the number of Bootstrap Messages that were not transmitted on this interface because of Bootstrap export policy. PIM Bootstrap export policies are configured using bootstrap export policy objects in vRtrPimNgGenPolicyTable.
bootstrapImpPolicyDrops	long	vRtrPimNgIfBtrImpPolicyDrops	The value of vRtrPimNgIfBtrImpPolicyDrops indicates the number of Bootstrap Messages received on this interface but were dropped because of Bootstrap import policy. PIM Bootstrap import policies are configured using bootstrap import policy objects in vRtrPimNgGenPolicyTable.
joinPolicyDrops	long	vRtrPimNgIfJoinPolicyDrops	The value of vRtrPimNgIfJoinPolicyDrops indicates the number of times the join policy match resulted in dropping PIM Join-Prune Message or one of the source group contained in the message. PIM Join policies are configured using join policy objects in vRtrPimNgGenPolicyTable.
registerPolicyDrops	long	vRtrPimNgIfRegisterPolicyDrops	The value of vRtrPimNgIfRegisterPolicyDrops indicates the number of times the register policy match resulted in dropping PIM Register Message. PIM Register policies are configured using the register policy objects in vRtrPimNgGenPolicyTable.
rxBSMNoRouterAlertDrops	long	vRtrPimNgIfRxBSMNoRouterAlertDrops	The value of vRtrPimNgIfRxBSMNoRouterAlertDrops indicates the number of BSM messages that were dropped because router alert option was not present.
rxBSMWrongIfDrops	long	vRtrPimNgIfRxBSMWrongIfDrops	The value of vRtrPimNgIfRxBSMWrongIfDrops indicates the number of BSM messages that were dropped either because they were not sent by the correct RPF neighbor or because they arrived on the wrong interface.
rxInvalidJoinPrunes	long	vRtrPimNgIfRxInvalidJoinPrunes	The value of vRtrPimNgIfRxInvalidJoinPrunes indicates the number of invalid PIM Join Prune messages received on this interface. A Join Prune message is invalid when the RP address in the message is not the RP for the group specified in the message. If such a message arrives, a vRtrPimNgInvalidJoinPrune notification is sent.

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5620 SAM counter name	Type	MIB counter name	Description
rxInvalidRegisters	long	vRtrPimNgIfRxInvalidRegisters	The value of vRtrPimNgIfRxInvalidRegisters indicates the number of invalid PIM Register messages received on this interface. A Register message is invalid when the RP address in the message is not the RP for the group specified in the message. If such a message arrives, a vRtrPimNgInvalidRegister notification is sent.
rxJoinPruneErrs	long	vRtrPimNgIfRxJoinPruneErrs	The value of vRtrPimNgIfRxJoinPruneErrs indicates the number of errors while processing Join-Prune messages received on this interface.
rxJoinPrunes	long	vRtrPimNgIfRxJoinPrunes	The value of vRtrPimNgIfRxJoinPrunes indicates the number of PIM Join Prune messages received on this interface.
txJoinPrunes	long	vRtrPimNgIfTxJoinPrunes	The value of vRtrPimNgIfTxJoinPrunes indicates the number of PIM Join Prune messages transmitted on this interface.
InterfaceStats MIB table name: TIMETRA-PIM-NG-MIB.vRtrPimNgIfStatsTable Monitored class: pim.Interface			
bsmErrs	long	vRtrPimNgIfTxBsmErrs	The value of vRtrPimNgIfTxBsmErrs indicates the number of errors while transmitting PIM Bootstrap Messages (BSM) on this interface.
bsmPdus	long	vRtrPimNgIfTxBsmPdus	The value of vRtrPimNgIfTxBsmPdus indicates the number of PIM Bootstrap Messages (BSM) transmitted on this interface.
mcacPolicyDrops	long	vRtrPimNgIfMcacPolicyDrops	The value of the object vRtrPimNgIfMcacPolicyDrops indicates the number times a PIM Group is dropped because of applying a multicast CAC policy on this interface.
registerStopErrs	long	vRtrPimNgIfTxRegisterStopErrs	The value of vRtrPimNgIfTxRegisterStopErrs indicates the number of PIM errors while trasmitting PIM Register Stop messages on this interface.
registerStops	long	vRtrPimNgIfTxRegisterStops	The value of vRtrPimNgIfTxRegisterStops indicates the number of PIM Register Stop messages transmitted on this interface.
rxAssertErrs	long	vRtrPimNgIfRxAssertErrs	The value of vRtrPimNgIfRxAssertErrs indicates the number of errors while processing Assert messages received on this interface.
rxAsserts	long	vRtrPimNgIfRxAsserts	The value of vRtrPimNgIfRxAsserts indicates the number of PIM Assert messages received on this interface.

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5620 SAM counter name	Type	MIB counter name	Description
rxBadChecksumDiscards	long	vRtrPimNgIfRxBadChecksumDiscard	The value of vRtrPimNgIfRxBadChecksumDiscard indicates the number of PIM messages received on this interface which were discarded because of bad checksum.
rxBadEncodings	long	vRtrPimNgIfRxBadEncodings	The value of vRtrPimNgIfRxBadEncodings indicates the number of PIM messages with bad encodings received on this interface.
rxBadVersionDiscards	long	vRtrPimNgIfRxBadVersionDiscard	The value of vRtrPimNgIfRxBadVersionDiscard indicates the number of PIM messages with bad versions received on this interface.
rxBsmPduDrops	long	vRtrPimNgIfRxBsmPduDrops	The value of vRtrPimNgIfRxBsmPduDrops indicates the number of Bootstrap Messages received on this interface but were dropped.
rxBsmPdus	long	vRtrPimNgIfRxBsmPdus	The value of vRtrPimNgIfRxBsmPdus indicates the number of Bootstrap Messages received on this interface.
rxCRPAdvNoRouterAlert	long	vRtrPimNgIfRxCRPAdvNoRtrAlert	The value of vRtrPimNgIfRxCRPAdvNoRtrAlert indicates the number of Candidate-RP Advertizements(C-RP-Adv) received on this interface which had no router alert option set.
rxHellos	long	vRtrPimNgIfRxHellos	The value of vRtrPimNgIfRxHellos indicates the number of PIM hello messages received on this interface.
rxHellosDropped	long	vRtrPimNgIfRxHellosDropped	The value of vRtrPimNgIfRxHellosDropped indicates the number of PIM Hello messages which were received on this interface but were dropped.
rxNbrUnknown	long	vRtrPimNgIfRxNbrUnknown	The value of vRtrPimNgIfRxNbrUnknown indicates the number of PIM messages (other than Hello messages) which were received on this interface and were rejected because the adjacency with the neighbor router was not already established.
rxNullRegisters	long	vRtrPimNgIfRxNullRegisters	The value of vRtrPimNgIfRxNullRegisters indicates the number of PIM Null Register messages received on this interface.
rxPkts	long	vRtrPimNgIfRxPkts	The value of vRtrPimNgIfRxPkts indicates the number of multicast data packets received on this interface.
rxRegisterErrs	long	vRtrPimNgIfRxRegisterErrs	The value of vRtrPimNgIfRxRegisterErrs indicates the number of errors while processing Register messages received on this interface.
rxRegisters	long	vRtrPimNgIfRxRegisters	The value of vRtrPimNgIfRxRegisters indicates the number of PIM Register messages received on this interface.

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5620 SAM counter name	Type	MIB counter name	Description
rxRegisterStopErrs	long	vRtrPimNgIfRxRegisterStopErrs	The value of vRtrPimNgIfRxRegisterStopErrs indicates the number of errors while processing Register Stop messages received on this interface.
rxRegisterStops	long	vRtrPimNgIfRxRegisterStops	The value of vRtrPimNgIfRxRegisterStops indicates the number of PIM Register Stop messages received on this interface.
rxUnknownPdus	long	vRtrPimNgIfRxUnknownPdus	The value of vRtrPimNgIfRxUnknownPdus indicates the number of packets received with an unsupported PIM type.
sgTypes	long	vRtrPimNgIfSGTypes	The value of vRtrPimNgIfSGTypes indicates the number of entries in vRtrPimNgIfGrpSrcTable for which vRtrPimNgIfGrpSrcType is 'sg'.
starGTypes	long	vRtrPimNgIfStarGTypes	The value of vRtrPimNgIfStarGTypes indicates the number of entries in vRtrPimNgIfGrpSrcTable for which vRtrPimNgIfGrpSrcType is 'starG'.
starStarRPTypes	long	vRtrPimNgIfStarStarRPTypes	The value of vRtrPimNgIfStarStarRPTypes indicates the number of entries in vRtrPimNgIfGrpSrcTable for which vRtrPimNgIfGrpSrcType is 'starStarRP'.
txAsserts	long	vRtrPimNgIfTxAsserts	The value of vRtrPimNgIfTxAsserts indicates the number of PIM Assert messages transmitted on this interface.
txHellos	long	vRtrPimNgIfTxHellos	The value of vRtrPimNgIfTxHellos indicates the number of PIM Hello messages transmitted on this interface.
txPkts	long	vRtrPimNgIfTxPkts	The value of vRtrPimNgIfTxPkts indicates the number of multicast data packets transmitted on this interface.
PimGenSiteStats MIB table name: TIMETRA-PIM-NG-MIB.vRtrPimNgGenStatTable Monitored classes: • pim.Site • pim.SiteExtension			
forwardCrpaDrops	long	vRtrPimNgGenStatFwdCrpaDrops	The value of vRtrPimNgGenStatFwdCrpaDrops indicates the number of times the Candidate-RP Advertizements(C-RP-Adv) could not be forwarded by the router.
forwardCrpaPdus	long	vRtrPimNgGenStatForwardCrpaPdus	The value of vRtrPimNgGenStatForwardCrpaPdus indicates the number of Candidate-RP Advertizements(C-RP-Adv) that were forwarded by the router. C-RP-Adv's are forwarded when the received advertizement has a router alert set and the destination address is not the router's local address.

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5620 SAM counter name	Type	MIB counter name	Description
rxActiveMdts	long	vRtrPimNgGenStatRxActiveMdts	The value of vRtrPimNgGenStatRxActiveMdts indicates number of active Mdts on which the PE is receiving packets. This object is applicable to VPRNs only.
rxCrpaPduDrops	long	vRtrPimNgGenStatRxCrpaPduDrops	The value of vRtrPimNgGenStatRxCrpaPduDrops indicates the number of PIM Candidate-RP Advertizements (C-RP-Adv) received by this instance, but were dropped.
rxCrpaPdus	long	vRtrPimNgGenStatRxCrpaPdus	The value of vRtrPimNgGenStatRxCrpaPdus indicates the number of PIM Candidate-RP Advertizements (C-RP-Adv) received by this instance.
rxMdtJoinTlvErrs	long	vRtrPimNgGenStatRxMdtJnTlvErrs	The value of vRtrPimNgGenStatRxMdtJnTlvErrs indicates indicates number of times MDT Join TLVs were dropped due to errors in the received TLV.
rxMdtJoinTlvs	long	vRtrPimNgGenStatRxMdtJoinTlvs	The value of vRtrPimNgGenStatRxMdtJoinTlvs indicates the number of times MDT Join TLV were received.
sgTypes	long	vRtrPimNgGenStatSGTypes	The value of vRtrPimNgGenStatSGTypes indicates the number of entries in vRtrPimNgGrpSrcTable for which vRtrPimNgGrpSrcType is 'sg'.
starGTypes	long	vRtrPimNgGenStatStarGTypes	The value of vRtrPimNgGenStatStarGTypes indicates the number of entries in vRtrPimNgGrpSrcTable for which vRtrPimNgGrpSrcType is 'starG'.
starStarRPTypes	long	vRtrPimNgGenStatStarStarRPTypes	The value of vRtrPimNgGenStatStarStarRPTypes indicates the number of entries in vRtrPimNgGrpSrcTable for which vRtrPimNgGrpSrcType is 'starStarRP'.
txActiveMdts	long	vRtrPimNgGenStatTxActiveMdts	The value of vRtrPimNgGenStatTxActiveMdts indicates the number of active MDTs on which the PE is forwarding packets. This object is applicable to VPRNs only.
txCrpaPduErrs	long	vRtrPimNgGenStatTxCrpaPduErrs	The value of vRtrPimNgGenStatTxCrpaPduErrs indicates the number of errors while transmitting PIM Candidate-RP Advertizements (C-RP-Adv).
txCrpaPdus	long	vRtrPimNgGenStatTxCrpaPdus	The value of vRtrPimNgGenStatTxCrpaPdus indicates the number of PIM Candidate-RP Advertisements (C-RP-Adv) transmitted by this router instance.

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5620 SAM counter name	Type	MIB counter name	Description
txMdtJoinTlvErrs	long	vRtrPimNgGenStatTxMdtJnTlvErrs	The value of vRtrPimNgGenStatTxMdtJnTlvErrs indicates indicates the number of times MDT Join TLV could not be transmitted.
txMdtJoinTlvs	long	vRtrPimNgGenStatTxMdtJoinTlvs	The value of vRtrPimNgGenStatTxMdtJoinTlvs indicates the number of times MDT Join TLV were transmitted.
txNullRegisters	long	vRtrPimNgGenStatTxNullRegisters	The value of vRtrPimNgGenStatTxNullRegisters indicates the number of PIM Null Register messages transmitted by this instance.
txRegisterErrs	long	vRtrPimNgGenStatTxRegisterErrs	The value of vRtrPimNgGenStatTxRegisterErrs indicates the number the times there was an error while transmitting PIM Register messages by this instance.
txRegisters	long	vRtrPimNgGenStatTxRegisters	The value of vRtrPimNgGenStatTxRegisters indicates the number of PIM Register messages transmitted by this instance.
txRegisterTTLDrops	long	vRtrPimNgGenStatTxRegTTLDrops	The value of vRtrPimNgGenStatTxRegTTLDrops indicates the number of multicast data packets which could not be encapsulated in Register messages because the Time To Live (TTL) was zero.
PimGroupStats MIB table name: TIMETRA-PIM-NG-MIB.vRtrPimNgGrpSrcStatTable Monitored class: pim.Groups			
discardedPkts	UINT128	vRtrPimNgGrpSrcStatDscrdPkts	The value of vRtrPimNgGrpSrcStatDscrdPkts indicates the number of multicast packets that matched this source group entry but were discarded. For (S,G) entries, if the traffic is getting forwarded on the SPT, the packets arriving from the RPT will be discarded.
forwardedOctets	UINT128	vRtrPimNgGrpSrcStatFrdedOct	The value of vRtrPimNgGrpSrcStatFrdedOct indicates the number of multicast octets that were forwarded to the interfaces in the outgoing interface list. vRtrPimNgGrpSrcIfTable lists all the interfaces in the outgoing interface list.
forwardedPkts	UINT128	vRtrPimNgGrpSrcStatFrwdedPkts	The value of vRtrPimNgGrpSrcStatFrwdedPkts indicates the number of multicast packets that were forwarded to the interfaces in the outgoing interface list. vRtrPimNgGrpSrcIfTable lists all the interfaces in the outgoing interface list.

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5620 SAM counter name	Type	MIB counter name	Description
rpfMismatches	UINT128	vRtrPimNgGrpSrcStatRPFMsmtch	The value of vRtrPimNgGrpSrcStatRPFMsmtch indicates the number of multicast packets that matched this source group entry but they did not arrive on the the interface indicated by vRtrPimNgGrpSrcRpfIfIndex.

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Table A-38 ppp statistics

5620 SAM counter name	Type	MIB counter name	Description
PppStats MIB table name: TIMETRA-PPP-MIB.tmnxPppTable Monitored class: ppp.Interface			
keepaliveEchoReplyPacketsReceived	long	tmnxPppKaInPktCount	The number of echo-reply packets received.
keepaliveEchoRequestPacketsSent	long	tmnxPppKaOutPktCount	The number of echo-request packets sent.
keepaliveThresholdExceedsCount	long	tmnxPppKaThresholdExceedsCount	The number of times that tmnxPppKaDropCount was reached.
lqmInRate	long	tmnxPppLqmInRate	The average of 'SaveInPackets'/'PeerOutPackets' in the last five consecutive LQRs received.
lqmLqrPacketsReceived	long	tmnxPppLqmInPktCount	The number of LQR packets received.
lqmLqrPacketsSent	long	tmnxPppLqmOutPktCount	The number of LQR packets sent.
lqmOutRate	long	tmnxPppLqmOutRate	The average of 'PeerInPackets'/'LastOutPackets' in the last five consecutive LQRs received.
lqmThresholdExceedsCount	long	tmnxPppLqmThresholdExceedsCount	The number of times that either tmnxPppLqmInRate or tmnxPppLqmOutRate falls below the specified quality percentage when PPP quality or LQM is enforced.

Table A-39 radiusaccounting statistics

5620 SAM counter name	Type	MIB counter name	Description
PolicyStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSubAcctPlcyStatsTable Monitored class: radiusaccounting.Policy			
receiveResponses	long	tmnxSubAcctPlcyRxResponses	The value of tmnxSubAcctPlcyRxResponses indicates the number of accounting responses received for this policy.

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5620 SAM counter name	Type	MIB counter name	Description
requestRetries	long	tmnxSubAcctPlcySendRetries	The value of tmnxSubAcctPlcySendRetries indicates the number of retries to a different server for a single accounting request for this policy.
requestsFail	long	tmnxSubAcctPlcySendFail	The value of tmnxSubAcctPlcySendFail indicates how many accounting requests failed because the packet could not be sent out.
requestTimeOut	long	tmnxSubAcctPlcyReqTimeouts	The value of tmnxSubAcctPlcyReqTimeouts indicates the number of accounting requests which have timed out for this policy.
transferRequests	long	tmnxSubAcctPlcyTxRequests	The value of tmnxSubAcctPlcyTxRequests indicates the number of accounting requests transmitted for this policy.
RadiusEntryStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSubAcctPlcyRadStatsTable Monitored class: radiusaccounting.RadiusEntry			
receiveResponses	long	tmnxSubAcctPlcyRadRxResponses	The value of tmnxSubAcctPlcyRadRxResponses indicates the number of accounting responses received for this server.
requestsFail	long	tmnxSubAcctPlcyRadReqSendFail	The value of tmnxSubAcctPlcyRadReqSendFail indicates the number of accounting requests failed because the packet could not be sent out.
requestTimeOut	long	tmnxSubAcctPlcyRadReqTimeouts	The value of tmnxSubAcctPlcyRadReqTimeouts indicates the number of accounting requests which have timed out for this server.
transferRequests	long	tmnxSubAcctPlcyRadTxRequests	The value of tmnxSubAcctPlcyRadTxRequests indicates the number of accounting requests transmitted for this server.

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Table A-40 ressubscr statistics

5620 SAM counter name	Type	MIB counter name	Description
BsxSubCustRecAppGrpStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: ressubscr.ResidentialSubscriberInstance			
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.

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5620 SAM counter name	Type	MIB counter name	Description
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
appGrpName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.

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5620 SAM counter name	Type	MIB counter name	Description
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSubCustRecAppStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: ressubscr.ResidentialSubscriberInstance			
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSubCustRecProtStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: ressubscr.ResidentialSubscriberInstance			
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSubStudyAppStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubSdyTable Monitored class: ressubscr.ResidentialSubscriberInstance			
activeFlowsFromSub	long	tmnxBsxStatAaSubSdyActFlwsFmSb	The value of tmnxBsxStatAaSubSdyActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubSdyActFlwsToSb	The value of tmnxBsxStatAaSubSdyActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsLong	UINT128	tmnxBsxStatAaSubSdyHCLngDurFlws	The value of tmnxBsxStatAaSubSdyHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubSdyHCMedDurFlws	The value of tmnxBsxStatAaSubSdyHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubSdyHCShrtDurFlws	The value of tmnxBsxStatAaSubSdyHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmToSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyToSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmFmSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction.

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5620 SAM counter name	Type	MIB counter name	Description
octsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmToSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyToSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmToSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyToSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaSubSdyHCTermFlwDur	The value of tmnxBsxStatAaSubSdyHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubSdyHCTermFlws	The value of tmnxBsxStatAaSubSdyHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlws.

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5620 SAM counter name	Type	MIB counter name	Description
BsxSubStudyProtStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubSdyTable Monitored class: ressubscr.ResidentialSubscriberInstance			
activeFlowsFromSub	long	tmnxBsxStatAaSubSdyActFlwsFmSb	The value of tmnxBsxStatAaSubSdyActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubSdyActFlwsToSb	The value of tmnxBsxStatAaSubSdyActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubSdyHCLngDurFlws	The value of tmnxBsxStatAaSubSdyHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubSdyHCMedDurFlws	The value of tmnxBsxStatAaSubSdyHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubSdyHCShrtDurFlws	The value of tmnxBsxStatAaSubSdyHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmToSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyToSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmFmSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmToSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyToSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmToSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyToSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyToSb.
protName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
termFlowDuration	UINT128	tmnxBsxStatAaSubSdyHCTermFlwDur	The value of tmnxBsxStatAaSubSdyHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubSdyHCTermFlws	The value of tmnxBsxStatAaSubSdyHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlws.
HostTrackStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSubHostTrkStatsTable Monitored class: ressubscr.ResidentialSubscriberInstance			
sapInnerEncapValue	long	sapEncapValue	—
sapPortId	String	sapPortId	—
serviceId	long	svcId	—
statsType	int	tmnxSubHostTrkStatsType	The value of tmnxSubHostTrkStatsType indicates the type of host tracking statistics contained in tmnxSubHostTrkStatsVal.
statsValue	long	tmnxSubHostTrkStatsVal	The value of tmnxSubHostTrkStatsType indicates the value of the host tracking statistics of the type indicated by tmnxSubHostTrkStatsType, for this subscriber host.
subscriberHostAddress	String	tmnxSubHostInfoV2IpAddress	The value of tmnxSubHostInfoV2IpAddress specifies the IP address of this subscriber host.
subscriberHostAddressType	int	tmnxSubHostInfoV2IpAddressType	The value of tmnxSubHostInfoV2IpAddressType specifies the type of address stored in tmnxSubHostInfoV2IpAddress.
subscrIdent	String	tmnxSubInfoSubIdent	The value of tmnxSubInfoSubIdent specifies the subscriber identification of this subscriber.

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5620 SAM counter name	Type	MIB counter name	Description
HostTrackStatsOnSap MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSubHostSapTrkStatsTable Monitored classes: • vpls.AbstractL2AccessInterface • vprn.ServiceAccessPoint • ies.ServiceAccessPoint			
statsType	int	tmnxSubHostSapTrkStatsType	The value of tmnxSubHostSapTrkStatsType indicates the type of host tracking statistics contained in tmnxSubHostSapTrkStatsVal.
statsValue	long	tmnxSubHostSapTrkStatsVal	The value of tmnxSubHostSapTrkStatsType indicates the value of the host tracking statistics of the type indicated by tmnxSubHostSapTrkStatsType, for this host.
subscriberHostAddress	String	tmnxSubHostSapTrkHostAddr	The value of tmnxSubHostSapTrkHostAddr indicates the address of the host.
subscriberHostAddressType	int	tmnxSubHostSapTrkHostAddrType	The value of tmnxSubHostSapTrkHostAddrType indicates the address type of tmnxSubHostSapTrkHostAddr.
SLAProfInstEgrQStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSLAProfInstEgrQStatsTable Monitored class: ressubscr.ResidentialSubscriberInstance			
egrQStatsDropInProfileOctets	UINT128	tmnxSPIEgrQStatsDropInProfOctets	The value of tmnxSPIEgrQStatsDropInProfOctets indicates the number of in-profile octets discarded by the egress Qchip.
egrQStatsDropInProfilePackets	UINT128	tmnxSPIEgrQStatsDropInProfPkts	The value of tmnxSPIEgrQStatsDropInProfPkts indicates the number of in-profile packets discarded by the egress Qchip.
egrQStatsDropOutProfileOctets	UINT128	tmnxSPIEgrQStatsDropOutProfOctets	The value of tmnxSPIEgrQStatsDropOutProfOctets indicates the number of out-of-profile octets discarded by the egress Qchip.
egrQStatsDropOutProfilePackets	UINT128	tmnxSPIEgrQStatsDropOutProfPkts	The value of tmnxSPIEgrQStatsDropOutProfPkts indicates the number of out-of-profile packets discarded by the egress Qchip.
egrQStatsFwdInProfileOctets	UINT128	tmnxSPIEgrQStatsFwdInProfOctets	The value of tmnxSPIEgrQStatsFwdInProfOctets indicates the number of in-profile octets (rate below CIR) forwarded by the egress Qchip.
egrQStatsFwdInProfilePackets	UINT128	tmnxSPIEgrQStatsFwdInProfPkts	The value of tmnxSPIEgrQStatsFwdInProfPkts indicates the number of in-profile packets (rate below CIR) forwarded by the egress Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
egrQStatsFwdOutProfileOctets	UINT128	tmnxSPIEgrQStatsFwdOutProfOctets	The value of tmnxSPIEgrQStatsFwdOutProfOctets indicates the number of out-of-profile octets (rate above CIR) forwarded by the egress Qchip.
egrQStatsFwdOutProfilePackets	UINT128	tmnxSPIEgrQStatsFwdOutProfPkts	The value of tmnxSPIEgrQStatsFwdOutProfPkts indicates the number of out-of-profile packets (rate above CIR) forwarded by the egress Qchip.
egrQStatsQueueId	long	tmnxSPIEgrQStatsQueueId	The value of tmnxSPIEgrQStatsQueueId specifies the index of the egress QoS queue of this SLA profile instance.
slaProfileName	String	tmnxSLAProfName	The value of tmnxSLAProfName specifies the name of the SLA profile.
SLAProfInstIngQStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSLAProfInstIngQStatsTable Monitored class: ressubscr.ResidentialSubscriberInstance			
ingQStatsDropHiPriorityOctets	UINT128	tmnxSPIIngQStatsDropHiPrioOctets	The value of tmnxSPIIngQStatsDropHiPrioOctets indicates the number of high priority octets, as determined by the SLA profile ingress QoS policy, dropped by the Qchip.
ingQStatsDropHiPriorityPackets	UINT128	tmnxSPIIngQStatsDropHiPrioPkts	The value of tmnxSPIIngQStatsDropHiPrioPkts indicates the number of high priority packets, as determined by the SLA profile ingress QoS policy, dropped by the Qchip.
ingQStatsDropLoPriorityOctets	UINT128	tmnxSPIIngQStatsDropLoPrioOctets	The value of tmnxSPIIngQStatsDropLoPrioOctets indicates the number of low priority octets, as determined by the SLA profile ingress QoS policy, dropped by the Qchip.
ingQStatsDropLoPriorityPackets	UINT128	tmnxSPIIngQStatsDropLoPrioPkts	The value of tmnxSPIIngQStatsDropLoPrioPkts indicates the number of low priority packets, as determined by the SLA profile ingress QoS policy, dropped by the Qchip.
ingQStatsFwdInProfileOctets	UINT128	tmnxSPIIngQStatsFwdInProfOctets	The value of tmnxSPIIngQStatsFwdInProfOctets indicates the number of in-profile octets (rate below CIR) forwarded by the ingress Qchip.
ingQStatsFwdInProfilePackets	UINT128	tmnxSPIIngQStatsFwdInProfPkts	The value of tmnxSPIIngQStatsFwdInProfPkts indicates the number of in-profile packets (rate below CIR) forwarded by the ingress Qchip.
ingQStatsFwdOutProfileOctets	UINT128	tmnxSPIIngQStatsFwdOutProfOctets	The value of tmnxSPIIngQStatsFwdOutProfOctets indicates the number of out-of-profile octets (rate above CIR) forwarded by the ingress Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
ingQStatsFwdOutProfilePackets	UINT128	tmnxSPIIngQStatsFwdOutProfPkts	The value of tmnxSPIIngQStatsFwdOutProfPkts indicates the number of out-of-profile packets (rate above CIR) forwarded by the ingress Qchip.
ingQStatsOffHiPriorityOctets	UINT128	tmnxSPIIngQStatsOffHiPrioOctets	The value of tmnxSPIIngQStatsOffHiPrioOctets indicates the number of high priority octets, as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingQStatsOffHiPriorityPackets	UINT128	tmnxSPIIngQStatsOffHiPrioPkts	The value of tmnxSPIIngQStatsOffHiPrioPkts indicates the number of high priority packets, as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingQStatsOffLoPriorityOctets	UINT128	tmnxSPIIngQStatsOffLoPrioOctets	The value of tmnxSPIIngQStatsOffLoPrioOctets indicates the number of low priority octets, as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingQStatsOffLoPriorityPackets	UINT128	tmnxSPIIngQStatsOffLoPrioPkts	The value of tmnxSPIIngQStatsOffLoPrioPkts indicates the number of low priority packets, as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingQStatsOffUncoloredOctets	UINT128	tmnxSPIIngQStatsOffUncolOctets	The value of tmnxSPIIngQStatsOffUncolOctets indicates the number of uncolored octets offered to the ingress Qchip.
ingQStatsOffUncoloredPackets	UINT128	tmnxSPIIngQStatsOffUncolPkts	The value of tmnxSPIIngQStatsOffUncolPkts indicates the number of uncolored packets offered to the ingress Qchip.
ingQStatsQueueId	long	tmnxSPIIngQStatsQueueId	The value of tmnxSPIIngQStatsQueueId specifies the index of the ingress QoS queue of this SLA profile instance.
slaProfileName	String	tmnxSLAProfName	The value of tmnxSLAProfName specifies the name of the SLA profile.
SLAProfInstStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSLAProfInstStatsTable Monitored class: ressubscr.ResidentialSubscriberInstance			
egrQchipDropInProfileOctets	UINT128	tmnxSPIStatsEgrQchipDropInProfOctets	The value of tmnxSPIStatsEgrQchipDropInProfOctets indicates the number of in-profile octets dropped by the egress Qchip.
egrQchipDropInProfilePackets	UINT128	tmnxSPIStatsEgrQchipDropInProfPkts	The value of tmnxSPIStatsEgrQchipDropInProfPkts indicates the number of in-profile packets dropped by the egress Qchip.
egrQchipDropOutProfileOctets	UINT128	tmnxSPIStatsEgrQchipDropOutProfOctets	The value of tmnxSPIStatsEgrQchipDropOutProfOctets indicates the number of out-of-profile octets dropped by the egress Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
egrQchipDropOutProfilePackets	UINT128	tmnxSPIStatsEgrQchipDropOutProfPkts	The value of tmnxSPIStatsEgrQchipDropOutProfPkts indicates the number of out-of-profile packets dropped by the egress Qchip.
egrQchipFwdInProfileOctets	UINT128	tmnxSPIStatsEgrQchipFwdInProfOctets	The value of tmnxSPIStatsEgrQchipFwdInProfOctets indicates the number of in-profile octets (rate below CIR) forwarded by the egress Qchip.
egrQchipFwdInProfilePackets	UINT128	tmnxSPIStatsEgrQchipFwdInProfPkts	The value of tmnxSPIStatsEgrQchipFwdInProfPkts indicates the number of in-profile packets (rate below CIR) forwarded by the egress Qchip.
egrQchipFwdOutProfileOctets	UINT128	tmnxSPIStatsEgrQchipFwdOutProfOctets	The value of tmnxSPIStatsEgrQchipFwdOutProfOctets indicates the number of out-of-profile octets (rate above CIR) forwarded by the egress Qchip.
egrQchipFwdOutProfilePackets	UINT128	tmnxSPIStatsEgrQchipFwdOutProfPkts	The value of tmnxSPIStatsEgrQchipFwdOutProfPkts indicates the number of out-of-profile packets (rate above CIR) forwarded by the egress Qchip.
ingPchipOffHiPriorityOctets	UINT128	tmnxSPIStatsIngPchipOffHiPrioOctets	The value of tmnxSPIStatsIngPchipOffHiPrioOctets indicates the number of high priority octets as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingPchipOffHiPriorityPackets	UINT128	tmnxSPIStatsIngPchipOffHiPrioPkts	The value of tmnxSPIStatsIngPchipOffHiPrioPkts indicates the number of high priority packets as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingPchipOffLoPriorityOctets	UINT128	tmnxSPIStatsIngPchipOffLoPrioOctets	The value of tmnxSPIStatsIngPchipOffLoPrioOctets indicates the number of low priority octets as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingPchipOffLoPriorityPackets	UINT128	tmnxSPIStatsIngPchipOffLoPrioPkts	The value of tmnxSPIStatsIngPchipOffLoPrioPkts indicates the number of low priority packets as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingPchipOffUncoloredOctets	UINT128	tmnxSPIStatsIngPchipOffUncolOctets	The value of tmnxSPIStatsIngPchipOffUncolOctets indicates the number of uncolored octets as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
ingPchipOffUncoloredPackets	UINT128	tmnxSPIStatsIngPchipOff UncolPkts	The value of tmnxSPIStatsIngPchipOffUncolPkts indicates the number of uncolored packets as determined by the SLA profile ingress QoS policy, offered by the Pchip to the Qchip.
ingQchipDropHiPriorityOctets	UINT128	tmnxSPIStatsIngQchipDro pHiPrioOctets	The value of tmnxSPIStatsIngQchipDropHiPrioOctets indicates the number of high priority octets as determined by the SLA profile ingress QoS policy, dropped by the Qchip.
ingQchipDropHiPriorityPackets	UINT128	tmnxSPIStatsIngQchipDro pHiPrioPkts	The value of tmnxSPIStatsIngQchipDropHiPrioPkts indicates the number of high priority packets as determined by the SLA profile ingress QoS policy, dropped by the Qchip.
ingQchipDropLoPriorityOctets	UINT128	tmnxSPIStatsIngQchipDro pLoPrioOctets	The value of tmnxSPIStatsIngQchipDropLoPrioOctets indicates the number of low priority octets as determined by the SLA profile ingress QoS policy, dropped by the Qchip.
ingQchipDropLoPriorityPackets	UINT128	tmnxSPIStatsIngQchipDro pLoPrioPkts	The value of tmnxSPIStatsIngQchipDropLoPrioPkts indicates the number of low priority packets as determined by the SLA profile ingress QoS policy, dropped by the Qchip.
ingQchipFwdInProfileOctets	UINT128	tmnxSPIStatsIngQchipFwd InProfOctets	The value of tmnxSPIStatsIngQchipFwdInProfOctets indicates the number of in-profile octets (rate below CIR) forwarded by the ingress Qchip.
ingQchipFwdInProfilePackets	UINT128	tmnxSPIStatsIngQchipFwd InProfPkts	The value of tmnxSPIStatsIngQchipFwdInProfPkts indicates the number of in-profile packets (rate below CIR) forwarded by the ingress Qchip.
ingQchipFwdOutProfileOctets	UINT128	tmnxSPIStatsIngQchipFwd OutProfOctets	The value of tmnxSPIStatsIngQchipFwdOutProfOctets indicates the number of out-of-profile octets (rate above CIR) forwarded by the ingress Qchip.
ingQchipFwdOutProfilePackets	UINT128	tmnxSPIStatsIngQchipFwd OutProfPkts	The value of tmnxSPIStatsIngQchipFwdOutProfPkts indicates the number of out-of-profile packets (rate above CIR) forwarded by the ingress Qchip.
slaProfileName	String	tmnxSLAProfName	The value of tmnxSLAProfName specifies the name of the SLA profile.
SubEgrQosSchedStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSubEgrQosSchedStatsTable Monitored class: ressubscr.ResidentialSubscriberInstance			
egrQosSchedName	String	tmnxSubEgrQosSchedStat sName	The value of tmnxSubEgrQosSchedStatsName specifies the egress QoS scheduler of this subscriber.

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5620 SAM counter name	Type	MIB counter name	Description
forwardedOctets	UINT128	tmnxSubEgrQosSchedStatsFwdOctets	The value of tmnxSubEgrQosSchedStatsFwdOctets indicates the number of forwarded octets by the egress Qchip, as determined by the subscriber egress scheduler policy.
forwardedPackets	UINT128	tmnxSubEgrQosSchedStatsFwdPkts	The value of tmnxSubEgrQosSchedStatsFwdPkts indicates the number of forwarded packets by the egress Qchip, as determined by the subscriber egress scheduler policy.
SubIngQosSchedStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSubIngQosSchedStatsTable Monitored class: ressubscr.ResidentialSubscriberInstance			
forwardedOctets	UINT128	tmnxSubIngQosSchedStatsFwdOctets	The value of tmnxSubIngQosSchedStatsFwdOctets indicates the number of forwarded octets, as determined by the subscriber ingress scheduler policy, offered by the Pchip to the Qchip.
forwardedPackets	UINT128	tmnxSubIngQosSchedStatsFwdPkts	The value of tmnxSubIngQosSchedStatsFwdPkts indicates the number of forwarded packets, as determined by the subscriber ingress scheduler policy, offered by the Pchip to the Qchip.
ingQosSchedName	String	tmnxSubIngQosSchedStatsName	The value of tmnxSubIngQosSchedStatsName specifies the ingress QoS scheduler of this subscriber.

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Table A-41 rip statistics

5620 SAM counter name	Type	MIB counter name	Description
InterfaceReceiveStats MIB table name: TIMETRA-RIP-MIB.vRtrRipIfStatTable Monitored class: rip.Interface			
badPackets	long	vRtrRipIfStatAllRcvBadPackets	vRtrRipIfStatAllRcvBadPackets is the number of RIP updates received on this interface that were discarded as invalid.
v1BadRoutes	long	vRtrRipIfStatV1BadRoutes	vRtrRipIfStatV1BadRoutes is the number of routes, in valid RIPv1 packets, which were ignored for any reason (e.g. unknown address family, or invalid metric).
v1Requests	long	vRtrRipIfStatV1RcvRequests	vRtrRipIfStatV1RcvRequests is the number of RIPv1 request packets received by the RIP process.
v1RequestsIgnored	long	vRtrRipIfStatV1BadRequests	vRtrRipIfStatV1BadRequests is the number of RIPv1 request packets received by the RIP process that were subsequently discarded for any reason.

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5620 SAM counter name	Type	MIB counter name	Description
v1Updates	long	vRtrRipIfStatV1RcvUpdates	vRtrRipIfStatV1RcvUpdates is the number of RIPv1 response packets received by the RIP process.
v1UpdatesIgnored	long	vRtrRipIfStatV1BadUpdates	vRtrRipIfStatV1BadUpdates is the number of RIPv1 response packets received by the RIP process which were subsequently discarded for any reason.
v2AuthenticationErrors	long	vRtrRipIfStatAuthErrors	vRtrRipIfStatAuthErrors is the number of RIPv2 packets received by the RIP process which were subsequently discarded because of an error authenticating the packet.
v2BadRoutes	long	vRtrRipIfStatV2BadRoutes	vRtrRipIfStatV2BadRoutes is the number of routes, in valid RIPv2 packets, which were ignored for any reason (e.g. unknown address family, or invalid metric).
v2Requests	long	vRtrRipIfStatV2RcvRequests	vRtrRipIfStatV2RcvRequests is the number of RIPv2 request packets received by the RIP process.
v2RequestsIgnored	long	vRtrRipIfStatV2BadRequests	vRtrRipIfStatV2BadRequests is the number of RIPv2 request packets received by the RIP process that were subsequently discarded for any reason.
v2Updates	long	vRtrRipIfStatV2RcvUpdates	vRtrRipIfStatV2RcvUpdates is the number of RIPv2 response packets received by the RIP process.
v2UpdatesIgnored	long	vRtrRipIfStatV2BadUpdates	vRtrRipIfStatV2BadUpdates is the number of RIPv2 response packets received by the RIP process which were subsequently discarded for any reason.
InterfaceTransmitStats MIB table name: TIMETRA-RIP-MIB.vRtrRipIfStatTable Monitored class: rip.Interface			
totalUpdates	long	vRtrRipIfStatAllSentUpdates	vRtrRipIfStatAllSentUpdates is the number of all RIP updates actually sent on this interface. This explicitly does include full updates sent containing new information.
triggeredUpdates	long	vRtrRipIfStatAllTriggeredUpdates	vRtrRipIfStatAllTriggeredUpdates is the number of triggered RIP updates actually sent on this interface. This explicitly does include full updates sent containing new information.

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Table A-42 rsvp statistics

5620 SAM counter name	Type	MIB counter name	Description
AuthenticationKeyStats MIB table name: TIMETRA-RSVP-MIB.vRtrRsvpIfStatTable Monitored class: rsvp.AuthenticationKey			

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5620 SAM counter name	Type	MIB counter name	Description
errorPacketsReceived	UINT128	vRtrRsvpIfStatRxAuthErrors	The total number of RSVP packets with MD5 errors received on this RSVP interface.
errorPacketsTransmitted	UINT128	vRtrRsvpIfStatTxAuthErrors	The total number of RSVP packets with MD5 errors sent by this RSVP interface.
RsvpInterfaceReceiveStats MIB table name: TIMETRA-RSVP-MIB.vRtrRsvpIfStatTable Monitored class: rsvp.Interface			
acks	UINT128	vRtrRsvpIfStatRxAcks	The total number of RSVP ACK messages received when refresh reduction is enabled on this RSVP interface.
acks	UINT128	vRtrRsvpIfStatTxAcks	The total number of RSVP ACK messages that have been transmitted on this RSVP interface when refresh reduction is enabled.
bundles	UINT128	vRtrRsvpIfStatRxBundles	The total number of RSVP bundled packets received on this RSVP interface. Bundled packets are sent when refresh reduction is enabled.
bundles	UINT128	vRtrRsvpIfStatTxBundles	The total number of RSVP bundled packets that have been transmitted on this RSVP interface.
errorPackets	UINT128	vRtrRsvpIfStatRxErrorPkts	The total number of RSVP packets with errors received on this RSVP interface.
errorPackets	UINT128	vRtrRsvpIfStatTxErrorPkts	The total number of RSVP packets with errors that have been transmitted on this RSVP interface.
hellos	UINT128	vRtrRsvpIfStatRxHelloReqs	The total number of RSVP HELLO REQ messages received on this RSVP interface.
hellos	UINT128	vRtrRsvpIfStatTxHelloReqs	The total number of RSVP HELLO REQ packets that have been transmitted on this RSVP interface.
helloTimeout	long	vRtrRsvpIfStatHelloTimeout	The total number of hello messages that timed out on this RSVP interface.
packets	UINT128	vRtrRsvpIfStatRxPkts	The total number of error free RSVP packets received on this RSVP interface.
packets	UINT128	vRtrRsvpIfStatTxPkts	The total number of error free RSVP packets that have been transmitted on this RSVP interface.
pathErrors	UINT128	vRtrRsvpIfStatRxPathErrors	The total number of RSVP PATH ERROR messages that have been transmitted on this RSVP interface.
pathErrors	UINT128	vRtrRsvpIfStatTxPathErrors	The total number of RSVP PATH ERROR messages that have been transmitted from this RSVP interface.
paths	UINT128	vRtrRsvpIfStatRxPaths	The total number of RSVP PATH messages that have been received on this RSVP interface.
paths	UINT128	vRtrRsvpIfStatTxPaths	The total number of RSVP PATH messages that have been transmitted from this RSVP interface.

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5620 SAM counter name	Type	MIB counter name	Description
pathTears	UINT128	vRtrRsvpIfStatRxPathTears	The total number of RSVP PATH TEAR messages that have been received on this RSVP interface.
pathTears	UINT128	vRtrRsvpIfStatTxPathTears	The total number of RSVP PATH TEAR messages that have been transmitted from this RSVP interface.
refreshes	UINT128	vRtrRsvpIfStatRxSRefreshes	The total number of RSVP summary refresh, SREFRESH, messages received on this RSVP interface.
refreshes	UINT128	vRtrRsvpIfStatTxSRefreshes	The total number of summary refresh, SREFRESH, messages that have been transmitted on this RSVP interface when refresh reduction is enabled.
reserveConfirms	UINT128	vRtrRsvpIfStatRxResvConfirms	The total number of RSVP RESV CONFIRM messages that have been received on this RSVP interface.
reserveConfirms	UINT128	vRtrRsvpIfStatTxResvConfirms	The total number of RSVP RESV CONFIRM messages that have been transmitted from this RSVP interface.
reserveErrors	UINT128	vRtrRsvpIfStatRxResvErrors	The total number of RSVP RESV ERROR messages that have been received on this RSVP interface.
reserveErrors	UINT128	vRtrRsvpIfStatTxResvErrors	The total number of RSVP RESV ERROR messages that have been transmitted from this RSVP interface.
reserves	UINT128	vRtrRsvpIfStatRxResvs	The total number of RSVP RESV messages that have been received on this RSVP interface.
reserves	UINT128	vRtrRsvpIfStatTxResvs	The total number of RSVP RESV messages that have been transmitted from this RSVP interface.
reserveTears	UINT128	vRtrRsvpIfStatRxResvTears	The total number of RSVP RESV TEAR messages that have been received on this RSVP interface.
reserveTears	UINT128	vRtrRsvpIfStatTxResvTears	The total number of RSVP RESV TEAR messages that have been transmitted from this RSVP interface.
totalPackets	UINT128	vRtrRsvpIfStatRxTotalPkts	The total number of RSVP packets, including errors, received on this RSVP interface.
totalPackets	UINT128	vRtrRsvpIfStatTxTotalPkts	The total number of RSVP packets, including error packets, that have been transmitted on this RSVP interface.
RsvpInterfaceStats MIB table name: TIMETRA-RSVP-MIB.vRtrRsvpIfTable Monitored class: rsvp.Interface			
activeReservations	long	vRtrRsvpIfActiveReservationCount	The total number of active RSVP sessions that have reserved bandwidth.

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5620 SAM counter name	Type	MIB counter name	Description
activeSessions	long	vRtrRsvpIfActiveSessionCount	The total number of active RSVP sessions on this interface. This count includes sessions that have requested bandwidth as well as sessions that have not requested any bandwidth.
bandwidth	long	vRtrRsvpIfBandwidth	The value of vRtrRsvpIfBandwidth specifies the amount of bandwidth in mega-bits per second (Mbps) available to be reserved for the RSVP protocol on this interface. This is typically the (port Speed * subscription Percentage).
reservedBandwidth	long	vRtrRsvpIfReservedBandwidth	The value of vRtrRsvpIfReservedBandwidth specifies the amount of bandwidth in mega-bits per second (Mbps) to reserved by the RSVP sessions on this interface. A value of zero (0) indicates that no bandwidth is reserved.
totalSessions	long	vRtrRsvpIfTotalSessionCount	The total number of RSVP sessions on this interface. This count includes sessions that are active as well as sessions that have been signalled but a response has not yet been received.
RsvpInterfaceTransmitStats MIB table name: TIMETRA-RSVP-MIB.vRtrRsvpIfStatTable Monitored class: rsvp.Interface			
acks	UINT128	vRtrRsvpIfStatRxAcks	The total number of RSVP ACK messages received when refresh reduction is enabled on this RSVP interface.
acks	UINT128	vRtrRsvpIfStatTxAcks	The total number of RSVP ACK messages that have been transmitted on this RSVP interface when refresh reduction is enabled.
bundles	UINT128	vRtrRsvpIfStatRxBundles	The total number of RSVP bundled packets received on this RSVP interface. Bundled packets are sent when refresh reduction is enabled.
bundles	UINT128	vRtrRsvpIfStatTxBundles	The total number of RSVP bundled packets that have been transmitted on this RSVP interface.
errorPackets	UINT128	vRtrRsvpIfStatRxErrorPkts	The total number of RSVP packets with errors received on this RSVP interface.
errorPackets	UINT128	vRtrRsvpIfStatTxErrorPkts	The total number of RSVP packets with errors that have been transmitted on this RSVP interface.
hellos	UINT128	vRtrRsvpIfStatRxHelloReqs	The total number of RSVP HELLO REQ messages received on this RSVP interface.
hellos	UINT128	vRtrRsvpIfStatTxHelloReqs	The total number of RSVP HELLO REQ packets that have been transmitted on this RSVP interface.
packets	UINT128	vRtrRsvpIfStatRxPkts	The total number of error free RSVP packets received on this RSVP interface.

