

EAGLE[®] XG Subscriber Database Server

Alarms, KPIs, and Measurements

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Chapter 1

Introduction

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Overview

The *SDS Alarms, KPIs, and Measurements* documentation provides information about SDS alarms and events, provides corrective maintenance procedures, and other information used in maintaining the system.

This documentation provides:

- Information relevant to understanding alarms and events that may occur on the application
- Recovery procedures for addressing alarms and events, as necessary
- Procedures for viewing alarms and events, generating alarms reports, and viewing and exporting alarms and events history
- Information relevant to understanding KPIs in the application
- The procedure for viewing KPIs
- Lists of KPIs
- Information relevant to understanding measurements in the application
- Measurement report elements, and the procedures for printing and exporting measurements
- Lists of measurements by function

Scope and Audience

This manual does not describe how to install or replace software or hardware.

This manual is intended for personnel who must maintain operation of the SDS feature. The manual provides preventive and corrective procedures that will aid personnel in maintaining the SDS.

The corrective maintenance procedures are those used in response to a system alarm or output message. These procedures are used to aid in the detection, isolation, and repair of faults.

Manual Organization

Information in this document is organized into the following sections:

- *Introduction* contains general information about this document, how to contact the Tekelec [Customer Care Center](#), and [Locate Product Documentation on the Customer Support Site](#).
- *Alarms and Events, KPIs, and Measurements Overview* provides general information about the application's alarms and events, KPIs, and measurements.
- *Alarms and Events* provides information and recovery procedures for alarms and events, organized first by alarm category, then numerically by the number that appears in the application.
- *Key Performance Indicators (KPIs)* provides detailed KPI information, organized alphabetically by KPI name.
- *Measurements* provides detailed measurement information, organized alphabetically by measurement category.

Documentation Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Table 1: Admonishments

	<p>DANGER: (This icon and text indicate the possibility of <i>personal injury</i>.)</p>
	<p>WARNING: (This icon and text indicate the possibility of <i>equipment damage</i>.)</p>
	<p>CAUTION: (This icon and text indicate the possibility of <i>service interruption</i>.)</p>

Related Publications

For information about additional publications that are related to this document, refer to the *Related Publications* document. The *Related Publications* document is published as a part of the *Release Documentation* and is also published as a separate document on the Tekelec Customer Support Site.

Customer Care Center

The Tekelec Customer Care Center is your initial point of contact for all product support needs. A representative takes your call or email, creates a Customer Service Request (CSR) and directs your requests to the Tekelec Technical Assistance Center (TAC). Each CSR includes an individual tracking number. Together with TAC Engineers, the representative will help you resolve your request.

The Customer Care Center is available 24 hours a day, 7 days a week, 365 days a year, and is linked to TAC Engineers around the globe.

Tekelec TAC Engineers are available to provide solutions to your technical questions and issues 7 days a week, 24 hours a day. After a CSR is issued, the TAC Engineer determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, normal support procedures apply. A primary Technical Engineer is assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

Tekelec Technical Assistance Centers are located around the globe in the following locations:

Tekelec - Global

Email (All Regions): support@tekelec.com

- **USA and Canada**

Phone:

1-888-FOR-TKLC or 1-888-367-8552 (toll-free, within continental USA and Canada)

1-919-460-2150 (outside continental USA and Canada)

TAC Regional Support Office Hours:

8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Caribbean and Latin America (CALA)**

Phone:

+1-919-460-2150

TAC Regional Support Office Hours (except Brazil):

10:00 a.m. through 7:00 p.m. (GMT minus 6 hours), Monday through Friday, excluding holidays

- **Argentina**

Phone:

0-800-555-5246 (toll-free)

- **Brazil**

Phone:

0-800-891-4341 (toll-free)

TAC Regional Support Office Hours:

8:00 a.m. through 5:48 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays

- **Chile**

Phone:

1230-020-555-5468

- **Colombia**

Phone:

01-800-912-0537

- **Dominican Republic**

Phone:

1-888-367-8552

- **Mexico**

Phone:

001-888-367-8552

- **Peru**

Phone:

0800-53-087

- **Puerto Rico**

Phone:

1-888-367-8552 (1-888-FOR-TKLC)

- **Venezuela**

Phone:

0800-176-6497

- **Europe, Middle East, and Africa**

Regional Office Hours:

8:30 a.m. through 5:00 p.m. (GMT), Monday through Friday, excluding holidays

- **Signaling**

Phone:

+44 1784 467 804 (within UK)

- **Software Solutions**

Phone:

+33 3 89 33 54 00

- **Asia**

- **India**

Phone:

+91-124-465-5098 or +1-919-460-2150

TAC Regional Support Office Hours:

10:00 a.m. through 7:00 p.m. (GMT plus 5 1/2 hours), Monday through Saturday, excluding holidays

- **Singapore**

Phone:

+65 6796 2288

TAC Regional Support Office Hours:

9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

Emergency Response

In the event of a critical service situation, emergency response is offered by the Tekelec Customer Care Center 24 hours a day, 7 days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with the Tekelec Customer Care Center.

Locate Product Documentation on the Customer Support Site

Access to Tekelec's Customer Support site is restricted to current Tekelec customers only. This section describes how to log into the Tekelec Customer Support site and locate a document. Viewing the document requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into the [Tekelec Customer Support](#) site.

Note: If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.

2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select **Save Target As**.

Chapter 2

Alarms and Events, KPIs, and Measurements Overview

Topics:

- [Displaying the file list.....20](#)
- [Export Server.....20](#)
- [Tasks.....22](#)

This section provides general information about the application's alarms and events, KPIs, and measurements.

Displaying the file list

Use this procedure to view the list of files located in the file management storage area of a server. The amount of storage space currently in use can also be viewed on the Files page.

1. From the Main menu, select **Status & Manage > Files**.

The **Status & Manage Files** page appears.

2. Select a server.
All files stored on the selected server are displayed.

Export Server

From the **Export Server** page you can set an export target to receive exported performance data. Several types of performance data can be filtered and exported using this feature. For more information about how to create data export tasks, see:

- [Exporting active alarms](#)
- [Exporting alarm and event history](#)
- [Exporting KPIs](#)
- [Exporting measurements reports](#)

From the **Export Server** page you can manage file compression strategy and schedule the frequency with which data files are exported.

Export Server elements

This table describes the elements on the **Export Server** page.

Table 2: Export Server Elements

Element	Description	Data Input Notes
Hostname	The server that automatically receives exported performance data	Format: Unique name for the export server; may use either a valid IP address, or hostname. Range: <ul style="list-style-type: none"> • IP address: dotted quad decimal (IPv4) or colon hex (IPv6) • Hostname: Maximum length is 20 characters; alphanumeric characters (a-z, A-Z, and 0-9) and minus sign (-). Hostname must begin and end with an alphanumeric

**Alarms and Events, KPIs, and Measurements
Overview**

Element	Description	Data Input Notes
		character. Hostname is case sensitive. Default: None
Username	Username used to access the export server	Format: Textbox Range: Maximum length is 32 characters; alphanumeric characters (a-z, A-Z, and 0-9). Default: None
Directory Path on Export Server	Directory path string on the export server	Format: Textbox Range: Maximum length is 255 characters; valid value is any UNIX string. Default: None
Path to rsync on Export Server	Optional path to the rsync binary on the export server	Format: Textbox Range: Maximum length is 4096 characters; alphanumeric characters (a-z, A-Z, and 0-9),dash, underscore, period, and forward slash. Default: If no path is specified, the "--rsync-path" option will not be used
File Compression	Compression algorithm for exported data	Format: Radio button Range: gzip, bzip2, or none Default: None
Upload Frequency	Frequency at which the export occurs	Format: Radio button Range: hourly, daily or weekly
Minute	If hourly is selected for Upload Frequency, this is the minute of each hour when the transfer is set to begin	Format: Scrolling list Range: 0 to 59
Time of Day	Time of day the export occurs	Format: Time textbox Range: 15-minute increments
Day of Week	If weekly is selected for Upload Frequency, this is the day of the week when exported data files	Format: Radio button Range: Sunday through Saturday Default: Sunday

Element	Description	Data Input Notes
	will be transferred to the export server	
SSH Key Exchange	This button launches a dialog box. The dialog requests username and password and initiates SSH key exchange.	Format: Button
Transfer Now	This button initiates an immediate attempt to transfer any data files in the export directory to the export server.	Format: Button

Configuring an export server

The **Export Server** page enables you to configure a server to receive exported performance and configuration data. Use this procedure to configure an export server.