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5620 SAM counter name	Type	MIB counter name	Description
packets	UINT128	vRtrRsvpIfStatTxPkts	The total number of error free RSVP packets that have been transmitted on this RSVP interface.
pathErrors	UINT128	vRtrRsvpIfStatRxPathErrors	The total number of RSVP PATH ERROR messages that have been transmitted on this RSVP interface.
pathErrors	UINT128	vRtrRsvpIfStatTxPathErrors	The total number of RSVP PATH ERROR messages that have been transmitted from this RSVP interface.
paths	UINT128	vRtrRsvpIfStatRxPaths	The total number of RSVP PATH messages that have been received on this RSVP interface.
paths	UINT128	vRtrRsvpIfStatTxPaths	The total number of RSVP PATH messages that have been transmitted from this RSVP interface.
pathTears	UINT128	vRtrRsvpIfStatRxPathTears	The total number of RSVP PATH TEAR messages that have been received on this RSVP interface.
pathTears	UINT128	vRtrRsvpIfStatTxPathTears	The total number of RSVP PATH TEAR messages that have been transmitted from this RSVP interface.
refreshes	UINT128	vRtrRsvpIfStatRxSRefreshes	The total number of RSVP summary refresh, SREFRESH, messages received on this RSVP interface.
refreshes	UINT128	vRtrRsvpIfStatTxSRefreshes	The total number of summary refresh, SREFRESH, messages that have been transmitted on this RSVP interface when refresh reduction is enabled.
reserveConfirms	UINT128	vRtrRsvpIfStatRxResvConfirms	The total number of RSVP RESV CONFIRM messages that have been received on this RSVP interface.
reserveConfirms	UINT128	vRtrRsvpIfStatTxResvConfirms	The total number of RSVP RESV CONFIRM messages that have been transmitted from this RSVP interface.
reserveErrors	UINT128	vRtrRsvpIfStatRxResvErrors	The total number of RSVP RESV ERROR messages that have been received on this RSVP interface.
reserveErrors	UINT128	vRtrRsvpIfStatTxResvErrors	The total number of RSVP RESV ERROR messages that have been transmitted from this RSVP interface.
reserves	UINT128	vRtrRsvpIfStatRxResvs	The total number of RSVP RESV messages that have been received on this RSVP interface.
reserves	UINT128	vRtrRsvpIfStatTxResvs	The total number of RSVP RESV messages that have been transmitted from this RSVP interface.
reserveTears	UINT128	vRtrRsvpIfStatRxResvTears	The total number of RSVP RESV TEAR messages that have been received on this RSVP interface.
reserveTears	UINT128	vRtrRsvpIfStatTxResvTears	The total number of RSVP RESV TEAR messages that have been transmitted from this RSVP interface.

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5620 SAM counter name	Type	MIB counter name	Description
totalPackets	UINT128	vRtrRsvpIfStatRxTotalPkts	The total number of RSVP packets, including errors, received on this RSVP interface.
totalPackets	UINT128	vRtrRsvpIfStatTxTotalPkts	The total number of RSVP packets, including error packets, that have been transmitted on this RSVP interface.
RsvpSessionStats MIB table name: TIMETRA-RSVP-MIB.vRtrRsvpSessionStatTable Monitored class: rsvp.Session			
detourAge	long	vRtrRsvpSessionDetourAge	vRtrRsvpSessionDetourAge is the age (i.e., time from creation till now) of this detour LSP in 10-millisecond periods.
detourTimeUp	long	vRtrRsvpSessionDetourTimeUp	vRtrRsvpSessionDetourTimeUp is the total time in 10-millisecond units that the detour LSP has been operational.
pathsReceived	UINT128	vRtrRsvpSessionRxPaths	The total number of RSVP PATH messages received for this RSVP session.
pathsTransmitted	UINT128	vRtrRsvpSessionTxPaths	The total number of RSVP PATH messages transmitted for this RSVP session.
refreshPathsReceived	UINT128	vRtrRsvpSessionRxSrefreshPaths	The value of vRtrRsvpSessionRxSrefreshPaths indicates the number of times PATH was refreshed using message ID from full PATH refresh or Srefresh message for this RSVP session.
refreshPathsTransmitted	UINT128	vRtrRsvpSessionTxSrefreshPaths	The value of vRtrRsvpSessionTxSrefreshPaths indicates the number of times PATH refresh for the session was sent as a part of a Srefresh message.
refreshReservesReceived	UINT128	vRtrRsvpSessionRxSrefreshResvs	The value of vRtrRsvpSessionRxSrefreshResvs indicates the number of times RESV was refreshed using message ID from full RESV refresh or Srefresh message for this RSVP session.
refreshReservesTransmitted	UINT128	vRtrRsvpSessionTxSrefreshResvs	The value of vRtrRsvpSessionTxSrefreshResvs indicates the number of times RESV refresh for the session was sent as a part of a Srefresh message.
reservesReceived	UINT128	vRtrRsvpSessionRxResvs	The total number of RSVP RESV messages received for this RSVP session.
reservesTransmitted	UINT128	vRtrRsvpSessionTxResvs	The total number of RSVP RESV messages transmitted for this RSVP session.

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Table A-43 rtr statistics

5620 SAM counter name	Type	MIB counter name	Description
CpeCheckStats MIB table name: TIMETRA-VRTR-MIB.vRtrInetStatRteCpeChkStatsTable Monitored class: rtr.StaticRoute			
downTransitions	long	vRtrInetStatRteCpeChkDownTrans	The value of vRtrInetStatRteCpeChkDownTrans indicates the number of times the CPE has transitioned to the unavailable state.
echoReplyPacketsReceived	long	vRtrInetStatRteCpeChkInPktCnt	The value of vRtrInetStatRteCpeChkInPktCnt indicates the number of echo-reply packets received.
echoRequestPacketsSent	long	vRtrInetStatRteCpeChkOutPktCnt	The value of vRtrInetStatRteCpeChkOutPktCnt indicates the number of echo-request packets sent.
hostUpDownTime	long	vRtrInetStatRteCpeChkUpTime	The value of vRtrInetStatRteCpeChkUpTime indicates how long (in hundredths of a second) that the CPE has been available.
ttl	long	vRtrInetStatRteCpeChkTTL	The value of vRtrInetStatRteCpeChkTTL indicates the time, in seconds, before the CPE will be declared down. Upon receipt of an echo reply, it has the value of vRtrInetStaticRouteCpeInterval * vRtrInetStaticRouteCpeDropCnt and is decremented by 1 every second.
upTransitions	long	vRtrInetStatRteCpeChkUpTrans	The value of vRtrInetStatRteCpeChkUpTrans indicates the number of times the CPE has transitioned to the available state.
DhcpRelayStats MIB table name: TIMETRA-VRTR-MIB.vRtrIfDHCPRelayStatsTable Monitored classes: • rtr.DhcpRelayConfiguration • rtr.SubItfDhcpRelayCfg • rtr.GrpItfDhcpRelayCfg			
authPktsDiscarded	long	vRtrIfDHCPRelayAuthPktsDiscarded	vRtrIfDHCPRelayAuthPktsDiscarded indicates the total number of packets discarded because authentication was not successful.
authPktsSuccess	long	vRtrIfDHCPRelayAuthPktsSuccess	vRtrIfDHCPRelayAuthPktsSuccess indicates the total number of packets for which authentication was successful.
clientPacketsDiscarded	long	vRtrIfDHCPRelayClientPktsDiscarded	vRtrIfDHCPRelayClientPktsDiscarded indicates the total number of client packets dicarded by the DHCP relay agent.
clientPacketsRelayed	long	vRtrIfDHCPRelayClientPktsRelayed	vRtrIfDHCPRelayClientPktsRelayed indicates the total number of client packets relayed by the DHCP relay agent.

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5620 SAM counter name	Type	MIB counter name	Description
clientPktsProxLS	long	vRtrIfDHCPRelayClientPktsProxLS	vRtrIfDHCPRelayClientPktsProxLS indicates the total number of client packets proxied by the DHCP relay agent based on a lease state. The lease itself can have been obtained from a DHCP or RADIUS server. This is the so called lease split functionality.
clientPktsProxRad	long	vRtrIfDHCPRelayClientPktsProxRad	vRtrIfDHCPRelayClientPktsProxRad indicates the total number of client packets proxied by the DHCP relay agent based on data received from a RADIUS server.
clientPktsProxRad	long	vRtrIfDHCPRelayClientPktsSnooped	vRtrIfDHCPRelayClientPktsSnooped indicates the total number of client packets snooped by the DHCP relay agent.
pktsGenRelease	long	vRtrIfDHCPRelayPktsGenRelease	vRtrIfDHCPRelayPktsGenRelease indicates the total number of DHCP RELEASE messages spoofed by the DHCP relay agent to the DHCP server.
receivedMalformedPackets	long	vRtrIfDHCPRelayRxMalformedPkts	vRtrIfDHCPRelayRxMalformedPkts indicates the total number of malformed packets received by the DHCP relay agent.
receivedPackets	long	vRtrIfDHCPRelayRxPkts	vRtrIfDHCPRelayRxPkts indicates the total number of packets received by the DHCP relay agent.
receivedUntrustedPackets	long	vRtrIfDHCPRelayRxUntrustedPkts	vRtrIfDHCPRelayRxUntrustedPkts indicates the total number of untrusted packets received by the DHCP relay agent.
serverPacketsDiscarded	long	vRtrIfDHCPRelayServerPktsDiscarded	vRtrIfDHCPRelayServerPktsDiscarded indicates the total number of server packets discarded by the DHCP relay agent.
serverPacketsRelayed	long	vRtrIfDHCPRelayServerPktsRelayed	vRtrIfDHCPRelayServerPktsRelayed indicates the total number of server packets relayed by the DHCP relay agent.
serverPktsSnooped	long	vRtrIfDHCPRelayPktsGenForceRenew	vRtrIfDHCPRelayPktsGenForceRenew indicates the total number of DHCP FORCERENEW messages spoofed by the DHCP relay agent to the DHCP clients.
serverPktsSnooped	long	vRtrIfDHCPRelayServerPktsSnooped	vRtrIfDHCPRelayServerPktsSnooped indicates the total number of server packets snooped by the DHCP relay agent.
transmittedPackets	long	vRtrIfDHCPRelayTxPkts	vRtrIfDHCPRelayTxPkts indicates the total number of packets transmitted by the DHCP relay agent.
DhcpRelayV6Stats MIB table name: TIMETRA-SERV-MIB.svcIfDHCP6MsgStatTable Monitored classes: • rtr.DhcpRelayV6Configuration • rtr.DhcpRelayV6ProxyServer			

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5620 SAM counter name	Type	MIB counter name	Description
droppedPackets	long	svcIfDHCP6MsgStatsDropped	The value of svcIfDHCP6MsgStatsDropped indicates the number of DHCP6 packets were dropped on this service interface.
receivedPackets	long	svcIfDHCP6MsgStatsRcvd	The value of svcIfDHCP6MsgStatsRcvd indicates the number of DHCP6 packets were received on this service interface.
transmittedPackets	long	svcIfDHCP6MsgStatsSent	The value of svcIfDHCP6MsgStatsSent indicates the number of DHCP6 packets were sent on this service interface.
NetworkInterfaceReasStats MIB table name: TIMETRA-VRTR-MIB.vRtrIfStatsTable Monitored classes: • rtr.NetworkInterface • vprn.L3AccessInterface			
ipReasBytesRx	UINT128	vRtrIfIpReasBytesRx	The value of vRtrIfIpReasBytesRx indicates the number of total bytes received on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasBytesRxHigh32	long	vRtrIfIpReasBytesRxHigh32	The value of vRtrIfIpReasBytesRxHigh32 indicates the high 32 bits of the value of vRtrIfIpReasBytesRx.
ipReasBytesRxLow32	long	vRtrIfIpReasBytesRxLow32	The value of vRtrIfIpReasBytesRxLow32 indicates the lower 32 bits of the value of vRtrIfIpReasBytesRx.
ipReasBytesTx	UINT128	vRtrIfIpReasBytesTx	The value of vRtrIfIpReasBytesTx indicates the number of total bytes sent from this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasBytesTxHigh32	long	vRtrIfIpReasBytesTxHigh32	The value of vRtrIfIpReasBytesTxHigh32 indicates the high 32 bits of the value of vRtrIfIpReasBytesTx.
ipReasBytesTxLow32	long	vRtrIfIpReasBytesTxLow32	The value of vRtrIfIpReasBytesTxLow32 indicates the lower 32 bits of the value of vRtrIfIpReasBytesTx.
ipReasFragBytesRcvd	UINT128	vRtrIfIpReasFragBytesRcvd	The value of vRtrIfIpReasFragBytesRcvd indicates the number of fragmented bytes received on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasFragBytesRcvdHigh32	long	vRtrIfIpReasFragBytesRcvdHigh32	The value of vRtrIfIpReasFragBytesRcvdHigh32 indicates the high 32 bits of the value of vRtrIfIpReasFragBytesRcvd.
ipReasFragBytesRcvdLow32	long	vRtrIfIpReasFragBytesRcvdLow32	The value of vRtrIfIpReasFragBytesRcvdLow32 indicates the lower 32 bits of the value of vRtrIfIpReasFragBytesRcvd.
ipReasFragBytesReas	UINT128	vRtrIfIpReasFragBytesReas	The value of vRtrIfIpReasFragBytesReas indicates the number of fragmented bytes reassembled on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.

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5620 SAM counter name	Type	MIB counter name	Description
ipReasFragBytesReasHigh32	long	vRtrIfIpReasFragBytesReasHigh32	The value of vRtrIfIpReasFragBytesReasHigh32 indicates the high 32 bits of the value of vRtrIfIpReasFragBytesReas.
ipReasFragBytesReasLow32	long	vRtrIfIpReasFragBytesReasLow32	The value of vRtrIfIpReasFragBytesReasLow32 indicates the lower 32 bits of the value of vRtrIfIpReasFragBytesReas.
ipReasFragDisc	UINT128	vRtrIfIpReasFragDisc	The value of vRtrIfIpReasFragDisc indicates the number of packets reassembly discarded due to the timeout on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasFragDiscHigh32	long	vRtrIfIpReasFragDiscHigh32	The value of vRtrIfIpReasFragDiscHigh32 indicates the high 32 bits of the value of vRtrIfIpReasFragDisc.
ipReasFragDiscLow32	long	vRtrIfIpReasFragDiscLow32	The value of vRtrIfIpReasFragDiscLow32 indicates the lower 32 bits of the value of vRtrIfIpReasFragDisc.
ipReasFragPktsRcvd	UINT128	vRtrIfIpReasFragPktsRcvd	The value of vRtrIfIpReasFragPktsRcvd indicates the number of fragmented packets received on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasFragPktsRcvdHigh32	long	vRtrIfIpReasFragPktsRcvdHigh32	The value of vRtrIfIpReasFragPktsRcvdHigh32 indicates the high 32 bits of the value of vRtrIfIpReasFragPktsRcvd.
ipReasFragPktsRcvdLow32	long	vRtrIfIpReasFragPktsRcvdLow32	The value of vRtrIfIpReasFragPktsRcvdLow32 indicates the lower 32 bits of the value of vRtrIfIpReasFragPktsRcvd.
ipReasFragPktsReas	UINT128	vRtrIfIpReasFragPktsReas	The value of vRtrIfIpReasFragPktsReas indicates the number of fragmented packets reassembled on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasFragPktsReasHigh32	long	vRtrIfIpReasFragPktsReasHigh32	The value of vRtrIfIpReasFragPktsReasHigh32 indicates the high 32 bits of the value of vRtrIfIpReasFragPktsRcvd.
ipReasFragPktsReasLow32	long	vRtrIfIpReasFragPktsReasLow32	The value of vRtrIfIpReasFragPktsReasLow32 indicates the lower 32 bits of the value of vRtrIfIpReasFragPktsReas.
ipReasFragReasErrors	UINT128	vRtrIfIpReasFragReasErrors	The value of vRtrIfIpReasFragReasErrors indicates the number of reassembly errors occured on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasFragReasErrorsHigh32	long	vRtrIfIpReasFragReasErrorsHigh32	The value of vRtrIfIpReasFragReasErrorsHigh32 indicates the high 32 bits of the value of vRtrIfIpReasFragReasErrors.

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5620 SAM counter name	Type	MIB counter name	Description
ipReasFragReasErrorsLow32	long	vRtrIfIpReasFragReasErrorsLow32	The value of vRtrIfIpReasFragReasErrorsLow32 indicates the lower 32 bits of the value of vRtrIfIpReasFragReasErrors.
ipReasOutBufRes	UINT128	vRtrIfIpReasOutBufRes	The value of vRtrIfIpReasOutBufRes indicates the number of times out of buffer resources happend while reassembly on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasOutBufResHigh32	long	vRtrIfIpReasOutBufResHigh32	The value of vRtrIfIpReasOutBufResHigh32 indicates the high 32 bits of the value of vRtrIfIpReasOutBufRes.
ipReasOutBufResLow32	long	vRtrIfIpReasOutBufResLow32	The value of vRtrIfIpReasOutBufResLow32 indicates the lower 32 bits of the value of vRtrIfIpReasOutBufRes.
ipReasPktsRx	UINT128	vRtrIfIpReasPktsRx	The value of vRtrIfIpReasPktsRx indicates the number of total packets received on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasPktsRxHigh32	long	vRtrIfIpReasPktsRxHigh32	The value of vRtrIfIpReasPktsRxHigh32 indicates the high 32 bits of the value of vRtrIfIpReasPktsRx.
ipReasPktsRxLow32	long	vRtrIfIpReasPktsRxLow32	The value of vRtrIfIpReasPktsRxLow32 indicates the lower 32 bits of the value of vRtrIfIpReasPktsRx.
ipReasPktsTx	UINT128	vRtrIfIpReasPktsTx	The value of vRtrIfIpReasPktsTx indicates the number of total packets sent from this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasPktsTxHigh32	long	vRtrIfIpReasPktsTxHigh32	The value of vRtrIfIpReasPktsTxHigh32 indicates the high 32 bits of the value of vRtrIfIpReasPktsTx.
ipReasPktsTxLow32	long	vRtrIfIpReasPktsTxLow32	The value of vRtrIfIpReasPktsTxLow32 indicates the lower 32 bits of the value of vRtrIfIpReasPktsTx.
ipReasV6BytesRx	UINT128	vRtrIfIpReasV6BytesRx	The value of vRtrIfIpReasV6BytesRx indicates the number of total IPv6 bytes received on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6BytesRxHigh32	long	vRtrIfIpReasV6BytesRxHigh32	The value of vRtrIfIpReasV6BytesRxHigh32 indicates the high 32 bits of the value of vRtrIfIpReasV6BytesRx.
ipReasV6BytesRxLow32	long	vRtrIfIpReasV6BytesRxLow32	The value of vRtrIfIpReasV6BytesRxLow32 indicates the lower 32 bits of the value of vRtrIfIpReasV6BytesRx.
ipReasV6BytesTx	UINT128	vRtrIfIpReasV6BytesTx	The value of vRtrIfIpReasV6BytesTx indicates the number of total IPv6 bytes sent from this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.

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5620 SAM counter name	Type	MIB counter name	Description
ipReasV6BytesTxHigh32	long	vRtrIfIpReasV6BytesTxHigh32	The value of vRtrIfIpReasV6BytesTxHigh32 indicates the high 32 bits of the value of vRtrIfIpReasV6BytesTx.
ipReasV6BytesTxLow32	long	vRtrIfIpReasV6BytesTxLow32	The value of vRtrIfIpReasV6BytesTxLow32 indicates the lower 32 bits of the value of vRtrIfIpReasV6BytesTx.
ipReasV6FragBytesRcvd	UINT128	vRtrIfIpReasV6FragBytesRcvd	The value of vRtrIfIpReasV6FragBytesRcvd indicates the number of IPv6 fragmented bytes received on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6FragBytesRcvdH32	long	vRtrIfIpReasV6FragBytesRcvdH32	The value of vRtrIfIpReasV6FragBytesRcvdH32 indicates the high 32 bits of the value of vRtrIfIpReasV6FragBytesRcvd.
ipReasV6FragBytesRcvdL32	long	vRtrIfIpReasV6FragBytesRcvdL32	The value of vRtrIfIpReasV6FragBytesRcvdL32 indicates the lower 32 bits of the value of vRtrIfIpReasV6FragBytesRcvd.
ipReasV6FragBytesReas	UINT128	vRtrIfIpReasV6FragBytesReas	The value of vRtrIfIpReasV6FragBytesReas indicates the number of IPv6 fragmented bytes reassembled on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6FragBytesReasH32	long	vRtrIfIpReasV6FragBytesReasH32	The value of vRtrIfIpReasV6FragBytesReasH32 indicates the high 32 bits of the value of vRtrIfIpReasV6FragBytesReas.
ipReasV6FragBytesReasL32	long	vRtrIfIpReasV6FragBytesReasL32	The value of vRtrIfIpReasV6FragBytesReasL32 indicates the lower 32 bits of the value of vRtrIfIpReasV6FragBytesReas.
ipReasV6FragDisc	UINT128	vRtrIfIpReasV6FragDisc	The value of vRtrIfIpReasV6FragDisc indicates the number of IPv6 packets reassembly discarded due to the timeout on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6FragDiscHigh32	long	vRtrIfIpReasV6FragDiscHigh32	The value of vRtrIfIpReasV6FragDiscHigh32 indicates the high 32 bits of the value of vRtrIfIpReasV6FragDisc.
ipReasV6FragDiscLow32	long	vRtrIfIpReasV6FragDiscLow32	The value of vRtrIfIpReasV6FragDiscLow32 indicates the lower 32 bits of the value of vRtrIfIpReasV6FragDisc.
ipReasV6FragPktsRcvd	UINT128	vRtrIfIpReasV6FragPktsRcvd	The value of vRtrIfIpReasV6FragPktsRcvd indicates the number of IPv6 fragmented packets received on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6FragPktsRcvdHigh32	long	vRtrIfIpReasV6FragPktsRcvdHigh32	The value of vRtrIfIpReasV6FragPktsRcvdHigh32 indicates the high 32 bits of the value of vRtrIfIpReasV6FragPktsRcvd.

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5620 SAM counter name	Type	MIB counter name	Description
ipReasV6FragPktsRcvdLow32	long	vRtrIfIpReasV6FragPktsRcvdLow32	The value of vRtrIfIpReasV6FragPktsRcvdLow32 indicates the lower 32 bits of the value of vRtrIfIpReasV6FragPktsRcvd.
ipReasV6FragPktsReas	UINT128	vRtrIfIpReasV6FragPktsReas	The value of vRtrIfIpReasV6FragPktsReas indicates the number of IPv6 fragmented packets reassembled on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6FragPktsReasHigh32	long	vRtrIfIpReasV6FragPktsReasHigh32	The value of vRtrIfIpReasV6FragPktsReasHigh32 indicates the high 32 bits of the value of vRtrIfIpReasV6FragPktsRcvd.
ipReasV6FragPktsReasLow32	long	vRtrIfIpReasV6FragPktsReasLow32	The value of vRtrIfIpReasV6FragPktsReasLow32 indicates the lower 32 bits of the value of vRtrIfIpReasV6FragPktsReas.
ipReasV6FragReasErrors	UINT128	vRtrIfIpReasV6FragReasErrors	The value of vRtrIfIpReasV6FragReasErrors indicates the number of IPv6 reassembly errors occured on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6FragReasErrorsH32	long	vRtrIfIpReasV6FragReasErrorsH32	The value of vRtrIfIpReasV6FragReasErrorsH32 indicates the high 32 bits of the value of vRtrIfIpReasV6FragReasErrors.
ipReasV6FragReasErrorsL32	long	vRtrIfIpReasV6FragReasErrorsL32	The value of vRtrIfIpReasV6FragReasErrorsL32 indicates the lower 32 bits of the value of vRtrIfIpReasV6FragReasErrors.
ipReasV6OutBufRes	UINT128	vRtrIfIpReasV6OutBufRes	The value of vRtrIfIpReasV6OutBufRes indicates the number of times out of buffer resources happend while IPv6 reassembly on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6OutBufResHigh32	long	vRtrIfIpReasV6OutBufResHigh32	The value of vRtrIfIpReasV6OutBufResHigh32 indicates the high 32 bits of the value of vRtrIfIpReasV6OutBufRes.
ipReasV6OutBufResLow32	long	vRtrIfIpReasV6OutBufResLow32	The value of vRtrIfIpReasV6OutBufResLow32 indicates the lower 32 bits of the value of vRtrIfIpReasV6OutBufRes.
ipReasV6PktsRx	UINT128	vRtrIfIpReasV6PktsRx	The value of vRtrIfIpReasV6PktsRx indicates the number of total IPv6 packets received on this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6PktsRxHigh32	long	vRtrIfIpReasV6PktsRxHigh32	The value of vRtrIfIpReasV6PktsRxHigh32 indicates the high 32 bits of the value of vRtrIfIpReasV6PktsRx.
ipReasV6PktsRxLow32	long	vRtrIfIpReasV6PktsRxLow32	The value of vRtrIfIpReasV6PktsRxLow32 indicates the lower 32 bits of the value of vRtrIfIpReasV6PktsRx.

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5620 SAM counter name	Type	MIB counter name	Description
ipReasV6PktsTx	UINT128	vRtrIfIpReasV6PktsTx	The value of vRtrIfIpReasV6PktsTx indicates the number of total IPv6 packets sent from this interface. The value of the object is '0' if the MDA type is not 'isa-ip-reas'.
ipReasV6PktsTxHigh32	long	vRtrIfIpReasV6PktsTxHigh32	The value of vRtrIfIpReasV6PktsTxHigh32 indicates the high 32 bits of the value of vRtrIfIpReasV6PktsTx.
ipReasV6PktsTxLow32	long	vRtrIfIpReasV6PktsTxLow32	The value of vRtrIfIpReasV6PktsTxLow32 indicates the lower 32 bits of the value of vRtrIfIpReasV6PktsTx.
NetworkInterfaceURPFStats MIB table name: TIMETRA-VRTR-MIB.vRtrIfStatsTable Monitored classes: • rtr.NetworkInterface • vprn.NetworkInterface			
uRPFCheckFailPkts	UINT128	vRtrIfuRPFCheckFailPkts	The value of vRtrIfuRPFCheckFailPkts indicates the number of packets that fail uRPF check on this interface.
uRPFCheckFailPktsHigh32	long	vRtrIfuRPFCheckFailPktsHigh32	The value of vRtrIfuRPFCheckFailPktsHigh32 indicates the high 32 bits of the value of vRtrIfuRPFCheckFailPkts.
uRPFCheckFailPktsLow32	long	vRtrIfuRPFCheckFailPktsLow32	The value of vRtrIfuRPFCheckFailPktsLow32 indicates the lower 32 bits of the value of vRtrIfuRPFCheckFailPkts.
RouteStats MIB table name: TIMETRA-VRTR-MIB.vRtrStatTable Monitored classes: • rtr.VirtualRouter • vprn.Site			
activeARPEntries	long	vRtrStatActiveARPEntries	vRtrStatActiveARPEntries indicates the number of active ARP entries for the specified virtual router in the system.
activeBgpTunnels	long	vRtrStatActiveBgpTunnels	—
aggregateActiveRoutes	long	vRtrAggregateActiveRoutes	vRtrAggregateActiveRoutes indicates the current number of active aggregate routes for this instance of the route table.
aggregateRoutes	long	vRtrAggregateRoutes	vRtrAggregateRoutes indicates the current number of aggregate routes for this instance of the route table.
bgpActiveRoutes	long	vRtrBGPActiveRoutes	vRtrBGPActiveRoutes indicates the current number of active bgp routes for this instance of the route table.
bgpRoutes	long	vRtrBGPRoutes	vRtrBGPRoutes indicates the current number of bgp routes for this instance of the route table.
bgpVpnActiveRoutes	long	vRtrStatBGPVpnActiveRoutes	vRtrStatBGPVpnActiveRoutes indicates the current number of active VPN-IPV4 routes learned by MP-BGP for this virtual router.

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5620 SAM counter name	Type	MIB counter name	Description
bgpVpnRoutes	long	vRtrStatBGPVpnRoutes	vRtrStatBGPVpnRoutes indicates the current number of VPN-IPV4 routes learned by MP-BGP for this virtual router.
directActiveRoutes	long	vRtrDirectActiveRoutes	vRtrDirectActiveRoutes indicates the current number of active direct routes for this instance of the route table.
directRoutes	long	vRtrDirectRoutes	vRtrDirectRoutes indicates the current number of direct routes for this instance of the route table.
illegalLabelsReceived	long	vRtrStatIllegalLabels	vRtrStatIllegalLabels indicates the number of illegally received labels on this virtual router.
isisActiveRoutes	long	vRtrISISActiveRoutes	vRtrISISActiveRoutes indicates the current number of active isis routes for this instance of the route table.
isisRoutes	long	vRtrISISRoutes	vRtrISISRoutes indicates the current number of isis routes for this instance of the route table.
ldpActiveTunnels	long	vRtrStatActiveLdpTunnels	vRtrStatActiveLdpTunnels indicates the current number of rows in the vRtrTunnelTable where vRtrTunnelType has a value of 'ldp'.
ldpTunnels	long	vRtrStatTotalLdpTunnels	vRtrStatTotalLdpTunnels indicates the current number of both active and inactive LDP tunnels.
multicastRoutes	long	vRtrMulticastRoutes	vRtrMulticastRoutes indicates the current number of rows in the vRtrPimNgGrpSrcTable.
ospfActiveRoutes	long	vRtrOSPFActiveRoutes	vRtrOSPFActiveRoutes indicates the current number of active ospf routes for this instance of the route table.
ospfRoutes	long	vRtrOSPFRoutes	vRtrOSPFRoutes indicates the current number of ospf routes for this instance of the route table.
ripActiveRoutes	long	vRtrRIPActiveRoutes	vRtrRIPActiveRoutes indicates the current number of active rip routes for this instance of the route table.
ripRoutes	long	vRtrRIPRoutes	vRtrRIPRoutes indicates the current number of rip routes for this instance of the route table.
routerInterfacesActive	long	vRtrStatActiveIfs	vRtrStatActiveIfs indicates the current number of router interfaces with vRtrIfAdminState equal 'inService' on this virtual router.
routerInterfacesConfigured	long	vRtrStatConfiguredIfs	vRtrStatConfiguredIfs indicates the current number of router interfaces configured on this virtual router.
routesInVrf	long	vRtrStatCurrNumRoutes	vRtrStatCurrNumRoutes indicates the current number of routes in the VRF for this virtual router.

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5620 SAM counter name	Type	MIB counter name	Description
sdpActiveTunnels	long	vRtrStatActiveSdpTunnels	vRtrStatActiveSdpTunnels indicates the current number of rows in the vRtrTunnelTable where vRtrTunnelType has a value of 'sdp'.
sdpTunnels	long	vRtrStatTotalSdpTunnels	vRtrStatTotalSdpTunnels indicates the current number of both active and inactive SDP tunnels.
staticActiveRoutes	long	vRtrStaticActiveRoutes	vRtrStaticActiveRoutes indicates the current number of active static routes for this instance of the route table.
staticRoutes	long	vRtrStaticRoutes	vRtrStaticRoutes indicates the current number of static routes for this instance of the route table.
totalARPEntries	long	vRtrStatTotalARPEntries	vRtrStatTotalARPEntries indicates the total number of active and inactive ARP entries for the specified virtual router in the system.
totalBgpTunnels	long	vRtrStatTotalBgpTunnels	—
VirtualInterfaceIcmp6InStats MIB table name: TIMETRA-VRTR-MIB.vRtrIfIcmp6Table Monitored class: rtr.VirtualInterfaceIcmp6Configuration			
inDestinationUnreachable	long	vRtrIfIcmp6InDestUnreachs	The value of vRtrIfIcmp6InDestUnreachs indicates the number of ICMP Destination Unreachable messages received by this interface.
inEchoReplies	long	vRtrIfIcmp6InEchoReplies	The value of vRtrIfIcmp6InEchoReplies indicates the number of ICMP Echo Reply messages received by this interface.
inEchoRequests	long	vRtrIfIcmp6InEchos	The value of vRtrIfIcmp6InEchos indicates the number of ICMP Echo (request) messages received by this interface.
inErrors	long	vRtrIfIcmp6InErrors	The value of vRtrIfIcmp6InErrors indicates the number of ICMP messages which this interface received but determined as having ICMP-specific errors (bad ICMP checksums, bad length , etc.).
inNeighborAdvertisements	long	vRtrIfIcmp6InNbrAdvertisements	The value of vRtrIfIcmp6InNbrAdvertisements indicates the number of ICMP Neighbor Advertisement messages received by this interface.
inNeighborSolicits	long	vRtrIfIcmp6InNbrSolicits	The value of vRtrIfIcmp6InNbrSolicits indicates the number of ICMP Neighbor Solicit messages received by this interface.
inPacketTooBig	long	vRtrIfIcmp6InPktTooBigs	The value of vRtrIfIcmp6InPktTooBigs indicates the number of ICMP Packet Too Big messages received by this interface.
inRedirects	long	vRtrIfIcmp6InRedirects	The value of vRtrIfIcmp6InRedirects indicates number of ICMP Redirect messages received by this interface.

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5620 SAM counter name	Type	MIB counter name	Description
inRouterAdvertisements	long	vRtrIfIcmp6InRtrAdvertisements	The value of vRtrIfIcmp6InRtrAdvertisements indicates the number of ICMP Router Advertisement messages received by this interface.
inRouterSolicits	long	vRtrIfIcmp6InRtrSolicits	The value of vRtrIfIcmp6InRtrSolicits indicates the number of ICMP Router Solicit messages received by this interface.
inTimeExceeded	long	vRtrIfIcmp6InTimeExcds	The value of vRtrIfIcmp6InTimeExcds indicates the number of ICMP Time Exceeded messages received by this interface.
inTotalMessages	long	vRtrIfIcmp6InMsgs	The value of vRtrIfIcmp6InMsgs indicates the total number of ICMP messages received by this interface which includes all those counted by vRtrIfIcmp6InErrors. Note that this interface is the interface to which the ICMP messages were addressed which may not be necessarily the input interface for the messages.
VirtualRouterIcmp6InStats MIB table name: TIMETRA-VRTR-MIB.vRtrIcmp6Table Monitored classes: • rtr.VirtualRouter • vprn.Site			
inDestinationUnreachable	long	vRtrIcmp6InDestUnreachs	The value of vRtrIcmp6InDestUnreachs indicates the number of ICMP Destination Unreachable messages received by this router instance.
inEchoReplies	long	vRtrIcmp6InEchoReplies	The value of vRtrIcmp6InEchoReplies indicates the number of ICMP Echo Reply messages received by this router instance.
inEchoRequests	long	vRtrIcmp6InEchos	The value of vRtrIcmp6InEchos indicates the number of ICMP Echo (request) messages received by this router instance.
inErrors	long	vRtrIcmp6InErrors	The value of vRtrIcmp6InErrors indicates the number of ICMP messages which this router instance received but determined as having ICMP-specific errors (bad ICMP checksums, bad length , etc.).
inNeighborAdvertisements	long	vRtrIcmp6InNbrAdvertisements	The value of vRtrIcmp6InNbrAdvertisements indicates the number of ICMP Neighbor Advertisement messages received by this router instance.
inNeighborSolicits	long	vRtrIcmp6InNbrSolicits	The value of vRtrIcmp6InNbrSolicits indicates the number of ICMP Neighbor Solicit messages received by this router instance.
inPacketTooBig	long	vRtrIcmp6InPktTooBigs	The value of vRtrIcmp6InPktTooBigs indicates the number of ICMP Packet Too Big messages received by this router instance.

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5620 SAM counter name	Type	MIB counter name	Description
inRedirects	long	vRtrIcmp6InRedirects	The value of vRtrIcmp6InRedirects indicates number of ICMP Redirect messages received by this router instance.
inRouterAdvertisements	long	vRtrIcmp6InRtrAdvertisements	The value of vRtrIcmp6InRtrAdvertisements indicates the number of ICMP Router Advertisement messages received by this router instance.
inRouterSolicits	long	vRtrIcmp6InRtrSolicits	The value of vRtrIcmp6InRtrSolicits indicates the number of ICMP Router Solicit messages received by this router instance.
inTimeExceeded	long	vRtrIcmp6InTimeExcds	The value of vRtrIcmp6InTimeExcds indicates the number of ICMP Time Exceeded messages received by this router instance.
inTotalMessages	long	vRtrIcmp6InMsgs	The value of vRtrIcmp6InMsgs indicates the total number of ICMP messages received by this router instance which includes all those counted by vRtrIcmp6InErrors.

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Table A-44 service statistics

5620 SAM counter name	Type	MIB counter name	Description
CemSapStats MIB table name: TIMETRA-SAP-MIB.sapCemStatsTable Monitored class: service.L2AccessInterface			
cemStatsEgressDroppedPkts	long	sapCemStatsEgressDroppedPkts	The value of sapCemStatsEgressDroppedPkts indicates the total number of packets that were dropped due to errors.
cemStatsEgressESs	long	sapCemStatsEgressESs	The value of sapCemStatsEgressESs indicates the number of Error Seconds (ESs) encountered. Any malformed packet, seq. error, LOPS and similar are considered as error seconds.
cemStatsEgressFailureCounts	long	sapCemStatsEgressFailureCounts	The value of sapCemStatsEgressFailureCounts indicates the number failure events. A failure event begins when the LOPS failure is declared, and ends when the failure is cleared.
cemStatsEgressForwardedPkts	long	sapCemStatsEgressForwardedPkts	The value of sapCemStatsEgressForwardedPkts indicates the number of packets that were successfully forwarded.
cemStatsEgressJtrBfrDepth	long	sapCemStatsEgressJtrBfrDepth	The value of sapCemStatsEgressJtrBfrDepth indicates the current packet depth of the jitter buffer.

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5620 SAM counter name	Type	MIB counter name	Description
cemStatsEgressJtrBfrOverruns	long	sapCemStatsEgressJtrBfrOverruns	The value of sapCemStatsEgressJtrBfrOverruns indicates the number of times a packet was dropped because it could not fit in the jitter buffer.
cemStatsEgressJtrBfrUnderruns	long	sapCemStatsEgressJtrBfrUnderruns	The value of sapCemStatsEgressJtrBfrUnderruns indicates the number of times a packet needed to be played out and the jitter buffer was empty.
cemStatsEgressLBitDropped	long	sapCemStatsEgressLBitDropped	The value of sapCemStatsEgressLBitDropped indicates the number of packets dropped due to the L bit set by the far end.
cemStatsEgressMalformedPkts	long	sapCemStatsEgressMalformedPkts	The value of sapCemStatsEgressMalformedPkts indicates the number of packets detected with unexpected size, or bad headers' stack.
cemStatsEgressMisOrderDropped	long	sapCemStatsEgressMisOrderDropped	The value of sapCemStatsEgressMisOrderDropped indicates the number of packets detected out of order (via control word sequence numbers), and could not be re-ordered, or could not be placed in the jitter buffer because it was out of the current window.
cemStatsEgressMissingPkts	long	sapCemStatsEgressMissingPkts	The value of sapCemStatsEgressMissingPkts indicates the number of missing packets (as detected via control word sequence number gaps).
cemStatsEgressMultipleDropped	long	sapCemStatsEgressMultipleDropped	The value of sapCemStatsEgressMultipleDropped indicates the number of packets dropped due to multiple sequence numbers.
cemStatsEgressOverrunCounts	long	sapCemStatsEgressOverrunCounts	The value of sapCemStatsEgressOverrunCounts indicates the number of times the jitter buffer went into an overrun state.
cemStatsEgressPktsReOrder	long	sapCemStatsEgressPktsReOrder	The value of sapCemStatsEgressPktsReOrder indicates the number of packets detected out of sequence (via control word sequence number), but successfully re-ordered.
cemStatsEgressSESs	long	sapCemStatsEgressSESs	The value of sapCemStatsEgressSESs indicates the number of Severely Error Seconds (SESs) encountered. This is when more than 30 percent of the packets within a one second window are missing.
cemStatsEgressUASs	long	sapCemStatsEgressUASs	The value of sapCemStatsEgressUASs indicates the number of Unavailable Seconds (UASs) encountered. Any consecutive ten seconds of SESs are counted as one UAS.

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5620 SAM counter name	Type	MIB counter name	Description
cemStatsEgressUnderrunCounts	long	sapCemStatsEgressUnderrunCounts	The value of sapCemStatsEgressUnderrunCounts indicates the number of times the jitter buffer went into an underrun state.
cemStatsIngressDroppedPkts	long	sapCemStatsIngressDroppedPkts	The value of sapCemStatsIngressDroppedPkts indicates the total number of packets that were dropped due to errors.
cemStatsIngressForwardedPkts	long	sapCemStatsIngressForwardedPkts	The value of sapCemStatsIngressForwardedPkts indicates the number of packets that were successfully forwarded.
L3AccessInterfaceURPFStats MIB table name: TIMETRA-VRTR-MIB.vRtrIfStatsTable Monitored class: service.L3AccessInterface			
uRPFCheckFailPkts	UINT128	vRtrIfuRPFCheckFailPkts	The value of vRtrIfuRPFCheckFailPkts indicates the number of packets that fail uRPF check on this interface.
uRPFCheckFailPktsHigh32	long	vRtrIfuRPFCheckFailPktsHigh32	The value of vRtrIfuRPFCheckFailPktsHigh32 indicates the high 32 bits of the value of vRtrIfuRPFCheckFailPkts.
uRPFCheckFailPktsLow32	long	vRtrIfuRPFCheckFailPktsLow32	The value of vRtrIfuRPFCheckFailPktsLow32 indicates the lower 32 bits of the value of vRtrIfuRPFCheckFailPkts.
PppoeSapStats MIB table name: TIMETRA-PPPOE-MIB.tmnxPppoeSapStatsTable Monitored classes: • ies.ServiceAccessPoint • vprn.ServiceAccessPoint • vpls.L2AccessInterface			
pppoeSapReceivedDropped	long	tmnxPppoeSapRxDropped	The value of tmnxPppoeSapRxDropped indicates the number of dropped PPPoE packets.
pppoeSapReceivedInvalidAcCookie	long	tmnxPppoeSapRxInvalidAcCookie	The value of tmnxPppoeSapRxInvalidAcCookie indicates the number of PPPoE Active Discovery packets received with an invalid AC-Cookie tag.
pppoeSapReceivedInvalidCode	long	tmnxPppoeSapRxInvalidCode	The value of tmnxPppoeSapRxInvalidCode indicates the number of PPPoE packets received with an invalid code field.
pppoeSapReceivedInvalidLen	long	tmnxPppoeSapRxInvalidLen	The value of tmnxPppoeSapRxInvalidLen indicates the number of PPPoE packets received with an invalid length field.
pppoeSapReceivedInvalidSession	long	tmnxPppoeSapRxInvalidSession	The value of tmnxPppoeSapRxInvalidSession indicates the number of PPPoE packets received with an invalid session-id field.

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5620 SAM counter name	Type	MIB counter name	Description
pppoeSapReceivedInvalidTags	long	tmnxPppoeSapRxInvalidTags	The value of tmnxPppoeSapRxInvalidTags indicates the number of PPPoE Active Discovery packets received with invalid tags.
pppoeSapReceivedInvalidType	long	tmnxPppoeSapRxInvalidType	The value of tmnxPppoeSapRxInvalidType indicates the number of PPPoE packets received with an invalid type field.
pppoeSapReceivedInvalidVersion	long	tmnxPppoeSapRxInvalidVersion	The value of tmnxPppoeSapRxInvalidVersion indicates the number of PPPoE packets received with an invalid version field.
pppoeSapReceivedPADI	long	tmnxPppoeSapRxPadi	The value of tmnxPppoeSapRxPadi indicates the number of PADI (PPPoE Active Discovery Initiation) packets received on this SAP.
pppoeSapReceivedPADR	long	tmnxPppoeSapRxPadr	The value of tmnxPppoeSapRxPadr indicates the number of PADR (PPPoE Active Discovery Request) packets received on this SAP.
pppoeSapReceivedPADT	long	tmnxPppoeSapRxPadt	The value of tmnxPppoeSapRxPadt indicates the number of PADT (PPPoE Active Discovery Terminate) packets received on this SAP.
pppoeSapReceivedSession	long	tmnxPppoeSapRxSession	The value of tmnxPppoeSapRxSession indicates the number packets received during the PPP session stage on this SAP.
pppoeSapTransmittedPADO	long	tmnxPppoeSapTxPado	The value of tmnxPppoeSapTxPado indicates the number of PADO (PPPoE Active Discovery Offer) packets transmitted on this SAP.
pppoeSapTransmittedPADS	long	tmnxPppoeSapTxPads	The value of tmnxPppoeSapTxPads indicates the number of PADS (PPPoE Active Discovery Session) packets transmitted on this SAP.
pppoeSapTransmittedPADT	long	tmnxPppoeSapTxPadt	The value of tmnxPppoeSapTxPadt indicates the number of PADT (PPPoE Active Discovery Terminate) packets transmitted on this SAP.
pppoeSapTransmittedSession	long	tmnxPppoeSapTxSession	The value of tmnxPppoeSapTxSession indicates the number packets transmitted during the PPP session stage on this SAP.
SapBaseStats MIB table name: TIMETRA-SAP-MIB.sapBaseStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
authenticationPacketsDiscarded	long	sapBaseStatsAuthenticationPktsDiscarded	The number of DHCP packets discarded as result of authentication.
authenticationPacketsSuccessful	long	sapBaseStatsAuthenticationPktsSuccess	The number of DHCP packets successfully authenticated.
customerId	long	sapBaseStatsCustId	The Customer ID for the associated service.

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5620 SAM counter name	Type	MIB counter name	Description
egressQChipDroppedInProfOctets	UINT128	sapBaseStatsEgressQchipDroppedInProfOctets	The number of in-profile octets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
egressQChipDroppedInProfPackets	UINT128	sapBaseStatsEgressQchipDroppedInProfPackets	The number of in-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
egressQChipDroppedOutProfOctets	UINT128	sapBaseStatsEgressQchipDroppedOutProfOctets	The number of out-of-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
egressQChipDroppedOutProfPackets	UINT128	sapBaseStatsEgressQchipDroppedOutProfPackets	The number of out-of-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
egressQChipForwardedInProfOctets	UINT128	sapBaseStatsEgressQchipForwardedInProfOctets	The number of in-profile octets (rate below CIR) forwarded by the egress Qchip.
egressQChipForwardedInProfPackets	UINT128	sapBaseStatsEgressQchipForwardedInProfPackets	The number of in-profile packets (rate below CIR) forwarded by the egress Qchip.
egressQChipForwardedOutProfOctets	UINT128	sapBaseStatsEgressQchipForwardedOutProfOctets	The number of out-of-profile octets (rate above CIR) forwarded by the egress Qchip.
egressQChipForwardedOutProfPackets	UINT128	sapBaseStatsEgressQchipForwardedOutProfPackets	The number of out-of-profile packets (rate above CIR) forwarded by the egress Qchip.
ingressPChipDroppedOctets	UINT128	sapBaseStatsIngressPchipDroppedOctets	The number of octets dropped by the ingress Pchip due to: SAP state, ingress MAC, IP or IPv6 filter, same segment discard, bad checksum, etc.
ingressPChipDroppedPackets	UINT128	sapBaseStatsIngressPchipDroppedPackets	The number of packets dropped by the ingress Pchip due to: SAP state, ingress MAC, IP or IPv6 filter, same segment discard, bad checksum, etc.
ingressPChipOfferedHiPrioOctets	UINT128	sapBaseStatsIngressPchipOfferedHiPrioOctets	The number of high priority octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
ingressPChipOfferedHiPrioPackets	UINT128	sapBaseStatsIngressPchipOfferedHiPrioPackets	The number of high priority packets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
ingressPChipOfferedLoPrioOctets	UINT128	sapBaseStatsIngressPchipOfferedLoPrioOctets	The number of low priority octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
ingressPChipOfferedLoPrioPackets	UINT128	sapBaseStatsIngressPchipOfferedLoPrioPackets	The number of low priority packets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
ingressPChipOfferedUncoloredOctets	UINT128	sapBaseStatsIngressPchipOfferedUncoloredOctets	The number of uncolored octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
ingressPChipOfferedUncoloredPackets	UINT128	sapBaseStatsIngressPchipOfferedUncoloredPackets	The number of uncolored packets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
ingressQChipDroppedHiPrioOctets	UINT128	sapBaseStatsIngressQchipDroppedHiPrioOctets	The number of high priority octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
ingressQChipDroppedHiPrioPackets	UINT128	sapBaseStatsIngressQchipDroppedHiPrioPackets	The number of high priority packets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
ingressQChipDroppedLoPrioOctets	UINT128	sapBaseStatsIngressQchipDroppedLoPrioOctets	The number of low priority octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
ingressQChipDroppedLoPrioPackets	UINT128	sapBaseStatsIngressQchipDroppedLoPrioPackets	The number of low priority packets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
ingressQChipForwardedInProfOctets	UINT128	sapBaseStatsIngressQchipForwardedInProfOctets	The number of in-profile octets (rate below CIR) forwarded by the ingress Qchip.
ingressQChipForwardedInProfPackets	UINT128	sapBaseStatsIngressQchipForwardedInProfPackets	The number of in-profile packets (rate below CIR) forwarded by the ingress Qchip.
ingressQChipForwardedOutProfOctets	UINT128	sapBaseStatsIngressQchipForwardedOutProfOctets	The number of out-of-profile octets (rate above CIR) forwarded by the ingress Qchip.
ingressQChipForwardedOutProfPackets	UINT128	sapBaseStatsIngressQchipForwardedOutProfPackets	The number of out-of-profile packets (rate above CIR) forwarded by the ingress Qchip.
SapEgrQosHsmdaCntrStats MIB table name: TIMETRA-SAP-MIB.sapEgrQosHsmdaCntrStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.ServiceAccessPoint • service.IPsecInterface			
sapEgrHsmdaCntrStCounterId	long	sapEgrHsmdaCntrStCntrId	The value of sapEgrHsmdaCntrStCntrId indicates the counter ID for the statistics.
sapEgrHsmdaCntrStCustomerId	long	sapEgrHsmdaCntrStCustId	The value of sapEgrHsmdaCntrStCustId indicates the customer ID for the statistics.
sapEgrHsmdaCntrStInProfileOctetsFwd	UINT128	sapEgrHsmdaCntrStInProfOctFwd	The value of sapEgrHsmdaCntrStInProfOctFwd indicates the number of out-of-profile packets forwarded for the egress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.

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5620 SAM counter name	Type	MIB counter name	Description
sapEgrHsmdaCntrStInProfilePacketsDropped	UINT128	sapEgrHsmdaCntrStInProfPktDrop	The value of sapEgrHsmdaCntrStInProfPktDrop indicates the number of in-profile packets dropped for the egress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapEgrHsmdaCntrStInProfilePacketsFwd	UINT128	sapEgrHsmdaCntrStInProfPktFwd	The value of sapEgrHsmdaCntrStInProfPktFwd indicates the number of in-profile packets forwarded for the egress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapEgrHsmdaCntrStInProfOctetsDropped	UINT128	sapEgrHsmdaCntrStInProfOctDrop	The value of sapEgrHsmdaCntrStInProfOctDrop indicates the number of out-of-profile packets dropped for the egress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapEgrHsmdaCntrStOutProfileOctetsDropped	UINT128	sapEgrHsmdaCntrStOutProfOctDrop	The value of sapEgrHsmdaCntrStOutProfOctDrop indicates the number of out-of-profile packets dropped for the egress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapEgrHsmdaCntrStOutProfileOctetsFwd	UINT128	sapEgrHsmdaCntrStOutProfOctFwd	The value of sapEgrHsmdaCntrStOutProfOctFwd indicates the number of out-of-profile packets forwarded for the egress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapEgrHsmdaCntrStOutProfilePacketsDropped	UINT128	sapEgrHsmdaCntrStOutProfPktDrop	The value of sapEgrHsmdaCntrStOutProfPktDrop indicates the number of out-of-profile packets dropped for the egress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapEgrHsmdaCntrStOutProfilePacketsFwd	UINT128	sapEgrHsmdaCntrStOutProfPktFwd	The value of sapEgrHsmdaCntrStOutProfPktFwd indicates the number of out-of-profile packets forwarded for the egress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
SapEgrQosHsmdaQueueStats MIB table name: TIMETRA-SAP-MIB.sapEgrQosHsmdaQueueStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.ServiceAccessPoint • service.IPsecInterface			
sapEgrHsmdaQStatCustomerId	long	sapEgrHsmdaQStatCustId	The value of sapEgrHsmdaQStatCustId indicates the customer ID for the statistics.
sapEgrHsmdaQStatInProfileOctetsDropped	UINT128	sapEgrHsmdaQStatInProfOctDropd	The value of sapEgrHsmdaQStatInProfOctDropd indicates the number of out-of-profile packets dropped on egress on this SAP.

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5620 SAM counter name	Type	MIB counter name	Description
sapEgrHsmdaQStatInProfileOctetsFwd	UINT128	sapEgrHsmdaQStatInProfOctFwd	The value of sapEgrHsmdaQStatInProfOctFwd indicates the number of out-of-profile packets forwarded on egress on this SAP.
sapEgrHsmdaQStatInProfilePacketsDropped	UINT128	sapEgrHsmdaQStatInProfPktDropd	The value of sapEgrHsmdaQStatInProfPktDropd indicates the number of in-profile packets dropped on egress on this SAP.
sapEgrHsmdaQStatInProfilePacketsFwd	UINT128	sapEgrHsmdaQStatInProfPktFwd	The value of sapEgrHsmdaQStatInProfPktFwd indicates the number of in-profile packets forwarded on egress on this SAP.
sapEgrHsmdaQStatOutProfileOctetsDropped	UINT128	sapEgrHsmdaQStatOutProfOctDropd	The value of sapEgrHsmdaQStatOutProfOctDropd indicates the number of out-of-profile packets dropped on egress on this SAP.
sapEgrHsmdaQStatOutProfileOctetsFwd	UINT128	sapEgrHsmdaQStatOutProfOctFwd	The value of sapEgrHsmdaQStatOutProfOctFwd indicates the number of out-of-profile packets forwarded on egress on this SAP.
sapEgrHsmdaQStatOutProfilePacketsDropped	UINT128	sapEgrHsmdaQStatOutProfPktDropd	The value of sapEgrHsmdaQStatOutProfPktDropd indicates the number of out-of-profile packets dropped on egress on this SAP.
sapEgrHsmdaQStatOutProfilePacketsFwd	UINT128	sapEgrHsmdaQStatOutProfPktFwd	The value of sapEgrHsmdaQStatOutProfPktFwd indicates the number of out-of-profile packets forwarded on egress on this SAP.
SapEgrQosPlcyQueueStats MIB table name: TIMETRA-SAP-MIB.sapEgrQosPlcyQueueStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
droppedInProfOctets	UINT128	sapEgQosPlcyQueueStatsDroppedInProfOctets	The value of sapEgQosPlcyQueueStatsDroppedInProfOctets indicates the number in-profile octets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedInProfPackets	UINT128	sapEgQosPlcyQueueStatsDroppedInProfPackets	The value of sapEgQosPlcyQueueStatsDroppedInProfPackets indicates the number of in-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedOutProfOctets	UINT128	sapEgQosPlcyQueueStatsDroppedOutProfOctets	The value of sapEgQosPlcyQueueStatsDroppedOutProfOctets indicates the number out-of-profile octets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.

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5620 SAM counter name	Type	MIB counter name	Description
droppedOutProfPackets	UINT128	sapEgQosPlcyQueueStats DroppedOutProfPackets	The value of sapEgQosPlcyQueueStatsDroppedOutProf Packets indicates the number out-of-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
forwardedInProfOctets	UINT128	sapEgQosPlcyQueueStats ForwardedInProfOctets	The value of sapEgQosPlcyQueueStatsForwardedInProf Octets indicates the number ofin-profile octets (rate below CIR) forwarded by the egress Qchip.
forwardedInProfPackets	UINT128	sapEgQosPlcyQueueStats ForwardedInProfPackets	The value of sapEgQosPlcyQueueStatsForwardedInProf Packets indicates the number of in-profile packets (rate below CIR) forwarded by the egress Qchip.
forwardedOutProfOctets	UINT128	sapEgQosPlcyQueueStats ForwardedOutProfOctets	The value of sapEgQosPlcyQueueStatsForwardedOutPr ofOctets indicates the number of out-of-profile octets (rate above CIR) forwarded by the egress Qchip.
forwardedOutProfPackets	UINT128	sapEgQosPlcyQueueStats ForwardedOutProfPacket s	The value of sapEgQosPlcyQueueStatsForwardedOutPr ofPackets indicates the number of out-of-profile packets (rate above CIR) forwarded by the egress Qchip.
policyId	long	sapEgQosPlcyQueuePlcyId	The row index in the tSapEgressTable corresponding to this egress QoS policy.
queueId	long	sapEgQosPlcyQueueId	The value of sapEgQosPlcyQueueId indicates index of the egress QoS queue of this SAP.
SapEgrQosPlcyStats MIB table name: TIMETRA-SAP-MIB.sapEgrQosPlcyStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
droppedInProfOctets	UINT128	sapEgQosPlcyDroppedInPr ofOctets	The value of the object sapEgQosPlcyDroppedInProfOctets indicates the number of in-profile octets, as determined by the SAP egress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedInProfPackets	UINT128	sapEgQosPlcyDroppedInPr ofPackets	The value of the object sapEgQosPlcyDroppedInProfPackets indicates the number of in-profile packets, as determined by the SAP egress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.

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5620 SAM counter name	Type	MIB counter name	Description
droppedOutProfOctets	UINT128	sapEgQosPlcyDroppedOutProfOctets	The value of the object sapEgQosPlcyDroppedOutProfOctets indicates the number of out-profile octets, as determined by the SAP egress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedOutProfPackets	UINT128	sapEgQosPlcyDroppedOutProfPackets	The value of the object sapEgQosPlcyDroppedOutProfPackets indicates the number of out-profile packets, as determined by the SAP egress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
forwardedInProfOctets	UINT128	sapEgQosPlcyForwardedInProfOctets	The value of the object sapEgQosPlcyForwardedInProfOctets indicates the number of in-profile octets (rate below CIR) forwarded by the egress Qchip.
forwardedInProfPackets	UINT128	sapEgQosPlcyForwardedInProfPackets	The value of the object sapEgQosPlcyForwardedInProfPackets indicates the number of in-profile packets (rate below CIR) forwarded by the egress Qchip.
forwardedOutProfOctets	UINT128	sapEgQosPlcyForwardedOutProfOctets	The value of the object sapEgQosPlcyForwardedOutProfOctets indicates the number of out-of-profile octets (rate above CIR) forwarded by the egress Qchip.
forwardedOutProfPackets	UINT128	sapEgQosPlcyForwardedOutProfPackets	The value of the object sapEgQosPlcyForwardedOutProfPackets indicates the number of out-of-profile packets (rate above CIR) forwarded by the egress Qchip.
policyId	long	sapEgQosPlcyId	The value of the object sapEgQosPlcyId indicates the row index in the tSapEgressTable corresponding to this egress QoS policy, or one if no policy is specified.
SapEgrQosQueueStats MIB table name: TIMETRA-SAP-MIB.sapEgrQosQueueStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
customerId	long	sapEgrQosCustId	The Customer ID for the associated service.
droppedInProfOctets	UINT128	sapEgrQosQueueStatsDroppedInProfOctets	The number of in-profile octets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedInProfPackets	UINT128	sapEgrQosQueueStatsDroppedInProfPackets	The number of in-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.

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5620 SAM counter name	Type	MIB counter name	Description
droppedOutProfOctets	UINT128	sapEgrQosQueueStatsDroppedOutProfOctets	The number of out-of-profile octets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedOutProfPackets	UINT128	sapEgrQosQueueStatsDroppedOutProfPackets	The number of out-of-profile packets discarded by the egress Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
forwardedInProfOctets	UINT128	sapEgrQosQueueStatsForwardedInProfOctets	The number of in-profile octets (rate below CIR) forwarded by the egress Qchip.
forwardedInProfPackets	UINT128	sapEgrQosQueueStatsForwardedInProfPackets	The number of in-profile packets (rate below CIR) forwarded by the egress Qchip.
forwardedOutProfOctets	UINT128	sapEgrQosQueueStatsForwardedOutProfOctets	The number of out-of-profile octets (rate above CIR) forwarded by the egress Qchip.
forwardedOutProfPackets	UINT128	sapEgrQosQueueStatsForwardedOutProfPackets	The number of out-of-profile packets (rate above CIR) forwarded by the egress Qchip.
queueId	long	sapEgrQosQueueId	The index of the egress QoS queue of this SAP.
SapEgrQosSchedStats MIB table name: TIMETRA-SAP-MIB.sapEgrQosSchedStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
customerId	long	sapEgrQosSchedCustId	The Customer ID for the associated service.
forwardedOctets	UINT128	sapEgrQosSchedStatsForwardedOctets	The number of forwarded octets by the egress Qchip, as determined by the SAP egress scheduler policy.
forwardedPackets	UINT128	sapEgrQosSchedStatsForwardedPackets	The number of forwarded packets by the egress Qchip, as determined by the SAP egress scheduler policy.
qosSchedName	String	sapEgrQosSchedName	The index of the egress QoS scheduler of this SAP.
SapEgrSchedPlcyPortStats MIB table name: TIMETRA-SAP-MIB.sapEgrSchedPlcyPortStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
forwardedOctets	UINT128	sapEgrSchedPlcyPortStatsFwdOct	The value of sapEgrSchedPlcyPortStatsFwdOct indicates the number of forwarded octets,as determined by the SAP egress scheduler policy, offered by the Pchip to the Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
forwardedPackets	UINT128	sapEgrSchedPlcyPortStatsFwdPkt	The value of sapEgrSchedPlcyPortStatsFwdPkt indicates the number of forwarded packets, as determined by the SAP egress scheduler policy, offered by the Pchip to the Qchip.
SapEgrSchedPlcyStats MIB table name: TIMETRA-SAP-MIB.sapEgrSchedPlcyStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
forwardedOctets	UINT128	sapEgrSchedPlcyStatsFwdOct	The number of octets forwarded by the egress Qchip, as determined by the SAP egress scheduler policy.
forwardedPackets	UINT128	sapEgrSchedPlcyStatsFwdPkt	The number of packets forwarded by the egress Qchip, as determined by the SAP egress scheduler policy.
SapIngQosHsmdaCntrStats MIB table name: TIMETRA-SAP-MIB.sapIngQosHsmdaCntrStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.ServiceAccessPoint • service.IPsecInterface			
sapIngHsmdaCntrStAllOctetsOffered	UINT128	sapIngHsmdaCntrStAllOctOffered	The value of sapIngHsmdaCntrStAllOctOffered indicates the total number of octets offered on ingress on this SAP.
sapIngHsmdaCntrStAllPacketsOffered	UINT128	sapIngHsmdaCntrStAllPktOffered	The value of sapIngHsmdaCntrStAllPktOffered indicates the total number of packets offered on ingress on this SAP.
sapIngHsmdaCntrStCounterId	long	sapIngHsmdaCntrStCntrId	The value of sapIngHsmdaCntrStCntrId indicates the counter ID for the statistics.
sapIngHsmdaCntrStCusomerId	long	sapIngHsmdaCntrStCustId	The value of sapIngHsmdaCntrStCustId indicates the customer ID for the statistics.
sapIngHsmdaCntrStHiOctetsDropped	UINT128	sapIngHsmdaCntrStHiOctDrop	The value of sapIngHsmdaCntrStHiOctDrop indicates the number of high-priority octets dropped for the ingress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapIngHsmdaCntrStHiPacketsDropped	UINT128	sapIngHsmdaCntrStHiPktDrop	The value of sapIngHsmdaCntrStHiPktDrop indicates the number of high-priority packets dropped for the ingress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.

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5620 SAM counter name	Type	MIB counter name	Description
sapIngHsmdaCntrStInProfileOctetsFwd	UINT128	sapIngHsmdaCntrStInProfOctFwd	The value of sapIngHsmdaCntrStInProfOctFwd indicates the number of out-of-profile packets forwarded for the ingress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapIngHsmdaCntrStInProfilePacketsFwd	UINT128	sapIngHsmdaCntrStInProfPktFwd	The value of sapIngHsmdaCntrStInProfPktFwd indicates the number of in-profile packets forwarded for the ingress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapIngHsmdaCntrStLoOctetsDropped	UINT128	sapIngHsmdaCntrStLoOctDrop	The value of sapIngHsmdaCntrStLoOctDrop indicates the number of low-priority octets dropped for the ingress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapIngHsmdaCntrStLoPacketsDropped	UINT128	sapIngHsmdaCntrStLoPktDrop	The value of sapIngHsmdaCntrStLoPktDrop indicates the number of low-priority packets dropped for the ingress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapIngHsmdaCntrStOutProfileOctetsFwd	UINT128	sapIngHsmdaCntrStOutProfOctFwd	The value of sapIngHsmdaCntrStOutProfOctFwd indicates the number of out-of-profile packets forwarded for the ingress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
sapIngHsmdaCntrStOutProfilePacketsFwd	UINT128	sapIngHsmdaCntrStOutProfPktFwd	The value of sapIngHsmdaCntrStOutProfPktFwd indicates the number of out-of-profile packets forwarded for the ingress counter, specified by the index sapIngHsmdaCntrStCntrId, on this SAP.
SapIngQosPlcyQueueStats MIB table name: TIMETRA-SAP-MIB.sapIngQosPlcyQueueStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
droppedHiPrioOctets	UINT128	sapIgQosPlcyQueueStatsDroppedHiPrioOctets	The value of sapIgQosPlcyQueueStatsDroppedHiPrioOctets indicates the number ofhigh priority octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedHiPrioPackets	UINT128	sapIgQosPlcyQueueStatsDroppedHiPrioPackets	The value of sapIgQosPlcyQueueStatsDroppedHiPrioPackets indicates the number of high priority packets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.

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5620 SAM counter name	Type	MIB counter name	Description
droppedLoPrioOctets	UINT128	sapIgQosPlcyQueueStatsDroppedLoPrioOctets	The value of sapIgQosPlcyQueueStatsDroppedLoPrioOctets indicates the number of low priority octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedLoPrioPackets	UINT128	sapIgQosPlcyQueueStatsDroppedLoPrioPackets	The value of sapIgQosPlcyQueueStatsDroppedLoPrioPackets indicates the number of low priority packets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
forwardedInProfOctets	UINT128	sapIgQosPlcyQueueStatsForwardedInProfOctets	The value of sapIgQosPlcyQueueStatsForwardedInProfOctets indicates the number of in-profile octets (rate below CIR) forwarded by the ingress Qchip.
forwardedInProfPackets	UINT128	sapIgQosPlcyQueueStatsForwardedInProfPackets	The value of sapIgQosPlcyQueueStatsForwardedInProfPackets indicates the number of in-profile packets (rate below CIR) forwarded by the ingress Qchip.
forwardedOutProfOctets	UINT128	sapIgQosPlcyQueueStatsForwardedOutProfOctets	The value of sapIgQosPlcyQueueStatsForwardedOutProfOctets indicates the number of out-of-profile octets (rate above CIR) forwarded by the ingress Qchip.
forwardedOutProfPackets	UINT128	sapIgQosPlcyQueueStatsForwardedOutProfPackets	The value of sapIgQosPlcyQueueStatsForwardedOutProfPackets indicates the number of out-of-profile packets (rate above CIR) forwarded by the ingress Qchip.
offeredHiPrioOctets	UINT128	sapIgQosPlcyQueueStatsOfferedHiPrioOctets	The value of sapIgQosPlcyQueueStatsOfferedHiPrioOctets indicates the number of high priority octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
offeredHiPrioPackets	UINT128	sapIgQosPlcyQueueStatsOfferedHiPrioPackets	The value of sapIgQosPlcyQueueStatsOfferedHiPrioPackets indicates the number of high priority packets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
offeredLoPrioOctets	UINT128	sapIgQosPlcyQueueStatsOfferedLoPrioOctets	The value of sapIgQosPlcyQueueStatsOfferedLoPrioOctets indicates the number of low priority octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
offeredLoPrioPackets	UINT128	sapIgQosPlcyQueueStatsOfferedLoPrioPackets	The value of sapIgQosPlcyQueueStatsOfferedLoPrioPackets indicates the number of low priority packets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
policyId	long	sapIgQosPlcyQueuePlcyId	The value of the object sapIgQosPlcyQueuePlcyId indicates the row index in the tSapIngressTable corresponding to this ingress QoS policy.
queueId	long	sapIgQosPlcyQueueId	The index of the ingress QoS queue of this SAP used by the policy indicated by sapIgQosPlcyQueuePlcyId.
uncoloredOctetsOffered	UINT128	sapIgQosPlcyQueueStatsUncoloredOctetsOffered	The value of sapIgQosPlcyQueueStatsUncoloredOctetsOffered indicates the number of uncolored octets offered to the ingress Qchip.
uncoloredPacketsOffered	UINT128	sapIgQosPlcyQueueStatsUncoloredPacketsOffered	The value of sapIgQosPlcyQueueStatsUncoloredPacketsOffered indicates the number of uncolored packets offered to the ingress Qchip.
SapIngQosPlcyStats MIB table name: TIMETRA-SAP-MIB.sapIngrQosPlcyStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
droppedHiPrioOctets	UINT128	sapIgQosPlcyDroppedHiPrioOctets	The value of the object sapIgQosPlcyDroppedHiPrioOctets indicates the number of high priority octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedHiPrioPackets	UINT128	sapIgQosPlcyDroppedHiPrioPackets	The value of the object sapIgQosPlcyDroppedHiPrioPackets indicates the number of high priority packets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedLoPrioOctets	UINT128	sapIgQosPlcyDroppedLoPrioOctets	The value of the object sapIgQosPlcyDroppedLoPrioOctets indicates the number of low priority octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedLoPrioPackets	UINT128	sapIgQosPlcyDroppedLoPrioPackets	The value of the object sapIgQosPlcyDroppedLoPrioPackets indicates the number of low priority packets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
forwardedInProfOctets	UINT128	sapIgQosPlcyForwardedInProfOctets	The value of the object sapIgQosPlcyForwardedInProfOctets indicates the number of in-profile octets (rate below CIR) forwarded by the ingress Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
forwardedInProfPackets	UINT128	sapIgQosPlcyForwardedInProfPackets	The value of the object sapIgQosPlcyForwardedInProfPackets indicates the number of in-profile packets (rate below CIR) forwarded by the ingress Qchip.
forwardedOutProfOctets	UINT128	sapIgQosPlcyForwardedOutProfOctets	The value of the object sapIgQosPlcyForwardedOutProfOctets indicates the number of out-of-profile octets (rate above CIR) forwarded by the ingress Qchip.
forwardedOutProfPackets	UINT128	sapIgQosPlcyForwardedOutProfPackets	The value of the object sapIgQosPlcyForwardedOutProfPackets indicates the number of out-of-profile packets (rate above CIR) forwarded by the ingress Qchip.
policyId	long	sapIgQosPlcyId	The value of the object sapIgQosPlcyId indicates the row index in the tSapIngressTable corresponding to this ingress QoS policy, or one if no policy is specified.
SapIngQosQueueStats MIB table name: TIMETRA-SAP-MIB.sapIngQosQueueStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
customerId	long	sapIngQosCustId	The Customer ID for the associated service.
droppedHiPrioOctets	UINT128	sapIngQosQueueStatsDroppedHiPrioOctets	The number of high priority octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedHiPrioPackets	UINT128	sapIngQosQueueStatsDroppedHiPrioPackets	The number of high priority packets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedLoPrioOctets	UINT128	sapIngQosQueueStatsDroppedLoPrioOctets	The number of low priority octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
droppedLoPrioPackets	UINT128	sapIngQosQueueStatsDroppedLoPrioPackets	The number of low priority packets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
forwardedInProfOctets	UINT128	sapIngQosQueueStatsForwardedInProfOctets	The number of in-profile octets (rate below CIR) forwarded by the ingress Qchip.
forwardedInProfPackets	UINT128	sapIngQosQueueStatsForwardedInProfPackets	The number of in-profile packets (rate below CIR) forwarded by the ingress Qchip.

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5620 SAM counter name	Type	MIB counter name	Description
forwardedOutProfOctets	UINT128	sapIngQosQueueStatsForwardedOutProfOctets	The number of out-of-profile octets (rate above CIR) forwarded by the ingress Qchip.
forwardedOutProfPackets	UINT128	sapIngQosQueueStatsForwardedOutProfPackets	The number of out-of-profile packets (rate above CIR) forwarded by the ingress Qchip.
offeredHiPrioOctets	UINT128	sapIngQosQueueStatsOfferedHiPrioOctets	The number of high priority octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
offeredHiPrioPackets	UINT128	sapIngQosQueueStatsOfferedHiPrioPackets	The number of high priority packets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
offeredLoPrioOctets	UINT128	sapIngQosQueueStatsOfferedLoPrioOctets	The number of low priority octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
offeredLoPrioPackets	UINT128	sapIngQosQueueStatsOfferedLoPrioPackets	The number of low priority packets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
queueId	long	sapIngQosQueueId	The index of the ingress QoS queue of this SAP.
uncoloredOctetsOffered	UINT128	sapIngQosQueueStatsUncoloredOctetsOffered	The number of uncolored octets offered to the ingress Qchip.
uncoloredPacketsOffered	UINT128	sapIngQosQueueStatsUncoloredPacketsOffered	The number of uncolored packets offered to the ingress Qchip.
SapIngQosSchedStats MIB table name: TIMETRA-SAP-MIB.sapIngQosSchedStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
customerId	long	sapIngQosSchedCustId	The Customer ID for the associated service.
forwardedOctets	UINT128	sapIngQosSchedStatsForwardedOctets	The number of forwarded octets, as determined by the SAP ingress scheduler policy, offered by the Pchip to the Qchip.
forwardedPackets	UINT128	sapIngQosSchedStatsForwardedPackets	The number of forwarded packets, as determined by the SAP ingress scheduler policy, offered by the Pchip to the Qchip.
qosSchedName	String	sapIngQosSchedName	The index of the ingress QoS scheduler of this SAP.
SapIngSchedPlcyPortStats MIB table name: TIMETRA-SAP-MIB.sapIngSchedPlcyPortStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			

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5620 SAM counter name	Type	MIB counter name	Description
forwardedOctets	UINT128	sapIngSchedPlcyPortStatsFwdOct	The value of sapIngSchedPlcyPortStatsFwdOct indicates the number of forwarded octets,as determined by the SAP ingress scheduler policy, offered by the Pchip to the Qchip.
forwardedPackets	UINT128	sapIngSchedPlcyPortStatsFwdPkt	The value of sapIngSchedPlcyPortStatsFwdPkt indicates the number of forwarded packets, as determined by the SAP ingress scheduler policy, offered by the Pchip to the Qchip.
SapIngSchedPlcyStats MIB table name: TIMETRA-SAP-MIB.sapIngSchedPlcyStatsTable Monitored classes: • service.L2AccessInterface • service.L3AccessInterface • service.IPsecInterface			
forwardedOctets	UINT128	sapIngSchedPlcyStatsFwdOct	The number of forwarded octets, as determined by the SAP ingress scheduler policy, offered by the Pchip to the Qchip.
forwardedPackets	UINT128	sapIngSchedPlcyStatsFwdPkt	The number of forwarded packets, as determined by the SAP ingress scheduler policy, offered by the Pchip to the Qchip.
VdoGrpSrcAdiStats MIB table name: TIMETRA-VIDEO-MIB.tmnxVdoSGAdiStatTable Monitored class: service.ZoneAdiChl			
vdoSGAdiAbortReq	long	tmnxVdoSGAdiAbortReq	The value of tmnxVdoSGAdiAbortReq indicates the total number of abort requests received from the Ad Insert (ADI) server.
vdoSGAdiAliveReq	long	tmnxVdoSGAdiAliveReq	The value of tmnxVdoSGAdiAliveReq indicates the total number of alive messages received from the Ad Insert (ADI) server.
vdoSGAdiCueReq	long	tmnxVdoSGAdiCueReq	The value of tmnxVdoSGAdiCueReq indicates the total number of total number of cue requests sent to the Ad Insert (ADI) server.
vdoSGAdiInitReq	long	tmnxVdoSGAdiInitReq	The value of tmnxVdoSGAdiInitReq indicates the total number of init requests received from the Ad Insert (ADI) server.
vdoSGAdiServerAddr	String	tmnxVdoSGAdiServerAddr	The value of tmnxVdoSGAdiServerAddr indicates the address of Ad Insert (ADI) server on this channel.
vdoSGAdiServerAddrType	int	tmnxVdoSGAdiServerAddrType	The value of tmnxVdoSGAdiServerAddrType indicates the type of Ad Insert (ADI) server address represented by tmnxVdoSGAdiServerAddr.

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5620 SAM counter name	Type	MIB counter name	Description
vdoSGAdiServerUptime	long	tmnxVdoSGAdiServerUptime	The value of tmnxVdoSGAdiServerUptime indicates the time in seconds since the connection with Ad Insert (ADI) server was established.
vdoSGAdiSpliceReq	long	tmnxVdoSGAdiSpliceReq	The value of tmnxVdoSGAdiSpliceReq indicates the total number of splice requests received from the Ad Insert (ADI) server.
vdoSGAdiSucAbortResp	long	tmnxVdoSGAdiSucAbortResp	The value of tmnxVdoSGAdiSucAbortResp indicates the total number of successful abort responses sent to the Ad Insert (ADI) server.
vdoSGAdiSucAliveResp	long	tmnxVdoSGAdiSucAliveResp	The value of tmnxVdoSGAdiSucAliveResp indicates the total number of successful alive messages sent to the Ad Insert (ADI) server.
vdoSGAdiSucCueResp	long	tmnxVdoSGAdiSucCueResp	The value of tmnxVdoSGAdiSucCueResp indicates the total number of successful cue responses received from the Ad Insert (ADI) server.
vdoSGAdiSucInitResp	long	tmnxVdoSGAdiSucInitResp	The value of tmnxVdoSGAdiSucInitResp indicates the total number of successful init responses sent to the Ad Insert (ADI) server.
vdoSGAdiSucSpliceInCompResp	long	tmnxVdoSGAdiSucSpliceInCompResp	The value of tmnxVdoSGAdiSucSpliceInCompResp indicates the total number of successful splice-in complete responses sent to the Ad Insert (ADI) server.
vdoSGAdiSucSpliceOutCompResp	long	tmnxVdoSGAdiSucSpliceOutCompResp	The value of tmnxVdoSGAdiSucSpliceOutCompResp indicates the total number of successful splice-out complete responses sent to the Ad Insert (ADI) server.
vdoSGAdiSucSpliceResp	long	tmnxVdoSGAdiSucSpliceResp	The value of tmnxVdoSGAdiSucSpliceResp indicates the total number of successful splice responses sent to the Ad Insert (ADI) server.
vdoSGAdiUnknownSCTE30Req	long	tmnxVdoSGAdiUnknownSCTE30Req	The value of tmnxVdoSGAdiUnknownSCTE30Req indicates the total number of invalid Society of Cable Telecommunications Engineers 30 (SCTE-30) requests received from the Ad Insert (ADI) server.
vdoSGAdiUnsucAbortResp	long	tmnxVdoSGAdiUnsucAbortResp	The value of tmnxVdoSGAdiUnsucAbortResp indicates the total number of unsuccessful abort responses sent to the Ad Insert (ADI) server.
vdoSGAdiUnSucAliveResp	long	tmnxVdoSGAdiUnSucAliveResp	The value of tmnxVdoSGAdiUnSucAliveResp indicates the total number of unsuccessful alive messages sent to the Ad Insert (ADI) server.

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5620 SAM counter name	Type	MIB counter name	Description
vdoSGAdiUnsucCueResp	long	tmnxVdoSGAdiUnsucCueResp	The value of tmnxVdoSGAdiUnsucCueResp indicates the total number of unsuccessful cue responses received from the Ad Insert (ADI) server.
vdoSGAdiUnsucInitResp	long	tmnxVdoSGAdiUnsucInitResp	The value of tmnxVdoSGAdiUnsucInitResp indicates the total number of unsuccessful init responses sent to the Ad Insert (ADI) server.
vdoSGAdiUnsucSpliceOutComRes	long	tmnxVdoSGAdiUnsucSpliceOutComRes	The value of tmnxVdoSGAdiUnsucSpliceOutComRes indicates the total number of unsuccessful splice-out complete responses sent to the Ad Insert (ADI) server.
vdoSGAdiUnsucSpliceResp	long	tmnxVdoSGAdiUnsucSpliceResp	The value of tmnxVdoSGAdiUnsucSpliceResp indicates the total number of unsuccessful splice responses sent to the Ad Insert (ADI) server.
VdoGrpSrcSpliceStats MIB table name: TIMETRA-VIDEO-MIB.tmnxVdoSGSpliceStatusTable Monitored class: service.ZoneAdiChl			
vdoSGSpliceAbortReason	long	tmnxVdoSGSpliceAbortReason	The value of tmnxVdoSGSpliceAbortReason indicates the reason if a splice operation has been aborted. If the value of this object is equal to 'none', then the splice has not been aborted.
vdoSGSpliceAdServerAddr	String	tmnxVdoSGSpliceAdServerAddr	The value of tmnxVdoSGSpliceAdServerAddr indicates the address of the Ad Insert (ADI) server that issued the splice request.
vdoSGSpliceAdServerAddrType	int	tmnxVdoSGSpliceAdServerAddrType	The value of tmnxVdoSGSpliceAdServerAddrType indicates the type of Ad Insert (ADI) server address represented by tmnxVdoSGSpliceAdServerAddr.
vdoSGSpliceBlkFramePTS	String	tmnxVdoSGSpliceBlkFramePTS	The value of tmnxVdoSGSpliceBlkFramePTS indicates the Presentation Timestamp (PTS) of the first black frame.
vdoSGSpliceDurationPlayed	long	tmnxVdoSGSpliceDurationPlayed	The value of tmnxVdoSGSpliceDurationPlayed indicates the splice duration, in seconds, played by the splicer.
vdoSGSpliceDurationReq	long	tmnxVdoSGSpliceDurationReq	The value of tmnxVdoSGSpliceDurationReq indicates the splice duration, in seconds, of the ad requested by the Ad Insert (ADI) server.
vdoSGSpliceMaxAdPTS	String	tmnxVdoSGSpliceMaxAdPTS	The value of tmnxVdoSGSpliceMaxAdPTS indicates the maximum Presentation Timestamp (PTS) value of the last Group of Pictures (GOP) of ad stream (non-black frame).

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5620 SAM counter name	Type	MIB counter name	Description
vdoSGSpliceMinNwPTS	String	tmnxVdoSGSpliceMinNwPTS	The value of tmnxVdoSGSpliceMinNwPTS indicates the minimum Presentation Timestamp (PTS) value from the first Group of Pictures (GOP) of the network stream after the splice out has occured.
vdoSGSpliceNumBlkFrames	long	tmnxVdoSGSpliceNumBlkFrames	The value of tmnxVdoSGSpliceNumBlkFrames indicates the number of black frames inserted.
vdoSGSplicePriorSessionId	long	tmnxVdoSGSplicePriorSessionId	The value of tmnxVdoSGSplicePriorSessionId indicates the prior session id of the ad. If the value of this object is not equal to 0xFFFFFFFF, then this splice is a back-to-back ad insertion.
vdoSGSpliceRate	long	tmnxVdoSGSpliceRate	The value of tmnxVdoSGSpliceRate indicates the rate of the ad stream, in kilo-bits per second (kbps), received by the splicer.
vdoSGSpliceSessionId	long	tmnxVdoSGSpliceSessionId	The value of tmnxVdoSGSpliceSessionId indicates the session ID of the ad request.
vdoSGSpliceSpliceInSeqNum	long	tmnxVdoSGSpliceSpliceInSeqNum	The value of tmnxVdoSGSpliceSpliceInSeqNum indicates the sequence number at which the splice-in to the ad occurred.
vdoSGSpliceSpliceOutSeqNum	long	tmnxVdoSGSpliceSpliceOutSeqNum	The value of tmnxVdoSGSpliceSpliceOutSeqNum indicates the sequence number at which the splice-out to the ad occurred.
vdoSGSpliceStartTime	long	tmnxVdoSGSpliceStartTime	The value of tmnxVdoSGSpliceStartTime indicates the start time of splice in seconds.
vdoSGSpliceStatus	long	tmnxVdoSGSpliceStatus	The value of tmnxVdoSGSpliceStatus indicates the status of this splice request.
VdoGrpSrcStats MIB table name: TIMETRA-VIDEO-MIB.tmnxVdoGrpSrcStatTable Monitored classes: • service.AdiChl • service.ZoneAdiChl			
vdoGrpSrcADIAdminState	int	tmnxVdoGrpSrcADIAdminState	The value of tmnxVdoGrpSrcADIAdminState indicates whether Ad Insertion is enabled on the video ISA.
vdoGrpSrcADICurrentState	long	tmnxVdoGrpSrcADICurrentState	The value of tmnxVdoGrpSrcADICurrentState indicates whether the video ISA is transmitting network stream or ads.
vdoGrpSrcADIPATChanges	long	tmnxVdoGrpSrcADIPATChanges	The value of tmnxVdoGrpSrcADIPATChanges indicates the total number of Program Association Table (PAT) version changes.
vdoGrpSrcADIPATVersion	long	tmnxVdoGrpSrcADIPATVersion	The value of tmnxVdoGrpSrcADIPATVersion indicates the version of the Program Association Table (PAT).

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5620 SAM counter name	Type	MIB counter name	Description
vdoGrpSrcADIPMTChanges	long	tmnxVdoGrpSrcADIPMTChanges	The value of tmnxVdoGrpSrcADIPMTChanges indicates the total number of Program Map Table (PMT) version changes.
vdoGrpSrcADIPMTVersion	long	tmnxVdoGrpSrcADIPMTVersion	The value of tmnxVdoGrpSrcADIPMTVersion indicates the version of the Program Map Table (PMT).
vdoGrpSrcADIRxPackets	UINT128	tmnxVdoGrpSrcADIRxPackets	The value of tmnxVdoGrpSrcADIRxPackets indicates the total number of Ad Insert (ADI) packets received by the video ISA.
vdoGrpSrcADIRxSCTE35MsgDisc	long	tmnxVdoGrpSrcADIRxSCTE35MsgDisc	The value of tmnxVdoGrpSrcADIRxSCTE35MsgDisc indicates the total number of Society of Cable Telecommunications Engineers (SCTE-35) messages received by the video ISA and discarded. SCTE-35 messages with unsupported commands and encrypted SCTE-35 messages are discarded.
vdoGrpSrcADIRxSCTE35MsgEnc	long	tmnxVdoGrpSrcADIRxSCTE35MsgEnc	The value of tmnxVdoGrpSrcADIRxSCTE35MsgEnc indicates the total number of encrypted Society of Cable Telecommunications Engineers (SCTE-35) messages received by the video ISA.
vdoGrpSrcADIRxSCTE35Msgs	long	tmnxVdoGrpSrcADIRxSCTE35Msgs	The value of tmnxVdoGrpSrcADIRxSCTE35Msgs indicates the total number of Society of Cable Telecommunications Engineers (SCTE-35) messages received by the video ISA.
vdoGrpSrcADIRxSCTE35MsgUnsup	long	tmnxVdoGrpSrcADIRxSCTE35MsgUnsup	The value of tmnxVdoGrpSrcADIRxSCTE35MsgUnsup indicates the total number of unsupported Society of Cable Telecommunications Engineers (SCTE-35) messages received by the video ISA.
vdoGrpSrcADITxPackets	UINT128	tmnxVdoGrpSrcADITxPackets	The value of tmnxVdoGrpSrcADITxPackets indicates the total number of Ad Insert (ADI) packets sent by the video ISA.
vdoGrpSrcADIUnsuppTSLenPkts	long	tmnxVdoGrpSrcADIUnsuppTSLenPkts	The value of tmnxVdoGrpSrcADIUnsuppTSLenPkts indicates the total number of data packets received whose size is not equal to 188 bytes. The value of this object is valid only when the corresponding tmnxVdoGrpADIServerState value is set to 'true'.
vdoGrpSrcAdminBW	long	tmnxVdoGrpSrcAdminBW	The value of tmnxVdoGrpSrcAdminBW indicates the administrative bandwidth of the multicast group.
vdoGrpSrcAdminRTBufferSize	long	tmnxVdoGrpSrcAdminRTBufferSize	The value of tmnxVdoGrpSrcAdminRTBufferSize indicates the number of milliseconds worth of channel packets to store for the Retransmission (RT) server.

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5620 SAM counter name	Type	MIB counter name	Description
vdoGrpSrcBufferSize	long	tmnxVdoGrpSrcBufferSize	The value of tmnxVdoGrpSrcBufferSize indicates the number of milliseconds worth of channel packets stored by the Retransmission (RT) server or Fast Channel Change (FCC) server on this channel.
vdoGrpSrcDupSeqNumber	long	tmnxVdoGrpSrcDupSeqNumber	The value of tmnxVdoGrpSrcDupSeqNumber indicates the total number of Real-time Transport Protocol (RTP) packets detected with a duplicate sequence number.
vdoGrpSrcFCCSrvrAdminState	int	tmnxVdoGrpSrcFCCSrvrAdminState	The value of tmnxVdoGrpSrcFCCSrvrAdminState indicates whether the Fast Channel Change (FCC) server is enabled on this channel.
vdoGrpSrcFCCSrvrChnlType	int	tmnxVdoGrpSrcFCCSrvrChnlType	The value of tmnxVdoGrpSrcFCCSrvrChnlType indicates the type of channel served by the Fast Channel Change (FCC) server.
vdoGrpSrcFCCSrvrRxFailedReq	long	tmnxVdoGrpSrcFCCSrvrRxFailedReq	The value of tmnxVdoGrpSrcFCCSrvrRxFailedReq indicates the total number of failed requests at the Fast Channel Change (FCC) server.
vdoGrpSrcFCCSrvrRxFCCReq	long	tmnxVdoGrpSrcFCCSrvrRxFCCReq	The value of tmnxVdoGrpSrcFCCSrvrRxFCCReq indicates the total number of Fast Channel Change (FCC) requests received by the FCC server.
vdoGrpSrcFCCSrvrTxBytes	UINT128	tmnxVdoGrpSrcFCCSrvrTxBytes	The value of tmnxVdoGrpSrcFCCSrvrTxBytes indicates the total number of bytes sent by the Fast Channel Change (FCC) server.
vdoGrpSrcFCCSrvrTxFCCReplies	long	tmnxVdoGrpSrcFCCSrvrTxFCCReplies	The value of tmnxVdoGrpSrcFCCSrvrTxFCCReplies indicates the total number of Fast Channel Change (FCC) replies sent by the FCC server.
vdoGrpSrcFCCSrvrTxPackets	UINT128	tmnxVdoGrpSrcFCCSrvrTxPackets	The value of tmnxVdoGrpSrcFCCSrvrTxPackets indicates the total number of packets sent by the Fast Channel Change (FCC) server.
vdoGrpSrcGroupAddress	String	tmnxVdoGrpSrcGroupAddress	The value of tmnxVdoGrpSrcGroupAddress indicates the IP multicast group address for which this entry contains information.
vdoGrpSrcGrpAddrType	int	tmnxVdoGrpSrcGrpAddrType	The value of tmnxVdoGrpSrcGrpAddrType indicates the type of IP multicast group address represented by tmnxVdoGrpSrcGroupAddress.
vdoGrpSrcRTClientAdminState	int	tmnxVdoGrpSrcRTClientAdminState	The value of tmnxVdoGrpSrcRTClientAdminState indicates the administrative state of the retransmission client.

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5620 SAM counter name	Type	MIB counter name	Description
vdoGrpSrcRTClientFailedReq	long	tmnxVdoGrpSrcRTClientFailedReq	The value of tmnxVdoGrpSrcRTClientFailedReq indicates the total number of Retransmission (RT) requests that could not be generated by the RT client due to gaps in the sequence numbers.
vdoGrpSrcRTClientGapsDetectd	long	tmnxVdoGrpSrcRTClientGapsDetectd	The value of tmnxVdoGrpSrcRTClientGapsDetectd indicates the total number of gaps in the sequence numbers detected by the Retransmission (RT) client.
vdoGrpSrcRTClientRTSrvrPort	long	tmnxVdoGrpSrcRTClientRTSrvrPort	The value of tmnxVdoGrpSrcRTClientRTSrvrPort indicates the Retransmission (RT) server port for this channel.
vdoGrpSrcRTClientRxReTxBytes	UINT128	tmnxVdoGrpSrcRTClientRxReTxBytes	The value of tmnxVdoGrpSrcRTClientRxReTxBytes indicates the total number of retransmitted bytes received by the Retransmission (RT) client.
vdoGrpSrcRTClientRxReTxPkts	UINT128	tmnxVdoGrpSrcRTClientRxReTxPkts	The value of tmnxVdoGrpSrcRTClientRxReTxPkts indicates the total number of retransmitted packets received by the Retransmission (RT) client.
vdoGrpSrcRTClientTxRTReq	long	tmnxVdoGrpSrcRTClientTxRTReq	The value of tmnxVdoGrpSrcRTClientTxRTReq indicates the total number of Retransmission (RT) requests sent by the RT client.
vdoGrpSrcRTClientTxRTReqReTx	long	tmnxVdoGrpSrcRTClientTxRTReqReTx	The value of tmnxVdoGrpSrcRTClientTxRTReqReTx indicates the total number of repeat Retransmission (RT) requests attempted by the RT client.
vdoGrpSrcRTClntRTSvrAddr	String	tmnxVdoGrpSrcRTClntRTSvrAddr	The value of tmnxVdoGrpSrcRTClntRTSvrAddr indicates the address of the Retransmission (RT) server for this channel.
vdoGrpSrcRTClntRTSvrAddrType	int	tmnxVdoGrpSrcRTClntRTSvrAddrType	The value of tmnxVdoGrpSrcRTClntRTSvrAddrType indicates the type of address represented by tmnxVdoGrpSrcRTClntRTSvrAddr.
vdoGrpSrcRTSrvrAdminState	int	tmnxVdoGrpSrcRTSrvrAdminState	The value of tmnxVdoGrpSrcRTSrvrAdminState indicates the administrative state of the Retransmission (RT) server.
vdoGrpSrcRTSrvrRtpPktsReq	long	tmnxVdoGrpSrcRTSrvrRtpPktsReq	The value of tmnxVdoGrpSrcRTSrvrRtpPktsReq indicates the totoal number of Real-time Transport Protocol (RTP) packets requested in the Real-time Transport Control Protocol (RTCP) feedback (FB) messages received on this channel.