1. Select **Administration > Export Server**.
The **Export Server** page appears.
2. Enter a **Hostname**.
See Export Server elements for details about the **Hostname** field and other fields that appear on this page.
3. Enter a **Username**.
4. Enter a **Directory Path** on the Export server.
5. Enter the **Path to Rsync** on the Export server.
6. Select the **File Compression** type.
7. Select the **Upload Frequency**.
8. If you selected hourly for the upload frequency, select the **Minute** intervals.
9. If you selected daily or weekly for the upload frequency, select the **Time of Day**.
10. If you selected weekly for the upload frequency, select the **Day of the Week**.
11. Click **Exchange SSH Key** to transfer the SSH keys to the export server.
A password dialog box appears.
12. Enter the password.
The server will attempt to exchange keys with the specified export server. After the SSH keys are successfully exchanged, continue with the next step.
13. Click **OK** or **Apply**.
The export server is now configured and available to receive performance and configuration data.

Tasks

The **Tasks** pages display the active, long running tasks and scheduled tasks on a selected server. The **Active Tasks** page provides information such as status, start time, progress, and results for long

running tasks, while the **Scheduled Tasks** page provides a location to view, edit, and delete tasks that are scheduled to occur.

Active Tasks

The **Active Tasks** page displays the long running tasks on a selected server. The **Active Tasks** page provides information such as status, start time, progress, and results, all of which can be generated into a report. Additionally, you can pause, restart, or delete tasks from this page.

Active Tasks elements

The **Active Tasks** page displays information in a tabular format where each tab represents a unique server. By default, the current server's tab is selected when the page is loaded. This table describes elements on the **Active Tasks** page.

Table 3: Active Tasks Elements

Active Tasks Element	Description
ID	Task ID
Name	Task name
Status	Current status of the task. Status values include: running, paused, completed, exception, and trapped.
Start Time	Time and date when the task was started
Update Time	Time and date the task's status was last updated
Result	Integer return code of the task. Values other than 0 (zero) indicate abnormal termination of the task. Each value has a task-specific meaning.
Result Details	Details about the result of the task
Progress	Current progress of the task

Deleting a task

Use this procedure to delete one or more tasks.

1. Select **Status & Manage > Tasks > Active Tasks**.

The **Active Tasks** page appears.

2. Select a server.

Note: Hovering the cursor over any tab displays the name of the server.

All active tasks on the selected server are displayed.

3. Select one or more tasks.

Note: To delete a single task or multiple tasks, the status of each task selected must be one of the following: completed, exception, or trapped.

Note: You can select multiple rows to delete at one time. To select multiple rows, press and hold Ctrl as you click to select specific rows.

4. Click **Delete**.
A confirmation box appears.
5. Click **OK** to delete the selected task(s).
The selected task(s) are deleted from the table.

Deleting all completed tasks

Use this procedure to delete all completed tasks.

1. Select **Status & Manage > Tasks > Active Tasks**.
The **Active Tasks** page appears.
2. Select a server.
Note: Hovering the cursor over any tab displays the name of the server.
All active tasks on the selected server are displayed.
3. Click **Delete all Completed**.
A confirmation box appears.
4. Click **OK** to delete all completed tasks.
All tasks with the status of completed are deleted.

Canceling a running or paused task

Use this procedure to cancel a task that is running or paused.

1. Select **Status & Manage > Tasks > Active Tasks**.
The **Active Tasks** page appears.
2. Select a server.
Note: Hovering the cursor over any tab displays the name of the server.
All active tasks on the selected server are displayed.
3. Select a task.
4. Click **Cancel**.
A confirmation box appears.
5. Click **OK** to cancel the selected task.
The selected task is canceled.

Pausing a task

Use this procedure to pause a task.

1. Select **Status & Manage > Tasks > Active Tasks**.
The **Active Tasks** page appears.
2. Select a server.

Note: Hovering the mouse over any tab displays the name of the server.