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5620 SAM counter name	Type	MIB counter name	Description
vdoGrpSrcRTSrvrRxFailedReq	long	tmnxVdoGrpSrcRTSrvrRxFailedReq	The value of tmnxVdoGrpSrcRTSrvrRxFailedReq indicates the total number of failed requests at the Retransmission (RT) server due to congestion or lack of resources.
vdoGrpSrcRTSrvrRxRTReq	long	tmnxVdoGrpSrcRTSrvrRxRTReq	The value of tmnxVdoGrpSrcRTSrvrRxRTReq indicates the total number of RT requests received by the Retransmission (RT) server.
vdoGrpSrcRTSrvrTxBytes	UINT128	tmnxVdoGrpSrcRTSrvrTxBytes	The value of tmnxVdoGrpSrcRTSrvrTxBytes indicates the total number of bytes sent by the Retransmission (RT) server.
vdoGrpSrcRTSrvrTxPackets	UINT128	tmnxVdoGrpSrcRTSrvrTxPackets	The value of tmnxVdoGrpSrcRTSrvrTxPackets indicates the total number of packets sent by the Retransmission (RT) server.
vdoGrpSrcRTSrvrTxRTReplies	long	tmnxVdoGrpSrcRTSrvrTxRTReplies	The value of tmnxVdoGrpSrcRTSrvrTxRTReplies indicates the total number of Retransmission (RT) replies sent by the RT server.
vdoGrpSrcRxBytes	UINT128	tmnxVdoGrpSrcRxBytes	The value of tmnxVdoGrpSrcRxBytes indicates the total number of bytes received on this multicast channel.
vdoGrpSrcRxInvalidPackets	UINT128	tmnxVdoGrpSrcRxInvalidPackets	The value of tmnxVdoGrpSrcRxInvalidPackets indicates the total number of invalid packets received on this multicast channel.
vdoGrpSrcRxPackets	UINT128	tmnxVdoGrpSrcRxPackets	The value of tmnxVdoGrpSrcRxPackets indicates the total number of packets received on this multicast channel.
vdoGrpSrcSourceAddress	String	tmnxVdoGrpSrcSourceAddress	The value of tmnxVdoGrpSrcSourceAddress indicates the IP multicast source address for which this entry contains information.
vdoGrpSrcSrcAddrType	int	tmnxVdoGrpSrcSrcAddrType	The value of tmnxVdoGrpSrcSrcAddrType indicates the type of IP multicast source address represented by tmnxVdoGrpSrcSourceAddress.
vdoGrpSrcSSRCId	long	tmnxVdoGrpSrcSSRCId	The value of tmnxVdoGrpSrcSSRCId indicates the synchronization source (SSRC) identifier carried in the Real-time Transport Protocol (RTP) header to identify the source of a stream of RTP packets.
vdoGrpSrcStreamType	long	tmnxVdoGrpSrcStreamType	The value of tmnxVdoGrpSrcStreamType indicates the type of stream being transmitted from the video ISA perspective. Network stream is the stream ingressing the video ISA and being stored by it. Zone stream is the stream egressing the video ISA into which AD streams will be inserted.

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5620 SAM counter name	Type	MIB counter name	Description
vdoGrpSrcTxBytes	UINT128	tmnxVdoGrpSrcTxBytes	The value of tmnxVdoGrpSrcTxBytes indicates the total number of bytes transmitted on this multicast channel.
vdoGrpSrcTxFailedPackets	UINT128	tmnxVdoGrpSrcTxFailedPackets	The value of tmnxVdoGrpSrcTxFailedPackets indicates the total number of failures during the transmission of packets on this multicast channel. Failure happens when the packet to be sent is not stored in the video cache.
vdoGrpSrcTxPackets	UINT128	tmnxVdoGrpSrcTxPackets	The value of tmnxVdoGrpSrcTxPackets indicates the total number of packets transmitted on this multicast channel.
vdoGrpSrcUDPDestPort	long	tmnxVdoGrpSrcUDPDestPort	The value of tmnxVdoGrpSrcUDPDestPort indicates the UDP destination port in the received RTP multicast stream.
vdoGrpSrcUDPSrcPort	long	tmnxVdoGrpSrcUDPSrcPort	The value of tmnxVdoGrpSrcUDPSrcPort indicates the UDP source port in the received RTP multicast stream.
vdoGrpSrcUptime	long	tmnxVdoGrpSrcUptime	The value of tmnxVdoGrpSrcUptime indicates the time since this source group entry was created.
vdoGrpSrcVdoGrpId	long	tmnxVdoGrpSrcVdoGrpId	The value of tmnxVdoGrpSrcVdoGrpId indicates the identifier of the video group.
VdoIfStats MIB table name: TIMETRA-VIDEO-MIB.tmnxVdoIfStatTable Monitored class: service.VideoIfIpAddress			
vdoIfScte30InitSessions	long	tmnxVdoIfScte30InitSessions	The value of tmnxVdoIfScte30InitSessions indicates the total number of scte30 init sessions with the Ad Insert (ADI) servers for this interface.
vdoIfScte30TcpSessions	long	tmnxVdoIfScte30TcpSessions	The value of tmnxVdoIfScte30TcpSessions indicates the total number of scte30 tcp sessions with the Ad Insert (ADI) servers for this interface.
vdoIfStatFCCSrRxHdFailedReq	UINT128	tmnxVdoIfStatFCCSrRxHdFailedReq	The value of tmnxVdoIfStatFCCSrRxHdFailedReq indicates the total number of failed Fast Channel Change (FCC) requests received from High Definition (HD) channels on this interface.
vdoIfStatFCCSrRxHdFCCReq	UINT128	tmnxVdoIfStatFCCSrRxHdFCCReq	The value of tmnxVdoIfStatFCCSrRxHdFCCReq indicates the total number of Fast Channel Change (FCC) requests received from High Definition (HD) channels on this interface.
vdoIfStatFCCSrRxPipFailedReq	UINT128	tmnxVdoIfStatFCCSrRxPipFailedReq	The value of tmnxVdoIfStatFCCSrRxPipFailedReq indicates the total number of failed Fast Channel Change (FCC) requests received from Picture-In-Picture (PIP) channels on this interface.

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5620 SAM counter name	Type	MIB counter name	Description
vdoIfStatFCCSrRxPipFCCReq	UINT128	tmnxVdoIfStatFCCSrRxPipFCCReq	The value of tmnxVdoIfStatFCCSrRxPipFCCReq indicates the total number of Fast Channel Change (FCC) requests received from Picture-In-Picture (PIP) channels on this interface.
vdoIfStatFCCSrRxSdFailedReq	UINT128	tmnxVdoIfStatFCCSrRxSdFailedReq	The value of tmnxVdoIfStatFCCSrRxSdFailedReq indicates the total number of failed Fast Channel Change (FCC) requests received from Standard Definition (SD) channels on this interface.
vdoIfStatFCCSrRxSdFCCReq	UINT128	tmnxVdoIfStatFCCSrRxSdFCCReq	The value of tmnxVdoIfStatFCCSrRxSdFCCReq indicates the total number of Fast Channel Change (FCC) requests received from Standard Definition (SD) channels on this interface.
vdoIfStatFCCSrTxHdBytes	UINT128	tmnxVdoIfStatFCCSrTxHdBytes	The value of tmnxVdoIfStatFCCSrTxHdBytes indicates the total number of High Definition (HD) channel bytes sent from this interface.
vdoIfStatFCCSrTxHdFCCReplies	UINT128	tmnxVdoIfStatFCCSrTxHdFCCReplies	The value of tmnxVdoIfStatFCCSrTxHdFCCReplies indicates the total number of High Definition (HD) channel Fast Channel Change (FCC) replies sent from this interface.
vdoIfStatFCCSrTxHdPackets	UINT128	tmnxVdoIfStatFCCSrTxHdPackets	The value of tmnxVdoIfStatFCCSrTxHdPackets indicates the total number of High Definition (HD) channel packets sent from this interface.
vdoIfStatFCCSrTxPipBytes	UINT128	tmnxVdoIfStatFCCSrTxPipBytes	The value of tmnxVdoIfStatFCCSrTxPipBytes indicates the total number of Picture-In-Picture (PIP) channel bytes sent from this interface.
vdoIfStatFCCSrTxPipFCCRplies	UINT128	tmnxVdoIfStatFCCSrTxPipFCCRplies	The value of tmnxVdoIfStatFCCSrTxPipFCCRplies indicates the total number of Picture-In-Picture (PIP) channel Fast Channel Change (FCC) replies sent from this interface.
vdoIfStatFCCSrTxPipPackets	UINT128	tmnxVdoIfStatFCCSrTxPipPackets	The value of tmnxVdoIfStatFCCSrTxPipPackets indicates the total number of Picture-In-Picture (PIP) channel packets sent from this interface.
vdoIfStatFCCSrTxSdBytes	UINT128	tmnxVdoIfStatFCCSrTxSdBytes	The value of tmnxVdoIfStatFCCSrTxSdBytes indicates the total number of Standard Definition (SD) channel bytes sent from this interface.

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5620 SAM counter name	Type	MIB counter name	Description
vdoIfStatFCCSrTxSdFCCReplies	UINT128	tmnxVdoIfStatFCCSrTxSdFCCReplies	The value of tmnxVdoIfStatFCCSrTxSdFCCReplies indicates the total number of Standard Definition (SD) channel Fast Channel Change (FCC) replies sent from this interface.
vdoIfStatFCCSrTxSdPackets	UINT128	tmnxVdoIfStatFCCSrTxSdPackets	The value of tmnxVdoIfStatFCCSrTxSdPackets indicates the total number of Standard Definition (SD) channel packets sent from this interface.
vdoIfStatHdFCCServerMode	int	tmnxVdoIfStatHdFCCServerMode	The value of tmnxVdoIfStatHdFCCServerMode indicates the mode of the High Definition (HD) Fast Channel Change (FCC) server on this interface.
vdoIfStatHdRTServerState	boolean	tmnxVdoIfStatHdRTServerState	The value of tmnxVdoIfStatHdRTServerState indicates whether the High Definition (HD) retransmission server is enabled on this interface.
vdoIfStatPipFCCServerMode	int	tmnxVdoIfStatPipFCCServerMode	The value of tmnxVdoIfStatPipFCCServerMode indicates the mode of the Picture-in-Picture (PIP) Fast Channel Change (FCC) server on this interface.
vdoIfStatPipRTServerState	boolean	tmnxVdoIfStatPipRTServerState	The value of tmnxVdoIfStatPipRTServerState indicates whether the Picture-in-Picture (PIP) retransmission server is enabled on this interface.
vdoIfStatRTSvrHdRtpPktsReq	UINT128	tmnxVdoIfStatRTSvrHdRtpPktsReq	The value of tmnxVdoIfStatRTSvrHdRtpPktsReq indicates the total number of High Definition (HD) channel Real-time Transport Protocol (RTP) packets requested in the Real-time Transport Control Protocol (RTCP) feedback (FB) messages received on this interface.
vdoIfStatRTSvrPipRtpPktsReq	UINT128	tmnxVdoIfStatRTSvrPipRtpPktsReq	The value of tmnxVdoIfStatRTSvrPipRtpPktsReq indicates the total number of Picture-In-Picture (PIP) channel Real-time Transport Protocol (RTP) packets requested in the Real-time Transport Control Protocol (RTCP) feedback (FB) messages received on this interface.
vdoIfStatRTSvrRxHdFailedReq	UINT128	tmnxVdoIfStatRTSvrRxHdFailedReq	The value of tmnxVdoIfStatRTSvrRxHdFailedReq indicates the total number of failed Retransmission (RT) requests received from High Definition (HD) channels on this interface.
vdoIfStatRTSvrRxHdRTReq	UINT128	tmnxVdoIfStatRTSvrRxHdRTReq	The value of tmnxVdoIfStatRTSvrRxHdRTReq indicates the total number of Retransmission (RT) requests received from High Definition (HD) channels on this interface.

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5620 SAM counter name	Type	MIB counter name	Description
vdoIfStatRTSvrRxPipFailedReq	UINT128	tmnxVdoIfStatRTSvrRxPipFailedReq	The value of tmnxVdoIfStatRTSvrRxPipFailedReq indicates the total number of failed Retransmission (RT) requests received from Picture-In-Picture (PIP) channels on this interface.
vdoIfStatRTSvrRxPipRTReq	UINT128	tmnxVdoIfStatRTSvrRxPipRTReq	The value of tmnxVdoIfStatRTSvrRxPipRTReq indicates the total number of Retransmission (RT) requests received from Picture-In-Picture (PIP) channels on this interface.
vdoIfStatRTSvrRxSdFailedReq	UINT128	tmnxVdoIfStatRTSvrRxSdFailedReq	The value of tmnxVdoIfStatRTSvrRxSdFailedReq indicates the total number of failed Retransmission (RT) requests received from Standard Definition (SD) channels on this interface.
vdoIfStatRTSvrRxSdRTReq	UINT128	tmnxVdoIfStatRTSvrRxSdRTReq	The value of tmnxVdoIfStatRTSvrRxSdRTReq indicates the total number of Retransmission (RT) requests received from Standard Definition (SD) channels on this interface.
vdoIfStatRTSvrSdRtpPktsReq	UINT128	tmnxVdoIfStatRTSvrSdRtpPktsReq	The value of tmnxVdoIfStatRTSvrSdRtpPktsReq indicates the total number of Standard Definition (SD) channel Real-time Transport Protocol (RTP) packets requested in the Real-time Transport Control Protocol (RTCP) feedback (FB) messages received on this interface.
vdoIfStatRTSvrTxHdBytes	UINT128	tmnxVdoIfStatRTSvrTxHdBytes	The value of tmnxVdoIfStatRTSvrTxHdBytes indicates the total number of High Definition (HD) channel bytes sent from this interface.
vdoIfStatRTSvrTxHdPackets	UINT128	tmnxVdoIfStatRTSvrTxHdPackets	The value of tmnxVdoIfStatRTSvrTxHdPackets indicates the total number of High Definition (HD) channel packets sent from this interface.
vdoIfStatRTSvrTxHdRTReplies	UINT128	tmnxVdoIfStatRTSvrTxHdRTReplies	The value of tmnxVdoIfStatRTSvrTxHdRTReplies indicates the total number of High Definition (HD) channel Retransmission (RT) replies sent from this interface.
vdoIfStatRTSvrTxPipBytes	UINT128	tmnxVdoIfStatRTSvrTxPipBytes	The value of tmnxVdoIfStatRTSvrTxPipBytes indicates the total number of Picture-In-Picture (PIP) channel bytes sent from this interface.
vdoIfStatRTSvrTxPipPackets	UINT128	tmnxVdoIfStatRTSvrTxPipPackets	The value of tmnxVdoIfStatRTSvrTxPipPackets indicates the total number of Picture-In-Picture (PIP) channel packets sent from this interface.

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5620 SAM counter name	Type	MIB counter name	Description
vdoIfStatRTSvrTxPipRTReplies	UINT128	tmnxVdoIfStatRTSvrTxPipRTReplies	The value of tmnxVdoIfStatRTSvrTxPipRTReplies indicates the total number of Picture-In-Picture (PIP) channel Retransmission (RT) replies sent from this interface.
vdoIfStatRTSvrTxSdBytes	UINT128	tmnxVdoIfStatRTSvrTxSdBytes	The value of tmnxVdoIfStatRTSvrTxSdBytes indicates the total number of Standard Definition (SD) channel bytes sent from this interface.
vdoIfStatRTSvrTxSdPackets	UINT128	tmnxVdoIfStatRTSvrTxSdPackets	The value of tmnxVdoIfStatRTSvrTxSdPackets indicates the total number of Standard Definition (SD) channel packets sent from this interface.
vdoIfStatRTSvrTxSdRTReplies	UINT128	tmnxVdoIfStatRTSvrTxSdRTReplies	The value of tmnxVdoIfStatRTSvrTxSdRTReplies indicates the total number of Standard Definition (SD) channel Retransmission (RT) replies sent from this interface.
vdoIfStatSdFCCServerMode	int	tmnxVdoIfStatSdFCCServerMode	The value of tmnxVdoIfStatSdFCCServerMode indicates the mode of the Standard Definition (SD) Fast Channel Change (FCC) server on this interface.
vdoIfStatSdRTServerState	boolean	tmnxVdoIfStatSdRTServerState	The value of tmnxVdoIfStatSdRTServerState indicates whether the Standard Definition (SD) retransmission server is enabled on this interface.
vdoIfStatTxFailedPackets	UINT128	tmnxVdoIfStatTxFailedPackets	The value of tmnxVdoIfStatTxFailedPackets indicates the total number of failures during the transmission of packets from this video interface. Failure happens when the packet to be sent is not stored in the video cache.

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Table A-45 sitesec statistics

5620 SAM counter name	Type	MIB counter name	Description
CpmFilterQueueStats MIB table name: TIMETRA-SECURITY-MIB.tCpmFilterQueueStatsTable Monitored class: sitesec.CpmFilterQueue			
droppedInOctets	UINT128	tCpmFilterQInProfileDropOctets	The value of tCpmFilterQInProfileDropOctets indicates the number of octets complying to the queue Qos profile dropped from the tCpmFilterQueueEntry with the same index.

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5620 SAM counter name	Type	MIB counter name	Description
droppedInPackets	UINT128	tCpmFilterQInProfileDropPkts	The value of tCpmFilterQInProfileDropPkts indicates the number of packets complying to the queue Qos profile dropped from the tCpmFilterQueueEntry with the same index.
droppedOutOctets	UINT128	tCpmFilterQOutProfileDropOctets	The value of tCpmFilterQOutProfileDropOctets indicates the number of octets not complying to the queue Qos profile dropped from the tCpmFilterQueueEntry with the same index.
droppedOutPackets	UINT128	tCpmFilterQOutProfileDropPkts	The value of tCpmFilterQOutProfileDropPkts indicates the number of packets not complying to the queue Qos profile dropped from the tCpmFilterQueueEntry with the same index.
forwardedInOctets	UINT128	tCpmFilterQInProfileFwdOctets	The value of tCpmFilterQInProfileFwdOctets indicates the number of octets complying to the queue Qos profile forwarded from the tCpmFilterQueueEntry with the same index.
forwardedInPackets	UINT128	tCpmFilterQInProfileFwdPkts	The value of tCpmFilterQInProfileFwdPkts indicates the number of packets complying to the queue Qos profile forwarded from the tCpmFilterQueueEntry with the same index.
forwardedOutOctets	UINT128	tCpmFilterQOutProfileFwdOctets	The value of tCpmFilterQOutProfileFwdOctets indicates the number of octets not complying to the queue Qos profile forwarded from the tCpmFilterQueueEntry with the same index.
forwardedOutPackets	UINT128	tCpmFilterQOutProfileFwdPkts	The value of tCpmFilterQOutProfileFwdPkts indicates the number of packets not complying to the queue Qos profile forwarded from the tCpmFilterQueueEntry with the same index.
CpmIpFilterStats MIB table name: TIMETRA-SECURITY-MIB.tCpmIpFilterStatsTable Monitored class: sitesec.CpmIpFilterEntry			
droppedPackets	UINT128	tCpmIpFilterStatsDroppedPkts	The value of tCpmIpFilterStatsDroppedPkts indicates the number of packets dropped due to the tCpmIpFilterEntry with the same index.
forwardedPackets	UINT128	tCpmIpFilterStatsForwardedPkts	The value of tCpmIpFilterStatsForwardedPkts indicates the number of packets forwarded due to the tCpmIpFilterEntry with the same index.

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5620 SAM counter name	Type	MIB counter name	Description
CpmIPv6FilterStats MIB table name: TIMETRA-SECURITY-MIB.tCpmIPv6FilterStatsTable Monitored class: sitesec.CpmIPv6FilterEntry			
droppedPackets	UINT128	tCpmIPv6FilterStatsDroppedPkts	The value of tCpmIPv6FilterStatsDroppedPkts indicates the number of packets dropped due to the tCpmIPv6FilterEntry with the same index.
forwardedPackets	UINT128	tCpmIPv6FilterStatsForwardedPkts	The value of tCpmIPv6FilterStatsForwardedPkts indicates the number of packets forwarded due to the tCpmIPv6FilterEntry with the same index.
CpmMacFilterStats MIB table name: TIMETRA-SECURITY-MIB.tCpmMacFilterStatsTable Monitored class: sitesec.CpmMacFilterEntry			
droppedPackets	UINT128	tCpmMacFilterStatsDroppedPkts	The value of tCpmMacFilterStatsDroppedPkts indicates the number of packets dropped due to the tCpmMacFilterEntry with the same index.
forwardedPackets	UINT128	tCpmMacFilterStatsForwardedPkts	The value of tCpmMacFilterStatsForwardedPkts indicates the number of packets forwarded due to the tCpmMacFilterEntry with the same index.
MafEntryStats MIB table name: TIMETRA-SECURITY-MIB.tmnxIPMafMatchTable Monitored class: sitesec.MafEntry			
matchCount	UINT128	tmnxIPMafMatchCount	The value of tmnxIPMafMatchCount indicates the number of times a management packet has matched this filter entry.

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Table A-46 sonetequipment statistics

5620 SAM counter name	Type	MIB counter name	Description
SonetFarEndLineCurrentStats MIB table name: SONET-MIB.sonetFarEndLineCurrentTable Monitored class: equipment.PhysicalPort			
codingViolations	long	sonetFarEndLineCurrentCVs	The counter associated with the number of Far End Coding Violations reported via the far end block error count encountered by a SONET/SDH Medium/Section/Line interface in the current 15 minute interval.
erroredSeconds	long	sonetFarEndLineCurrentESs	The counter associated with the number of Far End Errored Seconds encountered by a SONET/SDH interface in the current 15 minute interval.

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5620 SAM counter name	Type	MIB counter name	Description
severelyErroredSeconds	long	sonetFarEndLineCurrentSESs	The counter associated with the number of Far End Severely Errored Seconds encountered by a SONET/SDH Medium/Section/Line interface in the current 15 minute interval.
unavailableSeconds	long	sonetFarEndLineCurrentUASs	The counter associated with the number of Far End Unavailable Seconds encountered by a SONET/SDH Medium/Section/Line interface in the current 15 minute interval.
SonetFarEndLineIntervalStats MIB table name: SONET-MIB.sonetFarEndLineIntervalTable Monitored class: equipment.PhysicalPort			
codingViolations	long	sonetFarEndLineIntervalCVs	The counter associated with the number of Far End Coding Violations reported via the far end block error count encountered by a SONET/SDH Line interface in a particular 15-minute interval in the past 24 hours.
erroredSeconds	long	sonetFarEndLineIntervalESs	The counter associated with the number of Far End Errored Seconds encountered by a SONET/SDH Line interface in a particular 15-minute interval in the past 24 hours.
intervalNumber	int	sonetFarEndLineIntervalNumber	A number between 1 and 96, which identifies the interval for which the set of statistics is available. The interval identified by 1 is the most recently completed 15 minute interval, and the interval identified by N is the interval immediately preceding the one identified by N-1.
severelyErroredSeconds	long	sonetFarEndLineIntervalSESs	The counter associated with the number of Far End Severely Errored Seconds encountered by a SONET/SDH Line interface in a particular 15-minute interval in the past 24 hours.
unavailableSeconds	long	sonetFarEndLineIntervalUASs	The counter associated with the number of Far End Unavailable Seconds encountered by a SONET/SDH Line interface in a particular 15-minute interval in the past 24 hours.
SonetFarEndPathCurrentStats MIB table name: SONET-MIB.sonetFarEndPathCurrentTable Monitored classes: • sonetequipment.Sts1Channel • sonetequipment.Sts3Channel • sonetequipment.Sts12Channel • sonetequipment.Sts48Channel • sonetequipment.Sts192Channel • sonetequipment.Tu3Channel			

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5620 SAM counter name	Type	MIB counter name	Description
codingViolations	long	sonetFarEndPathCurrentCVs	The counter associated with the number of Far End Coding Violations reported via the far end block error count encountered by a SONET/SDH Path interface in the current 15 minute interval.
erroredSeconds	long	sonetFarEndPathCurrentESs	The counter associated with the number of Far End Errored Seconds encountered by a SONET/SDH interface in the current 15 minute interval.
severelyErroredSeconds	long	sonetFarEndPathCurrentSESs	The counter associated with the number of Far End Severely Errored Seconds encountered by a SONET/SDH Path interface in the current 15 minute interval.
unavailableSeconds	long	sonetFarEndPathCurrentUASs	The counter associated with the number of Far End Unavailable Seconds encountered by a SONET/SDH Path interface in the current 15 minute interval.
SonetFarEndPathIntervalStats MIB table name: SONET-MIB.sonetFarEndPathIntervalTable Monitored classes: • sonetequipment.Sts1Channel • sonetequipment.Sts3Channel • sonetequipment.Sts12Channel • sonetequipment.Sts48Channel • sonetequipment.Sts192Channel • sonetequipment.Tu3Channel			
codingViolations	long	sonetFarEndPathIntervalCVs	The counter associated with the number of Far End Coding Violations reported via the far end block error count encountered by a SONET/SDH Path interface in a particular 15-minute interval in the past 24 hours.
erroredSeconds	long	sonetFarEndPathIntervalESs	The counter associated with the number of Far End Errored Seconds encountered by a SONET/SDH Path interface in a particular 15-minute interval in the past 24 hours.
intervalNumber	int	sonetFarEndPathIntervalNumber	A number between 1 and 96, which identifies the interval for which the set of statistics is available. The interval identified by 1 is the most recently completed 15 minute interval, and the interval identified by N is the interval immediately preceding the one identified by N-1.
severelyErroredSeconds	long	sonetFarEndPathIntervalSESs	The counter associated with the number of Far End Severely Errored Seconds encountered by a SONET/SDH Path interface in a particular 15-minute interval in the past 24 hours.

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5620 SAM counter name	Type	MIB counter name	Description
unavailableSeconds	long	sonetFarEndPathInterval UASs	The counter associated with the number of Far End Unavailable Seconds encountered by a SONET/SDH Path interface in a particular 15-minute interval in the past 24 hours.
SonetFarEndVtCurrentStats MIB table name: SONET-MIB.sonetFarEndVTCurrentTable Monitored class: sonetequipment.TributaryChannel			
codingViolations	long	sonetFarEndVTCurrentCV s	The counter associated with the number of Far End Coding Violations reported via the far end block error count encountered by a SONET/SDH VT interface in the current 15 minute interval.
erroredSeconds	long	sonetFarEndVTCurrentESs	The counter associated with the number of Far End Errored Seconds encountered by a SONET/SDH interface in the current 15 minute interval.
severelyErroredSeconds	long	sonetFarEndVTCurrentSE Ss	The counter associated with the number of Far End Severely Errored Seconds encountered by a SONET/SDH VT interface in the current 15 minute interval.
unavailableSeconds	long	sonetFarEndVTCurrentUA Ss	The counter associated with the number of Far End Unavailable Seconds encountered by a SONET/SDH VT interface in the current 15 minute interval.
SonetFarEndVtIntervalStats MIB table name: SONET-MIB.sonetFarEndVTIntervalTable Monitored class: sonetequipment.TributaryChannel			
codingViolations	long	sonetFarEndVTIntervalCV s	The counter associated with the number of Far End Coding Violations reported via the far end block error count encountered by a SONET/SDH VT interface in a particular 15-minute interval in the past 24 hours.
erroredSeconds	long	sonetFarEndVTIntervalES s	The counter associated with the number of Far End Errored Seconds encountered by a SONET/SDH VT interface in a particular 15-minute interval in the past 24 hours.
intervalNumber	int	sonetFarEndVTIntervalNu mber	A number between 1 and 96, which identifies the interval for which the set of statistics is available. The interval identified by 1 is the most recently completed 15 minute interval, and the interval identified by N is the interval immediately preceding the one identified by N-1.
severelyErroredSeconds	long	sonetFarEndVTIntervalSE Ss	The counter associated with the number of Far End Severely Errored Seconds encountered by a SONET/SDH VT interface in a particular 15-minute interval in the past 24 hours.

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5620 SAM counter name	Type	MIB counter name	Description
unavailableSeconds	long	sonetFarEndVTIntervalUASs	The counter associated with the number of Far End Unavailable Seconds encountered by a SONET/SDH VT interface in a particular 15-minute interval in the past 24 hours.
SonetLineCurrentStats MIB table name: SONET-MIB.sonetLineCurrentTable Monitored class: equipment.PhysicalPort			
codingViolations	long	sonetLineCurrentCVs	The counter associated with the number of Coding Violations encountered by a SONET/SDH Line in the current 15 minute interval.
currentStatus	long	sonetLineCurrentStatus	This variable indicates the status of the interface. The sonetLineCurrentStatus is a bit map represented as a sum, therefore, it can represent multiple defects simultaneously. The sonetLineNoDefect should be set if and only if no other flag is set. The various bit positions are: 1 sonetLineNoDefect 2 sonetLineAIS 4 sonetLineRDI.
erroredSeconds	long	sonetLineCurrentESs	The counter associated with the number of Errored Seconds encountered by a SONET/SDH Line in the current 15 minute interval.
severelyErroredSeconds	long	sonetLineCurrentSESs	The counter associated with the number of Severely Errored Seconds encountered by a SONET/SDH Line in the current 15 minute interval.
unavailableSeconds	long	sonetLineCurrentUASs	The counter associated with the number of Unavailable Seconds encountered by a SONET/SDH Line in the current 15 minute interval.
SonetLineIntervalStats MIB table name: SONET-MIB.sonetLineIntervalTable Monitored class: equipment.PhysicalPort			
codingViolations	long	sonetLineIntervalCVs	The counter associated with the number of Coding Violations encountered by a SONET/SDH Line in a particular 15-minute interval in the past 24 hours.
erroredSeconds	long	sonetLineIntervalESs	The counter associated with the number of Errored Seconds encountered by a SONET/SDH Line in a particular 15-minute interval in the past 24 hours.
intervalNumber	int	sonetLineIntervalNumber	A number between 1 and 96, which identifies the interval for which the set of statistics is available. The interval identified by 1 is the most recently completed 15 minute interval, and the interval identified by N is the interval immediately preceding the one identified by N-1.

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5620 SAM counter name	Type	MIB counter name	Description
severelyErroredSeconds	long	sonetLineIntervalSESs	The counter associated with the number of Severely Errored Seconds encountered by a SONET/SDH Line in a particular 15-minute interval in the past 24 hours.
unavailableSeconds	long	sonetLineIntervalUASs	The counter associated with the number of Unavailable Seconds encountered by a SONET/SDH Line in a particular 15-minute interval in the past 24 hours.
SonetPathCurrentStats MIB table name: SONET-MIB.sonetPathCurrentTable Monitored classes: • sonetequipment.Sts1Channel • sonetequipment.Sts3Channel • sonetequipment.Sts12Channel • sonetequipment.Sts48Channel • sonetequipment.Sts192Channel • sonetequipment.Tu3Channel			
codingViolations	long	sonetPathCurrentCVs	The counter associated with the number of Coding Violations encountered by a SONET/SDH Path in the current 15 minute interval.
currentStatus	long	sonetPathCurrentStatus	This variable indicates the status of the interface. The sonetPathCurrentStatus is a bit map represented as a sum, therefore, it can represent multiple defects simultaneously. The sonetPathNoDefect should be set if and only if no other flag is set. The various bit positions are: 1 sonetPathNoDefect 2 sonetPathSTSLOP 4 sonetPathSTSAIS 8 sonetPathSTSRDI 16 sonetPathUnequipped 32 sonetPathSignalLabelMismatch.
currentWidth	int	sonetPathCurrentWidth	A value that indicates the type of the SONET/SDH Path. For SONET, the assigned types are the STS-Nc SPEs, where N = 1, 3, 12, 24, 48, 192 and 768. STS-1 is equal to 51.84 Mbps. For SDH, the assigned types are the STM-Nc VCs, where N = 1, 4, 16, 64 and 256.
erroredSeconds	long	sonetPathCurrentESs	The counter associated with the number of Errored Seconds encountered by a SONET/SDH Path in the current 15 minute interval.
severelyErroredSeconds	long	sonetPathCurrentSESs	The counter associated with the number of Severely Errored Seconds encountered by a SONET/SDH Path in the current 15 minute interval.
unavailableSeconds	long	sonetPathCurrentUASs	The counter associated with the number of Unavailable Seconds encountered by a Path in the current 15 minute interval.

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5620 SAM counter name	Type	MIB counter name	Description
SonetPathIntervalStats MIB table name: SONET-MIB.sonetPathIntervalTable Monitored classes: • sonetequipment.Sts1Channel • sonetequipment.Sts3Channel • sonetequipment.Sts12Channel • sonetequipment.Sts48Channel • sonetequipment.Sts192Channel • sonetequipment.Tu3Channel			
codingViolations	long	sonetPathIntervalCVs	The counter associated with the number of Coding Violations encountered by a SONET/SDH Path in a particular 15-minute interval in the past 24 hours.
erroredSeconds	long	sonetPathIntervalESs	The counter associated with the number of Errored Seconds encountered by a SONET/SDH Path in a particular 15-minute interval in the past 24 hours.
intervalNumber	int	sonetPathIntervalNumber	A number between 1 and 96, which identifies the interval for which the set of statistics is available. The interval identified by 1 is the most recently completed 15 minute interval, and the interval identified by N is the interval immediately preceding the one identified by N-1.
severelyErroredSeconds	long	sonetPathIntervalSESs	The counter associated with the number of Severely Errored Seconds encountered by a SONET/SDH Path in a particular 15-minute interval in the past 24 hours.
unavailableSeconds	long	sonetPathIntervalUASs	The counter associated with the number of Unavailable Seconds encountered by a Path in a particular 15-minute interval in the past 24 hours.
SonetSectionCurrentStats MIB table name: SONET-MIB.sonetSectionCurrentTable Monitored class: equipment.PhysicalPort			
codingViolations	long	sonetSectionCurrentCVs	The counter associated with the number of Coding Violations encountered by a SONET/SDH Section in the current 15 minute interval.
currentStatus	long	sonetSectionCurrentStatus	This variable indicates the status of the interface. The sonetSectionCurrentStatus is a bit map represented as a sum, therefore, it can represent multiple defects simultaneously. The sonetSectionNoDefect should be set if and only if no other flag is set. The various bit positions are: 1 sonetSectionNoDefect 2 sonetSectionLOS 4 sonetSectionLOF.
erroredSeconds	long	sonetSectionCurrentESs	The counter associated with the number of Errored Seconds encountered by a SONET/SDH Section in the current 15 minute interval.

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5620 SAM counter name	Type	MIB counter name	Description
severelyErroredFramingSeconds	long	sonetSectionCurrentSEFSs	The counter associated with the number of Severely Errored Framing Seconds encountered by a SONET/SDH Section in the current 15 minute interval.
severelyErroredSeconds	long	sonetSectionCurrentSESs	The counter associated with the number of Severely Errored Seconds encountered by a SONET/SDH Section in the current 15 minute interval.
SonetSectionIntervalStats MIB table name: SONET-MIB.sonetSectionIntervalTable Monitored class: equipment.PhysicalPort			
codingViolations	long	sonetSectionIntervalCVs	The counter associated with the number of Coding Violations encountered by a SONET/SDH Section in a particular 15-minute interval in the past 24 hours.
erroredSeconds	long	sonetSectionIntervalESs	The counter associated with the number of Errored Seconds encountered by a SONET/SDH Section in a particular 15-minute interval in the past 24 hours.
intervalNumber	int	sonetSectionIntervalNumber	A number between 1 and 96, which identifies the interval for which the set of statistics is available. The interval identified by 1 is the most recently completed 15 minute interval, and the interval identified by N is the interval immediately preceding the one identified by N-1.
severelyErroredFramingSeconds	long	sonetSectionIntervalSEFSs	The counter associated with the number of Severely Errored Framing Seconds encountered by a SONET/SDH Section in a particular 15-minute interval in the past 24 hours.
severelyErroredSeconds	long	sonetSectionIntervalSESs	The counter associated with the number of Severely Errored Seconds encountered by a SONET/SDH Section in a particular 15-minute interval in the past 24 hours.
SonetVtCurrentStats MIB table name: SONET-MIB.sonetVTCurrentTable Monitored class: sonetequipment.TributaryChannel			
codingViolations	long	sonetVTCurrentCVs	The counter associated with the number of Coding Violations encountered by a SONET/SDH VT in the current 15 minute interval.
currentStatus	long	sonetVTCurrentStatus	This variable indicates the status of the interface. The sonetVTCurrentStatus is a bit map represented as a sum, therefore, it can represent multiple defects and failures simultaneously. The sonetVTNoDefect should be set if and only if no other flag is set. The various bit positions are: 1 sonetVTNoDefect 2 sonetVTLOP 4 sonetVTPathAIS 8 sonetVTPathRDI 16 sonetVTPathRFI 32 sonetVTUnequipped 64 sonetVTSignalLabelMismatch.

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5620 SAM counter name	Type	MIB counter name	Description
currentWidth	int	sonetVTCurrentWidth	A value that indicates the type of the SONET VT and SDH VC. Assigned widths are VT1.5/VC11, VT2/VC12, VT3, VT6/VC2, and VT6c.
erroredSeconds	long	sonetVTCurrentESs	The counter associated with the number of Errored Seconds encountered by a SONET/SDH VT in the current 15 minute interval.
severelyErroredSeconds	long	sonetVTCurrentSESs	The counter associated with the number of Severely Errored Seconds encountered by a SONET/SDH VT in the current 15 minute interval.
unavailableSeconds	long	sonetVTCurrentUASs	The counter associated with the number of Unavailable Seconds encountered by a VT in the current 15 minute interval.
SonetVtIntervalStats MIB table name: SONET-MIB.sonetVTIntervalTable Monitored class: sonetequipment.TributaryChannel			
codingViolations	long	sonetVTIntervalCVs	The counter associated with the number of Coding Violations encountered by a SONET/SDH VT in a particular 15-minute interval in the past 24 hours.
erroredSeconds	long	sonetVTIntervalESs	The counter associated with the number of Errored Seconds encountered by a SONET/SDH VT in a particular 15-minute interval in the past 24 hours.
intervalNumber	int	sonetVTIntervalNumber	A number between 1 and 96, which identifies the interval for which the set of statistics is available. The interval identified by 1 is the most recently completed 15 minute interval, and the interval identified by N is the interval immediately preceding the one identified by N-1.
severelyErroredSeconds	long	sonetVTIntervalSESs	The counter associated with the number of Severely Errored Seconds encountered by a SONET/SDH VT in a particular 15-minute interval in the past 24 hours.
unavailableSeconds	long	sonetVTIntervalUASs	The counter associated with the number of Unavailable Seconds encountered by a VT in a particular 15-minute interval in the past 24 hours.

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Table A-47 srrp statistics

5620 SAM counter name	Type	MIB counter name	Description
InstanceStats MIB table name: TIMETRA-MC-REDUNDANCY-MIB.tmnxSrrpStatsTable Monitored class: srrp.Instance			

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5620 SAM counter name	Type	MIB counter name	Description
advertiseIntervalDiscards	long	tmnxSrrpStatsAdvIntDiscards	The value for tmnxSrrpStatsAdvIntDiscards indicates the total number of SRRP advertisement packets discarded because the advertisement interval in the received packet was different than the one configured for the local virtual router.
advertiseIntervalErrors	long	tmnxSrrpStatsAdvIntErrors	The value for tmnxSrrpStatsAdvIntErrors indicates the total number of SRRP advertisement packets received for which the advertisement interval is different than the one configured for the local virtual router.
advertiseRcvd	long	tmnxSrrpStatsAdvRcvd	The value for tmnxSrrpStatsAdvRcvd indicates the total number of SRRP advertisements received by this virtual router.
advertiseSent	long	tmnxSrrpStatsAdvSent	The value for tmnxSrrpStatsAdvSent indicates the total number of SRRP advertisements sent by this virtual router.
becomeBackupRouting	long	tmnxSrrpStatsBecomeBackupRouting	The value for tmnxSrrpStatsBecomeBackupRouting indicates the total number of times that the virtual router's state has transitioned to backup routing state.
becomeBackupShunt	long	tmnxSrrpStatsBecomeBackupShunt	The value for tmnxSrrpStatsBecomeBackupShunt indicates the total number of times that the virtual router's state has transitioned to backup shunt.
becomeMaster	long	tmnxSrrpStatsBecomeMaster	The value for tmnxSrrpStatsBecomeMaster indicates the total number of times that the virtual router's state has transitioned to master.
becomeNonMaster	long	tmnxSrrpStatsBecomeNonMaster	The value for tmnxSrrpStatsBecomeNonMaster indicates the total number times that the virtual router's state has transitioned from master to a non-master state.
masterChanges	long	tmnxSrrpStatsMasterChanges	The value for tmnxSrrpStatsMasterChanges indicates the total number of times the virtual router has seen the master virtual router change.
preemptedEvents	long	tmnxSrrpStatsPreemptedEvents	The value for tmnxSrrpStatsPreemptedEvents indicates the total number of times the virtual router has been preempted by another non-owner master with higher priority.
preemptEvents	long	tmnxSrrpStatsPreemptEvents	The value for tmnxSrrpStatsPreemptEvents indicates the total number of times the virtual router has preempted another non-owner master with lower priority.

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5620 SAM counter name	Type	MIB counter name	Description
priorityZeroPktsRcvd	long	tmnxSrrpStatsPriZeroPkts Sent	The value for tmnxSrrpStatsPriZeroPktsSent indicates the total number of SRRP packets sent by the virtual router with a priority of '0'.
priorityZeroPktsSent	long	tmnxSrrpStatsPriZeroPkts Rcvd	The value for tmnxSrrpStatsPriZeroPktsRcvd indicates the total number of SRRP packets received by the virtual router with a priority of '0'.

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Table A-48 subscrauth statistics

5620 SAM counter name	Type	MIB counter name	Description
PolicyStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSubAuthPlcyStatsTable Monitored class: subscrauth.Policy			
rejectedAuthentications	long	tmnxSubAuthPlcyReject	The value of tmnxSubAuthPlcyReject indicates how many subscriber messages (e.g. DHCP, PPPoE, ...) were rejected by the authentication. Note that not all requests are therefore forwarded to radius. If several requests are sent in a short timeframe, only the first one is sent to radius.
rejectedRadiusFallbackAuthentica tions	long	tmnxSubAuthPlcyFallback Reject	The value of tmnxSubAuthPlcyReject indicates how many subscriber messages (e.g. DHCP, PPPoE, ...) were rejected by the fallback mechanism.
successfulAuthentications	long	tmnxSubAuthPlcySuccess	The value of tmnxSubAuthPlcySuccess indicates how many subscriber messages (e.g. DHCP, PPPoE, ...) were authenticated successfully. Note that not all requests are therefore forwarded to radius. If several requests are sent in a short timeframe, only the first one is sent to radius.
successfulRadiusFallbackAuthentic ations	long	tmnxSubAuthPlcyFallback Success	The value of tmnxSubAuthPlcySuccess indicates how many subscriber messages (e.g. DHCP, PPPoE, ...) were authenticated successfully by the fallback mechanism.
RadiusEntryStats MIB table name: TIMETRA-SUBSCRIBER-MGMT-MIB.tmnxSubAuthPlcyRadStatsTable Monitored class: subscrauth.RadiusEntry			
failedAuthenticationRequests	long	tmnxSubAuthPlcyRadSen dFail	The value of tmnxSubAuthPlcyRadSendFail indicates how many authentication requests failed because the packet could not be sent out.
md5VerificationFailedRequests	long	tmnxSubAuthPlcyRadMd5 Fail	The value of tmnxSubAuthPlcyRadMd5Fail indicates how many times the MD5 verification failed on a msg from this radius server.

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5620 SAM counter name	Type	MIB counter name	Description
pendingAuthenticationRequest	long	tmnxSubAuthPlcyRadPending	The value of tmnxSubAuthPlcyRadPending indicates how many authentication requests are currently pending.
rejectedAuthenticationRequests	long	tmnxSubAuthPlcyRadReject	The value of tmnxSubAuthPlcyRadReject indicates how many authentication requests were rejected by this radius server.
successfulAuthenticationRequests	long	tmnxSubAuthPlcyRadSuccess	The value of tmnxSubAuthPlcyRadSuccess indicates how many authentication requests were accepted by this radius server.
timedOutAuthenticationRequests	long	tmnxSubAuthPlcyRadTimeout	The value of tmnxSubAuthPlcyRadTimeout indicates how many times this radius did not reply to an authentication request within the timeout.

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Table A-49 svq statistics

5620 SAM counter name	Type	MIB counter name	Description
CustMultiSvcSiteEgrSchedPlcyPortStats MIB table name: TIMETRA-SERV-MIB.custMultiSvcSiteEgrSchedPlcyPortStatsTable Monitored class: svq.AggregationScheduler			
forwardedOctets	UINT128	custEgrSchedPlcyPortStatsFwdOct	The value of custEgrSchedPlcyPortStatsFwdOct indicates the number of forwarded octets, as determined by the customer multi service site egress scheduler policy.
forwardedPackets	UINT128	custEgrSchedPlcyPortStatsFwdPkt	The value of custEgrSchedPlcyPortStatsFwdPkt indicates the number of forwarded packets, as determined by the customer multi service site egress scheduler policy.
portID	long	custEgrSchedPlcyPortStatsPort	The value of custEgrSchedPlcyPortStatsPort is used as an index of the egress QoS scheduler of this customer multi service site. When an MSS assignment is an aps/ccag/lag in 'link' mode, each member-port of the aps/ccag/lag has its own scheduler. This object refers to the TmnxPortID of these member-ports.
CustMultiSvcSiteEgrSchedPlcyStats MIB table name: TIMETRA-SERV-MIB.custMultiSvcSiteEgrSchedPlcyStatsTable Monitored class: svq.AggregationScheduler			
forwardedOctets	UINT128	custEgrSchedPlcyStatsFwdOct	The value of the object custEgrSchedPlcyStatsFwdOct indicates the number of forwarded octets, as determined by the customer multi service site egress scheduler policy.

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5620 SAM counter name	Type	MIB counter name	Description
forwardedPackets	UINT128	custEgrSchedPlcyStatsFwdPkt	The value of the object custEgrSchedPlcyStatsFwdPkt indicates the number of forwarded packets, as determined by the customer multi service site egress scheduler policy.
CustMultiSvcSiteIngSchedPlcyPortStats MIB table name: TIMETRA-SERV-MIB.custMultiSvcSiteIngSchedPlcyPortStatsTable Monitored class: svq.AggregationScheduler			
forwardedOctets	UINT128	custIngSchedPlcyPortStatsFwdOct	The value of custIngSchedPlcyPortStatsFwdOct indicates the number of forwarded octets, as determined by the customer multi service site ingress scheduler policy.
forwardedPackets	UINT128	custIngSchedPlcyPortStatsFwdPkt	The value of custIngSchedPlcyPortStatsFwdPkt indicates the number of forwarded packets, as determined by the customer multi service site ingress scheduler policy.
portID	long	custIngSchedPlcyPortStatsPort	The value of custIngSchedPlcyPortStatsPort is used as an index of the ingress QoS scheduler of this customer multi service site. When an MSS assignment is an aps/ccag/lag in 'link' mode, each member-port of the aps/ccag/lag has its own scheduler. This object refers to the TmnxPortID of these member-ports.
CustMultiSvcSiteIngSchedPlcyStats MIB table name: TIMETRA-SERV-MIB.custMultiSvcSiteIngSchedPlcyStatsTable Monitored class: svq.AggregationScheduler			
forwardedOctets	UINT128	custIngSchedPlcyStatsFwdOct	The value of the object custIngSchedPlcyStatsFwdOct indicates the number of forwarded octets, as determined by the customer multi service site ingress scheduler policy.
forwardedPackets	UINT128	custIngSchedPlcyStatsFwdPkt	The value of the object custIngSchedPlcyStatsFwdPkt indicates the number of forwarded packets, as determined by the customer multi service site ingress scheduler policy.

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Table A-50 svt statistics

5620 SAM counter name	Type	MIB counter name	Description
BsxSpokeSdpBindingCustRecAppGrpStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: svt.SpokeSdpBinding			

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5620 SAM counter name	Type	MIB counter name	Description
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
appGrpName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSpokeSdpBindingCustRecAppStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: svt.SpokeSdpBinding			
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSpokeSdpBindingCustRecProtStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubTable Monitored class: svt.SpokeSdpBinding			
activeFlowsFromSub	long	tmnxBsxStatAaSubActFlwsFmSb	The value of tmnxBsxStatAaSubActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubActFlwsToSb	The value of tmnxBsxStatAaSubActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubHCLngDurFlws	The value of tmnxBsxStatAaSubHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubHCMedDurFlws	The value of tmnxBsxStatAaSubHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubMedDurFlws.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsShort	UINT128	tmnxBsxStatAaSubHCShrtDurFlws	The value of tmnxBsxStatAaSubHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubHCFlwsAdmToSb	The value of tmnxBsxStatAaSubHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubHCFlwsDnyToSb	The value of tmnxBsxStatAaSubHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is the 64-bit version of tmnxBsxStatAaSubFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCOctsAdmFmSb	The value of tmnxBsxStatAaSubHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmFmSb.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubHCOctsAdmToSb	The value of tmnxBsxStatAaSubHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubHCOctsDnyFmSb	The value of tmnxBsxStatAaSubHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubHCOctsDnyToSb	The value of tmnxBsxStatAaSubHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubOctsDnyToSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubHCPktsAdmFmSb	The value of tmnxBsxStatAaSubHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubHCPktsAdmToSb	The value of tmnxBsxStatAaSubHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubHCPktsDnyFmSb	The value of tmnxBsxStatAaSubHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubHCPktsDnyToSb	The value of tmnxBsxStatAaSubHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubPktsDnyToSb.
statsInterval	int	tmnxBsxAaSubStatsInterval	The tmnxBsxAaSubStatsInterval specifies the interval for the retrieval of application assurance subscriber statistics.
termFlowDuration	UINT128	tmnxBsxStatAaSubHCTermFlwDur	The value of tmnxBsxStatAaSubHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubHCTermFlws	The value of tmnxBsxStatAaSubHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubTermFlws.
BsxSpokeSdpBindingStudyAppStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubSdyTable Monitored class: svt.SpokeSdpBinding			
activeFlowsFromSub	long	tmnxBsxStatAaSubSdyActFlwsFmSb	The value of tmnxBsxStatAaSubSdyActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubSdyActFlwsToSb	The value of tmnxBsxStatAaSubSdyActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.

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5620 SAM counter name	Type	MIB counter name	Description
durationFlowsLong	UINT128	tmnxBsxStatAaSubSdyHCLngDurFlws	The value of tmnxBsxStatAaSubSdyHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubSdyHCMedDurFlws	The value of tmnxBsxStatAaSubSdyHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubSdyHCShrtDurFlws	The value of tmnxBsxStatAaSubSdyHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmToSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyFmSb.
flowsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyToSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmFmSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction.

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5620 SAM counter name	Type	MIB counter name	Description
octsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmToSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyToSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmToSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyFmSb.
pktsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyToSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyToSb.
termFlowDuration	UINT128	tmnxBsxStatAaSubSdyHCTermFlwDur	The value of tmnxBsxStatAaSubSdyHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubSdyHCTermFlws	The value of tmnxBsxStatAaSubSdyHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlws.

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5620 SAM counter name	Type	MIB counter name	Description
BsxSpokeSdpBindingStudyProtStats MIB table name: TIMETRA-BSX-NG-MIB.tmnxBsxStatAaSubSdyTable Monitored class: svt.SpokeSdpBinding			
activeFlowsFromSub	long	tmnxBsxStatAaSubSdyActFlwsFmSb	The value of tmnxBsxStatAaSubSdyActFlwsFmSb indicates the number of allowed flows in the subscriber to network direction that are active.
activeFlowsToSub	long	tmnxBsxStatAaSubSdyActFlwsToSb	The value of tmnxBsxStatAaSubSdyActFlwsToSb indicates the number of allowed flows in the network to subscriber direction that are active.
durationFlowsLong	UINT128	tmnxBsxStatAaSubSdyHCLngDurFlws	The value of tmnxBsxStatAaSubSdyHCLngDurFlws indicates the total number of flows with a duration greater than 180 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyLngDurFlws.
durationFlowsMedium	UINT128	tmnxBsxStatAaSubSdyHCMedDurFlws	The value of tmnxBsxStatAaSubSdyHCMedDurFlws indicates the total number of flows with a duration less than or equal to 180 seconds, but greater than 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyMedDurFlws.
durationFlowsShort	UINT128	tmnxBsxStatAaSubSdyHCShrtDurFlws	The value of tmnxBsxStatAaSubSdyHCShrtDurFlws indicates the total number of flows with a duration less than or equal to 30 seconds, that have completed. This object is a 64-bit version of tmnxBsxStatAaSubSdyShrtDurFlws.
flowsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmFmSb indicates the total number of flows permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmFmSb.
flowsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsAdmToSb	The value of tmnxBsxStatAaSubSdyHCFlwsAdmToSb indicates the total number of flows permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsAdmToSb.
flowsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyFmSb indicates the total number of flows that dropped subsequent packets in the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
flowsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCFlwsDnyToSb	The value of tmnxBsxStatAaSubSdyHCFlwsDnyToSb indicates the total number of flows that dropped subsequent packets in the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyFlwsDnyToSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmFmSb.
octsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyOctsAdmFmSb	The value of tmnxBsxStatAaSubSdyOctsAdmFmSb indicates the total number of bytes permitted for the subscriber to network direction.
octsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsAdmToSb	The value of tmnxBsxStatAaSubSdyHCOctsAdmToSb indicates the total number of bytes permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsAdmToSb.
octsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyFmSb indicates the total number of bytes dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyFmSb.
octsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCOctsDnyToSb	The value of tmnxBsxStatAaSubSdyHCOctsDnyToSb indicates the total number of bytes dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyOctsDnyToSb.
pktsAdmitFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmFmSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmFmSb indicates the total number of packets permitted for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmFmSb.
pktsAdmitToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsAdmToSb	The value of tmnxBsxStatAaSubSdyHCPktsAdmToSb indicates the total number of packets permitted for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsAdmToSb.
pktsDenyFromSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyFmSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyFmSb indicates the total number of packets dropped for the subscriber to network direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyFmSb.

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5620 SAM counter name	Type	MIB counter name	Description
pktsDenyToSub	UINT128	tmnxBsxStatAaSubSdyHCPktsDnyToSb	The value of tmnxBsxStatAaSubSdyHCPktsDnyToSb indicates the total number of packets dropped for the network to subscriber direction. This object is a 64-bit version of tmnxBsxStatAaSubSdyPktsDnyToSb.
protName	String	tmnxBsxStatAaName	The value of tmnxBsxStatAaName specifies either the ISA-AA protocol, application or app-group name for which statistics are requested. The tmnxBsxStatAaType is used to determine the statistics type.
termFlowDuration	UINT128	tmnxBsxStatAaSubSdyHCTermFlwDur	The value of tmnxBsxStatAaSubSdyHCTermFlwDur indicates the sum of all flow durations from first packet seen to last packet seen for flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlwDur.
termFlows	UINT128	tmnxBsxStatAaSubSdyHCTermFlws	The value of tmnxBsxStatAaSubSdyHCTermFlws indicates the total number of allowed flows that have terminated. This object is a 64-bit version of tmnxBsxStatAaSubSdyTermFlws.
GRETunnelStats MIB table name: TIMETRA-SAP-MIB.tmnxGreTunnelStatsTable Monitored class: svt.GRETunnel			
bytesRx	UINT128	tmnxGreTunnelBytesRx	The value of tmnxGreTunnelBytesRx indicates the number of bytes this GRE Tunnel has received.
bytesRxHi	long	tmnxGreTunnelBytesRxHi	The value of tmnxGreTunnelBytesRxHi indicates higher 32 bits of the value of tmnxGreTunnelBytesRx object.
bytesRxLo	long	tmnxGreTunnelBytesRxLo	The value of tmnxGreTunnelBytesRxLo indicates lower 32 bits of the value of tmnxGreTunnelBytesRx object.
bytesTx	UINT128	tmnxGreTunnelBytesTx	The value of tmnxGreTunnelBytesTx indicates the number of bytes this GRE Tunnel has sent.
bytesTxHi	long	tmnxGreTunnelBytesTxHi	The value of tmnxGreTunnelBytesTxHi indicates higher 32 bits of the value of tmnxGreTunnelBytesTx object.
bytesTxLo	long	tmnxGreTunnelBytesTxLo	The value of tmnxGreTunnelBytesTxLo indicates lower 32 bits of the value of tmnxGreTunnelBytesTx object.
invalidChksumRx	UINT128	tmnxGreTunnelInvalidChksumRx	The value of tmnxGreTunnelInvalidChksumRx indicates the number of packets this GRE Tunnel received with invalid checksum and were dropped.
invalidChksumRxHi	long	tmnxGreTunnelInvalidChksumRxHi	The value of tmnxGreTunnelInvalidChksumRxHi indicates higher 32 bits of the value of tmnxGreTunnelInvalidChksumRx object.

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5620 SAM counter name	Type	MIB counter name	Description
invalidChksumRxLo	long	tmnxGreTunnelInvalidChksumRxLo	The value of tmnxGreTunnelInvalidChksumRxLo indicates lower 32 bits of the value of tmnxGreTunnelInvalidChksumRx object.
keyIgnoredRx	UINT128	tmnxGreTunnelKeyIgnoredRx	The value of tmnxGreTunnelKeyIgnoredRx indicates the number of packets this GRE Tunnel received and processed ignoring key field.
keyIgnoredRxHi	long	tmnxGreTunnelKeyIgnoredRxHi	The value of tmnxGreTunnelKeyIgnoredRxHi indicates higher 32 bits of the value of tmnxGreTunnelKeyIgnoredRx object.
keyIgnoredRxLo	long	tmnxGreTunnelKeyIgnoredRxLo	The value of tmnxGreTunnelKeyIgnoredRxLo indicates lower 32 bits of the value of tmnxGreTunnelKeyIgnoredRx object.
loopsRx	UINT128	tmnxGreTunnelLoopsRx	The value of tmnxGreTunnelLoopsRx indicates the number of packets this GRE Tunnel received with payload with destination address which could result in a loop and were dropped.
loopsRxHi	long	tmnxGreTunnelLoopsRxHi	The value of tmnxGreTunnelLoopsRxHi indicates higher 32 bits of the value of tmnxGreTunnelLoopsRx object.
loopsRxLo	long	tmnxGreTunnelLoopsRxLo	The value of tmnxGreTunnelLoopsRxLo indicates lower 32 bits of the value of tmnxGreTunnelLoopsRx object.
pktsRx	UINT128	tmnxGreTunnelPktsRx	The value of tmnxGreTunnelPktsRx indicates the number of packets this GRE Tunnel has received.
pktsRxHi	long	tmnxGreTunnelPktsRxHi	The value of tmnxGreTunnelPktsRxHi indicates higher 32 bits of the value of tmnxGreTunnelPktsRx object.
pktsRxLo	long	tmnxGreTunnelPktsRxLo	The value of tmnxGreTunnelPktsRxLo indicates lower 32 bits of the value of tmnxGreTunnelPktsRx object.
pktsTx	UINT128	tmnxGreTunnelPktsTx	The value of tmnxGreTunnelPktsTx indicates the number of packets this GRE Tunnel has sent.
pktsTxHi	long	tmnxGreTunnelPktsTxHi	The value of tmnxGreTunnelPktsTxHi indicates higher 32 bits of the value of tmnxGreTunnelPktsTx object.
pktsTxLo	long	tmnxGreTunnelPktsTxLo	The value of tmnxGreTunnelPktsTxLo indicates lower 32 bits of the value of tmnxGreTunnelPktsTx object.
rxErrors	long	tmnxGreTunnelRxErrors	The value of tmnxGreTunnelRxErrors indicates the number of packet receive errors.
seqIgnoredRx	UINT128	tmnxGreTunnelSeqIgnoredRx	The value of tmnxGreTunnelSeqIgnoredRx indicates the number of packets this GRE Tunnel and processed ignoring sequence field.

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5620 SAM counter name	Type	MIB counter name	Description
seqIgnoredRxHi	long	tmnxGreTunnelSeqIgnoredRxHi	The value of tmnxGreTunnelSeqIgnoredRxHi indicates higher 32 bits of the value of tmnxGreTunnelSeqIgnoredRx object.
seqIgnoredRxLo	long	tmnxGreTunnelSeqIgnoredRxLo	The value of tmnxGreTunnelSeqIgnoredRxLo indicates lower 32 bits of the value of tmnxGreTunnelSeqIgnoredRx object.
tooBigTx	UINT128	tmnxGreTunnelTooBigTx	The value of tmnxGreTunnelTooBigTx indicates the number of packets this GRE Tunnel received which were too big to transmit.
tooBigTxHi	long	tmnxGreTunnelTooBigTxHi	The value of tmnxGreTunnelTooBigTxHi indicates higher 32 bits of the value of tmnxGreTunnelTooBigTx object.
tooBigTxLo	long	tmnxGreTunnelTooBigTxLo	The value of tmnxGreTunnelTooBigTxLo indicates lower 32 bits of the value of tmnxGreTunnelTooBigTx object.
txErrors	long	tmnxGreTunnelTxErrors	The value of tmnxGreTunnelTxErrors indicates the number of packet transmit errors.
versUnsupRx	UINT128	tmnxGreTunnelVersUnsupRx	The value of tmnxGreTunnelVersUnsupRx indicates the number of packets this GRE Tunnel received with unsupported GRE version and were dropped.
versUnsupRxHi	long	tmnxGreTunnelVersUnsupRxHi	The value of tmnxGreTunnelVersUnsupRxHi indicates higher 32 bits of the value of tmnxGreTunnelVersUnsupRx object.
versUnsupRxLo	long	tmnxGreTunnelVersUnsupRxLo	The value of tmnxGreTunnelVersUnsupRxLo indicates lower 32 bits of the value of tmnxGreTunnelVersUnsupRx object.
MirrorSdpBindingStats MIB table name: TIMETRA-SDP-MIB.sdpBindBaseStatsTable Monitored class: svt.MirrorSdpBinding			
egressForwardedOctets	UINT128	sdpBindBaseStatsEgressForwardedOctets	.
egressForwardedPackets	UINT128	sdpBindBaseStatsEgressForwardedPackets	.
ingressDroppedOctets	UINT128	sdpBindBaseStatsIngDropOctets	.
ingressDroppedPackets	UINT128	sdpBindBaseStatsIngressDroppedPackets	.
ingressForwardedOctets	UINT128	sdpBindBaseStatsIngFwdOctets	.
ingressForwardedPackets	UINT128	sdpBindBaseStatsIngressForwardedPackets	.

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5620 SAM counter name	Type	MIB counter name	Description
SdpBindingBaseStats MIB table name: TIMETRA-SDP-MIB.sdpBindBaseStatsTable Monitored classes: • svt.SpokeSdpBinding • svt.MeshSdpBinding			
egressForwardedOctets	UINT128	sdpBindBaseStatsEgressForwardedOctets	.
egressForwardedPackets	UINT128	sdpBindBaseStatsEgressForwardedPackets	.
ingressDroppedOctets	UINT128	sdpBindBaseStatsIngDropOctets	.
ingressDroppedPackets	UINT128	sdpBindBaseStatsIngressDroppedPackets	.
ingressForwardedOctets	UINT128	sdpBindBaseStatsIngFwdOctets	.
ingressForwardedPackets	UINT128	sdpBindBaseStatsIngressForwardedPackets	.
SdpBindingIgmpSnpgErrorStats MIB table name: ALCATEL-IGMP-SNOOPING-MIB.sdpBindIgmpSnpgStatsTable Monitored classes: • svt.SpokeSdpBinding • svt.MeshSdpBinding			
sdpBndIgmpSnpgImportPolicyDrops	long	sdpBndIgmpSnpgImportPolicyDrops	The value of the object sdpBndIgmpSnpgImportPolicyDrops indicates the number of times an IGMP Group or Source is dropped because of applying an import policy on this SDP Bind.
sdpBndIgmpSnpgMaxNumGroupsDrops	long	sdpBndIgmpSnpgMaxNumGroupsDrops	The value of the object sdpBndIgmpSnpgMaxNumGroupsDrops indicates the number of times an IGMP Group is dropped because of exceeding the configured maximum number of groups on this SDP Bind.
sdpBndIgmpSnpgMaxNumSourcesDrops	long	sdpBndIgmpSnpgMaxNumSourcesDrops	The value of the object sdpBndIgmpSnpgMaxNumSourcesDrops indicates the number of times an IGMP Source is dropped because of exceeding the configured maximum number of sources per group on this SDP Bind.
sdpBndIgmpSnpgMcacPolicyDrops	long	sdpBndIgmpSnpgMcacPolicyDrops	The value of the object sdpBndIgmpSnpgMcacPolicyDrops indicates the number of times an IGMP Group is dropped because of applying a multicast CAC policy on this SDP Bind.
sdpBndIgmpSnpgRxBadEncodedPkts	long	sdpBndIgmpSnpgRxBadEncodedPkts	The value of the object sdpBndIgmpSnpgRxBadEncodedPkts indicates the number of IGMP packets dropped on this SDP Bind because of a bad encoding.

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5620 SAM counter name	Type	MIB counter name	Description
sdpBndIgmpSnpgRxBadIgmpChksmPkts	long	sdpBndIgmpSnpgRxBadIgmpChksmPkts	The value of the object sdpBndIgmpSnpgRxBadIgmpChksmPkts indicates the number of dropped IGMP packets on this SDP Bind because of a bad IGMP header checksum.
sdpBndIgmpSnpgRxBadIpChksmPkts	long	sdpBndIgmpSnpgRxBadIpChksmPkts	The value of the object sdpBndIgmpSnpgRxBadIpChksmPkts indicates the number of dropped IGMP packets on this SDP Bind because of a bad IPv4 header checksum.
sdpBndIgmpSnpgRxBadLenPkts	long	sdpBndIgmpSnpgRxBadLenPkts	The value of the object sdpBndIgmpSnpgRxBadLenPkts indicates the number of IGMP packets dropped on this SDP Bind because of a bad length.
sdpBndIgmpSnpgRxNoRtrAlertPkts	long	sdpBndIgmpSnpgRxNoRtrAlertPkts	The value of the object sdpBndIgmpSnpgRxNoRtrAlertPkts indicates the number of IGMP packets dropped on this SDP Bind because the Router Alert Option in the IP packet is not set.
sdpBndIgmpSnpgRxWrongVersionPkts	long	sdpBndIgmpSnpgRxWrongVersionPkts	The value of the object sdpBndIgmpSnpgRxWrongVersionPkts indicates the total number of IGMP packets with a wrong version received on this SDP Bind.
sdpBndIgmpSnpgRxZeroSrcAdrPkts	long	sdpBndIgmpSnpgRxZeroSrcAdrPkts	The value of the object sdpBndIgmpSnpgRxZeroSrcAdrPkts indicates the number of IGMP packets dropped on this SDP Bind because they contain a zero source IPv4 address.
sdpBndIgmpSnpgSendQueryCfgDrops	long	sdpBndIgmpSnpgSendQueryCfgDrops	The value of the object sdpBndIgmpSnpgSendQueryCfgDrops indicates the number of times an IGMP Query is dropped because the object sdpBndIgmpSnpgCfgSendQueries for this SDP Bind is set to 'enabled(1)'.
SdpBindingIgmpSnpgStats MIB table name: ALCATEL-IGMP-SNOOPING-MIB.sdpBindIgmpSnpgStatsTable Monitored classes: • svt.SpokeSdpBinding • svt.MeshSdpBinding			
sdpBndIgmpSnpgFwdGenQueries	long	sdpBndIgmpSnpgFwdGenQueries	The value of the object sdpBndIgmpSnpgFwdGenQueries indicates the number of IGMP General Queries forwarded on this SDP Bind.
sdpBndIgmpSnpgFwdGrpSpecQueries	long	sdpBndIgmpSnpgFwdGrpSpecQueries	The value of the object sdpBndIgmpSnpgFwdGrpSpecQueries indicates the number of IGMP Group-Specific Queries forwarded on this SDP Bind.
sdpBndIgmpSnpgFwdSrcSpecQueries	long	sdpBndIgmpSnpgFwdSrcSpecQueries	The value of the object sdpBndIgmpSnpgFwdSrcSpecQueries indicates the number of IGMP Group-And-Source-Specific Queries forwarded on this SDP Bind.

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5620 SAM counter name	Type	MIB counter name	Description
sdpBndIgmpSnpgFwdUnknownType	long	sdpBndIgmpSnpgFwdUnknownType	The value of the object sdpBndIgmpSnpgFwdUnknownType indicates the number of IGMP unknown type packets forwarded on this SDP Bind.
sdpBndIgmpSnpgFwdV1Reports	long	sdpBndIgmpSnpgFwdV1Reports	The value of the object sdpBndIgmpSnpgFwdV1Reports indicates the number of IGMPv1 Reports forwarded on this SDP Bind.
sdpBndIgmpSnpgFwdV2Leaves	long	sdpBndIgmpSnpgFwdV2Leaves	The value of the object sdpBndIgmpSnpgFwdV2Leaves indicates the number of IGMPv2 Leaves forwarded on this SDP Bind.
sdpBndIgmpSnpgFwdV2Reports	long	sdpBndIgmpSnpgFwdV2Reports	The value of the object sdpBndIgmpSnpgFwdV2Reports indicates the number of IGMPv2 Reports forwarded on this SDP Bind.
sdpBndIgmpSnpgFwdV3Reports	long	sdpBndIgmpSnpgFwdV3Reports	The value of the object sdpBndIgmpSnpgFwdV3Reports indicates the number of IGMPv3 Reports forwarded on this SDP Bind.
sdpBndIgmpSnpgRxGenQueries	long	sdpBndIgmpSnpgRxGenQueries	The value of the object sdpBndIgmpSnpgRxGenQueries indicates the number of IGMP General Queries received on this SDP Bind.
sdpBndIgmpSnpgRxGrpSpecQueries	long	sdpBndIgmpSnpgRxGrpSpecQueries	The value of the object sdpBndIgmpSnpgRxGrpSpecQueries indicates the number of IGMP Group-Specific Queries received on this SDP Bind.
sdpBndIgmpSnpgRxSrcSpecQueries	long	sdpBndIgmpSnpgRxSrcSpecQueries	The value of the object sdpBndIgmpSnpgRxSrcSpecQueries indicates the number of IGMP Group-And-Source-Specific Queries received on this SDP Bind.
sdpBndIgmpSnpgRxUnknownType	long	sdpBndIgmpSnpgRxUnknownType	The value of the object sdpBndIgmpSnpgRxUnknownType indicates the number of IGMP unknown type packets received on this SDP Bind.
sdpBndIgmpSnpgRxV1Reports	long	sdpBndIgmpSnpgRxV1Reports	The value of the object sdpBndIgmpSnpgRxV1Reports indicates the number of IGMPv1 Reports received on this SDP Bind.
sdpBndIgmpSnpgRxV2Leaves	long	sdpBndIgmpSnpgRxV2Leaves	The value of the object sdpBndIgmpSnpgRxV2Leaves indicates the number of IGMPv2 Leaves received on this SDP Bind.
sdpBndIgmpSnpgRxV2Reports	long	sdpBndIgmpSnpgRxV2Reports	The value of the object sdpBndIgmpSnpgRxV2Reports indicates the number of IGMPv2 Reports received on this SDP Bind.
sdpBndIgmpSnpgRxV3Reports	long	sdpBndIgmpSnpgRxV3Reports	The value of the object sdpBndIgmpSnpgRxV3Reports indicates the number of IGMPv3 Reports received on this SDP Bind.

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5620 SAM counter name	Type	MIB counter name	Description
sdpBndIgmpSnpgTxGenQueries	long	sdpBndIgmpSnpgTxGenQueries	The value of the object sdpBndIgmpSnpgTxGenQueries indicates the number of IGMP General Queries transmitted on this SDP Bind.
sdpBndIgmpSnpgTxGrpSpecQueries	long	sdpBndIgmpSnpgTxGrpSpecQueries	The value of the object sdpBndIgmpSnpgTxGrpSpecQueries indicates the number of IGMP Group-Specific Queries transmitted on this SDP Bind.
sdpBndIgmpSnpgTxSrcSpecQueries	long	sdpBndIgmpSnpgTxSrcSpecQueries	The value of the object sdpBndIgmpSnpgTxSrcSpecQueries indicates the number of IGMP Group-And-Source-Specific Queries transmitted on this SDP Bind.
sdpBndIgmpSnpgTxV1Reports	long	sdpBndIgmpSnpgTxV1Reports	The value of the object sdpBndIgmpSnpgTxV1Reports indicates the number of IGMPv1 Reports transmitted on this SDP Bind.
sdpBndIgmpSnpgTxV2Leaves	long	sdpBndIgmpSnpgTxV2Leaves	The value of the object sdpBndIgmpSnpgTxV2Leaves indicates the number of IGMPv2 Leaves transmitted on this SDP Bind.
sdpBndIgmpSnpgTxV2Reports	long	sdpBndIgmpSnpgTxV2Reports	The value of the object sdpBndIgmpSnpgTxV2Reports indicates the number of IGMPv2 Reports transmitted on this SDP Bind.
sdpBndIgmpSnpgTxV3Reports	long	sdpBndIgmpSnpgTxV3Reports	The value of the object sdpBndIgmpSnpgTxV3Reports indicates the number of IGMPv3 Reports transmitted on this SDP Bind.
TunnelKeepAliveStats MIB table name: TIMETRA-SDP-MIB.sdpInfoTable Monitored class: svt.Tunnel			
lateHelloResponses	long	sdpKeepAliveNumLateHelloResponseMessages	The number of SDP Echo Response messages received after the corresponding Request timeout timer expired.
receivedHelloMessages	long	sdpKeepAliveNumHelloResponseMessages	The number of SDP Echo Response messages received since the keep-alive was administratively enabled or the counter was cleared.
transmittedHelloMessages	long	sdpKeepAliveNumHelloRequestMessages	The number of SDP Echo Request messages transmitted since the keep-alive was administratively enabled or the counter was cleared.

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Table A-51 tdmequipment statistics

5620 SAM counter name	Type	MIB counter name	Description
DS1CurrentStats MIB table name: DS1-MIB.dsx1CurrentTable Monitored class: tdmequipment.DS1E1Channel			
burstyErroredSeconds	long	dsx1CurrentBESs	The number of Bursty Errored Seconds.
controlledSlipSeconds	long	dsx1CurrentCSSs	The number of Controlled Slip Seconds.
degradedMinutes	long	dsx1CurrentDMs	The number of Degraded Minutes.
erroredSeconds	long	dsx1CurrentESs	The number of Errored Seconds.
lineCodingViolations	long	dsx1CurrentLCVs	The number of Line Code Violations (LCVs).
lineErroredSeconds	long	dsx1CurrentLESs	The number of Line Errored Seconds.
pBitCodingViolations	long	dsx1CurrentPCVs	The number of Path Coding Violations.
severelyErroredFramingSeconds	long	dsx1CurrentSEFSs	The number of Severely Errored Framing Seconds.
severelyErroredSeconds	long	dsx1CurrentSESs	The number of Severely Errored Seconds.
unavailableSeconds	long	dsx1CurrentUASs	The number of Unavailable Seconds.
DS1FarEndCurrentStats MIB table name: DS1-MIB.dsx1FarEndCurrentTable Monitored class: tdmequipment.DS1E1Channel			
burstyErroredSeconds	long	dsx1FarEndCurrentBESs	The number of Far End Bursty Errored Seconds.
controlledSlipSeconds	long	dsx1FarEndCurrentCSSs	The number of Far End Controlled Slip Seconds.
degradedMinutes	long	dsx1FarEndCurrentDMs	The number of Far End Degraded Minutes.
erroredSeconds	long	dsx1FarEndCurrentESs	The number of Far End Errored Seconds.
invalidIntervals	int	dsx1FarEndInvalidIntervals	The number of intervals in the range from 0 to dsx1FarEndValidIntervals for which no data is available. This object will typically be zero except in cases where the data for some intervals are not available (e.g., in proxy situations).
lineErroredSeconds	long	dsx1FarEndCurrentLESs	The number of Far End Line Errored Seconds.
pathCodingViolations	long	dsx1FarEndCurrentPCVs	The number of Far End Path Coding Violations.
severelyErroredFramingSeconds	long	dsx1FarEndCurrentSEFSs	The number of Far End Severely Errored Framing Seconds.
severelyErroredSeconds	long	dsx1FarEndCurrentSESs	The number of Far End Severely Errored Seconds.
timeElapsed	int	dsx1FarEndTimeElapsed	The number of seconds that have elapsed since the beginning of the far end current error-measurement period. If, for some reason, such as an adjustment in the system's time-of-day clock, the current interval exceeds the maximum value, the agent will return the maximum value.
unavailableSeconds	long	dsx1FarEndCurrentUASs	The number of Unavailable Seconds.

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5620 SAM counter name	Type	MIB counter name	Description
validIntervals	int	dsx1FarEndValidIntervals	The number of previous far end intervals for which data was collected. The value will be 96 unless the interface was brought online within the last 24 hours, in which case the value will be the number of complete 15 minute far end intervals since the interface has been online. In the case where the agent is a proxy, it is possible that some intervals are unavailable. In this case, this interval is the maximum interval number for which data is available.
DS1FarEndIntervalStats MIB table name: DS1-MIB.dsx1FarEndIntervalTable Monitored class: tdmequipment.DS1E1Channel			
burstyErroredSeconds	long	dsx1FarEndIntervalBESs	The number of Far End Bursty Errored Seconds.
controlledSlipSeconds	long	dsx1FarEndIntervalCSSs	The number of Far End Controlled Slip Seconds.
degradedMinutes	long	dsx1FarEndIntervalDMs	The number of Far End Degraded Minutes.
erroredSeconds	long	dsx1FarEndIntervalESs	The number of Far End Errored Seconds.
intervalNumber	int	dsx1FarEndIntervalNumber	A number between 1 and 96, where 1 is the most recently completed 15 minute interval and 96 is the 15 minutes interval completed 23 hours and 45 minutes prior to interval 1.
lineErroredSeconds	long	dsx1FarEndIntervalLESs	The number of Far End Line Errored Seconds.
pathCodingViolations	long	dsx1FarEndIntervalPCVs	The number of Far End Path Coding Violations.
severelyErroredFramingSeconds	long	dsx1FarEndIntervalSEFSs	The number of Far End Severely Errored Framing Seconds.
severelyErroredSeconds	long	dsx1FarEndIntervalSESs	The number of Far End Severely Errored Seconds.
unavailableSeconds	long	dsx1FarEndIntervalUASs	The number of Unavailable Seconds.
DS1FarEndTotalStats MIB table name: DS1-MIB.dsx1FarEndTotalTable Monitored class: tdmequipment.DS1E1Channel			
burstyErroredSeconds	long	dsx1FarEndTotalBESs	The number of Bursty Errored Seconds (BESs) encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
controlledSlipSeconds	long	dsx1FarEndTotalCSSs	The number of Far End Controlled Slip Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
degradedMinutes	long	dsx1FarEndTotalDMs	The number of Degraded Minutes (DMs) encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.

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5620 SAM counter name	Type	MIB counter name	Description
erroredSeconds	long	dsx1FarEndTotalESs	The number of Far End Errored Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
lineErroredSeconds	long	dsx1FarEndTotalLESs	The number of Far End Line Errored Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
pathCodingViolations	long	dsx1FarEndTotalPCVs	The number of Far End Path Coding Violations reported via the far end block error count encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
severelyErroredFramingSeconds	long	dsx1FarEndTotalSEFSs	The number of Far End Severely Errored Framing Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
severelyErroredSeconds	long	dsx1FarEndTotalSESs	The number of Far End Severely Errored Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
unavailableSeconds	long	dsx1FarEndTotalUASs	The number of Unavailable Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
DS1IntervalStats MIB table name: DS1-MIB.dsx1IntervalTable Monitored class: tdmequipment.DS1E1Channel			
burstyErroredSeconds	long	dsx1IntervalBESs	The number of Bursty Errored Seconds.
controlledSlipSeconds	long	dsx1IntervalCSSs	The number of Controlled Slip Seconds.
degradedMinutes	long	dsx1IntervalDMs	The number of Degraded Minutes.
erroredSeconds	long	dsx1IntervalESs	The number of Errored Seconds.
intervalNumber	int	dsx1IntervalNumber	A number between 1 and 96, where 1 is the most recently completed 15 minute interval and 96 is the 15 minutes interval completed 23 hours and 45 minutes prior to interval 1.
lineCodingViolations	long	dsx1IntervalLCVs	The number of Line Code Violations.
lineErroredSeconds	long	dsx1IntervalLESs	The number of Line Errored Seconds.
pBitCodingViolations	long	dsx1IntervalPCVs	The number of Path Coding Violations.
severelyErroredFramingSeconds	long	dsx1IntervalSEFSs	The number of Severely Errored Framing Seconds.
severelyErroredSeconds	long	dsx1IntervalSESs	The number of Severely Errored Seconds.
unavailableSeconds	long	dsx1IntervalUASs	The number of Unavailable Seconds. This object may decrease if the occurrence of unavailable seconds occurs across an interval boundary.
DS1TotalStats MIB table name: DS1-MIB.dsx1TotalTable Monitored class: tdmequipment.DS1E1Channel			

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5620 SAM counter name	Type	MIB counter name	Description
burstyErroredSeconds	long	dsx1TotalBESs	The number of Bursty Errored Seconds (BESs) encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
controlledSlipSeconds	long	dsx1TotalCSSs	The number of Controlled Slip Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
degradedMinutes	long	dsx1TotalDMs	The number of Degraded Minutes (DMs) encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
erroredSeconds	long	dsx1TotalESs	The sum of Errored Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
lineCodingViolations	long	dsx1TotalLCVs	The number of Line Code Violations (LCVs) encountered by a DS1 interface in the current 15 minute interval. Invalid 15 minute intervals count as 0.
lineErroredSeconds	long	dsx1TotalLESs	The number of Line Errored Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
pBitCodingViolations	long	dsx1TotalPCVs	The number of Path Coding Violations encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
severelyErroredFramingSeconds	long	dsx1TotalSEFSs	The number of Severely Errored Framing Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
severelyErroredSeconds	long	dsx1TotalSESs	The number of Severely Errored Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
unavailableSeconds	long	dsx1TotalUASs	The number of Unavailable Seconds encountered by a DS1 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
DS3CurrentStats MIB table name: DS3-MIB.dsx3CurrentTable Monitored class: tdmequipment.DS3E3Channel			
cBitCodingViolations	long	dsx3CurrentCCVs	The number of C-bit Coding Violations.
cBitErroredSeconds	long	dsx3CurrentCESs	The number of C-bit Errored Seconds.
cBitSeverelyErroredSeconds	long	dsx3CurrentCSESs	The number of C-bit Severely Errored Seconds.
lineCodingViolations	long	dsx3CurrentLCVs	The counter associated with the number of Line Coding Violations.
lineErroredSeconds	long	dsx3CurrentLESs	The number of Line Errored Seconds.
pBitCodingViolations	long	dsx3CurrentPCVs	The counter associated with the number of P-bit Coding Violations.

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5620 SAM counter name	Type	MIB counter name	Description
pBitErroredSeconds	long	dsx3CurrentPESs	The counter associated with the number of P-bit Errored Seconds.
pBitSeverelyErroredSeconds	long	dsx3CurrentPSESs	The counter associated with the number of P-bit Severely Errored Seconds.
severelyErroredFramingSeconds	long	dsx3CurrentSEFSs	The counter associated with the number of Severely Errored Framing Seconds.
unavailableSeconds	long	dsx3CurrentUASs	The counter associated with the number of Unavailable Seconds.
DS3FarEndCurrentStats MIB table name: DS3-MIB.dsx3FarEndCurrentTable Monitored class: tdmequipment.DS3E3Channel			
cBitCodingViolations	long	dsx3FarEndCurrentCCVs	The counter associated with the number of Far End C-bit Coding Violations reported via the far end block error count.
cBitErroredSeconds	long	dsx3FarEndCurrentCESs	The counter associated with the number of Far End C-bit Errored Seconds.
cBitSeverelyErroredSeconds	long	dsx3FarEndCurrentCSESs	The counter associated with the number of Far End C-bit Severely Errored Seconds.
invalidIntervals	int	dsx3FarEndInvalidIntervals	The number of intervals in the range from 0 to dsx3FarEndValidIntervals for which no data is available. This object will typically be zero except in cases where the data for some intervals are not available (e.g., in proxy situations).
timeElapsed	int	dsx3FarEndTimeElapsed	The number of seconds that have elapsed since the beginning of the far end current error-measurement period. If, for some reason, such as an adjustment in the system's time-of-day clock, the current interval exceeds the maximum value, the agent will return the maximum value.
unavailableSeconds	long	dsx3FarEndCurrentUASs	The counter associated with the number of Far End unavailable seconds.
validIntervals	int	dsx3FarEndValidIntervals	The number of previous far end intervals for which data was collected. The value will be 96 unless the interface was brought online within the last 24 hours, in which case the value will be the number of complete 15 minute far end intervals since the interface has been online. In the case where the agent is a proxy, it is possible that some intervals are unavailable. In this case, this interval is the maximum interval number for which data is available.
DS3FarEndIntervalStats MIB table name: DS3-MIB.dsx3FarEndIntervalTable Monitored class: tdmequipment.DS3E3Channel			
cBitCodingViolations	long	dsx3FarEndIntervalCCVs	The counter associated with the number of Far End C-bit Coding Violations reported via the far end block error count.

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5620 SAM counter name	Type	MIB counter name	Description
cBitErroredSeconds	long	dsx3FarEndIntervalCESs	The counter associated with the number of Far End C-bit Errored Seconds encountered by a DS3 interface in one of the previous 96, individual 15 minute, intervals. In the case where the agent is a proxy and data is not available, return noSuchInstance.
cBitSeverelyErroredSeconds	long	dsx3FarEndIntervalCSESs	The counter associated with the number of Far End C-bit Severely Errored Seconds.
intervalNumber	int	dsx3FarEndIntervalNumber	A number between 1 and 96, where 1 is the most recently completed 15 minute interval and 96 is the 15 minutes interval completed 23 hours and 45 minutes prior to interval 1.
unavailableSeconds	long	dsx3FarEndIntervalUASs	The counter associated with the number of Far End unavailable seconds.
DS3FarEndTotalStats MIB table name: DS3-MIB.dsx3FarEndTotalTable Monitored class: tdmequipment.DS3E3Channel			
cBitCodingViolations	long	dsx3FarEndTotalCCVs	The counter associated with the number of Far End C-bit Coding Violations reported via the far end block error count encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
cBitErroredSeconds	long	dsx3FarEndTotalCESs	The counter associated with the number of Far End C-bit Errored Seconds encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
cBitSeverelyErroredSeconds	long	dsx3FarEndTotalCSESs	The counter associated with the number of Far End C-bit Severely Errored Seconds encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
unavailableSeconds	long	dsx3FarEndTotalUASs	The counter associated with the number of Far End unavailable seconds encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
DS3IntervalStats MIB table name: DS3-MIB.dsx3IntervalTable Monitored class: tdmequipment.DS3E3Channel			
cBitCodingViolations	long	dsx3IntervalCCVs	The number of C-bit Coding Violations.
cBitErroredSeconds	long	dsx3IntervalCESs	The number of C-bit Errored Seconds.
cBitSeverelyErroredSeconds	long	dsx3IntervalCSESs	The number of C-bit Severely Errored Seconds.
intervalNumber	int	dsx3IntervalNumber	A number between 1 and 96, where 1 is the most recently completed 15 minute interval and 96 is the 15 minutes interval completed 23 hours and 45 minutes prior to interval 1.

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5620 SAM counter name	Type	MIB counter name	Description
lineCodingViolations	long	dsx3IntervalLCVs	The counter associated with the number of Line Coding Violations.
lineErroredSeconds	long	dsx3IntervalLESs	The number of Line Errored Seconds (BPVs or illegal zero sequences).
pBitCodingViolations	long	dsx3IntervalPCVs	The counter associated with the number of P-bit Coding Violations.
pBitErroredSeconds	long	dsx3IntervalPESs	The counter associated with the number of P-bit Errored Seconds.
pBitSeverelyErroredSeconds	long	dsx3IntervalPSESs	The counter associated with the number of P-bit Severely Errored Seconds.
severelyErroredFramingSeconds	long	dsx3IntervalSEFSs	The counter associated with the number of Severely Errored Framing Seconds.
unavailableSeconds	long	dsx3IntervalUASs	The counter associated with the number of Unavailable Seconds. This object may decrease if the occurrence of unavailable seconds occurs across an interval boundary.
DS3TotalStats MIB table name: DS3-MIB.dsx3TotalTable Monitored class: tdmequipment.DS3E3Channel			
cBitCodingViolations	long	dsx3TotalCCVs	The number of C-bit Coding Violations encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
cBitErroredSeconds	long	dsx3TotalCESs	The number of C-bit Errored Seconds encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
cBitSeverelyErroredSeconds	long	dsx3TotalCSESs	The number of C-bit Severely Errored Seconds encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
lineCodingViolations	long	dsx3TotalLCVs	The counter associated with the number of Line Coding Violations encountered by a DS3/E3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
lineErroredSeconds	long	dsx3TotalLESs	The number of Line Errored Seconds (BPVs or illegal zero sequences) encountered by a DS3/E3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
pBitCodingViolations	long	dsx3TotalPCVs	The counter associated with the number of P-bit Coding Violations, encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
pBitErroredSeconds	long	dsx3TotalPESs	The counter associated with the number of P-bit Errored Seconds, encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.

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5620 SAM counter name	Type	MIB counter name	Description
pBitSeverelyErroredSeconds	long	dsx3TotalPSESs	The counter associated with the number of P-bit Severely Errored Seconds, encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
severelyErroredFramingSeconds	long	dsx3TotalSEFSs	The counter associated with the number of Severely Errored Framing Seconds, encountered by a DS3/E3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.
unavailableSeconds	long	dsx3TotalUASs	The counter associated with the number of Unavailable Seconds, encountered by a DS3 interface in the previous 24 hour interval. Invalid 15 minute intervals count as 0.

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5620 SAM counter name	Type	MIB counter name	Description
CircuitDhcpRelayCfgStats MIB table name: TIMETRA-SDP-MIB.sdpBindDhcpStatsTable Monitored class: svt.SdpBinding			
sdpBindDhcpStatsClntDropdPckts	long	sdpBindDhcpStatsClntDropdPckts	The value of the object sdpBindDhcpStatsClntDropdPckts indicates the number of DHCP client packets that have been dropped on this SDP bind.
sdpBindDhcpStatsClntForwdPckts	long	sdpBindDhcpStatsClntForwdPckts	The value of the object sdpBindDhcpStatsClntForwdPckts indicates the number of DHCP client packets that have been forwarded on this SDP bind.
sdpBindDhcpStatsClntProxLSPckts	long	sdpBindDhcpStatsClntProxLSPckts	The value of the object sdpBindDhcpStatsClntProxLSPckts indicates the number of DHCP client packets that have been proxied on this SDP bind based on a lease state. The lease itself can have been obtained from a DHCP or RADIUS server. This is the so called lease split functionality.
sdpBindDhcpStatsClntProxRadPckts	long	sdpBindDhcpStatsClntProxRadPckts	The value of the object sdpBindDhcpStatsClntProxRadPckts indicates the number of DHCP client packets that have been proxied on this SDP bind based on data received from a RADIUS server.
sdpBindDhcpStatsClntSnoopdPckts	long	sdpBindDhcpStatsClntSnoopdPckts	The value of the object sdpBindDhcpStatsClntSnoopdPckts indicates the number of DHCP client packets that have been snooped on this SDP bind.