All active tasks on the selected server are displayed.

3. Select a task.

Note: A task may be paused only if the status of the task is running.

4. Click **Pause**.

A confirmation box appears.

5. Click **OK** to pause the selected task.

The selected task is paused. For information about restarting a paused task, see [Restarting a task](#).

Restarting a task

Use this procedure to restart a task.

1. Select **Status & Manage > Tasks > Active Tasks**.

The **Active Tasks** page appears.

2. Select a server.

Note: Hovering the mouse over any tab displays the name of the server.

All active tasks on the selected server are displayed.

3. Select a paused task.

Note: A task may be restarted only if the status of the task is paused.

4. Click **Restart**.

A confirmation box appears.

5. Click **OK** to restart the selected task.

The selected task is restarted.

Active Tasks report elements

The **Active Tasks Report** page displays report data for selected tasks. This table describes elements on the **Active Tasks Report** page.

Table 4: Active Tasks Report Elements

Active Tasks Report Element	Description
ID	Task ID
Name	Task name
Admin State	Confirms task status
Status	Current status of the task. Status values include: running, paused, completed, exception, and trapped.
Progress	Current progress of the task
Start Time	Time and date when the task was started

Active Tasks Report Element	Description
Update Time	Time and date the task's status was last updated
Result	Integer return code of the task. Values other than 0 (zero) indicate abnormal termination of the task. Each value has a task-specific meaning.
Result Details	Details about the result of the task
PID	Process ID from the operating system
Meta Task ID	ID of the task type

Generating an active task report

Use this procedure to generate an active task report.

1. Select **Status & Manage > Tasks > Active Tasks**.

The **Active Tasks** page appears.

2. Select a server.

Note: Hovering the mouse over any tab displays the name of the server.

All active tasks on the selected server are displayed.

3. Select one or more tasks.

Note: If no tasks are selected, all tasks matching the current filter criteria will be included in the report.

4. Click **Report**.

The **Tasks Report** page appears.

5. Click **Print** to print the report.

6. Click **Save** to save the report.

Scheduled Tasks

The periodic export of certain data can be scheduled through the GUI. The **Scheduled Tasks** page provides you with a location to view, edit, delete and generate reports of these scheduled tasks. For more information about the types of data that can be exported, see:

- [Exporting active alarms](#)
- [Exporting alarm and event history](#)
- [Exporting KPIs](#)
- [Exporting measurements reports](#)

Viewing scheduled tasks

Use this procedure to view the scheduled tasks.

Select **Status & Manage > Tasks > Scheduled Tasks**.

The **Scheduled Tasks** page appears, and all scheduled tasks are displayed.

Scheduled Tasks elements

The **Scheduled Tasks** page displays information in a tabular format where each tab represents a unique server. By default, the current server's tab is selected when the page is loaded. This table describes elements on the **Scheduled Tasks** page.

Table 5: Scheduled Tasks Elements

Scheduled Tasks Element	Description
Task Name	Name given at the time of task creation
Description	Description of the task
Time of Day	The hour and minute the task is scheduled to run
Day-of-Week	Day of the week the task is scheduled to run
Network Elem	The Network Element associated with the task

Editing a scheduled task

Use this procedure to edit a scheduled task.

1. Select **Status & Manage > Tasks > Scheduled Tasks**.
The **Scheduled Tasks** page appears, and all scheduled tasks are displayed.
2. Select a task.
3. Click **Edit**.
The **Data Export** page for the selected task appears.
4. Edit the available fields as necessary.
See [Scheduled Tasks elements](#) for details about the fields that appear on this page.
5. Click **OK** or **Apply** to submit the changes and return to the **Scheduled Tasks** page.

Deleting a scheduled task

Use this procedure to delete one or more scheduled tasks.

1. Select **Status & Manage > Tasks > Scheduled Tasks**.
The **Scheduled Tasks** page appears, and all scheduled tasks are displayed.
2. Select one or more tasks.
3. Click **Delete**.
A confirmation box appears.
4. Click **OK** to delete the selected task(s).
The selected task(s) are deleted from the table.

Generating a scheduled task report

Use this procedure to generate a scheduled task report.

1. Select **Status & Manage > Tasks > Scheduled Tasks**.

The **Scheduled Tasks** page appears, and all scheduled tasks are displayed.