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5620 SAM counter name	Type	MIB counter name	Description
sdpBindDhcpStatsGenForceRenPckts	long	sdpBindDhcpStatsGenForceRenPckts	The value of the object sdpBindDhcpStatsGenForceRenPckts indicates the number of DHCP FORCERENEW messages spoofed on this SDP bind to the DHCP clients.
sdpBindDhcpStatsGenReleasePckts	long	sdpBindDhcpStatsGenReleasePckts	The value of the object sdpBindDhcpStatsGenReleasePckts indicates the number of DHCP RELEASE messages spoofed on this SDP bind to the DHCP server.
sdpBindDhcpStatsSrvrDropdPckts	long	sdpBindDhcpStatsSrvrDropdPckts	The value of the object sdpBindDhcpStatsSrvrDropdPckts indicates the number of DHCP server packets that have been dropped on this SDP bind.
sdpBindDhcpStatsSrvrForwdPckts	long	sdpBindDhcpStatsSrvrForwdPckts	The value of the object sdpBindDhcpStatsSrvrForwdPckts indicates the number of DHCP server packets that have been forwarded on this SDP bind.
sdpBindDhcpStatsSrvrSnoopdPckts	long	sdpBindDhcpStatsSrvrSnoopdPckts	The value of the object sdpBindDhcpStatsSrvrSnoopdPckts indicates the number of DHCP server packets that have been snooped on this SDP bind.
InterfacePimSnoopingStats MIB table name: TIMETRA-PIM-SNOOPING-MIB.tmnxPimSnpgIfStatsTable Monitored class: vpls.InterfacePimSnooping			
tmnxPimSnpgIfJoinPolicyDrops	long	tmnxPimSnpgIfJoinPolicyDrops	The value of tmnxPimSnpgIfJoinPolicyDrops indicates the number of times the join policy match resulted in dropping PIM Join-Prune Message or one of the source group contained in the message.
tmnxPimSnpgIfRxBadChecksumDscrd	long	tmnxPimSnpgIfRxBadChecksumDscrd	The value of tmnxPimSnpgIfRxBadChecksumDscrd indicates the number of PIM messages received on this interface which were discarded because of bad checksum.
tmnxPimSnpgIfRxBadEncodings	long	tmnxPimSnpgIfRxBadEncodings	The value of tmnxPimSnpgIfRxBadEncodings indicates the number of PIM messages with bad encodings received on this interface.
tmnxPimSnpgIfRxBadVersionDscrd	long	tmnxPimSnpgIfRxBadVersionDscrd	The value of tmnxPimSnpgIfRxBadVersionDscrd indicates the number of PIM messages with bad versions received on this interface.
tmnxPimSnpgIfRxHellos	long	tmnxPimSnpgIfRxHellos	The value of tmnxPimSnpgIfRxHellos indicates the number of PIM hello messages received on this interface.
tmnxPimSnpgIfRxHellosDropped	long	tmnxPimSnpgIfRxHellosDropped	The value of tmnxPimSnpgIfRxHellosDropped indicates the number of PIM Hello messages which were received on this interface but were dropped.

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5620 SAM counter name	Type	MIB counter name	Description
tmnxPimSnpgIfRxJoinPruneErrs	long	tmnxPimSnpgIfRxJoinPruneErrs	The value of tmnxPimSnpgIfRxJoinPruneErrs indicates the number of errors while processing Join-Prune messages received on this interface.
tmnxPimSnpgIfRxJoinPrunes	long	tmnxPimSnpgIfRxJoinPrunes	The value of tmnxPimSnpgIfRxJoinPrunes indicates the number of PIM Join Prune messages received on this interface.
tmnxPimSnpgIfRxNbrUnknown	long	tmnxPimSnpgIfRxNbrUnknown	The value of tmnxPimSnpgIfRxNbrUnknown indicates the number of PIM messages (other than Hello messages) which were received on this interface and were rejected because the adjacency with the neighbor router was not already established.
tmnxPimSnpgIfRxPkts	long	tmnxPimSnpgIfRxPkts	The value of tmnxPimSnpgIfRxPkts indicates the number of multicast data packets received on this interface.
tmnxPimSnpgIfSGTypes	long	tmnxPimSnpgIfSGTypes	The value of tmnxPimSnpgIfSGTypes indicates the number of (S,G) entries in tmnxPimSnpgIfGrpSrcTable.
tmnxPimSnpgIfStarGTypes	long	tmnxPimSnpgIfStarGTypes	The value of tmnxPimSnpgIfStarGTypes indicates the number of (*,G) entries in tmnxPimSnpgIfGrpSrcTable.
tmnxPimSnpgIfTxJoinPrunes	long	tmnxPimSnpgIfTxJoinPrunes	The value of tmnxPimSnpgIfTxJoinPrunes indicates the number of PIM Join Prune messages transmitted on this interface.
tmnxPimSnpgIfTxPkts	long	tmnxPimSnpgIfTxPkts	The value of tmnxPimSnpgIfTxPkts indicates the number of multicast data packets transmitted on this interface.
L2AccessInterfaceIgmpSnpgErrorStats MIB table name: ALCATEL-IGMP-SNOOPING-MIB.sapIgmpSnpgStatsTable Monitored classes: • vpls.AbstractL2AccessInterface • vpls.IL2AccessInterface • mvpls.IL2AccessInterface			
sapIgmpSnpgImportPolicyDrops	long	sapIgmpSnpgImportPolicyDrops	The value of the object sapIgmpSnpgImportPolicyDrops indicates the number of times an IGMP Group or Source is dropped because of applying an import policy on this SAP.
sapIgmpSnpgMaxNumGroupsDrops	long	sapIgmpSnpgMaxNumGroupsDrops	The value of the object sapIgmpSnpgMaxNumGroupsDrops indicates the number of times an IGMP Group is dropped because of exceeding the configured maximum number of groups on this SAP.
sapIgmpSnpgMaxNumSourcesDrops	long	sapIgmpSnpgMaxNumSourcesDrops	The value of the object sapIgmpSnpgMaxNumSourcesDrops indicates the number of times an IGMP Source is dropped because of exceeding the configured maximum number of sources per group on this SAP.

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5620 SAM counter name	Type	MIB counter name	Description
sapIgmpSnpgMcacPolicyDrops	long	sapIgmpSnpgMcacPolicyDrops	The value of the object sapIgmpSnpgMcacPolicyDrops indicates the number of times an IGMP Group is dropped because of applying a multicast CAC policy on this SAP.
sapIgmpSnpgMcsFailures	long	sapIgmpSnpgMcsFailures	The value of the object sapIgmpSnpgMcsFailures indicates the number of times an IGMP Group on this SAP could not be synced to the MCS (multi-chassis synchronization) database.
sapIgmpSnpgRxBadEncodedPkts	long	sapIgmpSnpgRxBadEncodedPkts	The value of the object sapIgmpSnpgRxBadEncodedPkts indicates the number of IGMP packets dropped on this SAP because of a bad encoding.
sapIgmpSnpgRxBadIgmpChksmPkts	long	sapIgmpSnpgRxBadIgmpChksmPkts	The value of the object sapIgmpSnpgRxBadIgmpChksmPkts indicates the number of dropped IGMP packets on this SAP because of a bad IGMP header checksum.
sapIgmpSnpgRxBadIpChksmPkts	long	sapIgmpSnpgRxBadIpChksmPkts	The value of the object sapIgmpSnpgRxBadIpChksmPkts indicates the number of dropped IGMP packets on this SAP because of a bad IPv4 header checksum.
sapIgmpSnpgRxBadLenPkts	long	sapIgmpSnpgRxBadLenPkts	The value of the object sapIgmpSnpgRxBadLenPkts indicates the number of IGMP packets dropped on this SAP because of a bad length.
sapIgmpSnpgRxNoRtrAlertPkts	long	sapIgmpSnpgRxNoRtrAlertPkts	The value of the object sapIgmpSnpgRxNoRtrAlertPkts indicates the number of IGMP packets dropped on this SAP because the Router Alert Option in the IP packet is not set.
sapIgmpSnpgRxWrongVersionPkts	long	sapIgmpSnpgRxWrongVersionPkts	The value of the object sapIgmpSnpgRxWrongVersionPkts indicates the total number of IGMP packets with a wrong version received on this SAP.
sapIgmpSnpgRxZeroSrcAdrPkts	long	sapIgmpSnpgRxZeroSrcAdrPkts	The value of the object sapIgmpSnpgRxZeroSrcAdrPkts indicates the number of IGMP packets dropped on this SAP because they contain a zero source IPv4 address.
sapIgmpSnpgSendQueryCfgDrops	long	sapIgmpSnpgSendQueryCfgDrops	The value of the object sapIgmpSnpgSendQueryCfgDrops indicates the number of times an IGMP Query is dropped because the object sapIgmpSnpgCfgSendQueries for this SAP is set to 'enabled(1)'.
L2AccessInterfaceIgmpSnpgStats MIB table name: ALCATEL-IGMP-SNOOPING-MIB.sapIgmpSnpgStatsTable Monitored classes: • vpls.AbstractL2AccessInterface • vpls.IL2AccessInterface • mvpls.IL2AccessInterface			

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5620 SAM counter name	Type	MIB counter name	Description
sapIgmpSnpgFwdGenQueries	long	sapIgmpSnpgFwdGenQueries	The value of the object sapIgmpSnpgFwdGenQueries indicates the number of IGMP General Queries forwarded on this SAP.
sapIgmpSnpgFwdGrpSpecQueries	long	sapIgmpSnpgFwdGrpSpecQueries	The value of the object sapIgmpSnpgFwdGrpSpecQueries indicates the number of IGMP Group-Specific Queries forwarded on this SAP.
sapIgmpSnpgFwdSrcSpecQueries	long	sapIgmpSnpgFwdSrcSpecQueries	The value of the object sapIgmpSnpgFwdSrcSpecQueries indicates the number of IGMP Group-And-Source-Specific Queries forwarded on this SAP.
sapIgmpSnpgFwdUnknownType	long	sapIgmpSnpgFwdUnknownType	The value of the object sapIgmpSnpgFwdUnknownType indicates the number of IGMP unknown type packets forwarded on this SAP.
sapIgmpSnpgFwdV1Reports	long	sapIgmpSnpgFwdV1Reports	The value of the object sapIgmpSnpgFwdV1Reports indicates the number of IGMPv1 Reports forwarded on this SAP.
sapIgmpSnpgFwdV2Leaves	long	sapIgmpSnpgFwdV2Leaves	The value of the object sapIgmpSnpgFwdV2Leaves indicates the number of IGMPv2 Leaves forwarded on this SAP.
sapIgmpSnpgFwdV2Reports	long	sapIgmpSnpgFwdV2Reports	The value of the object sapIgmpSnpgFwdV2Reports indicates the number of IGMPv2 Reports forwarded on this SAP.
sapIgmpSnpgFwdV3Reports	long	sapIgmpSnpgFwdV3Reports	The value of the object sapIgmpSnpgFwdV3Reports indicates the number of IGMPv3 Reports forwarded on this SAP.
sapIgmpSnpgRxGenQueries	long	sapIgmpSnpgRxGenQueries	The value of the object sapIgmpSnpgRxGenQueries indicates the number of IGMP General Queries received on this SAP.
sapIgmpSnpgRxGrpSpecQueries	long	sapIgmpSnpgRxGrpSpecQueries	The value of the object sapIgmpSnpgRxGrpSpecQueries indicates the number of IGMP Group-Specific Queries received on this SAP.
sapIgmpSnpgRxSrcSpecQueries	long	sapIgmpSnpgRxSrcSpecQueries	The value of the object sapIgmpSnpgRxSrcSpecQueries indicates the number of IGMP Group-And-Source-Specific Queries received on this SAP.
sapIgmpSnpgRxUnknownType	long	sapIgmpSnpgRxUnknownType	The value of the object sapIgmpSnpgRxUnknownType indicates the number of IGMP unknown type packets received on this SAP.
sapIgmpSnpgRxV1Reports	long	sapIgmpSnpgRxV1Reports	The value of the object sapIgmpSnpgRxV1Reports indicates the number of IGMPv1 Reports received on this SAP.

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5620 SAM counter name	Type	MIB counter name	Description
sapIgmpSnpgRxV2Leaves	long	sapIgmpSnpgRxV2Leaves	The value of the object sapIgmpSnpgRxV2Leaves indicates the number of IGMPv2 Leaves received on this SAP.
sapIgmpSnpgRxV2Reports	long	sapIgmpSnpgRxV2Reports	The value of the object sapIgmpSnpgRxV2Reports indicates the number of IGMPv2 Reports received on this SAP.
sapIgmpSnpgRxV3Reports	long	sapIgmpSnpgRxV3Reports	The value of the object sapIgmpSnpgRxV3Reports indicates the number of IGMPv3 Reports received on this SAP.
sapIgmpSnpgTxGenQueries	long	sapIgmpSnpgTxGenQueri es	The value of the object sapIgmpSnpgTxGenQueries indicates the number of IGMP General Queries transmitted on this SAP.
sapIgmpSnpgTxGrpSpecQueries	long	sapIgmpSnpgTxGrpSpecQ ueries	The value of the object sapIgmpSnpgTxGrpSpecQueries indicates the number of IGMP Group-Specific Queries transmitted on this SAP.
sapIgmpSnpgTxSrcSpecQueries	long	sapIgmpSnpgTxSrcSpecQu eries	The value of the object sapIgmpSnpgTxSrcSpecQueries indicates the number of IGMP Group-And-Source-Specific Queries transmitted on this SAP.
sapIgmpSnpgTxV1Reports	long	sapIgmpSnpgTxV1Reports	The value of the object sapIgmpSnpgTxV1Reports indicates the number of IGMPv1 Reports transmitted on this SAP.
sapIgmpSnpgTxV2Leaves	long	sapIgmpSnpgTxV2Leaves	The value of the object sapIgmpSnpgTxV2Leaves indicates the number of IGMPv2 Leaves transmitted on this SAP.
sapIgmpSnpgTxV2Reports	long	sapIgmpSnpgTxV2Reports	The value of the object sapIgmpSnpgTxV2Reports indicates the number of IGMPv2 Reports transmitted on this SAP.
sapIgmpSnpgTxV3Reports	long	sapIgmpSnpgTxV3Reports	The value of the object sapIgmpSnpgTxV3Reports indicates the number of IGMPv3 Reports transmitted on this SAP.
L2AccessInterfaceMldMvrStats MIB table name: TIMETRA-MLD-SNOOPING-MIB.sapMldSnpgStatsTable Monitored class: vpls.AbstractL2AccessInterface			
sapMldSnpgMvrFromVplsCfgDrops	long	sapMldSnpgMvrFromVplsC fgDrops	The value of the object sapMldSnpgMvrFromVplsCfgDrops indicates the number of times an MLD group or Query is dropped because of applying the sapMldSnpgCfgMvrFromVplsId configuration on this SAP.

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5620 SAM counter name	Type	MIB counter name	Description
sapMldSnpgMvrToSapCfgDrops	long	sapMldSnpgMvrToSapCfgDrops	The value of the object sapMldSnpgMvrToSapCfgDrops indicates the number times an MLD Report or Query is dropped because of applying the sapMldSnpgCfgMvrToSapPortId and sapMldSnpgCfgMvrToSapEncapVal configuration on this SAP.
L2AccessInterfaceMldSnpgErrorStats MIB table name: TIMETRA-MLD-SNOOPING-MIB.sapMldSnpgStatsTable Monitored class: vpls.AbstractL2AccessInterface			
sapMldSnpgImportPolicyDrops	long	sapMldSnpgImportPolicyDrops	The value of the object sapMldSnpgImportPolicyDrops indicates the number of times an MLD group or source is dropped because of applying an import policy on this SAP.
sapMldSnpgMaxNumGroupsDrops	long	sapMldSnpgMaxNumGroupsDrops	The value of the object sapMldSnpgMaxNumGroupsDrops indicates the number of times an MLD group is dropped because of exceeding the configured maximum number of groups on this SAP.
sapMldSnpgMcsFailures	long	sapMldSnpgMcsFailures	The value of the object sapMldSnpgMcsFailures indicates the number of times an MLD group on this SAP could not be synced to the MCS (multi-chassis synchronization) database.
sapMldSnpgRxBadEncodedPkts	long	sapMldSnpgRxBadEncodedPkts	The value of the object sapMldSnpgRxBadEncodedPkts indicates the number of MLD packets dropped on this SAP because of a bad encoding.
sapMldSnpgRxBadLenPkts	long	sapMldSnpgRxBadLenPkts	The value of the object sapMldSnpgRxBadLenPkts indicates the number of MLD packets dropped on this SAP because of a bad length.
sapMldSnpgRxBadMldChksmPkts	long	sapMldSnpgRxBadMldChksmPkts	The value of the object sapMldSnpgRxBadMldChksmPkts indicates the number of dropped MLD packets on this SAP because of a bad MLD header checksum.
sapMldSnpgRxNoRtrAlertPkts	long	sapMldSnpgRxNoRtrAlertPkts	The value of the object sapMldSnpgRxNoRtrAlertPkts indicates the number of MLD packets dropped on this SAP because the Router Alert Option in the IP packet is not set.
sapMldSnpgRxWrongVersionPkts	long	sapMldSnpgRxWrongVersionPkts	The value of the object sapMldSnpgRxWrongVersionPkts indicates the total number of MLD packets with a wrong version received on this SAP.
sapMldSnpgRxZeroSrcAdrPkts	long	sapMldSnpgRxZeroSrcAdrPkts	The value of the object sapMldSnpgRxZeroSrcAdrPkts indicates the number of MLD packets dropped on this SAP because they contain a zero source IPv6 address.

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5620 SAM counter name	Type	MIB counter name	Description
sapMldSnpgSendQueryCfgDrops	long	sapMldSnpgSendQueryCfgDrops	The value of the object sapMldSnpgSendQueryCfgDrops indicates the number of times an MLD Query is dropped because the object sapMldSnpgCfgSendQueries for this SAP is set to 'inService(2)'.
L2AccessInterfaceMldSnpgStats MIB table name: TIMETRA-MLD-SNOOPING-MIB.sapMldSnpgStatsTable Monitored class: vpls.AbstractL2AccessInterface			
sapMldSnpgFwdGenQueries	long	sapMldSnpgFwdGenQueries	The value of the object sapMldSnpgFwdGenQueries indicates the number of MLD General Queries forwarded on this SAP.
sapMldSnpgFwdGrpSpecQueries	long	sapMldSnpgFwdGrpSpecQueries	The value of the object sapMldSnpgFwdGrpSpecQueries indicates the number of MLD Group-Specific Queries forwarded on this SAP.
sapMldSnpgFwdSrcSpecQueries	long	sapMldSnpgFwdSrcSpecQueries	The value of the object sapMldSnpgFwdSrcSpecQueries indicates the number of MLD Group-And-Source-Specific Queries forwarded on this SAP.
sapMldSnpgFwdUnknownType	long	sapMldSnpgFwdUnknownType	The value of the object sapMldSnpgFwdUnknownType indicates the number of MLD unknown type packets forwarded on this SAP.
sapMldSnpgFwdV1Leaves	long	sapMldSnpgFwdV1Leaves	The value of the object sapMldSnpgFwdV1Leaves indicates the number of MLDv1 Leaves forwarded on this SAP.
sapMldSnpgFwdV1Reports	long	sapMldSnpgFwdV1Reports	The value of the object sapMldSnpgFwdV1Reports indicates the number of MLDv1 Reports forwarded on this SAP.
sapMldSnpgFwdV2Reports	long	sapMldSnpgFwdV2Reports	The value of the object sapMldSnpgFwdV2Reports indicates the number of MLDv2 Reports forwarded on this SAP.
sapMldSnpgRxGenQueries	long	sapMldSnpgRxGenQueries	The value of the object sapMldSnpgRxGenQueries indicates the number of MLD General Queries received on this SAP.
sapMldSnpgRxGrpSpecQueries	long	sapMldSnpgRxGrpSpecQueries	The value of the object sapMldSnpgRxGrpSpecQueries indicates the number of MLD Group-Specific Queries received on this SAP.
sapMldSnpgRxLocalScopePkts	long	sapMldSnpgRxLocalScopePkts	The value of the object sapMldSnpgRxLocalScopePkts indicates the number of MLD packets received on the link-local scope IPv6 multicast address.

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5620 SAM counter name	Type	MIB counter name	Description
sapMldSnpgRxRsvdScopePkts	long	sapMldSnpgRxRsvdScopePkts	The value of the object sapMldSnpgRxRsvdScopePkts indicates the number of MLD packets received on the reserved scope IPv6 multicast address.
sapMldSnpgRxSrcSpecQueries	long	sapMldSnpgRxSrcSpecQueries	The value of the object sapMldSnpgRxSrcSpecQueries indicates the number of MLD Group-And-Source-Specific Queries received on this SAP.
sapMldSnpgRxUnknownType	long	sapMldSnpgRxUnknownType	The value of the object sapMldSnpgRxUnknownType indicates the number of MLD unknown type packets received on this SAP.
sapMldSnpgRxV1Leaves	long	sapMldSnpgRxV1Leaves	The value of the object sapMldSnpgRxV1Leaves indicates the number of MLDv1 Leaves received on this SAP.
sapMldSnpgRxV1Reports	long	sapMldSnpgRxV1Reports	The value of the object sapMldSnpgRxV1Reports indicates the number of MLDv1 Reports received on this SAP.
sapMldSnpgRxV2Reports	long	sapMldSnpgRxV2Reports	The value of the object sapMldSnpgRxV2Reports indicates the number of MLDv2 Reports received on this SAP.
sapMldSnpgTxGenQueries	long	sapMldSnpgTxGenQueries	The value of the object sapMldSnpgTxGenQueries indicates the number of MLD General Queries transmitted on this SAP.
sapMldSnpgTxGrpSpecQueries	long	sapMldSnpgTxGrpSpecQueries	The value of the object sapMldSnpgTxGrpSpecQueries indicates the number of MLD Group-Specific Queries transmitted on this SAP.
sapMldSnpgTxSrcSpecQueries	long	sapMldSnpgTxSrcSpecQueries	The value of the object sapMldSnpgTxSrcSpecQueries indicates the number of MLD Group-And-Source-Specific Queries transmitted on this SAP.
sapMldSnpgTxV1Leaves	long	sapMldSnpgTxV1Leaves	The value of the object sapMldSnpgTxV1Leaves indicates the number of MLDv1 Leaves transmitted on this SAP.
sapMldSnpgTxV1Reports	long	sapMldSnpgTxV1Reports	The value of the object sapMldSnpgTxV1Reports indicates the number of MLDv1 Reports transmitted on this SAP.
sapMldSnpgTxV2Reports	long	sapMldSnpgTxV2Reports	The value of the object sapMldSnpgTxV2Reports indicates the number of MLDv2 Reports transmitted on this SAP.
L2AccessInterfaceMvrStats MIB table name: ALCATEL-IGMP-SNOOPING-MIB.sapIgmpSnpgStatsTable Monitored class: vpls.AbstractL2AccessInterface			

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5620 SAM counter name	Type	MIB counter name	Description
sapIgmpSnpgMvrFromVplsCfgDrops	long	sapIgmpSnpgMvrFromVplsCfgDrops	The value of the object sapIgmpSnpgMvrFromVplsCfgDrops indicates the number of times an IGMP Group or Query is dropped because of applying the sapIgmpSnpgCfgMvrFromVplsId configuration on this SAP.
sapIgmpSnpgMvrToSapCfgDrops	long	sapIgmpSnpgMvrToSapCfgDrops	The value of the object sapIgmpSnpgMvrToSapCfgDrops indicates the number times an IGMP Report or Query is dropped because of applying the sapIgmpSnpgCfgMvrToSapPortId and sapIgmpSnpgCfgMvrToSapEncapVal configuration on this SAP.
L2AccessItfDhcpRelayCfgStats MIB table name: TIMETRA-SAP-MIB.sapTlsDhcpStatsTable Monitored class: vpls.AbstractL2AccessInterface			
sapTlsDhcpStatsClntDropdPckts	long	sapTlsDhcpStatsClntDropdPckts	The value of the object sapTlsDhcpStatsClntDropdPckts indicates the number of DHCP client packets that have been dropped on this SAP.
sapTlsDhcpStatsClntForwdPckts	long	sapTlsDhcpStatsClntForwdPckts	The value of the object sapTlsDhcpStatsClntForwdPckts indicates the number of DHCP client packets that have been forwarded on this SAP.
sapTlsDhcpStatsClntProxLSPckts	long	sapTlsDhcpStatsClntProxLSPckts	The value of the object sapTlsDhcpStatsClntProxLSPckts indicates the number of DHCP client packets that have been proxied on this SAP based on a lease state. The lease itself can have been obtained from a DHCP or RADIUS server. This is the so called lease split functionality.
sapTlsDhcpStatsClntProxRadPckts	long	sapTlsDhcpStatsClntProxRadPckts	The value of the object sapTlsDhcpStatsClntProxRadPckts indicates the number of DHCP client packets that have been proxied on this SAP based on data received from a RADIUS server.
sapTlsDhcpStatsClntSnoopdPckts	long	sapTlsDhcpStatsClntSnoopdPckts	The value of the object sapTlsDhcpStatsClntSnoopdPckts indicates the number of DHCP client packets that have been snooped on this SAP.
sapTlsDhcpStatsGenForceRenPckts	long	sapTlsDhcpStatsGenForceRenPckts	The value of the object sapTlsDhcpStatsGenForceRenPckts indicates the number of DHCP FORCERENEW messages spoofed on this SAP to the DHCP clients.
sapTlsDhcpStatsGenReleasePckts	long	sapTlsDhcpStatsGenReleasePckts	The value of the object sapTlsDhcpStatsGenReleasePckts indicates the number of DHCP RELEASE messages spoofed on this SAP to the DHCP server.

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5620 SAM counter name	Type	MIB counter name	Description
sapTlsDhcpStatsSrvrDropdPckts	long	sapTlsDhcpStatsSrvrDropdPckts	The value of the object sapTlsDhcpStatsSrvrDropdPckts indicates the number of DHCP server packets that have been dropped on this SAP.
sapTlsDhcpStatsSrvrForwdPckts	long	sapTlsDhcpStatsSrvrForwdPckts	The value of the object sapTlsDhcpStatsSrvrForwdPckts indicates the number of DHCP server packets that have been forwarded on this SAP.
sapTlsDhcpStatsSrvrSnoopdPckts	long	sapTlsDhcpStatsSrvrSnoopdPckts	The value of the object sapTlsDhcpStatsSrvrSnoopdPckts indicates the number of DHCP server packets that have been snooped on this SAP.
SdpBindingMldSnpgErrorStats MIB table name: TIMETRA-MLD-SNOOPING-MIB.sdpBindMldSnpgStatsTable Monitored class: vpls.SdpBindingMldSnpgCfg			
sdpBndMldSnpgImportPolicyDrops	long	sdpBndMldSnpgImportPolicyDrops	The value of the object sdpBndMldSnpgImportPolicyDrops indicates the number of times an MLD group or source is dropped because of applying an import policy on this SDP Bind.
sdpBndMldSnpgMaxNumGroupsDrops	long	sdpBndMldSnpgMaxNumGroupsDrops	The value of the object sdpBndMldSnpgMaxNumGroupsDrops indicates the number of times an MLD group is dropped because of exceeding the configured maximum number of groups on this SDP Bind.
sdpBndMldSnpgRxBadEncodedPkts	long	sdpBndMldSnpgRxBadEncodedPkts	The value of the object sdpBndMldSnpgRxBadEncodedPkts indicates the number of MLD packets dropped on this SDP Bind because of a bad encoding.
sdpBndMldSnpgRxBadLenPkts	long	sdpBndMldSnpgRxBadLenPkts	The value of the object sdpBndMldSnpgRxBadLenPkts indicates the number of MLD packets dropped on this SDP Bind because of a bad length.
sdpBndMldSnpgRxBadMldChksmPkts	long	sdpBndMldSnpgRxBadMldChksmPkts	The value of the object sdpBndMldSnpgRxBadMldChksmPkts indicates the number of dropped MLD packets on this SDP Bind because of a bad MLD header checksum.
sdpBndMldSnpgRxLocalScopePkts	long	sdpBndMldSnpgRxLocalScopePkts	The value of the object sdpBndMldSnpgRxLocalScopePkts indicates the number of MLD packets received on the link-local scope IPv6 multicast address.
sdpBndMldSnpgRxNoRtrAlertPkts	long	sdpBndMldSnpgRxNoRtrAlertPkts	The value of the object sdpBndMldSnpgRxNoRtrAlertPkts indicates the number of MLD packets dropped on this SDP Bind because the Router Alert Option in the IP packet is not set.

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5620 SAM counter name	Type	MIB counter name	Description
sdpBndMldSnpgRxRsvdScopePkts	long	sdpBndMldSnpgRxRsvdScopePkts	The value of the object sdpBndMldSnpgRxRsvdScopePkts indicates the number of MLD packets received on the reserved scope IPv6 multicast address.
sdpBndMldSnpgRxWrongVersionPkts	long	sdpBndMldSnpgRxWrongVersionPkts	The value of the object sdpBndMldSnpgRxWrongVersionPkts indicates the total number of MLD packets with a wrong version received on this SDP Bind.
sdpBndMldSnpgRxZeroSrcAdrPkts	long	sdpBndMldSnpgRxZeroSrcAdrPkts	The value of the object sdpBndMldSnpgRxZeroSrcAdrPkts indicates the number of MLD packets dropped on this SDP Bind because they contain a zero source IPv6 address.
sdpBndMldSnpgSendQueryCfgDrops	long	sdpBndMldSnpgSendQueryCfgDrops	The value of the object sdpBndMldSnpgSendQueryCfgDrops indicates the number of times an MLD Query is dropped because the object sdpBndMldSnpgCfgSendQueries for this SDP Bind is set to 'inService(2)'.
SdpBindingMldSnpgStats MIB table name: TIMETRA-MLD-SNOOPING-MIB.sdpBindMldSnpgStatsTable Monitored class: vpls.SdpBindingMldSnpgCfg			
sdpBndMldSnpgFwdGenQueries	long	sdpBndMldSnpgFwdGenQueries	The value of the object sdpBndMldSnpgFwdGenQueries indicates the number of MLD General Queries forwarded on this SDP Bind.
sdpBndMldSnpgFwdGrpSpecQueries	long	sdpBndMldSnpgFwdGrpSpecQueries	The value of the object sdpBndMldSnpgFwdGrpSpecQueries indicates the number of MLD Group-Specific Queries forwarded on this SDP Bind.
sdpBndMldSnpgFwdSrcSpecQueries	long	sdpBndMldSnpgFwdSrcSpecQueries	The value of the object sdpBndMldSnpgFwdSrcSpecQueries indicates the number of MLD Group-And-Source-Specific Queries forwarded on this SDP Bind.
sdpBndMldSnpgFwdUnknownType	long	sdpBndMldSnpgFwdUnknownType	The value of the object sdpBndMldSnpgFwdUnknownType indicates the number of MLD unknown type packets forwarded on this SDP Bind.
sdpBndMldSnpgFwdV1Leaves	long	sdpBndMldSnpgFwdV1Leaves	The value of the object sdpBndMldSnpgFwdV1Leaves indicates the number of MLDv1 Leaves forwarded on this SDP Bind.
sdpBndMldSnpgFwdV1Reports	long	sdpBndMldSnpgFwdV1Reports	The value of the object sdpBndMldSnpgFwdV1Reports indicates the number of MLDv1 Reports forwarded on this SDP Bind.
sdpBndMldSnpgFwdV2Reports	long	sdpBndMldSnpgFwdV2Reports	The value of the object sdpBndMldSnpgFwdV2Reports indicates the number of MLDv2 Reports forwarded on this SDP Bind.

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5620 SAM counter name	Type	MIB counter name	Description
sdpBndMldSnpgRxGenQueries	long	sdpBndMldSnpgRxGenQueries	The value of the object sdpBndMldSnpgRxGenQueries indicates the number of MLD General Queries received on this SDP Bind.
sdpBndMldSnpgRxGrpSpecQueries	long	sdpBndMldSnpgRxGrpSpecQueries	The value of the object sdpBndMldSnpgRxGrpSpecQueries indicates the number of MLD Group-Specific Queries received on this SDP Bind.
sdpBndMldSnpgRxSrcSpecQueries	long	sdpBndMldSnpgRxSrcSpecQueries	The value of the object sdpBndMldSnpgRxSrcSpecQueries indicates the number of MLD Group-And-Source-Specific Queries received on this SDP Bind.
sdpBndMldSnpgRxUnknownType	long	sdpBndMldSnpgRxUnknownType	The value of the object sdpBndMldSnpgRxUnknownType indicates the number of MLD unknown type packets received on this SDP Bind.
sdpBndMldSnpgRxV1Leaves	long	sdpBndMldSnpgRxV1Leaves	The value of the object sdpBndMldSnpgRxV1Leaves indicates the number of MLDv1 Leaves received on this SDP Bind.
sdpBndMldSnpgRxV1Reports	long	sdpBndMldSnpgRxV1Reports	The value of the object sdpBndMldSnpgRxV1Reports indicates the number of MLDv1 Reports received on this SDP Bind.
sdpBndMldSnpgRxV2Reports	long	sdpBndMldSnpgRxV2Reports	The value of the object sdpBndMldSnpgRxV2Reports indicates the number of MLDv2 Reports received on this SDP Bind.
sdpBndMldSnpgTxGenQueries	long	sdpBndMldSnpgTxGenQueries	The value of the object sdpBndMldSnpgTxGenQueries indicates the number of MLD General Queries transmitted on this SDP Bind.
sdpBndMldSnpgTxGrpSpecQueries	long	sdpBndMldSnpgTxGrpSpecQueries	The value of the object sdpBndMldSnpgTxGrpSpecQueries indicates the number of MLD Group-Specific Queries transmitted on this SDP Bind.
sdpBndMldSnpgTxSrcSpecQueries	long	sdpBndMldSnpgTxSrcSpecQueries	The value of the object sdpBndMldSnpgTxSrcSpecQueries indicates the number of MLD Group-And-Source-Specific Queries transmitted on this SDP Bind.
sdpBndMldSnpgTxV1Leaves	long	sdpBndMldSnpgTxV1Leaves	The value of the object sdpBndMldSnpgTxV1Leaves indicates the number of MLDv1 Leaves transmitted on this SDP Bind.
sdpBndMldSnpgTxV1Reports	long	sdpBndMldSnpgTxV1Reports	The value of the object sdpBndMldSnpgTxV1Reports indicates the number of MLDv1 Reports transmitted on this SDP Bind.
sdpBndMldSnpgTxV2Reports	long	sdpBndMldSnpgTxV2Reports	The value of the object sdpBndMldSnpgTxV2Reports indicates the number of MLDv2 Reports transmitted on this SDP Bind.

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5620 SAM counter name	Type	MIB counter name	Description
SitePimSnoopingStats MIB table name: TIMETRA-PIM-SNOOPING-MIB.tmnxPimSnpgGenStatsTable Monitored class: vpls.SitePimSnooping			
numSGTypes	long	tmnxPimSnpgGenStatsSGTypes	The value of tmnxPimSnpgGenStatsSGTypes indicates the number of entries in tmnxPimSnpgGrpSrcTable for which the source type is 'sg'.
numStarGTypes	long	tmnxPimSnpgGenStatsStarGTypes	The value of tmnxPimSnpgGenStatsStarGTypes indicates the number of entries in tmnxPimSnpgGrpSrcTable for which the source type is 'starG'.
SiteSourceGroupRecordPimSnoopingStats MIB table name: TIMETRA-PIM-SNOOPING-MIB.tmnxPimSnpgGrpSrcStatsTable Monitored classes: • vpls.SiteSourceGroupRecord • vpls.SitePimSnooping			
tmnxPimSnpgGrpSrcStatsFwdedOct	long	tmnxPimSnpgGrpSrcStatsFwdedOct	The value of tmnxPimSnpgGrpSrcStatsFwdedOct indicates the number of multicast octets that were forwarded to the interfaces in the outgoing interface list. tmnxPimSnpgGrpSrcIfTable lists all the interfaces in the outgoing interface list.
tmnxPimSnpgGrpSrcStatsFwdedPkts	long	tmnxPimSnpgGrpSrcStatsFwdedPkts	The value of tmnxPimSnpgGrpSrcStatsFwdedPkts indicates the number of multicast packets that were forwarded to the interfaces in the outgoing interface list. tmnxPimSnpgGrpSrcIfTable lists all the interfaces in the outgoing interface list.

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Table A-53 vrrp statistics

5620 SAM counter name	Type	MIB counter name	Description
InstanceAdditionalStats MIB table name: TIMETRA-VRRP-MIB.tmnxVrrpRouterStatsTable Monitored class: vrrp.Instance			
addressListDiscards	long	tmnxVrrpStatsAddressListDiscards	The total number of VRRP advertisement packets discarded because the address list did not match the locally configured list for the virtual router.
advertiseIntervalDiscards	long	tmnxVrrpStatsAdvertiseIntervalDiscards	The total number of VRRP advertisement packets discarded because the advertisement interval in the received packet was different than the one configured for the local virtual router.
advertiseSent	long	tmnxVrrpStatsAdvertiseSent	The total number of VRRP advertisements sent by this virtual router.

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5620 SAM counter name	Type	MIB counter name	Description
masterChanges	long	tmnxVrrpStatsMasterChanges	The value for tmnxVrrpStatsMasterChanges specifies the total number of times the virtual router has seen the master virtual router change.
preemptedEvents	long	tmnxVrrpStatsPreemptedEvents	The value for tmnxVrrpStatsPreemptedEvents specifies the total number of times the virtual router has been preempted by another non-owner master with higher priority.
preemptEvents	long	tmnxVrrpStatsPreemptEvents	The value for tmnxVrrpStatsPreemptEvents specifies the total number of times the virtual router has preempted another non-owner master with lower priority.
totalDiscards	long	tmnxVrrpStatsTotalDiscards	The total number of VRRP advertisement packets discarded for any reason. This includes the packets discarded due to advertise interval mismatch and address list mismatch.
InstanceStats MIB table name: VRRP-MIB.vrrpRouterStatsTable Monitored class: vrrp.Instance			
addressListErrors	long	vrrpStatsAddressListErrors	The total number of packets received for which the address list does not match the locally configured list for the virtual router.
advertiseIntervalErrors	long	vrrpStatsAdvertiseIntervalErrors	The total number of VRRP advertisement packets received for which the advertisement interval is different than the one configured for the local virtual router.
advertiseRcvd	long	vrrpStatsAdvertiseRcvd	The total number of VRRP advertisements received by this virtual router.
authFailures	long	vrrpStatsAuthFailures	The total number of VRRP packets received that do not pass the authentication check.
authTypeMismatch	long	vrrpStatsAuthTypeMismatch	The total number of packets received with 'Auth Type' not equal to the locally configured authentication method (`vrrpOperAuthType').
becomeMaster	long	vrrpStatsBecomeMaster	The total number of times that this virtual router's state has transitioned to MASTER.
invalidAuthType	long	vrrpStatsInvalidAuthType	The total number of packets received with an unknown authentication type.
invalidTypePktsRcvd	long	vrrpStatsInvalidTypePktsRcvd	The number of VRRP packets received by the virtual router with an invalid value in the 'type' field.
ipTtlErrors	long	vrrpStatsIpTtlErrors	The total number of VRRP packets received by the virtual router with IP TTL (Time-To-Live) not equal to 255.

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5620 SAM counter name	Type	MIB counter name	Description
packetLengthErrors	long	vrrpStatsPacketLengthErrors	The total number of packets received with a packet length less than the length of the VRRP header.
priorityZeroPktsRcvd	long	vrrpStatsPriorityZeroPktsRcvd	The total number of VRRP packets received by the virtual router with a priority of '0'.
priorityZeroPktsSent	long	vrrpStatsPriorityZeroPktsSent	The total number of VRRP packets sent by the virtual router with a priority of '0'.
InstanceV6AdditionalStats MIB table name: TIMETRA-VRRP-MIB.tVrrpRtrStatisticsTable Monitored class: vrrp.InstanceV6			
advertiseIntervalDiscards	long	tVrrpStatAdvIntvlDiscards	The value of tVrrpStatAdvIntvlDiscards indicates the total number of VRRP advertisement packets discarded because the advertisement interval in the received packet was different than the one configured for the local virtual router.
advertiseSent	long	tVrrpStatAdvertiseSent	The value of tVrrpStatAdvertiseSent indicates the total number of VRRP advertisements sent by this virtual router.
masterChanges	long	tVrrpStatMasterChanges	The value for tVrrpStatMasterChanges indicates the total number of times the virtual router has seen the master virtual router change.
preemptedEvents	long	tVrrpStatPreemptedEvents	The value for tVrrpStatPreemptedEvents indicates the total number of times the virtual router has been preempted by another non-owner master with higher priority.
preemptEvents	long	tVrrpStatPreemptEvents	The value for tVrrpStatPreemptEvents indicates the total number of times the virtual router has preempted another non-owner master with lower priority.
totalDiscards	long	tVrrpStatTotalDiscards	The value of tVrrpStatTotalDiscards indicates the total number of VRRP advertisement packets discarded for any reason. This includes the packets discarded due to advertise interval mismatch and address list mismatch.
InstanceV6Stats MIB table name: TIMETRA-VRRP-V3-MIB.vrrpRouterStatisticsTable Monitored class: vrrp.InstanceV6			
addressListErrors	long	vrrpStatisticsAddressListErrors	The total number of packets received for which the address list does not match the locally configured list for the virtual router. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime.

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5620 SAM counter name	Type	MIB counter name	Description
advertiseIntervalErrors	long	vrrpStatisticsAdvIntervalErrors	The total number of VRRP advertisement packets received for which the advertisement interval is different than the one configured for the local virtual router. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime.
advertiseRcvd	long	vrrpStatisticsRcvdAdvertisements	The total number of VRRP advertisements received by this virtual router. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime.
becomeMaster	long	vrrpStatisticsMasterTransitions	The total number of times that this virtual router's state has transitioned to MASTER. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime.
invalidAuthType	long	vrrpStatisticsRcvdInvalidAuthentications	The total number of packets received with an unknown authentication type. REFERENCE RFC3768 Section 5.3.6.
invalidTypePktsRcvd	long	vrrpStatisticsRcvdInvalidTypePkts	The number of VRRP packets received by the virtual router with an invalid value in the 'type' field. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime.
ipTtlErrors	long	vrrpStatisticsIpTtlErrors	The total number of VRRP packets received by the Virtual router with IPv4 TTL (for VRRP over IPv4) or IPv6 Hop Limit (for VRRP over IPv6) not equal to 255. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime. REFERENCE RFC3768 Section 5.2.3.
packetLengthErrors	long	vrrpStatisticsPacketLengthErrors	The total number of packets received with a packet length less than the length of the VRRP header. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime.

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5620 SAM counter name	Type	MIB counter name	Description
priorityZeroPktsRcvd	long	vrrpStatisticsRcvdPriZero Packets	The total number of VRRP packets received by the virtual router with a priority of '0'. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime. REFERENCE RFC3768 Section 5.3.4.
priorityZeroPktsSent	long	vrrpStatisticsSentPriZero Packets	The total number of VRRP packets sent by the virtual router with a priority of '0'. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of vrrpStatisticsDiscontinuityTime. REFERENCE RFC3768 Section 5.3.4.

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B. 9471 MME statistics counters

B.1 9471 MME PM statistics counters *B-2*

B.1 9471 MME PM statistics counters

This appendix lists in tabular form the PM statistics counters that the 5620 SAM supports for the 9471 MME. Each counter table corresponds to a 5620 SAM Statistics Record form, and contains the counters that are displayed on the form. Each counter entry in a table contains the following:

- the 5620 SAM GUI counter name
- the 5620 SAM OSS counter name
- the 9471 MME 3GPP counter name

Some counters have subcounters, which are indicated using a period and 3GPP suffix that are appended to the parent counter 9471 MME 3GPP name. For example, VS.CardMI.aveCpuUsage is a subcounter of the VS.CardMI counter.

Note — A statistics counter in the 5620 SAM GUI whose displayed name ends with “Periodic” is a counter that records the difference between the current and previous values of an associated 5620 SAM counter. The OSS equivalent name for a Periodic counter is the name of the 5620 SAM counter with a “Periodic” suffix. The tables in this appendix do not list Periodic counters.

Table B-1 lists each statistics class and the associated statistics-counter table.