2. Select one or more tasks.

Note: If no tasks are selected, all tasks matching the current filter criteria will be included in the report.

3. Click **Report**.

The **Scheduled Tasks Report** page appears.

4. Click **Print** to print the report.

5. Click **Save** to save the report.

Chapter 3

Alarms and Events

Topics:

- [General alarms information.....30](#)
- [OAM \(10000-10999\).....39](#)
- [SDS \(14000-14999\).....48](#)
- [EXG Stack \(19000-19999\).....58](#)
- [Platform \(31000-32700\).....59](#)

This section provides general alarm/event information, and lists the types of alarms and events that can occur on the system. Alarms and events are recorded in a database log table. Currently active alarms can be viewed from the Launch Alarms Dashboard GUI menu option. The alarms and events log can be viewed from the View History GUI menu option.

Note: Some of the alarms in the following OAM and Platform Alarms sections are shared with other applications and may not appear in the SDS.

General alarms information

This section provides general information about alarms and events, including an alarms overview, types of alarms/events, and alarms-related procedures.

Alarms and events overview

Alarms provide information pertaining to a system's operational condition that a network manager may need to act upon. An alarm might represent a change in an external condition, for example, a communications link has changed from connected to disconnected state. Alarms can have these severities:

- Critical application error
- Major application error
- Minor application error
- Cleared. An alarm is considered inactive once it has been cleared, and cleared alarms are logged on the **Alarms & Events > View History** page of the GUI.

Events note the occurrence of an expected condition. Events have a severity of Info and are logged on the **View History** page.

The following figure shows how Alarms and Events are organized in the application.

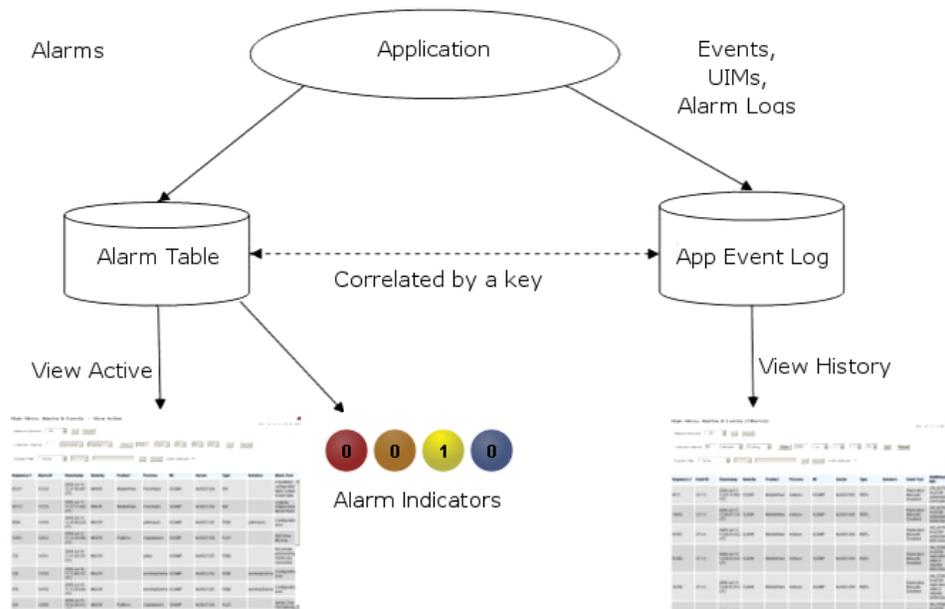


Figure 1: Flow of Alarms

Alarms and events are recorded in a database log table. Application event logging provides an efficient way to record event instance information in a manageable form, and is used to:

- Record events that represent alarmed conditions
- Record events for later browsing
- Implement an event interface for generating SNMP traps

Alarm indicators, located in the User Interface banner, indicate all critical, major, and minor active alarms. A number and an alarm indicator combined represent the number of active alarms at a specific level of severity. For example, if you see the number six in the orange-colored alarm indicator, that means there are six major active alarms.