Table B-1 Statistics classes and counter tables

Class name	See
Card CPU Stats	B-2
Hub Card CPU Stats	B-3
MAF Authentication Stats	B-4
MAF Bearer Session Management Stats	B-5
MAF Capacity Stats	B-6
MAF Connection Stats	B-7
MAF CPU Stats	B-8
MAF Dedicated Bearer Stats	B-9
MAF DNS Stats	B-10
MAF Handover Stats	B-11
MAF Interface Stats	B-12
MAF Memory Stats	B-13
MAF Mobility Management Stats	B-14
MAF NACC Stats	B-15
MAF Overload Control Stats	B-16
MAF Paging Stats	B-17
MAF Roaming Stats	B-18
MAF System Service Stats	B-19

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Class name	See
MI System Service Stats	B-20
MIF Automated Neighbor Relations	B-21
MIF CPU Stats	B-22
MIF DNS Stats	B-23
MIF Interface Stats	B-24
MIF Memory Stats	B-25
MIF Overload Control Stats	B-26
MIF Quality and Reliability Measurements	B-27
MIF System Service Stats	B-28
MPH CPU Stats	B-29
MPH Memory Stats	B-30
MPH System Service Stats	B-31
OAM Card Base CPU Stats	B-32
OAM Card CPU Stats	B-33
OAM Card Disk Stats	B-34
OAM Card Memory Stats	B-35
OAM Card System Service Stats	B-36
Reliable Cluster Computing Virtual Machine Stats	B-37
Reliable Cluster Computing Virtual Machine Stats	B-38

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Table B-2 Card CPU Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
aveCpuUsage	aveCpuUsage	VS.CardMI.aveCpuUsage
peakCpuUsage	peakCpuUsage	VS.CardMI.peakCpuUsage
collectionInterval	collectionInterval	VS.CollectionInterval

Table B-3 Hub Card CPU Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
aveCpuUsage	aveCpuUsage	VS.HubCardMI.aveCpuUsage
peakCpuUsage	peakCpuUsage	VS.HubCardMI.peakCpuUsage

Table B-4 MAF Authentication Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
attemptedAuthenticationRequestsHSS	attemptedAuthenticationRequestsHSS	VS.MAF.AttAuthRequestsHSS
attemptedAuthenticationRequestsUE	attemptedAuthenticationRequestsUE	VS.MAF.AttAuthRequestsUE
numberOfAuthRequestAbort	numberOfAuthRequestAbort	VS.MAF.NbrAuthRequestAbort
numberOfFailedAuthenticationRequestsHSS_Other	numberOfFailedAuthenticationRequestsHSS_Other	VS.MAF.NbrFailedAuthRequestsHSS_Other
numberOfFailedAuthenticationRequestsUE_Other	numberOfFailedAuthenticationRequestsUE_Other	VS.MAF.NbrFailedAuthRequestsUE_Other
numberOfSuccessAuthenticationRequestsHSS	numberOfSuccessAuthenticationRequestsHSS	VS.MAF.NbrSuccessAuthRequestsHSS
numberOfSuccessAuthenticationRequestsUE	numberOfSuccessAuthenticationRequestsUE	VS.MAF.NbrSuccessAuthRequestsUE
numberOfUEAuthRequestAbort	numberOfUEAuthRequestAbort	VS.MAF.NbrUEAuthRequestAbort
numberOfUpdateLocationAbort	numberOfUpdateLocationAbort	VS.MAF.NbrUpdateLocationAbort

Table B-5 MAF Bearer Session Management Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
attBearerResourceModReq	attBearerResourceModReq	VS.MAF.AttBearerResourceModReq
attemptedCreateDefaultBearer	attemptedCreateDefaultBearer	VS.MAF.AttCreateDefaultBearer
attDeleteDefaultBearer	attDeleteDefaultBearer	VS.MAF.AttDeleteDefaultBearer
attemptedUEContextModReq	attemptedUEContextModReq	VS.MAF.AttUEContextModReq
attemptedUpdateBearerRequests	attemptedUpdateBearerRequests	VS.MAF.AttUpdateBearerRequests
numberOfCreateDefaultBearerAbort	numberOfCreateDefaultBearerAbort	VS.MAF.NbrCreateDefaultBearerAbort
numberFailBearerResourceModReq_NoResources	numberFailBearerResourceModReq_NoResources	VS.MAF.NbrFailBearerResourceModReq_NoResources
numberFailBearerResourceModReq_Other	numberFailBearerResourceModReq_Other	VS.MAF.NbrFailBearerResourceModReq_Other
numberFailBearerResourceModReq_RejectAtSGW	numberFailBearerResourceModReq_RejectAtSGW	VS.MAF.NbrFailBearerResourceModReq_RejectAtSGW
numberFailBearerResourceModReq_SubscripError	numberFailBearerResourceModReq_SubscripError	VS.MAF.NbrFailBearerResourceModReq_SubscripError
numberOfFailedCreateDefaultBearer_FailureAtPGW	numberOfFailedCreateDefaultBearer_FailureAtPGW	VS.MAF.NbrFailedCreateDefaultBearer_FailureAtPGW
numberOfFailedCreateDefaultBearer_FailureAtSGW	numberOfFailedCreateDefaultBearer_FailureAtSGW	VS.MAF.NbrFailedCreateDefaultBearer_FailureAtSGW

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberOfFailedCreateDefaultBearer_Other	numberOfFailedCreateDefaultBearer_Other	VS.MAF.NbrFailedCreateDefaultBearer_Other
numberOfFailedUEContextModReq_Other	numberOfFailedUEContextModReq_Other	VS.MAF.NbrFailedUEContextModReq_Other
numberOfFailedUEContextModReq_TimedOut	numberOfFailedUEContextModReq_TimedOut	VS.MAF.NbrFailedUEContextModReq_TimedOut
numberOfFailedUpdateBearerRequests_Other	numberOfFailedUpdateBearerRequests_Other	VS.MAF.NbrFailedUpdateBearerRequests_Other
numberFailureDeleteDefaultBearer_Other	numberFailureDeleteDefaultBearer_Other	VS.MAF.NbrFailureDeleteDefaultBearer_Other
numberSuccessBearerResourceModReq	numberSuccessBearerResourceModReq	VS.MAF.NbrSuccessBearerResourceModReq
numberOfSuccessCreateDefaultBearer	numberOfSuccessCreateDefaultBearer	VS.MAF.NbrSuccessCreateDefaultBearer
numberSuccessDeleteDefaultBearer	numberSuccessDeleteDefaultBearer	VS.MAF.NbrSuccessDeleteDefaultBearer
numberOfSuccessUEContextModReq	numberOfSuccessUEContextModReq	VS.MAF.NbrSuccessUEContextModReq
numberOfSuccessUpdateBearerRequests	numberOfSuccessUpdateBearerRequests	VS.MAF.NbrSuccessUpdateBearerRequests
numberOfUpdateBearerAbort	numberOfUpdateBearerAbort	VS.MAF.NbrUpdateBearerAbort
numberCreateSessionRespWithPiggyBacking	numberCreateSessionRespWithPiggyBacking	VS.MAF.NbrCreateSessionRespWithPiggyBacking

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Table B-6 MAF Capacity Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
uECapacityUsage	uECapacityUsage	VS.MAF.UECapacityUsage

Table B-7 MAF Connection Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
aveConnectedUE	aveConnectedUE	VS.MAF.AveConnectedUE
aveNbrOfIdleUE	aveNbrOfIdleUE	VS.MAF.AveNbrOfIdleUE
aveNbrOfRegisteredUE	aveNbrOfRegisteredUE	VS.MAF.AveNbrOfRegisteredUE
aveNumOfDedicatedBearers	aveNumOfDedicatedBearers	VS.MAF.AveNumOfDedicatedBearers
aveNumOfDefaultBearers	aveNumOfDefaultBearers	VS.MAF.AveNumOfDefaultBearers
maxConnectedUE	maxConnectedUE	VS.MAF.MaxConnectedUE
maxNbrOfIdleUE	maxNbrOfIdleUE	VS.MAF.MaxNbrOfIdleUE

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
maxNbrOfRegisteredUE	maxNbrOfRegisteredUE	VS.MAF.MaxNbrOfRegisteredUE
maxNumOfDedicatedBearers	maxNumOfDedicatedBearers	VS.MAF.MaxNumOfDedicatedBearers
maxNumOfDefaultBearers	maxNumOfDefaultBearers	VS.MAF.MaxNumOfDefaultBearers

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Table B-8 MAF CPU Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
aveBaseCpuUsage	aveBaseCpuUsage	VS.MAF.aveBaseCpuUsage
avePerSICpuUsage	avePerSICpuUsage	VS.MAF.avePerSICpuUsage
peakBaseCpuUsage	peakBaseCpuUsage	VS.MAF.peakBaseCpuUsage
peakPerSICpuUsage	peakPerSICpuUsage	VS.MAF.peakPerSICpuUsage

Table B-9 MAF Dedicated Bearer Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
attemptedCreateDedicatedBearer_QCI_1	attemptedCreateDedicatedBearer_QCI_1	VS.MAF.AttCreateDedicatedBearer_QCI_1
attemptedCreateDedicatedBearer_QCI_2	attemptedCreateDedicatedBearer_QCI_2	VS.MAF.AttCreateDedicatedBearer_QCI_2
attemptedCreateDedicatedBearer_QCI_3	attemptedCreateDedicatedBearer_QCI_3	VS.MAF.AttCreateDedicatedBearer_QCI_3
attemptedCreateDedicatedBearer_QCI_4	attemptedCreateDedicatedBearer_QCI_4	VS.MAF.AttCreateDedicatedBearer_QCI_4
attemptedCreateDedicatedBearer_QCI_5	attemptedCreateDedicatedBearer_QCI_5	VS.MAF.AttCreateDedicatedBearer_QCI_5
attemptedCreateDedicatedBearer_QCI_6	attemptedCreateDedicatedBearer_QCI_6	VS.MAF.AttCreateDedicatedBearer_QCI_6
attemptedCreateDedicatedBearer_QCI_7	attemptedCreateDedicatedBearer_QCI_7	VS.MAF.AttCreateDedicatedBearer_QCI_7
attemptedCreateDedicatedBearer_QCI_8	attemptedCreateDedicatedBearer_QCI_8	VS.MAF.AttCreateDedicatedBearer_QCI_8
attemptedCreateDedicatedBearer_QCI_9	attemptedCreateDedicatedBearer_QCI_9	VS.MAF.AttCreateDedicatedBearer_QCI_9
attemptedCreateDedicatedBearerSum	attemptedCreateDedicatedBearerSum	VS.MAF.AttCreateDedicatedBearer_sum
attemptedDeactDedicatedBearer_QCI_1	attemptedDeactDedicatedBearer_QCI_1	VS.MAF.AttDeactDedBearer_QCI_1
attemptedDeactDedicatedBearer_QCI_2	attemptedDeactDedicatedBearer_QCI_2	VS.MAF.AttDeactDedBearer_QCI_2

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
attemptedDeactDedicatedBearer_QCI_3	attemptedDeactDedicatedBearer_QCI_3	VS.MAF.AttDeactDedBearer_QCI_3
attemptedDeactDedicatedBearer_QCI_4	attemptedDeactDedicatedBearer_QCI_4	VS.MAF.AttDeactDedBearer_QCI_4
attemptedDeactDedicatedBearer_QCI_5	attemptedDeactDedicatedBearer_QCI_5	VS.MAF.AttDeactDedBearer_QCI_5
attemptedDeactDedicatedBearer_QCI_6	attemptedDeactDedicatedBearer_QCI_6	VS.MAF.AttDeactDedBearer_QCI_6
attemptedDeactDedicatedBearer_QCI_7	attemptedDeactDedicatedBearer_QCI_7	VS.MAF.AttDeactDedBearer_QCI_7
attemptedDeactDedicatedBearer_QCI_8	attemptedDeactDedicatedBearer_QCI_8	VS.MAF.AttDeactDedBearer_QCI_8
attemptedDeactDedicatedBearer_QCI_9	attemptedDeactDedicatedBearer_QCI_9	VS.MAF.AttDeactDedBearer_QCI_9
attemptedDeactDedicatedBearer_Sum	attemptedDeactDedicatedBearer_Sum	VS.MAF.AttDeactivateDedBearer_sum
attemptedUpdateDedicatedBearer_QCI_1	attemptedUpdateDedicatedBearer_QCI_1	VS.MAF.AttUpdateDedicatedBearer_QCI_1
attemptedUpdateDedicatedBearer_QCI_2	attemptedUpdateDedicatedBearer_QCI_2	VS.MAF.AttUpdateDedicatedBearer_QCI_2
attemptedUpdateDedicatedBearer_QCI_3	attemptedUpdateDedicatedBearer_QCI_3	VS.MAF.AttUpdateDedicatedBearer_QCI_3
attemptedUpdateDedicatedBearer_QCI_4	attemptedUpdateDedicatedBearer_QCI_4	VS.MAF.AttUpdateDedicatedBearer_QCI_4
attemptedUpdateDedicatedBearer_QCI_5	attemptedUpdateDedicatedBearer_QCI_5	VS.MAF.AttUpdateDedicatedBearer_QCI_5
attemptedUpdateDedicatedBearer_QCI_6	attemptedUpdateDedicatedBearer_QCI_6	VS.MAF.AttUpdateDedicatedBearer_QCI_6
attemptedUpdateDedicatedBearer_QCI_7	attemptedUpdateDedicatedBearer_QCI_7	VS.MAF.AttUpdateDedicatedBearer_QCI_7
attemptedUpdateDedicatedBearer_QCI_8	attemptedUpdateDedicatedBearer_QCI_8	VS.MAF.AttUpdateDedicatedBearer_QCI_8
attemptedUpdateDedicatedBearer_QCI_9	attemptedUpdateDedicatedBearer_QCI_9	VS.MAF.AttUpdateDedicatedBearer_QCI_9
attemptedUpdateDedicatedBearer_Sum	attemptedUpdateDedicatedBearer_Sum	VS.MAF.AttUpdateDedicatedBearer_sum
numberOfCreateDedicatedBearerAbort	numberOfCreateDedicatedBearerAbort	VS.MAF.NbrCreateDedicatedBearerAbort
numberOfDeactDedBearerAbort	numberOfDeactDedBearerAbort	VS.MAF.NbrDeactDedBearerAbort
numberOfDroppedDedBearer_BadQCI	numberOfDroppedDedBearer_BadQCI	VS.MAF.NbrDroppedDedBearer_BadQCI
numberOfDroppedDedicatedBearer_QCI_1	numberOfDroppedDedicatedBearer_QCI_1	VS.MAF.NbrDroppedDedBearer_QCI_1
numberOfDroppedDedicatedBearer_QCI_2	numberOfDroppedDedicatedBearer_QCI_2	VS.MAF.NbrDroppedDedBearer_QCI_2
numberOfDroppedDedicatedBearer_QCI_3	numberOfDroppedDedicatedBearer_QCI_3	VS.MAF.NbrDroppedDedBearer_QCI_3

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberOfDroppedDedicatedBearer_QCI_4	numberOfDroppedDedicatedBearer_QCI_4	VS.MAF.NbrDroppedDedBearer_QCI_4
numberOfDroppedDedicatedBearer_QCI_5	numberOfDroppedDedicatedBearer_QCI_5	VS.MAF.NbrDroppedDedBearer_QCI_5
numberOfDroppedDedicatedBearer_QCI_6	numberOfDroppedDedicatedBearer_QCI_6	VS.MAF.NbrDroppedDedBearer_QCI_6
numberOfDroppedDedicatedBearer_QCI_7	numberOfDroppedDedicatedBearer_QCI_7	VS.MAF.NbrDroppedDedBearer_QCI_7
numberOfDroppedDedicatedBearer_QCI_8	numberOfDroppedDedicatedBearer_QCI_8	VS.MAF.NbrDroppedDedBearer_QCI_8
numberOfDroppedDedicatedBearer_QCI_9	numberOfDroppedDedicatedBearer_QCI_9	VS.MAF.NbrDroppedDedBearer_QCI_9
numberOfDroppedDefaultBearer	numberOfDroppedDefaultBearer	VS.MAF.NbrDroppedDefaultBearer
numberOfFailedCreateDedicatedBearer_BadQCI	numberOfFailedCreateDedicatedBearer_BadQCI	VS.MAF.NbrFailedCreateDedicatedBearer_BadQCI
numberOfFailedCreateDedicatedBearer_Other	numberOfFailedCreateDedicatedBearer_Other	VS.MAF.NbrFailedCreateDedicatedBearer_Other
numberOfFailedCreateDedicatedBearer_QCI_1	numberOfFailedCreateDedicatedBearer_QCI_1	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_1
numberOfFailedCreateDedicatedBearer_QCI_2	numberOfFailedCreateDedicatedBearer_QCI_2	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_2
numberOfFailedCreateDedicatedBearer_QCI_3	numberOfFailedCreateDedicatedBearer_QCI_3	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_3
numberOfFailedCreateDedicatedBearer_QCI_4	numberOfFailedCreateDedicatedBearer_QCI_4	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_4
numberOfFailedCreateDedicatedBearer_QCI_5	numberOfFailedCreateDedicatedBearer_QCI_5	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_5
numberOfFailedCreateDedicatedBearer_QCI_6	numberOfFailedCreateDedicatedBearer_QCI_6	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_6
numberOfFailedCreateDedicatedBearer_QCI_7	numberOfFailedCreateDedicatedBearer_QCI_7	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_7
numberOfFailedCreateDedicatedBearer_QCI_8	numberOfFailedCreateDedicatedBearer_QCI_8	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_8
numberOfFailedCreateDedicatedBearer_QCI_9	numberOfFailedCreateDedicatedBearer_QCI_9	VS.MAF.NbrFailedCreateDedicatedBearer_QCI_9
numberOfFailedDeactDedBearer_BadQCI	numberOfFailedDeactDedBearer_BadQCI	VS.MAF.NbrFailedDeactDedBearer_BadQCI
numberFailedDeactDedicatedBearer_Other	numberFailedDeactDedBearer_Other	VS.MAF.NbrFailedDeactDedBearer_Other
numberOfFailedDeactDedicatedBearer_QCI_1	numberOfFailedDeactDedicatedBearer_QCI_1	VS.MAF.NbrFailedDeactDedBearer_QCI_1
numberOfFailedDeactDedicatedBearer_QCI_2	numberOfFailedDeactDedicatedBearer_QCI_2	VS.MAF.NbrFailedDeactDedBearer_QCI_2
numberOfFailedDeactDedicatedBearer_QCI_3	numberOfFailedDeactDedicatedBearer_QCI_3	VS.MAF.NbrFailedDeactDedBearer_QCI_3
numberOfFailedDeactDedicatedBearer_QCI_4	numberOfFailedDeactDedicatedBearer_QCI_4	VS.MAF.NbrFailedDeactDedBearer_QCI_4

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberOfFailedDeactDedicatedBearer_QCI_5	numberOfFailedDeactDedicatedBearer_QCI_5	VS.MAF.NbrFailedDeactDedBearer_QCI_5
numberOfFailedDeactDedicatedBearer_QCI_6	numberOfFailedDeactDedicatedBearer_QCI_6	VS.MAF.NbrFailedDeactDedBearer_QCI_6
numberOfFailedDeactDedicatedBearer_QCI_7	numberOfFailedDeactDedicatedBearer_QCI_7	VS.MAF.NbrFailedDeactDedBearer_QCI_7
numberOfFailedDeactDedicatedBearer_QCI_8	numberOfFailedDeactDedicatedBearer_QCI_8	VS.MAF.NbrFailedDeactDedBearer_QCI_8
numberOfFailedDeactDedicatedBearer_QCI_9	numberOfFailedDeactDedicatedBearer_QCI_9	VS.MAF.NbrFailedDeactDedBearer_QCI_9
numberOfFailedUpdateDedicatedBearer_BadQCI	numberOfFailedUpdateDedicatedBearer_BadQCI	VS.MAF.NbrFailedUpdateDedicatedBearer_BadQCI
numberFailedUpdateDedicatedBearer_Other	numberFailedUpdateDedicatedBearer_Other	VS.MAF.NbrFailedUpdateDedicatedBearer_Other
numberOfFailedUpdateDedicatedBearer_QCI_1	numberOfFailedUpdateDedicatedBearer_QCI_1	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_1
numberOfFailedUpdateDedicatedBearer_QCI_2	numberOfFailedUpdateDedicatedBearer_QCI_2	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_2
numberOfFailedUpdateDedicatedBearer_QCI_3	numberOfFailedUpdateDedicatedBearer_QCI_3	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_3
numberOfFailedUpdateDedicatedBearer_QCI_4	numberOfFailedUpdateDedicatedBearer_QCI_4	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_4
numberOfFailedUpdateDedicatedBearer_QCI_5	numberOfFailedUpdateDedicatedBearer_QCI_5	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_5
numberOfFailedUpdateDedicatedBearer_QCI_6	numberOfFailedUpdateDedicatedBearer_QCI_6	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_6
numberOfFailedUpdateDedicatedBearer_QCI_7	numberOfFailedUpdateDedicatedBearer_QCI_7	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_7
numberOfFailedUpdateDedicatedBearer_QCI_8	numberOfFailedUpdateDedicatedBearer_QCI_8	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_8
numberOfFailedUpdateDedicatedBearer_QCI_9	numberOfFailedUpdateDedicatedBearer_QCI_9	VS.MAF.NbrFailedUpdateDedicatedBearer_QCI_9
numberOfSuccessCreateDedicatedBearer	numberOfSuccessCreateDedicatedBearer	VS.MAF.NbrSuccessCreateDedicatedBearer
numberSuccessDeactDedicatedBearer	numberSuccessDeactDedBearer	VS.MAF.NbrSuccessDeactDedBearer
numberOfSuccessUpdateDedicatedBearer	numberOfSuccessUpdateDedicatedBearer	VS.MAF.NbrSuccessUpdateDedicatedBearer
numberOfUpdateDedicatedBearerAbort	numberOfUpdateDedicatedBearerAbort	VS.MAF.NbrUpdateDedicatedBearerAbort
numberDroppedDedicatedBearer_sum	numberDroppedDedBearer_sum	VS.MAF.NbrDroppedDedBearer_sum

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Table B-10 MAF DNS Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
numberDNSconnectionsClosed	nbrDNSconnClosed	VS.MAF.NbrDNSconnClosed
numberProbeQueries	nbrProbeQueries	VS.MAF.NbrProbeQueries
numberProbeResponsesReceived	nbrProbeResponsesRcvd	VS.MAF.NbrProbeResponsesRcvd
numberRequestsInternalFailure	nbrRequestsInternalFailure	VS.MAF.NbrRequestsInternalFailure
numberRequestsTimedOut	nbrRequestsTimedOut	VS.MAF.NbrRequestsTimedOut
numberResolveByNetworkService,	nbrResolveByNetworkService	VS.MAF.NbrResolveByNetworkService
numberResolveHostByName	nbrResolveHostByName	VS.MAF.NbrResolveHostByName
numberResponsesReceivedLate	nbrResponsesRcvdLate	VS.MAF.NbrResponsesRcvdLate
numberResponsesReceived	nbrResponsesReceived	VS.MAF.NbrResponsesReceived
numberResponsesSentToAppl	nbrResponsesSentToAppl	VS.MAF.NbrResponsesSentToAppl
numberResponsesWithProblem	nbrResponsesWithProblem	VS.MAF.NbrResponsesWithProblem
numberServerQueries	nbrServerQueries	VS.MAF.NbrServerQueries

Table B-11 MAF Handover Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
attCreateIndirectDataFwd	attCreateIndirectDataFwd	VS.MAF.AttCreateIndirectDataFwd
attNbrHOFwdReloc	attNbrHOFwdReloc	VS.MAF.AttNbrHOFwdReloc
attNbrHOpathSwitchNewSGW	attNbrHOpathSwitchNewSGW	VS.MAF.AttNbrHOpathSwitchNewSGW
AttNbrHOpathSwitchSameSGW	attNbrHOpathSwitchSameSGW	VS.MAF.AttNbrHOpathSwitchSameSGW
attNbrHOreqdNoRelocation	attNbrHOreqdNoRelocation	VS.MAF.AttNbrHOreqdNoRelocation
attNbrHOrequiredMMEreloc	attNbrHOrequiredMMEreloc	VS.MAF.AttNbrHOrequiredMMEreloc
attNbrHOto3G2GGn	attNbrHOto3G2GGn	VS.MAF.AttNbrHOto3G2GGn
attNbrHOtoLTEGn	attNbrHOtoLTEGn	VS.MAF.AttNbrHOtoLTEGn
attemptedNbrNoPSHOSv	attemptedNbrNoPSHOSv	VS.MAF.AttNbrNoPSHOSv
attemptedResumeRequests	attemptedResumeRequests	VS.MAF.AttResumeRequests
attS1HOSameMMEnewSGW	attS1HOSameMMEnewSGW	VS.MAF.AttS1HOSameMMEnewSGW
attS1HOTargetNewMMEnewSGW	attS1HOTargetNewMMEnewSGW	VS.MAF.AttS1HOTargetNewMMEnewSGW
attemptedSuspendRequests	attemptedSuspendRequests	VS.MAF.AttSuspendRequests
numberCreateIndirectDataFwdSuccess	numberCreateIndirectDataFwdSuccess	VS.MAF.NbrCreateIndirectDataFwdSuccess
numberOfFailedResumeReq_Other	numberOfFailedResumeReq_Other	VS.MAF.NbrFailedResumeReq_Other
numberOfFailedResumeReq_TimedOut	numberOfFailedResumeReq_TimedOut	VS.MAF.NbrFailedResumeReq_TimedOut

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberOfFailedSuspendReq_Other	numberOfFailedSuspendReq_Other	VS.MAF.NbrFailedSuspendReq_Other
numberOfFailedSuspendReq_TimedOut	numberOfFailedSuspendReq_TimedOut	VS.MAF.NbrFailedSuspendReq_TimedOut
numberHOfailHOreqdNoReloc_Other	numberHOfailHOreqdNoReloc_Other	VS.MAF.NbrHOfailHOreqdNoReloc_Other
numberHOfailHOreqdNoReloc_UpdateBearerFail	numberHOfailHOreqdNoReloc_UpdateBearerFail	VS.MAF.NbrHOfailHOreqdNoReloc_UpdateBearerFail
numberHOfailHOreqdSameMMEnewSGW_Other	numberHOfailHOreqdSameMMEnewSGW_Other	VS.MAF.NbrHOfailHOreqdSameMMEnewSGW_Other
numberHOfailHOreqdSameMMEnewSGW_UpdBearFail	numberHOfailHOreqdSameMMEnewSGW_UpdBearFail	VS.MAF.NbrHOfailHOreqdSameMMEnewSGW_UpdBearFail
numberHOfailuresFwdReloc_Other	numberHOfailuresFwdReloc_Other	VS.MAF.NbrHOfailuresFwdReloc_Other
numberHOfailuresFwdReloc_UpdateBearerFailure	numberHOfailuresFwdReloc_UpdateBearerFailure	VS.MAF.NbrHOfailuresFwdReloc_UpdateBearerFailure
numberHOfailuresHOreqdReloc_Other	numberHOfailuresHOreqdReloc_Other	VS.MAF.NbrHOfailuresHOreqdReloc_Other
numberHOfailuresPathSwitchNewSGW_Other	numberHOfailuresPathSwitchNewSGW_Other	VS.MAF.NbrHOfailuresPathSwitchNewSGW_Other
numberHOfailuresPathSwitchNewSGW_UpdateBearerFailure	numberHOfailuresPathSwitchNewSGW_UpdateBearerFailure	VS.MAF.NbrHOfailuresPathSwitchNewSGW_UpdateBearerFailure
numberHOfailuresPathSwitchSameSGW_Other	numberHOfailuresPathSwitchSameSGW_Other	VS.MAF.NbrHOfailuresPathSwitchSameSGW_Other
numberHOfailuresPathSwitchSameSGW_UpdateBearerFailure	numberHOfailuresPathSwitchSameSGW_UpdateBearerFailure	VS.MAF.NbrHOfailuresPathSwitchSameSGW_UpdateBearerFailure
numberHOpathSwitchNewSGWAbort	numberHOpathSwitchNewSGWAbort	VS.MAF.NbrHOpathSwitchNewSGWAbort
numberOfHOpathSwitchSameSGWAbort	numberOfHOpathSwitchSameSGWAbort	VS.MAF.NbrHOpathSwitchSameSGWAbort
numberHOSuccessFwdReloc	numberHOSuccessFwdReloc	VS.MAF.NbrHOSuccessFwdReloc
numberHOSuccessHOreqdMMEreloc	numberHOSuccessHOreqdMMEreloc	VS.MAF.NbrHOSuccessHOreqdMMEreloc
numberHOSuccessHOreqdNoRelocation	numberHOSuccessHOreqdNoRelocation	VS.MAF.NbrHOSuccessHOreqdNoRelocation
numberHOSuccessPathSwitchNewSGW	numberHOSuccessPathSwitchNewSGW	VS.MAF.NbrHOSuccessPathSwitchNewSGW
numberHOSuccessPathSwitchSameSGW	numberHOSuccessPathSwitchSameSGW	VS.MAF.NbrHOSuccessPathSwitchSameSGW
numberHOto3G2GFailureGn_AccessRestriction	numberHOto3G2GFailureGn_AccessRestriction	VS.MAF.NbrHOto3G2GFailureGn_AccessRestriction
numberHOto3G2GFailureGn_CtxtRspRejected	numberHOto3G2GFailureGn_CtxtRspRejected	VS.MAF.NbrHOto3G2GFailureGn_CtxtRspRejected
numberHOto3G2GFailureGn_DNSfailure	numberHOto3G2GFailureGn_DNSfailure	VS.MAF.NbrHOto3G2GFailureGn_DNSfailure
numberHOto3G2GFailureGn_FwdRelocRejected	numberHOto3G2GFailureGn_FwdRelocRejected	VS.MAF.NbrHOto3G2GFailureGn_FwdRelocRejected
numberHOto3G2GFailureGn_Linkproblem	numberHOto3G2GFailureGn_Linkproblem	VS.MAF.NbrHOto3G2GFailureGn_Linkproblem
numberHOto3G2GFailureGn_Other	numberHOto3G2GFailureGn_Other	VS.MAF.NbrHOto3G2GFailureGn_Other

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberHOto3G2GFailureGn_PTMSISigMismatch	numberHOto3G2GFailureGn_PTMSISigMismatch	VS.MAF.NbrHOto3G2GFailureGn_PTMSISigMismatch
numberHOto3G2GFailureGn_RelocCompleteTO	numberHOto3G2GFailureGn_RelocCompleteTO	VS.MAF.NbrHOto3G2GFailureGn_RelocCompleteTO
numberOfHOto3G2GGnAbort	numberOfHOto3G2GGnAbort	VS.MAF.NbrHOto3G2GGnAbort
numberOfHOto3G2GSuccessGn	numberOfHOto3G2GSuccessGn	VS.MAF.NbrHOto3G2GSuccessGn
numberHOtoLTEFailureGn_AuthFailure	numberHOtoLTEFailureGn_AuthFailure	VS.MAF.NbrHOtoLTEFailureGn_AuthFailure
numberHOtoLTEFailureGn_CtxtReqRejected	numberHOtoLTEFailureGn_CtxtReqRejected	VS.MAF.NbrHOtoLTEFailureGn_CtxtReqRejected
numberHOtoLTEFailureGn_DNSfailure	numberHOtoLTEFailureGn_DNSfailure	VS.MAF.NbrHOtoLTEFailureGn_DNSfailure
numberHOtoLTEFailureGn_HoNotifyTimeout	numberHOtoLTEFailureGn_HoNotifyTimeout	VS.MAF.NbrHOtoLTEFailureGn_HoNotifyTimeout
numberHOtoLTEFailureGn_HoReqFailure	numberHOtoLTEFailureGn_HoReqFailure	VS.MAF.NbrHOtoLTEFailureGn_HoReqFailure
numberHOtoLTEFailureGn_InvalidTAUReq	numberHOtoLTEFailureGn_InvalidTAUReq	VS.MAF.NbrHOtoLTEFailureGn_InvalidTAUReq
numberHOtoLTEFailureGn_Linkproblem	numberHOtoLTEFailureGn_Linkproblem	VS.MAF.NbrHOtoLTEFailureGn_Linkproblem
numberHOtoLTEFailureGn_NoTauAfterHo	numberHOtoLTEFailureGn_NoTauAfterHo	VS.MAF.NbrHOtoLTEFailureGn_NoTauAfterHo
numberHOtoLTEFailureGn_Other	numberHOtoLTEFailureGn_Other	VS.MAF.NbrHOtoLTEFailureGn_Other
numberHOtoLTEGnAbort	numberHOtoLTEGnAbort	VS.MAF.NbrHOtoLTEGnAbort
numberHOtoLTESuccessGn	numberHOtoLTESuccessGn	VS.MAF.NbrHOtoLTESuccessGn
numberNoPSHOFailureSv_Other	numberNoPSHOFailureSv_Other	VS.MAF.NbrNoPSHOFailureSv_Other
numberOfNoPSHOSuccessSv	numberOfNoPSHOSuccessSv	VS.MAF.NbrNoPSHOSuccessSv
numberOfNoPSHOSvAbort	numberOfNoPSHOSvAbort	VS.MAF.NbrNoPSHOSvAbort
numberPSHOFailureSv_Other	numberPSHOFailureSv_Other	VS.MAF.NbrPSHOFailureSv_Other
numberPSHOSuccessSv	numberPSHOSuccessSv	VS.MAF.NbrPSHOSuccessSv
numberS1HOFailSourceNewMMEnewSGW_Other	numberS1HOFailSourceNewMMEnewSGW_Other	VS.MAF.NbrS1HOFailSourceNewMMEnewSGW_Other
numberS1HOFailTargetNewMMEnewSGW_Other	numberS1HOFailTargetNewMMEnewSGW_Other	VS.MAF.NbrS1HOFailTargetNewMMEnewSGW_Other
numberS1HOFailTargetNewMMEnewSGW_UpdateBearerFailure	numberS1HOFailTargetNewMMEnewSGW_UpdateBearerFailure	VS.MAF.NbrS1HOFailTargetNewMMEnewSGW_UpdateBearerFailure
numberS1HOSuccessSameMMEnewSGW	numberS1HOSuccessSameMMEnewSGW	VS.MAF.NbrS1HOSuccessSameMMEnewSGW
numberS1HOSuccessSourceNewMMEnewSGW	numberS1HOSuccessSourceNewMMEnewSGW	VS.MAF.NbrS1HOSuccessSourceNewMMEnewSGW
numberS1HOSuccessTargetNewMMEnewSGW	numberS1HOSuccessTargetNewMMEnewSGW	VS.MAF.NbrS1HOSuccessTargetNewMMEnewSGW
numberOfSuccessResumeReq	numberOfSuccessResumeReq	VS.MAF.NbrSuccessResumeReq
numberOfSuccessSuspendReq	numberOfSuccessSuspendReq	VS.MAF.NbrSuccessSuspendReq

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
attHOfrom3G2GS3	attHOfrom3G2GS3	VS.MAF.AttHOfrom3G2GS3
attHOfromGERANS3	attHOfromGERANS3	VS.MAF.AttHOfromGERANS3
attHOfromUTRANS3	attHOfromUTRANS3	VS.MAF.AttHOfromUTRANS3
attHOtoGERAN	attHOtoGERAN	VS.MAF.AttHOtoGERAN
attHOtoGERANS3	attHOtoGERANS3	VS.MAF.AttHOtoGERANS3
attHOtoUTRAN	attHOtoUTRAN	VS.MAF.AttHOtoUTRAN
attHOtoUTRANS3	attHOtoUTRANS3	VS.MAF.AttHOtoUTRANS3
attNbrPSHOSv	attNbrPSHOSv	VS.MAF.AttNbrPSHOSv
attS1HOSourceNewMMEnewSGW	attS1HOSourceNewMMEnewSGW	VS.MAF.AttS1HOSourceNewMMEnewSGW
numberHOfrom3G2GS3reject_Linkproblem	nbrHOfrom3G2GS3reject_Linkproblem	VS.MAF.NbrHOfrom3G2GS3reject_Linkproblem
numberHOfrom3G2GS3reject_Other	nbrHOfrom3G2GS3reject_Other	VS.MAF.NbrHOfrom3G2GS3reject_Other
numberHOfrom3G2GS3reject_RATtypeUnknown	nbrHOfrom3G2GS3reject_RATtypeUnknown	VS.MAF.NbrHOfrom3G2GS3reject_RATtypeUnknown
numberHOfromGERANcanceledS3	nbrHOfromGERANcanceledS3	VS.MAF.NbrHOfromGERANcanceledS3
numberHOfromGERANfailureS3_HoNotifyTO	nbrHOfromGERANfailureS3_HoNotifyTO	VS.MAF.NbrHOfromGERANfailureS3_HoNotifyTO
numberHOfromGERANfailureS3_HOReqTO	nbrHOfromGERANfailureS3_HOReqTO	VS.MAF.NbrHOfromGERANfailureS3_HOReqTO
numberHOfromGERANfailureS3_Linkproblem	nbrHOfromGERANfailureS3_Linkproblem	VS.MAF.NbrHOfromGERANfailureS3_Linkproblem
numberHOfromGERANfailureS3_noTargResources	nbrHOfromGERANfailureS3_noTargResources	VS.MAF.NbrHOfromGERANfailureS3_noTargResources
numberHOfromGERANfailureS3_NoTauAfterHo	nbrHOfromGERANfailureS3_NoTauAfterHo	VS.MAF.NbrHOfromGERANfailureS3_NoTauAfterHo
numberHOfromGERANfailureS3_Other	nbrHOfromGERANfailureS3_Other	VS.MAF.NbrHOfromGERANfailureS3_Other
numberHOfromGERANS3abort	nbrHOfromGERANS3abort	VS.MAF.NbrHOfromGERANS3abort
numberHOfromGERANsuccessS3	nbrHOfromGERANsuccessS3	VS.MAF.NbrHOfromGERANsuccessS3
numberHOfromUTRANcanceledS3	nbrHOfromUTRANcanceledS3	VS.MAF.NbrHOfromUTRANcanceledS3
numberHOfromUTRANfailureS3_HoNotifyTO	nbrHOfromUTRANfailureS3_HoNotifyTO	VS.MAF.NbrHOfromUTRANfailureS3_HoNotifyTO
numberHOfromUTRANfailureS3_HOReqTO	nbrHOfromUTRANfailureS3_HOReqTO	VS.MAF.NbrHOfromUTRANfailureS3_HOReqTO
numberHOfromUTRANfailureS3_Linkproblem	nbrHOfromUTRANfailureS3_Linkproblem	VS.MAF.NbrHOfromUTRANfailureS3_Linkproblem
numberHOfromUTRANfailureS3_noTargResources	nbrHOfromUTRANfailureS3_noTargResources	VS.MAF.NbrHOfromUTRANfailureS3_noTargResources
numberHOfromUTRANfailureS3_NoTauAfterHo	nbrHOfromUTRANfailureS3_NoTauAfterHo	VS.MAF.NbrHOfromUTRANfailureS3_NoTauAfterHo
numberHOfromUTRANfailureS3_Other	nbrHOfromUTRANfailureS3_Other	VS.MAF.NbrHOfromUTRANfailureS3_Other
numberHOfromUTRANS3abort	nbrHOfromUTRANS3abort	VS.MAF.NbrHOfromUTRANS3abort

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberHOfromUTRANsuccessS3	nbrHOfromUTRANsuccessS3	VS.MAF.NbrHOfromUTRANsuccessS3
numberHOtoGERANabort	nbrHOtoGERANabort	VS.MAF.NbrHOtoGERANabort
numberHOtoGERANcanceledS3	nbrHOtoGERANcanceledS3	VS.MAF.NbrHOtoGERANcanceledS3
numberHOtoGERANfailure_AccessRestriction	nbrHOtoGERANfailure_AccessRestriction	VS.MAF.NbrHOtoGERANfailure_AccessRestriction
numberHOtoGERANfailure_noSGSNfound	nbrHOtoGERANfailure_noSGSNfound	VS.MAF.NbrHOtoGERANfailure_noSGSNfound
numberHOtoGERANfailure_Other	nbrHOtoGERANfailure_Other	VS.MAF.NbrHOtoGERANfailure_Other
numberHOtoGERANfailureS3_FwdRelocRespTO	nbrHOtoGERANfailureS3_FwdRelocRespTO	VS.MAF.NbrHOtoGERANfailureS3_FwdRelocRespTO
numberHOtoGERANfailureS3_LinkProblem	nbrHOtoGERANfailureS3_LinkProblem	VS.MAF.NbrHOtoGERANfailureS3_LinkProblem
numberHOtoGERANfailureS3_noTargResources	nbrHOtoGERANfailureS3_noTargResources	VS.MAF.NbrHOtoGERANfailureS3_noTargResources
numberHOtoGERANfailureS3_Other	nbrHOtoGERANfailureS3_Other	VS.MAF.NbrHOtoGERANfailureS3_Other
numberHOtoGERANfailureS3_RelocCompleteTO	nbrHOtoGERANfailureS3_RelocCompleteTO	VS.MAF.NbrHOtoGERANfailureS3_RelocCompleteTO
numberHOtoGERANS3abort	nbrHOtoGERANS3abort	VS.MAF.NbrHOtoGERANS3abort
numberHOtoGERANsuccessS3	nbrHOtoGERANsuccessS3	VS.MAF.NbrHOtoGERANsuccessS3
numberHOtoUTRANabort	nbrHOtoUTRANabort	VS.MAF.NbrHOtoUTRANabort
numberHOtoUTRANcanceledS3	nbrHOtoUTRANcanceledS3	VS.MAF.NbrHOtoUTRANcanceledS3
numberHOtoUTRANfailure_AccessRestriction	nbrHOtoUTRANfailure_AccessRestriction	VS.MAF.NbrHOtoUTRANfailure_AccessRestriction
numberHOtoUTRANfailure_noSGSNfound	nbrHOtoUTRANfailure_noSGSNfound	VS.MAF.NbrHOtoUTRANfailure_noSGSNfound
numberHOtoUTRANfailure_Other	nbrHOtoUTRANfailure_Other	VS.MAF.NbrHOtoUTRANfailure_Other
numberHOtoUTRANfailureS3_FwdRelocRespTO	nbrHOtoUTRANfailureS3_FwdRelocRespTO	VS.MAF.NbrHOtoUTRANfailureS3_FwdRelocRespTO
numberHOtoUTRANfailureS3_LinkProblem	nbrHOtoUTRANfailureS3_LinkProblem	VS.MAF.NbrHOtoUTRANfailureS3_LinkProblem
numberHOtoUTRANfailureS3_noTargResources	nbrHOtoUTRANfailureS3_noTargResources	VS.MAF.NbrHOtoUTRANfailureS3_noTargResources
numberHOtoUTRANfailureS3_Other	nbrHOtoUTRANfailureS3_Other	VS.MAF.NbrHOtoUTRANfailureS3_Other
numberHOtoUTRANfailureS3_RelocCompleteTO	nbrHOtoUTRANfailureS3_RelocCompleteTO	VS.MAF.NbrHOtoUTRANfailureS3_RelocCompleteTO
numberHOtoUTRANS3abort	nbrHOtoUTRANS3abort	VS.MAF.NbrHOtoUTRANS3abort
numberHOtoUTRANsuccessS3	nbrHOtoUTRANsuccessS3	VS.MAF.NbrHOtoUTRANsuccessS3

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Table B-12 MAF Interface Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
attSGsAlert	attSGsAlert	VS.MAF.AttSGsAlert
attSGsEPSdetach	attSGsEPSdetach	VS.MAF.AttSGsEPSdetach
attSGsIMSIdetach	attSGsIMSIdetach	VS.MAF.AttSGsIMSIdetach
attSGsLocationUpdate	attSGsLocationUpdate	VS.MAF.AttSGsLocationUpdate
attSGsMMInfo	attSGsMMInfo	VS.MAF.AttSGsMMInfo
attSGsPageCSbySTMSI	attSGsPageCSbySTMSI	VS.MAF.AttSGsPageCSbySTMSI
attSGsPageIMSIandLAI	attSGsPageIMSIandLAI	VS.MAF.AttSGsPageIMSIandLAI
attSGsPageIMSIandVLR	attSGsPageIMSIandVLR	VS.MAF.AttSGsPageIMSIandVLR
attSGsPagePSbySTMSI	attSGsPagePSbySTMSI	VS.MAF.AttSGsPagePSbySTMSI
attSGsPageWithNAS	attSGsPageWithNAS	VS.MAF.AttSGsPageWithNAS
attSGsSignalingProcedures	attSGsSignalingProcedures	VS.MAF.AttSGsSignalingProcedures
aveNumUESGsAssociated	aveNumUESGsAssociated	VS.MAF.AveNumUESGsAssociated
aveNumUESGsLAupdateRequested	aveNumUESGsLAupdateRequested	VS.MAF.AveNumUESGsLAupdateRequested
aveNumUESGsNull	aveNumUESGsNull	VS.MAF.AveNumUESGsNull
maxNumUESGsAssociated	maxNumUESGsAssociated	VS.MAF.MaxNumUESGsAssociated
maxNumUESGsLAupdateRequested	maxNumUESGsLAupdateRequested	VS.MAF.MaxNumUESGsLAupdateRequested
maxNumUESGsNull	maxNumUESGsNull	VS.MAF.MaxNumUESGsNull
numberOfBadSeqRespPktsGn	numberOfBadSeqRespPktsGn	VS.MAF.NbrBadSeqRespPktsGn
numberOfBadSeqRespPktsS10	numberOfBadSeqRespPktsS10	VS.MAF.NbrBadSeqRespPktsS10
numberOfBadSeqRespPktsS11	numberOfBadSeqRespPktsS11	VS.MAF.NbrBadSeqRespPktsS11
numberOfBadSeqRespPktsSv	numberOfBadSeqRespPktsSv	VS.MAF.NbrBadSeqRespPktsSv
numberSGsDownlinkUnitDataRcvd	numberSGsDownlinkUnitDataRcvd	VS.MAF.NbrSGsDownlinkUnitDataRcvd
numberSGsDownlinkUnitDataSucc	numberSGsDownlinkUnitDataSucc	VS.MAF.NbrSGsDownlinkUnitDataSucc
numberSGsIMSIdetach_Explicit	numberSGsIMSIdetach_Explicit	VS.MAF.NbrSGsIMSIdetach_Explicit
numberSGsIMSIdetach_Implicit	numberSGsIMSIdetach_Implicit	VS.MAF.NbrSGsIMSIdetach_Implicit
numberSGsLocationUpdateAbort	numberSGsLocationUpdateAbort	VS.MAF.NbrSGsLocationUpdateAbort
numberSGsPagingReject_IMSIunknown	numberSGsPagingReject_IMSIunknown	VS.MAF.NbrSGsPagingReject_IMSIunknown
numberSGsPagingReject_Other	numberSGsPagingReject_Other	VS.MAF.NbrSGsPagingReject_Other
numberSGsPagingReject_RejectByUser	numberSGsPagingReject_RejectByUser	VS.MAF.NbrSGsPagingReject_RejectByUser
numberSGsRcvdCauseConditionalIEerror	numberSGsRcvdCauseConditionalIEerror	VS.MAF.NbrSGsRcvdCauseConditionalIEerror
numberSGsRcvdCauseIncompatProtocolState	numberSGsRcvdCauseIncompatProtocolState	VS.MAF.NbrSGsRcvdCauseIncompatProtocolState

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberSGsRcvdCauseInvalidMandIE	numberSGsRcvdCauseInvalidMandIE	VS.MAF.NbrSGsRcvdCauseInvalidMandIE
numberSGsRcvdCauseMissingMandIE	numberSGsRcvdCauseMissingMandIE	VS.MAF.NbrSGsRcvdCauseMissingMandIE
numberSGsRcvdCauseSemanticErrorInMsg	numberSGsRcvdCauseSemanticErrorInMsg	VS.MAF.NbrSGsRcvdCauseSemanticErrorInMsg
numberSGsRcvdCauseUnknownMsg	numberSGsRcvdCauseUnknownMsg	VS.MAF.NbrSGsRcvdCauseUnknownMsg
numberSGsRcvdConditionalIEerrDetected	numberSGsRcvdConditionalIEerrDetected	VS.MAF.NbrSGsRcvdConditionalIEerrDetected
numberSGsRcvdMissingMandatoryIE	numberSGsRcvdMissingMandatoryIE	VS.MAF.NbrSGsRcvdMissingMandatoryIE
numberSGsRcvdMsgIncompatProtocolState	numberSGsRcvdMsgIncompatProtocolState	VS.MAF.NbrSGsRcvdMsgIncompatProtocolState
numberSGsRcvdMsgTooShort	numberSGsRcvdMsgTooShort	VS.MAF.NbrSGsRcvdMsgTooShort
numberSGsRcvdOutOfSequenceIE	numberSGsRcvdOutOfSequenceIE	VS.MAF.NbrSGsRcvdOutOfSequenceIE
numberSGsRcvdRepeatedIE	numberSGsRcvdRepeatedIE	VS.MAF.NbrSGsRcvdRepeatedIE
numberSGsRcvdSemanticIncorrectIE	numberSGsRcvdSemanticIncorrectIE	VS.MAF.NbrSGsRcvdSemanticIncorrectIE
numberSGsRcvdSyntaxIncorrectMandIE	numberSGsRcvdSyntaxIncorrectMandIE	VS.MAF.NbrSGsRcvdSyntaxIncorrectMandIE
numberSGsRcvdSyntaxIncorrectOptionalIE	numberSGsRcvdSyntaxIncorrectOptionalIE	VS.MAF.NbrSGsRcvdSyntaxIncorrectOptionalIE
numberSGsRcvdUnknownIE	numberSGsRcvdUnknownIE	VS.MAF.NbrSGsRcvdUnknownIE
numberSGsRcvdUnknownMsgType	numberSGsRcvdUnknownMsgType	VS.MAF.NbrSGsRcvdUnknownMsgType
numberSGsReleaseRequestRcvd	numberSGsReleaseRequestRcvd	VS.MAF.NbrSGsReleaseRequestRcvd
numberSGsReleaseRequestSucc	numberSGsReleaseRequestSucc	VS.MAF.NbrSGsReleaseRequestSucc
numberSGsUplinkUnitDataRcvd	numberSGsUplinkUnitDataRcvd	VS.MAF.NbrSGsUplinkUnitDataRcvd
numberSGsUplinkUnitDataSucc	numberSGsUplinkUnitDataSucc	VS.MAF.NbrSGsUplinkUnitDataSucc
numberSuccessSGsAlert	numberSuccessSGsAlert	VS.MAF.NbrSuccessSGsAlert
numberSuccessSGsEPSdetach	numberSuccessSGsEPSdetach	VS.MAF.NbrSuccessSGsEPSdetach
numberSuccessSGsIMSIdetach	numberSuccessSGsIMSIdetach	VS.MAF.NbrSuccessSGsIMSIdetach
numberSuccessSGsLocationUpdate	numberSuccessSGsLocationUpdate	VS.MAF.NbrSuccessSGsLocationUpdate
numberSuccessSGsMMInfo	numberSuccessSGsMMInfo	VS.MAF.NbrSuccessSGsMMInfo
numberSuccessSGsPageCSbySTMSI	numberSuccessSGsPageCSbySTMSI	VS.MAF.NbrSuccessSGsPageCSbySTMSI
numberSuccessSGsPageIMSIandLAI	numberSuccessSGsPageIMSIandLAI	VS.MAF.NbrSuccessSGsPageIMSIandLAI
numberSuccessSGsPageIMSIandVLR	numberSuccessSGsPageIMSIandVLR	VS.MAF.NbrSuccessSGsPageIMSIandVLR
numberSuccessSGsPagePSbySTMSI	numberSuccessSGsPagePSbySTMSI	VS.MAF.NbrSuccessSGsPagePSbySTMSI
numberSuccessSGsPageWithNAS	numberSuccessSGsPageWithNAS	VS.MAF.NbrSuccessSGsPageWithNAS
numberSuccessSGsSignalingProcedures	numberSuccessSGsSignalingProcedures	VS.MAF.NbrSuccessSGsSignalingProcedures
numberOfBadSeqRespPktsS3	numberOfBadSeqRespPktsS3	VS.MAF.NbrBadSeqRespPktsS3
numberSGsPagingReject_RoamingRestriction	nbrSGsPagingReject_RoamingRestriction	VS.MAF.NbrSGsPagingReject_RoamingRestriction