	Active Critical Alarm (bright red)
	Active Major Alarm (bright orange)
	Active Minor Alarm (bright yellow)
	No active Critical Alarm (pale red)
	No active Major Alarm (pale orange)
	No active Minor Alarm (pale yellow)
	Not Connected (white)

Figure 2: Alarm Indicators Legend

	Trap count > 0 (bright blue)
	Trap count = 0 (pale blue)

Figure 3: Trap Count Indicator Legend

Alarm and event ID ranges

The AlarmID listed for each alarm falls into one of the following process classifications:

Table 6: Alarm/Event ID Ranges

Application/Process Name	Alarm ID Range
IPFE	5000-5099
OAM	10000-10999
SSR	11000-12999
SDS	14000-14999
Service Broker	17000-17999
ComAgent	19800-19899
DSR Diagnostics	19900-19999
DSR	22000-22999
CAPM	25000-25899
Platform	31000-32700

Alarm and event types

This table describes the possible alarm/event types that can be displayed.

Note: Not all Tekelec applications use all of the alarm types listed.

Table 7: Alarm and Event Types

Type Name	Type
CAF	Communication Agent (ComAgent)
CAPM	Computer-Aided Policy Making (Diameter Mediation)
CFG	Configuration
CHG	Charging
CNG	Congestion Control
COLL	Collection
CPA	Charging Proxy Application
DAS	Diameter Application Server (Message Copy)
DB	Database
DIAM	Diameter
DISK	Disk
DNS	Domain Name Service
DPS	Data Processor Server
ERA	Event Responder Application
FABR	Full Address Based Resolution
HA	High Availability
HSS	Home Subscriber Server
IF	Interface
IP	Internet Protocol
IPFE	IP Front End
LOG	Logging
MEAS	Measurements
MEM	Memory
NP	Number Portability
OAM	Operations, Administration & Maintenance
PDRA	Policy DRA

Type Name	Type
pSBR	Policy SBR
PLAT	Platform
PROC	Process
PROV	Provisioning
NAT	Network Address Translation
RBAR	Range-Based Address Resolution
REPL	Replication
SCTP	Stream Control Transmission Protocol
SDS	Subscriber Database Server
SIGC	Signaling Compression
SIP	Session Initiation Protocol Interface
SL	Selective Logging
SS7	Signaling System 7
SSR	SIP Signaling Router
STK	EXG Stack
SW	Software (generic event type)
TCP	Transmission Control Protocol

Viewing active alarms

Active alarms are displayed in a scrollable, optionally filterable table. By default, the active alarms are sorted by time stamp with the most recent alarm at the top.

Use this procedure to view active alarms.

Note: The alarms and events that appear in **View Active** vary depending on whether you are logged in to an NOAMP or SOAM. Alarm collection is handled solely by NOAMP servers in systems that do not support SOAMs.

1. Select **Alarms & Events > View Active**.
The **View Active** page appears.
2. If necessary, specify filter criteria and click **Go**.
The active alarms are displayed according to the specified criteria.

The active alarms table updates automatically. When new alarms are generated, the table is automatically updated, and the view returns to the top row of the table.

3. To suspend automatic updates, click any row in the table.
The following message appears: (Alarm updates are suspended.)

If a new alarm is generated while automatic updates are suspended, a new message appears: (Alarm updates are suspended. Available updates pending.)

To resume automatic updates, press and hold **Ctrl** as you click to deselect the selected row.

Active alarms data export elements

This table describes the elements on the **View Active Export** alarms page.

Table 8: Schedule Active Alarm Data Export Elements

Element	Description	Data Input Notes
Task Name	Name of the scheduled task	Format: Textbox Range: Maximum length is 24 characters; alphanumeric (a-z, A-Z, and 0-9) and minus sign (-). Task Name must begin and end with an alphanumeric character.
Description	Description of the scheduled task	Format: Textbox Range: Maximum length is 255 characters; alphanumeric (a-z, A-Z, and 0-9) and minus sign (-). Description must begin with an alphanumeric character.
Export Frequency	Frequency at which the export occurs	Format: Radio button Range: Once, Weekly, or Daily Default: Once
Time of Day	Time of day the export occurs	Format: Time textbox Range: 15-minute increments Default: 12:00 AM
Day of Week	Day of week on which the export occurs	Format: Radio button Range: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday Default: Sunday

Exporting active alarms

You can schedule periodic exports of alarm data from the **Alarms and Events View Active** page. Active alarm data can be exported immediately, or you can schedule exports to occur daily or weekly. If filtering has been applied in the **View Active** page, only filtered data is exported.

During data export, the system automatically creates a CSV file of the filtered data. The file will be available in the file management area until you manually delete it, or until the file is transferred to an alternate location using the Export Server feature. For more information about using **Export Server**, see [Export Server](#).

Alarm details can be exported to a file by clicking the **Export** button on the **View Active** page. The system automatically creates and writes the exported active alarm details to a CSV file in the file management area.

If filtering has been applied in the **View Active** page, only filtered, active alarms are exported.

Use this procedure to export active alarms to a file. Use this procedure to schedule a data export task.

1. Select **Alarms & Events > View Active**.
The **View Active** page appears.
2. If necessary, specify filter criteria and click **Go**.
The active alarms are displayed according to the specified criteria.
3. Click **Export**.
The **Schedule Active Alarm Data Export** page appears.
4. Enter the **Task Name**.
For more information about **Task Name**, or any field on this page, see [Active alarms data export elements](#).
5. Select the **Export Frequency**.
6. Select the **Time of Day**.

Note: **Time of Day** is not an option if **Export Frequency** equals **Once**.

7. Select the **Day of Week**.
Note: **Day of Week** is not an option if **Export Frequency** equals **Once**.
8. Click **OK** or **Apply** to initiate the active alarms export task.

From the **Status & Manage > Files** page, you can view a list of files available for download, including the file you exported during this procedure. For more information, see [Displaying the file list](#).

Scheduled tasks can be viewed, edited, and deleted, and reports of scheduled tasks can be generated from **Status & Manage > Tasks**. For more information see:

- [Viewing scheduled tasks](#)
- [Editing a scheduled task](#)
- [Deleting a scheduled task](#)
- [Generating a scheduled task report](#)

9. Click **Export**.
The file is exported.
10. Click the link in the green message box to go directly to the **Status & Manage > Files** page.



• The active alarms are now available in `Alarms_20090812_180627.csv`.

From the **Status & Manage > Files** page, you can view a list of files available for download, including the active alarms file you exported during this procedure.

Generating a report of active alarms

Use this procedure to generate a report.

1. Select **Alarms & Events > View Active**.

The **View Active** page appears.

2. Specify filter criteria, if necessary, and click **Go**.

The active alarms are displayed according to the specified criteria. Alternately, you can select multiple rows and generate a report using those. To select multiple rows, press and hold **Ctrl** as you click to select specific rows.

3. Click **Report**.

The View Active Report is generated. This report can be printed or saved to a file.

4. Click **Print** to print the report.
5. Click **Save** to save the report to a file.

Viewing alarm and event history

All historical alarms and events are displayed in a scrollable, optionally filterable table. The historical alarms and events are sorted, by default, by time stamp with the most recent one at the top. Use this procedure to view alarm and event history.

Note: The alarms and events that appear in **View History** vary depending on whether you are logged in to an NOAMP or SOAM. Alarm collection is handled solely by NOAMP servers in systems that do not support SOAMs.

1. Select **Alarms & Events > View History** .

The **View History** page appears.

2. If necessary, specify filter criteria and click **Go**.

Note: Some fields, such as **Additional Info**, truncate data to a limited number of characters. When this happens, a **More** link appears. Click **More** to view a report that displays all relevant data.

Historical alarms and events are displayed according to the specified criteria.

The historical alarms table updates automatically. When new historical data is available, the table is automatically updated, and the view returns to the top row of the table.

3. To suspend automatic updates, click any row in the table.

The following message appears: (Alarm updates are suspended.)

If a new alarm is generated while automatic updates are suspended, a new message appears: (Alarm updates are suspended. Available updates pending.)

To resume automatic updates, press and hold **Ctrl** as you click to deselect the selected row.

Historical events data export elements

This table describes the elements on the **View History Export** page.