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Table B-13 MAF Memory Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
allocableMemResrvd	allocableMemResrvd	VS.MAF.allocableMemResrvd
maxNEmemUsage	maxNEmemUsage	VS.MAF.maxNEmemUsage
memUsage	memUsage	VS.MAF.memUsage

Table B-14 MAF Mobility Management Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
attemptedAttachRequests	attemptedAttachRequests	VS.MAF.AttAttachRequests
attemptedCancelLocationRequest	attemptedCancelLocationRequest	VS.MAF.AttCancelLocationRequest
attemptedDeleteSubscriberDataRequest	attemptedDeleteSubscriberDataRequest	VS.MAF.AttDeleteSubscriberDataRequest
attExtServiceRequests	attExtServiceRequests	VS.MAF.AttExtServiceRequests
attemptedIdentityRequests	attemptedIdentityRequests	VS.MAF.AttIdentityRequests
attemptedInsertSubscriberData	attemptedInsertSubscriberData	VS.MAF.AttInsertSubscriberData
attMEidentityChecksS13	attMEidentityChecksS13	VS.MAF.AttMEidentityChecksS13
attemptedNotifyRequest	attemptedNotifyRequest	VS.MAF.AttNotifyRequest
attemptedPurgeUERequest	attemptedPurgeUERequest	VS.MAF.AttPurgeUERequest
attemptedResetRequest	attemptedResetRequest	VS.MAF.AttResetRequest
attemptedS1Release	attemptedS1Release	VS.MAF.AttS1Release
attemptedServiceRequests	attemptedServiceRequests	VS.MAF.AttServiceRequests
attemptedTAU	attemptedTAU	VS.MAF.AttTAU
attUEattachHO	attUEattachHO	VS.MAF.AttUEattachHO
attemptedUpdateLocationRequest	attemptedUpdateLocationRequest	VS.MAF.AttUpdateLocationRequest
eNBreqS1Release	eNBreqS1Release	VS.MAF.ENBreqS1Release
epsDetachMMEAtt	epsDetachMMEAtt	VS.MAF.EpsDetachMMEAtt
epsDetachMMEimplicitAtt	epsDetachMMEimplicitAtt	VS.MAF.EpsDetachMMEimplicitAtt
epsDetachMMEimplicitSucc	epsDetachMMEimplicitSucc	VS.MAF.EpsDetachMMEimplicitSucc
epsDetachMMESucc	epsDetachMMESucc	VS.MAF.EpsDetachMMESucc
epsDetachUeAtt	epsDetachUeAtt	VS.MAF.EpsDetachUeAtt
epsDetachUeSucc	epsDetachUeSucc	VS.MAF.EpsDetachUeSucc
numberOfAttachAcceptSent	numberOfAttachAcceptSent	VS.MAF.NbrAttachAcceptSent
numberOfAttachCompleteRcvd	numberOfAttachCompleteRcvd	VS.MAF.NbrAttachCompleteRcvd
numberAttachFailureSysRelated_sum	numberAttachFailureSysRelated_sum	VS.MAF.NbrAttachFailureSysRelated_sum

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberAttachFailureSysRelatedENB	numberAttachFailureSysRelatedENB	VS.MAF.NbrAttachFailureSysRelatedENB
numberAttachFailureSysRelatedMME	numberAttachFailureSysRelatedMME	VS.MAF.NbrAttachFailureSysRelatedMME
numberAttachFailureSysRelatedSGW	numberAttachFailureSysRelatedSGW	VS.MAF.NbrAttachFailureSysRelatedSGW
numberOfAttachReqAbortAfter	numberOfAttachReqAbortAfter	VS.MAF.NbrAttachReqAbortAfter
numberOfAttachReqAbortBefore	numberOfAttachReqAbortBefore	VS.MAF.NbrAttachReqAbortBefore
numberOfEpsDetachAbort	numberOfEpsDetachAbort	VS.MAF.NbrEpsDetachAbort
numberExtServiceReqAbort	numberExtServiceReqAbort	VS.MAF.NbrExtServiceReqAbort
numberExtServiceReqFailureSysRelatedENB	numberExtServiceReqFailureSysRelatedENB	VS.MAF.NbrExtServiceReqFailureSysRelatedENB
numberExtServiceReqFailureSysRelatedMME	numberExtServiceReqFailureSysRelatedMME	VS.MAF.NbrExtServiceReqFailureSysRelatedMME
numberExtServiceReqFailureSysRelatedSGW	numberExtServiceReqFailureSysRelatedSGW	VS.MAF.NbrExtServiceReqFailureSysRelatedSGW
numberOfFailedAttachRequests_Other	numberOfFailedAttachRequests_Other	VS.MAF.NbrFailedAttachRequests_Other
numberOfFailedAttachRequestsNotSysRelated_sum	numberOfFailedAttachRequestsNotSysRelated_sum	VS.MAF.NbrFailedAttachRequestsNotSysRelated_sum
numberOfFailedCancelLocationRequest_Other	numberOfFailedCancelLocationRequest_Other	VS.MAF.NbrFailedCancelLocationRequest_Other
numberOfFailedDeleteSubscriberDataRequest_Other	numberOfFailedDeleteSubscriberDataRequest_Other	VS.MAF.NbrFailedDeleteSubscriberDataRequest_Other
numberFailedExtServiceRequests_Other	numberFailedExtServiceRequests_Other	VS.MAF.NbrFailedExtServiceRequests_Other
numberFailedExtSvcRequestsNotSysRelated_sum	numberFailedExtSvcRequestsNotSysRelated_sum	VS.MAF.NbrFailedExtSvcRequestsNotSysRelated_sum
numberOfFailedIdentityRequests_Other	numberOfFailedIdentityRequests_Other	VS.MAF.NbrFailedIdentityRequests_Other
numberOfFailedInsertSubscriberData_Other	numberOfFailedInsertSubscriberData_Other	VS.MAF.NbrFailedInsertSubscriberData_Other
numberFailedMEidentityChecksS13_LostComms	numberFailedMEidentityChecksS13_LostComms	VS.MAF.NbrFailedMEidentityChecksS13_LostComms
numberFailedMEidentityChecksS13_Other	numberFailedMEidentityChecksS13_Other	VS.MAF.NbrFailedMEidentityChecksS13_Other
numberOfFailedNotifyRequest_Other	numberOfFailedNotifyRequest_Other	VS.MAF.NbrFailedNotifyRequest_Other
numberFailedPDNConnReqwithHO_PGWInfoDoesNotExist	numberFailedPDNConnReqwithHO_PGWInfoDoesNotExist	VS.MAF.NbrFailedPDNConnReqwithHO_PGWInfoDoesNotExist
numberOfFailedPurgeUERequest_Other	numberOfFailedPurgeUERequest_Other	VS.MAF.NbrFailedPurgeUERequest_Other
numberOfFailedResetRequest_Other	numberOfFailedResetRequest_Other	VS.MAF.NbrFailedResetRequest_Other
numberOfFailedServiceRequests_IllegalQCI	numberOfFailedServiceRequests_IllegalQCI	VS.MAF.NbrFailedServiceRequests_IllegalQCI
numberOfFailedServiceRequests_Other	numberOfFailedServiceRequests_Other	VS.MAF.NbrFailedServiceRequests_Other

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberOfFailedServiceRequestsNotSysRelated_sum	numberOfFailedServiceRequestsNotSysRelated_sum	VS.MAF.NbrFailedServiceRequestsNotSysRelated_sum
numberFailedSGsAlert_Other	numberFailedSGsAlert_Other	VS.MAF.NbrFailedSGsAlert_Other
numberFailedSGsEPSdetach_Other	numberFailedSGsEPSdetach_Other	VS.MAF.NbrFailedSGsEPSdetach_Other
numberFailedSGsIMSIdetach_Other	numberFailedSGsIMSIdetach_Other	VS.MAF.NbrFailedSGsIMSIdetach_Other
numberFailedSGsLocationUpdate_Other	numberFailedSGsLocationUpdate_Other	VS.MAF.NbrFailedSGsLocationUpdate_Other
numberFailedSGsMMInfo_Other	numberFailedSGsMMInfo_Other	VS.MAF.NbrFailedSGsMMInfo_Other
numberFailedSGsPageCSbySTMSI_Other	numberFailedSGsPageCSbySTMSI_Other	VS.MAF.NbrFailedSGsPageCSbySTMSI_Other
numberFailedSGsPageIMSIandLAI_Other	numberFailedSGsPageIMSIandLAI_Other	VS.MAF.NbrFailedSGsPageIMSIandLAI_Other
numberFailedSGsPageIMSIandVLR_Other	numberFailedSGsPageIMSIandVLR_Other	VS.MAF.NbrFailedSGsPageIMSIandVLR_Other
numberFailedSGsPagePSbySTMSI_Other	numberFailedSGsPagePSbySTMSI_Other	VS.MAF.NbrFailedSGsPagePSbySTMSI_Other
numberFailedSGsPageWithNAS_Other	numberFailedSGsPageWithNAS_Other	VS.MAF.NbrFailedSGsPageWithNAS_Other
numberOfFailedTAU_IllegalME	numberOfFailedTAU_IllegalME	VS.MAF.NbrFailedTAU_IllegalME
numberOfFailedTAU_IllegalPLMN	numberOfFailedTAU_IllegalPLMN	VS.MAF.NbrFailedTAU_IllegalPLMN
numberOfFailedTAU_InvalidMandatoryInfo	numberOfFailedTAU_InvalidMandatoryInfo	VS.MAF.NbrFailedTAU_InvalidMandatoryInfo
numberFailedTAU_NoCellsInTA	numberFailedTAU_NoCellsInTA	VS.MAF.NbrFailedTAU_NoCellsInTA
numberOfFailedTAU_Other	numberOfFailedTAU_Other	VS.MAF.NbrFailedTAU_Other
numberOfFailedTAUnotSysRelated_sum	numberOfFailedTAUnotSysRelated_sum	VS.MAF.NbrFailedTAUnotSysRelated_sum
numberOfFailedUpdateLocationRequest_Other	numberOfFailedUpdateLocationRequest_Other	VS.MAF.NbrFailedUpdateLocationRequest_Other
numberOfIdentityRequestAbort	numberOfIdentityRequestAbort	VS.MAF.NbrIdentityRequestAbort
numberPDNConnReqwithHO	numberPDNConnReqwithHO	VS.MAF.NbrPDNConnReqwithHO
numberOfS1Release_AuthenticationFailure	numberOfS1Release_AuthenticationFailure	VS.MAF.NbrS1Release_AuthFailure
numberOfS1Release_CSFBDTR	numberOfS1Release_CSFBDTR	VS.MAF.NbrS1Release_CSFBDTR
numberOfS1Release_FBhandover	numberOfS1Release_FBhandover	VS.MAF.NbrS1Release_FBhandover
numberOfS1Release_IMSIunknown	numberOfS1Release_IMSIunknown	VS.MAF.NbrS1Release_IMSIunknown
numberOfS1Release_IntegrityCheckFailure	numberOfS1Release_IntegrityCheckFailure	VS.MAF.NbrS1Release_IntegrityCheckFailure
numberS1Release_InterRATredirection	numberS1Release_InterRATredirection	VS.MAF.NbrS1Release_InterRATredirection
numberOfS1Release_NASDetach	numberOfS1Release_NASDetach	VS.MAF.NbrS1Release_NASDetach
numberOfS1Release_NASNormalRelease	numberOfS1Release_NASNormalRelease	VS.MAF.NbrS1Release_NASNormalRelease
numberOfS1Release_NoUEcontext	numberOfS1Release_NoUEcontext	VS.MAF.NbrS1Release_NoUEcontext

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberOfS1Release_OAMintervention	numberOfS1Release_OAMintervention	VS.MAF.NbrS1Release_OAMintervention
numberOfS1Release_Other	numberOfS1Release_Other	VS.MAF.NbrS1Release_Other
numberOfS1Release_RFproblem	numberOfS1Release_RFproblem	VS.MAF.NbrS1Release_RFproblem
numberOfS1Release_UEinactivity	numberOfS1Release_UEinactivity	VS.MAF.NbrS1Release_UEinactivity
numberOfS1Release_UErelease	numberOfS1Release_UErelease	VS.MAF.NbrS1Release_UErelease
numberOfServiceReqAbort	numberOfServiceReqAbort	VS.MAF.NbrServiceReqAbort
numberServiceReqFailureSysRelated_sum	numberServiceReqFailureSysRelated_sum	VS.MAF.NbrServiceReqFailureSysRelated_sum
numberServiceReqFailureSysRelatedENB	numberServiceReqFailureSysRelatedENB	VS.MAF.NbrServiceReqFailureSysRelatedENB
numberServiceReqFailureSysRelatedMME	numberServiceReqFailureSysRelatedMME	VS.MAF.NbrServiceReqFailureSysRelatedMME
numberServiceReqFailureSysRelatedSGW	numberServiceReqFailureSysRelatedSGW	VS.MAF.NbrServiceReqFailureSysRelatedSGW
numberSuccessAttachNoGUTInoMmeChange	numberSuccessAttachNoGUTInoMmeChange	VS.MAF.NbrSuccessAttachNoGUTInoMMEchange
numberOfSuccessAttachRequests	numberOfSuccessAttachRequests	VS.MAF.NbrSuccessAttachRequests
numberSuccessAttachUsingGUTInoMMEchange	numberSuccessAttachUsingGUTInoMMEchange	VS.MAF.NbrSuccessAttachUsingGUTInoMMEchange
numberSuccessAttachUsingGUTIwithMMEchange	numberSuccessAttachUsingGUTIwithMMEchange	VS.MAF.NbrSuccessAttachUsingGUTIwithMMEchange
numberOfSuccessCancelLocationRequest	numberOfSuccessCancelLocationRequest	VS.MAF.NbrSuccessCancelLocationRequest
numberOfSuccessDeleteSubscriberDataRequest	numberOfSuccessDeleteSubscriberDataRequest	VS.MAF.NbrSuccessDeleteSubscriberDataRequest
numberSuccessExtServiceRequests	numberSuccessExtServiceRequests	VS.MAF.NbrSuccessExtServiceRequests
numberOfSuccessIdentityRequests	numberOfSuccessIdentityRequests	VS.MAF.NbrSuccessIdentityRequests
numberOfSuccessInsertSubscriberData	numberOfSuccessInsertSubscriberData	VS.MAF.NbrSuccessInsertSubscriberData
numberSuccessMEidentityChecksS13	numberSuccessMEidentityChecksS13	VS.MAF.NbrSuccessMEidentityChecksS13
numberOfSuccessNotifyRequest	numberOfSuccessNotifyRequest	VS.MAF.NbrSuccessNotifyRequest
numberOfSuccessPurgeUERequest	numberOfSuccessPurgeUERequest	VS.MAF.NbrSuccessPurgeUERequest
numberOfSuccessResetRequest	numberOfSuccessResetRequest	VS.MAF.NbrSuccessResetRequest
numberOfSuccessS1Release	numberOfSuccessS1Release	VS.MAF.NbrSuccessS1Release
numberOfSuccessServiceRequests	numberOfSuccessServiceRequests	VS.MAF.NbrSuccessServiceRequests
numberOfSuccessTAU	numberOfSuccessTAU	VS.MAF.NbrSuccessTAU
numberOfSuccessUpdateLocationRequest	numberOfSuccessUpdateLocationRequest	VS.MAF.NbrSuccessUpdateLocationRequest
numberOfTAUAbort	numberOfTAUAbort	VS.MAF.NbrTAUAbort
tauInterMmeAtt	tauInterMmeAtt	VS.MAF.TauInterMmeAtt
tauInterMmeFail_IllegalME	tauInterMmeFail_IllegalME	VS.MAF.TauInterMmeFail_IllegalME

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
tauInterMmeFail_IllegalPLMN	tauInterMmeFail_IllegalPLMN	VS.MAF.TauInterMmeFail_IllegalPLMN
tauInterMmeFail_InvalidMandatoryInfo	tauInterMmeFail_InvalidMandatoryInfo	VS.MAF.TauInterMmeFail_InvalidMandatoryInfo
tauInterMmeFail_Other	tauInterMmeFail_Other	VS.MAF.TauInterMmeFail_Other
tauInterMmeInterSgwAtt	tauInterMmeInterSgwAtt	VS.MAF.TauInterMmeInterSgwAtt
tauInterMmeInterSgwFail_Other	tauInterMmeInterSgwFail_Other	VS.MAF.TauInterMmeInterSgwFail_Other
tauInterMmeInterSgwSucc	tauInterMmeInterSgwSucc	VS.MAF.TauInterMmeInterSgwSucc
tauInterMmeSucc	tauInterMmeSucc	VS.MAF.TauInterMmeSucc
tauInterSgwAtt	tauInterSgwAtt	VS.MAF.TauInterSgwAtt
tauInterSgwFail_Other	tauInterSgwFail_Other	VS.MAF.TauInterSgwFail_Other
tauInterSgwSucc	tauInterSgwSucc	VS.MAF.TauInterSgwSucc
numberFailedTAUinterRAT_CtxtReqRejected	nbrFailedTAUinterRAT_CtxtReqRejected	VS.MAF.NbrFailedTAUinterRAT_CtxtReqRejected
numberFailedTAUinterRAT_DNSfailNoSGSN	nbrFailedTAUinterRAT_DNSfailNoSGSN	VS.MAF.NbrFailedTAUinterRAT_DNSfailNoSGSN
numberFailedTAUinterRAT_HSSauthFail	nbrFailedTAUinterRAT_HSSauthFail	VS.MAF.NbrFailedTAUinterRAT_HSSauthFail
numberFailedTAUinterRAT_InvalidTAUReq	nbrFailedTAUinterRAT_InvalidTAUReq	VS.MAF.NbrFailedTAUinterRAT_InvalidTAUReq
numberFailedTAUinterRAT_LinkProblem	nbrFailedTAUinterRAT_LinkProblem	VS.MAF.NbrFailedTAUinterRAT_LinkProblem
numberFailedTAUinterRAT_Other	nbrFailedTAUinterRAT_Other	VS.MAF.NbrFailedTAUinterRAT_Other
numberFailedTAUinterRAT_SGSNauthFail	nbrFailedTAUinterRAT_SGSNauthFail	VS.MAF.NbrFailedTAUinterRAT_SGSNauthFail
numberFailedTAUinterRAT_UEauthFail	nbrFailedTAUinterRAT_UEauthFail	VS.MAF.NbrFailedTAUinterRAT_UEauthFail
numberRejectedTAUinterRAT_accessRestricted	nbrRejectedTAUinterRAT_accessRestricted	VS.MAF.NbrRejectedTAUinterRAT_accessRestricted
numberRejectedTAUinterRAT_NoCellsInTA	nbrRejectedTAUinterRAT_NoCellsInTA	VS.MAF.NbrRejectedTAUinterRAT_NoCellsInTA
numberRejectedTAUinterRAT_regionalSubscript	nbrRejectedTAUinterRAT_regionalSubscript	VS.MAF.NbrRejectedTAUinterRAT_regionalSubscript
numberRejectedTAUinterRAT_roamingRestricted	nbrRejectedTAUinterRAT_roamingRestricted	VS.MAF.NbrRejectedTAUinterRAT_roamingRestricted
rauAbortS3	rauAbortS3	VS.MAF.RauAbortS3
rauAttS3	rauAttS3	VS.MAF.RauAttS3
rauFailS3_CtxtRespRejected	rauFailS3_CtxtRespRejected	VS.MAF.RauFailS3_CtxtRespRejected
rauFailS3_LinkProblem	rauFailS3_LinkProblem	VS.MAF.RauFailS3_LinkProblem
rauFailS3_Other	rauFailS3_Other	VS.MAF.RauFailS3_Other
rauFailS3_PTMSISigMismatch	rauFailS3_PTMSISigMismatch	VS.MAF.RauFailS3_PTMSISigMismatch
rauFailS3_unknownUE	rauFailS3_unknownUE	VS.MAF.RauFailS3_unknownUE
rauInterSgwAbortS3	rauInterSgwAbortS3	VS.MAF.RauInterSgwAbortS3

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
rauInterSgwAttS3	rauInterSgwAttS3	VS.MAF.RauInterSgwAttS3
rauInterSgwFailS3_Other	rauInterSgwFailS3_Other	VS.MAF.RauInterSgwFailS3_Other
rauInterSgwSuccS3	rauInterSgwSuccS3	VS.MAF.RauInterSgwSuccS3
rauIntraSgwAbortS3	rauIntraSgwAbortS3	VS.MAF.RauIntraSgwAbortS3
rauIntraSgwAttS3	rauIntraSgwAttS3	VS.MAF.RauIntraSgwAttS3
rauIntraSgwFailS3_Other	rauIntraSgwFailS3_Other	VS.MAF.RauIntraSgwFailS3_Other
rauIntraSgwSuccS3	rauIntraSgwSuccS3	VS.MAF.RauIntraSgwSuccS3
tauAttGn	tauAttGn	VS.MAF.TauAttGn
tauAttS3	tauAttS3	VS.MAF.TauAttS3
tauFailGn_Other	tauFailGn_Other	VS.MAF.TauFailGn_Other
tauFailS3_Other	tauFailS3_Other	VS.MAF.TauFailS3_Other
tauInterSgwAttS3	tauInterSgwAttS3	VS.MAF.TauInterSgwAttS3
tauInterSgwFailS3_Other	tauInterSgwFailS3_Other	VS.MAF.TauInterSgwFailS3_Other
tauInterSgwSuccS3	tauInterSgwSuccS3	VS.MAF.TauInterSgwSuccS3
tauIntraSgwAttS3	tauIntraSgwAttS3	VS.MAF.TauIntraSgwAttS3
tauIntraSgwFailS3_Other	tauIntraSgwFailS3_Other	VS.MAF.TauIntraSgwFailS3_Other
tauIntraSgwSuccS3	tauIntraSgwSuccS3	VS.MAF.TauIntraSgwSuccS3
tauSuccGn	tauSuccGn	VS.MAF.TauSuccGn
tauSuccS3	tauSuccS3	VS.MAF.TauSuccS3

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Table B-15 MAF NACC Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
numberRIMmsgsFailed_locateENBfailed	nbrRIMmsgsFailed_locateENBfailed	VS.MAF.NbrRIMmsgsFailed_locateENBfailed
numberRIMmsgsFailed_locateSGSNfailed	nbrRIMmsgsFailed_locateSGSNfailed	VS.MAF.NbrRIMmsgsFailed_locateSGSNfailed
numberRIMmsgsFailed_Other	nbrRIMmsgsFailed_Other	VS.MAF.NbrRIMmsgsFailed_Other
numberRIMmsgsRelayedSuccessfully	nbrRIMmsgsRelayedSuccessfully	VS.MAF.NbrRIMmsgsRelayedSuccessfully

Table B-16 MAF Overload Control Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
numberAttachMsgsRejected	numberAttachMsgsRejected	VS.MAF.NbrAttachMsgsRejected

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberBearerResourceAllocMsgsRejected	numberBearerResourceAllocMsgsRejected	VS.MAF.NbrBearerResourceAllocMsgsRejected
numberBearerResourceModifyMsgsRejected	numberBearerResourceModifyMsgsRejected	VS.MAF.NbrBearerResourceModifyMsgsRejected
numberContextRequestMsgsRejected	numberContextRequestMsgsRejected	VS.MAF.NbrContextRequestMsgsRejected
numberCreateBearerMsgsRejected	numberCreateBearerMsgsRejected	VS.MAF.NbrCreateBearerMsgsRejected
numberDeactDedBearerMsgsRejected	numberDeactDedBearerMsgsRejected	VS.MAF.NbrDeactDedBearerMsgsRejected
numberDetachDropped	numberDetachDropped	VS.MAF.NbrDetachDropped
numberDLdataNotifyMsgsRejected	numberDLdataNotifyMsgsRejected	VS.MAF.NbrDLdataNotifyMsgsRejected
numberFwdRelocationReqMsgsRejected	numberFwdRelocationReqMsgsRejected	VS.MAF.NbrFwdRelocationReqMsgsRejected
numberGUTIreallocMsgsRejected	numberGUTIreallocMsgsRejected	VS.MAF.NbrGUTIreallocMsgsRejected
numberHandoverRequiredMsgsRejected	numberHandoverRequiredMsgsRejected	VS.MAF.NbrHandoverRequiredMsgsRejected
numberInterRatHOGnMsgsRejected	numberInterRatHOGnMsgsRejected	VS.MAF.NbrInterRatHOGnMsgsRejected
numberPDNconnectMsgsRejected	numberPDNconnectMsgsRejected	VS.MAF.NbrPDNconnectMsgsRejected
numberPDNDisconnectMsgsRejected	numberPDNDisconnectMsgsRejected	VS.MAF.NbrPDNDisconnectMsgsRejected
numberS1HOMsgsRejected	numberS1HOMsgsRejected	VS.MAF.NbrS1HOMsgsRejected
numberS1ReleaseMsgsDropped	numberS1ReleaseMsgsDropped	VS.MAF.NbrS1ReleaseMsgsDropped
numberServiceReqMsgsRejected	numberServiceReqMsgsRejected	VS.MAF.NbrServiceReqMsgsRejected
numberSGsPagingReqMsgsRejected	numberSGsPagingReqMsgsRejected	VS.MAF.NbrSGsPagingReqMsgsRejected
numberTAUMsgsRejected	numberTAUMsgsRejected	VS.MAF.NbrTAUMsgsRejected
numberUpdateBearerMsgsRejected	numberUpdateBearerMsgsRejected	VS.MAF.NbrUpdateBearerMsgsRejected
numberX2HOMsgsRejected	numberX2HOMsgsRejected	VS.MAF.NbrX2HOMsgsRejected
numberInterRatHOS3GERANMsgsRejected	nbrInterRatHOS3GERANMsgsRejected	VS.MAF.NbrInterRatHOS3GERANMsgsRejected
nuumberInterRatHOS3UtranMsgsRejected	nbrInterRatHOS3UtranMsgsRejected	VS.MAF.NbrInterRatHOS3UtranMsgsRejected

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Table B-17 MAF Paging Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
attemptedPaging	attemptedPaging	VS.MAF.AttPaging
attemptedPaging_1stAttempt	attemptedPaging_1stAttempt	VS.MAF.AttPaging_FirstAttempt
attemptedPaging_4thAttempt	attemptedPaging_4thAttempt	VS.MAF.AttPaging_FourthAttempt
attemptedPaging_2ndAttempt	attemptedPaging_2ndAttempt	VS.MAF.AttPaging_SecondAttempt
attemptedPaging_3rdAttempt	attemptedPaging_3rdAttempt	VS.MAF.AttPaging_ThirdAttempt

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberOfPagingFailures_NonSystemRelated	numberOfPagingFailures_NonSystemRelated	VS.MAF.NbrPagingFailures_NonSystemRelated
numberOfPagingFailures_SystemRelated	numberOfPagingFailures_SystemRelated	VS.MAF.NbrPagingFailures_SystemRelated
numberOfPagingFailures_Timeout	numberOfPagingFailures_Timeout	VS.MAF.NbrPagingFailures_Timeout
numberOfPagingTO_1stAttempt	numberOfPagingTO_1stAttempt	VS.MAF.NbrPagingTO_FirstAttempt
numberOfPagingTO_4thAttempt	numberOfPagingTO_4thAttempt	VS.MAF.NbrPagingTO_FourthAttempt
numberOfPagingTO_2ndAttempt	numberOfPagingTO_2ndAttempt	VS.MAF.NbrPagingTO_SecondAttempt
numberOfPagingTO_3rdAttempt	numberOfPagingTO_3rdAttempt	VS.MAF.NbrPagingTO_ThirdAttempt

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Table B-18 MAF Roaming Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
numberHomeUEsNotAllowed_TACnotAllowed	nbrHomeUEsNotAllowed_TACnotAllowed	VS.MAF.NbrHomeUEsNotAllowed_TACnotAllowed
numberRoamersNotAllowed_Other	nbrRoamersNotAllowed_Other	VS.MAF.NbrRoamersNotAllowed_Other
numberRoamersNotAllowed_TACnotAllowed	nbrRoamersNotAllowed_TACnotAllowed	VS.MAF.NbrRoamersNotAllowed_TACnotAllowed
numberRoamersNotAllowed_UnknPLMN	nbrRoamersNotAllowed_UnknPLMN	VS.MAF.NbrRoamersNotAllowed_UnknPLMN

Table B-19 MAF System Service Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
alrmCritical	alrmCritical	VS.MAF.alrmCritical
alrmMajor	alrmMajor	VS.MAF.alrmMajor
alrmMinor	alrmMinor	VS.MAF.alrmMinor
asrtESC	asrtESC	VS.MAF.asrtESC
asrtNonESCCritical	asrtNonESCCritical	VS.MAF.asrtNonESCCritical
asrtNonESCMajor	asrtNonESCMajor	VS.MAF.asrtNonESCMajor
asrtNonESCMinor	asrtNonESCMinor	VS.MAF.asrtNonESCMinor
memAllocFail	memAllocFail	VS.MAF.memAllocFail
reInitServiceManual	reInitServiceManual	VS.MAF.reInitServiceManual
reInitServiceSelf	reInitServiceSelf	VS.MAF.reInitServiceSelf
restartTask	restartTask	VS.MAF.restartTask

Table B-20 MI System Service Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
chgAlarms	chgAlarms	VS.MIHOST.chgAlarms
eventsAddedtoMIdb	eventsAddedtoMIdb	VS.MIHOST.eventsAddedtoMIdb
globalDiscExec	globalDiscExec	VS.MIHOST.globalDiscExec
nbiGetBulkRequests	nbiGetBulkRequests	VS.MIHOST.nbiGetBulkRequests
nbiGetNextRequests	nbiGetNextRequests	VS.MIHOST.nbiGetNextRequests
nbiGetRequests	nbiGetRequests	VS.MIHOST.nbiGetRequests
newAlarms	newAlarms	VS.MIHOST.newAlarms
snmpCountsCollected	snmpCountsCollected	VS.MIHOST.snmpCountsCollected

Table B-21 MIF Automated Neighbor Relations counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
numberANRmsgsNotSent	numberANRmsgsNotSent	VS.MIF.NbrANRmsgsNotSent
numberConfigTransferTunnelRcvd	numberConfigTransferTunnelRcvd	VS.MIF.NbrConfigTransferTunnelRcvd
numberConfigTransferTunnelSent	numberConfigTransferTunnelSent	VS.MIF.NbrConfigTransferTunnelSent
numberENBconfigTransferRcvd	numberENBconfigTransferRcvd	VS.MIF.NbrENBconfigTransferRcvd
numberMMEconfigTransferSent	numberMMEconfigTransferSent	VS.MIF.NbrMMEconfigTransferSent

Table B-22 MIF CPU Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
aveBaseCpuUsage	aveBaseCpuUsage	VS.MIF.aveBaseCpuUsage
avePerSICpuUsage	avePerSICpuUsage	VS.MIF.avePerSICpuUsage
peakBaseCpuUsage	peakBaseCpuUsage	VS.MIF.peakBaseCpuUsage
peakPerSICpuUsage	peakPerSICpuUsage	VS.MIF.peakPerSICpuUsage

Table B-23 MIF DNS Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberDNSconnectionsClosed	nbrDNSconnClosed	VS.MIF.NbrDNSconnClosed
numberProbeQueries	nbrProbeQueries	VS.MIF.NbrProbeQueries
numberProbeResponsesReceived	nbrProbeResponsesRcvd	VS.MIF.NbrProbeResponsesRcvd
numberRequestsInternalFailure	nbrRequestsInternalFailure	VS.MIF.NbrRequestsInternalFailure
numberRequestsTimedOut	nbrRequestsTimedOut	VS.MIF.NbrRequestsTimedOut
numberResolveByNetworkService,	nbrResolveByNetworkService	VS.MIF.NbrResolveByNetworkService
numberResolveHostByName	nbrResolveHostByName	VS.MIF.NbrResolveHostByName
numberResponsesReceivedLate	nbrResponsesRcvdLate	VS.MIF.NbrResponsesRcvdLate
numberResponsesReceived	nbrResponsesReceived	VS.MIF.NbrResponsesReceived
numberResponsesSentToAppl	nbrResponsesSentToAppl	VS.MIF.NbrResponsesSentToAppl
numberResponsesWithProblem	nbrResponsesWithProblem	VS.MIF.NbrResponsesWithProblem
numberServerQueries	nbrServerQueries	VS.MIF.NbrServerQueries

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Table B-24 MIF Interface Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
attemptedS1MMEconnEst	attemptedS1MMEconnEst	VS.MIF.AttS1MMEconnEst
numberBadSeqRespPktsS10	numberBadSeqRespPktsS10	VS.MIF.NbrBadSeqRespPktsS10
numberBadSeqRespPktsS11	numberBadSeqRespPktsS11	VS.MIF.NbrBadSeqRespPktsS11
numberOfBadSeqRespPktsSv	numberOfBadSeqRespPktsSv	VS.MIF.NbrBadSeqRespPktsSv
numberOfFailedS1MMEconnEst_Other	numberOfFailedS1MMEconnEst_Other	VS.MIF.NbrFailedS1MMEconnEst_Other
numberOfMissed_GnGtpEcho	numberOfMissed_GnGtpEcho	VS.MIF.NbrMissed_GnGtpEcho
numberMissed_S10gtpEcho	numberMissed_S10gtpEcho	VS.MIF.NbrMissed_S10gtpEcho
numberOfMissed_S11gtpEcho	numberOfMissed_S11gtpEcho	VS.MIF.NbrMissed_S11gtpEcho
numberOfMissed_SvGtpEcho	numberOfMissed_SvGtpEcho	VS.MIF.NbrMissed_SvGtpEcho
numberOfTO_GnGtpc	numberOfTO_GnGtpc	VS.MIF.NbrTO_GnGtpc
numberTO_S10gtpc	numberTO_S10gtpc	VS.MIF.NbrTO_S10gtpc
numberOfTO_S11gtpc	numberOfTO_S11gtpc	VS.MIF.NbrTO_S11gtpc
numberOfTO_SvGtpc	numberOfTO_SvGtpc	VS.MIF.NbrTO_SvGtpc
numSuccessS1MMEconnEst	numSuccessS1MMEconnEst	VS.MIF.NumSuccessS1MMEconnEst
total_GnGtpEcho	total_GnGtpEcho	VS.MIF.Total_GnGtpEcho
total_S10gtpEcho	total_S10gtpEcho	VS.MIF.Total_S10gtpEcho
total_S11gtpEcho	total_S11gtpEcho	VS.MIF.Total_S11gtpEcho
total_SvGtpEcho	total_SvGtpEcho	VS.MIF.Total_SvGtpEcho
totalReqRcvdGn	totalReqRcvdGn	VS.MIF.TotalReqRcvdGn

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
totalReqRcvdS10	totalReqRcvdS10	VS.MIF.TotalReqRcvdS10
totalReqRcvdS11	totalReqRcvdS11	VS.MIF.TotalReqRcvdS11
totalReqRcvdSv	totalReqRcvdSv	VS.MIF.TotalReqRcvdSv
totalReqSent_GnGtpc	totalReqSent_GnGtpc	VS.MIF.TotalReqSent_GnGtpc
totalReqSent_S10gtpc	totalReqSent_S10gtpc	VS.MIF.TotalReqSent_S10gtpc
totalReqSent_S11gtpc	totalReqSent_S11gtpc	VS.MIF.TotalReqSent_S11gtpc
totalReqSent_SvGtpc	totalReqSent_SvGtpc	VS.MIF.TotalReqSent_SvGtpc
numberBadSeqRespPktsS3	nbrBadSeqRespPktsS3	VS.MIF.NbrBadSeqRespPktsS3
numberMissed_S3GtpEcho	nbrMissed_S3GtpEcho	VS.MIF.NbrMissed_S3GtpEcho
numberRexmit_GnGtpc	nbrRexmit_GnGtpc	VS.MIF.NbrRexmit_GnGtpc
numberRexmit_S10Gtpc	nbrRexmit_S10Gtpc	VS.MIF.NbrRexmit_S10Gtpc
numberRexmit_S11Gtpc	nbrRexmit_S11Gtpc	VS.MIF.NbrRexmit_S11Gtpc
numberRexmit_S3Gtpc	nbrRexmit_S3Gtpc	VS.MIF.NbrRexmit_S3Gtpc
numberRexmit_SvGtpc	nbrRexmit_SvGtpc	VS.MIF.NbrRexmit_SvGtpc
numberTO_S3Gtpc	nbrTO_S3Gtpc	VS.MIF.NbrTO_S3Gtpc
total_S3GtpEcho	total_S3GtpEcho	VS.MIF.Total_S3GtpEcho
totalReqRcvdS3	totalReqRcvdS3	VS.MIF.TotalReqRcvdS3
totalReqSent_S3Gtpc	totalReqSent_S3Gtpc	VS.MIF.TotalReqSent_S3Gtpc

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Table B-25 MIF Memory Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
allocableMemResrvd	allocableMemResrvd	VS.MIF.allocableMemResrvd
maxNEmemUsage	maxNEmemUsage	VS.MIF.maxNEmemUsage
memUsage	memUsage	VS.MIF.memUsage

Table B-26 MIF Overload Control Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
numberGnmsgsDropped	numberGnmsgsDropped	VS.MIF.NbrGnmsgsDropped
numberS10msgsDropped	numberS10msgsDropped	VS.MIF.NbrS10msgsDropped
numberS11msgsDropped	numberS11msgsDropped	VS.MIF.NbrS11msgsDropped
numberS13msgsDropped	numberS13msgsDropped	VS.MIF.NbrS13msgsDropped

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
numberS1HOMsgsRejected	numberS1HOMsgsRejected	VS.MIF.NbrS1HOMsgsRejected
numberS1msgsDropped	numberS1msgsDropped	VS.MIF.NbrS1msgsDropped
numberS6amsgsDropped	numberS6amsgsDropped	VS.MIF.NbrS6amsgsDropped
numberSGsmsgsDropped	numberSGsmsgsDropped	VS.MIF.NbrSGsmsgsDropped
numberSvmsgsDropped	numberSvmsgsDropped	VS.MIF.NbrSvmsgsDropped
numberX1_1msgsDropped	numberX1_1msgsDropped	VS.MIF.NbrX1_1msgsDropped
numberX2msgsDropped	numberX2msgsDropped	VS.MIF.NbrX2msgsDropped

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Table B-27 MIF Quality and Reliability Measurements counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
numberOfTimesLinkIsDown_Gn	numberOfTimesLinkIsDown_Gn	VS.MIF.NbrTimesLinkIsDown_Gn
numberTimesLinkIsDown_S10	numberTimesLinkIsDown_S10	VS.MIF.NbrTimesLinkIsDown_S10
numberOfTimesLinkIsDown_S11	numberOfTimesLinkIsDown_S11	VS.MIF.NbrTimesLinkIsDown_S11
numberOfTimesLinkIsDown_S1MME	numberOfTimesLinkIsDown_S1MME	VS.MIF.NbrTimesLinkIsDown_S1MME
numberOfTimesLinkIsDown_S6a	numberOfTimesLinkIsDown_S6a	VS.MIF.NbrTimesLinkIsDown_S6a
numberTimesLinkIsDown_SGs	numberTimesLinkIsDown_SGs	VS.MIF.NbrTimesLinkIsDown_SGs
numberOfTimesLinkIsDown_Sv	numberOfTimesLinkIsDown_Sv	VS.MIF.NbrTimesLinkIsDown_Sv
numberTimesLinkIsDown_S13	numberTimesLinkIsDown_S13	VS.MIF.NbrTimesLinkIsDown_S13
numberTimesLinkIsDown_S3	numberTimesLinkIsDown_S3	VS.MIF.NbrTimesLinkIsDown_S3

Table B-28 MIF System Service Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
alrmCritical	alrmCritical	VS.MIF.alrmCritical
alrmMajor	alrmMajor	VS.MIF.alrmMajor
alrmMinor	alrmMinor	VS.MIF.alrmMinor
asrtESC	asrtESC	VS.MIF.asrtESC
asrtNonESCCritical	asrtNonESCCritical	VS.MIF.asrtNonESCCritical
asrtNonESCMajor	asrtNonESCMajor	VS.MIF.asrtNonESCMajor
asrtNonESCMinor	asrtNonESCMinor	VS.MIF.asrtNonESCMinor
memAllocFail	memAllocFail	VS.MIF.memAllocFail
reInitServiceManual	reInitServiceManual	VS.MIF.reInitServiceManual

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
reInitServiceSelf	reInitServiceSelf	VS.MIF.reInitServiceSelf
restartTask	restartTask	VS.MIF.restartTask

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Table B-29 MPH CPU Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
aveBaseCpuUsage	aveBaseCpuUsage	VS.MPH.aveBaseCpuUsage
avePerSICpuUsage	avePerSICpuUsage	VS.MPH.avePerSICpuUsage
peakBaseCpuUsage	peakBaseCpuUsage	VS.MPH.peakBaseCpuUsage
peakPerSICpuUsage	peakPerSICpuUsage	VS.MPH.peakPerSICpuUsage

Table B-30 MPH Memory Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
allocableMemResrvd	allocableMemResrvd	VS.MPH.allocableMemResrvd
maxNEmemUsage	maxNEmemUsage	VS.MPH.maxNEmemUsage
memUsage	memUsage	VS.MPH.memUsage

Table B-31 MPH System Service Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
alrmCritical	alrmCritical	VS.MPH.alrmCritical
alrmMajor	alrmMajor	VS.MPH.alrmMajor
alrmMinor	alrmMinor	VS.MPH.alrmMinor
alrmWarning	alrmWarning	VS.MPH.alrmWarning
asrtESC	asrtESC	VS.MPH.asrtESC
asrtNonESCCritical	asrtNonESCCritical	VS.MPH.asrtNonESCCritical
asrtNonESCMajor	asrtNonESCMajor	VS.MPH.asrtNonESCMajor
asrtNonESCMinor	asrtNonESCMinor	VS.MPH.asrtNonESCMinor
audErrCount	audErrCount	VS.MPH.audErrCount
audManAct	audManAc	VS.MPH.audManAct
audNewEvent	audNewEvent	VS.MPH.audNewEvent

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5620 SAM GUI name	5620 SAM OSS name	3GPP name
exceptionService	exceptionService	VS.MPH.exceptionService
memAllocFail	memAllocFail	VS.MPH.memAllocFail
reInitServiceManual	reInitServiceManual	VS.MPH.reInitServiceManual
reInitServiceSelf	reInitServiceSelf	VS.MPH.reInitServiceSelf
restartTask	restartTask	VS.MPH.restartTask

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Table B-32 OAM Card Base CPU Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
aveBaseCpuUsage	aveBaseCpuUsage	VS.OAMCardMI.aveBaseCpuUsage
peakBaseCpuUsage	peakBaseCpuUsage	VS.OAMCardMI.peakBaseCpuUsage

Table B-33 OAM Card CPU Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
aveCpuUsage	aveCpuUsage	VS.OAMCardMI.aveCpuUsage
peakCpuUsage	peakCpuUsage	VS.OAMCardMI.peakCpuUsage

Table B-34 OAM Card Disk Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
diskIOReadRate	diskIOReadRate	VS.OAMCardMI.diskIOReadRate
diskIOWriteRate	diskIOWriteRate	VS.OAMCardMI.diskIOWriteRate

Table B-35 OAM Card Memory Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
maxNEmemUsage	maxNEmemUsage	VS.OAMCardMI.maxNEmemUsage
memUsage	memUsage	VS.OAMCardMI.memUsage

Table B-36 OAM Card System Service Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
alrmCritical	alrmCritical	VS.OAMCardMI.alrmCritical
alrmMajor	alrmMajor	VS.OAMCardMI.alrmMajor
alrmMinor	alrmMinor	VS.OAMCardMI.alrmMinor
asrtESC	asrtESC	VS.OAMCardMI.asrtESC
asrtNonESCCritical	asrtNonESCCritical	VS.OAMCardMI.asrtNonESCCritical
asrtNonESCMajor	asrtNonESCMajor	VS.OAMCardMI.asrtNonESCMajor
asrtNonESCMinor	asrtNonESCMinor	VS.OAMCardMI.asrtNonESCMinor

Table B-37 Reliable Cluster Computing Virtual Machine Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
collectionInterval	collectionInterval	VS.CollectionInterval
act2StbyVMStateChange	act2StbyVMStateChange	VS.MI.Act2StbyVMStateChange
act2UnavailVMStateChange	act2UnavailVMStateChange	VS.MI.Act2UnavailVMStateChange
other2UnavailVMStateChange	other2UnavailVMStateChange	VS.MI.Other2UnavailVMStateChange
stby2ActVMStateChange	stby2ActVMStateChange	VS.MI.Stby2ActVMStateChange
stby2UnavailVMStateChange	stby2UnavailVMStateChange	VS.MI.Stby2UnavailVMStateChange

Table B-38 Reliable Cluster Computing Virtual Machine Stats counters

5620 SAM GUI name	5620 SAM OSS name	3GPP name
act2StbyVMStateChange	act2StbyVMStateChange	VS.CNFG.Act2StbyVMStateChange
act2UnavailVMStateChange	act2UnavailVMStateChange	VS.CNFG.Act2UnavailVMStateChange
other2UnavailVMStateChange	other2UnavailVMStateChange	VS.CNFG.Other2UnavailVMStateChange
stby2ActVMStateChange	stby2ActVMStateChange	VS.CNFG.Stby2ActVMStateChange
stby2UnavailVMStateChange	stby2UnavailVMStateChange	VS.CNFG.Stby2UnavailVMStateChange
collectionInterval	collectionInterval	VS.CollectionInterval

Customer documentation and product support

Customer documentation

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Product manuals and documentation updates are available at alcatel-lucent.com. If you are a new user and require access to this service, please contact your Alcatel-Lucent sales representative.

Technical Support

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