Table 9: Schedule Event Data Export Elements

Element	Description	Data Input Notes
Task Name	Name of the scheduled task	Format: Textbox Range: Maximum length is 24 characters; alphanumeric (a-z, A-Z, and 0-9) and minus sign (-). Task Name must begin and end with an alphanumeric character.
Description	Description of the scheduled task	Format: Textbox Range: Maximum length is 255 characters; alphanumeric (a-z, A-Z, and 0-9) and minus sign (-). Description must begin with an alphanumeric character.
Export Frequency	Frequency at which the export occurs	Format: Radio button Range: Hourly, Once, Weekly, or Daily Default: Once
Minute	If hourly is selected for Upload Frequency, this is the minute of each hour when the data will be written to the export directory.	Format: Scrolling list Range: 0 to 59
Time of Day	Time of day the export occurs	Format: Time textbox Range: 15-minute increments Default: 12:00 AM
Day of Week	Day of week on which the export occurs	Format: Radio button Range: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday Default: Sunday

Exporting alarm and event history

You can schedule periodic exports of historical data from the **Alarms and Events View History** page. Historical data can be exported immediately, or you can schedule exports to occur daily or weekly. If filtering has been applied in the **View History** page, only filtered data is exported.

During data export, the system automatically creates a CSV file of the filtered data. The file will be available in the file management area until you manually delete it, or until the file is transferred to an alternate location using the Export Server feature. For more information about using **Export Server**, see [Export Server](#).

The details of historical alarms and events can be exported to a file by clicking the **Export** button on the **View History** page. The system automatically creates and writes the exported historical alarm details to a CSV file in the file management area.

If filtering has been applied in the **View History** page, only filtered historical alarms and events are exported. Use this procedure to export alarm and event history to a file. Use this procedure to schedule a data export task.

1. Select **Alarms & Events > View History**.
The **View History** page appears.
2. If necessary, specify filter criteria and click **Go**.
The historical alarms and events are displayed according to the specified criteria.
3. Click **Export**.
The **Schedule Event Data Export** page appears.
4. Enter the **Task Name**.
For more information about **Task Name**, or any field on this page, see [Historical events data export elements](#).
5. Select the **Export Frequency**.
6. If you selected **Hourly**, specify the **Minutes**.
7. Select the **Time of Day**.
Note: **Time of Day** is not an option if **Export Frequency** equals **Once**.
8. Select the **Day of Week**.
Note: **Day of Week** is not an option if **Export Frequency** equals **Once**.
9. Click **OK** or **Apply** to initiate the data export task.

The data export task is scheduled. From the **Status & Manage > Files** page, you can view a list of files available for download, including the alarm history file you exported during this procedure. For more information, see [Displaying the file list](#).

Scheduled tasks can be viewed, edited, and deleted, and reports of scheduled tasks can be generated from **Status & Manage > Tasks**. For more information see:

- [Viewing scheduled tasks](#)
- [Editing a scheduled task](#)
- [Deleting a scheduled task](#)
- [Generating a scheduled task report](#)

10. Click **Export**.
The file is exported.
11. Click the link in the green message box to go directly to the **Status & Manage > Files** page.



• The alarm and event history is currently being exported to Events_20090812_175538.csv.

From the **Status & Manage > Files** page, you can view a list of files available for download, including the alarm history file you exported during this procedure. For more information, see .

Generating a report of historical alarms and events

Use this procedure to generate a report.

1. Select **Alarms & Events > View History**.

The **View History** page appears.

2. Specify filter criteria, if necessary, and click **Go**.

The historical alarms and events are displayed according to the specified criteria.

3. Click **Report**.

The View History Report is generated. This report can be printed or saved to a file.

4. Click **Print** to print the report.

5. Click **Save** to save the report to a file.

OAM (10000-10999)

This section provides information and recovery procedures for OAM alarms, ranging from 10000-10999.

Alarms formatting information

This section of the document provides information to help you understand why an alarm occurred and to provide a recovery procedure to help correct the condition that caused the alarm.

The information provided about each alarm includes:

- **Alarm Type:** the type of alarm that has occurred. For a list of alarm types see [Alarm and event types](#).
- **Description:** describes the reason for the alarm
- **Severity:** the severity of the alarm
- **Instance:** where the alarm occurred, for example, GUI, <process name>, IP address, <server name>

Note: The value in the Instance field can vary, depending on the process generating the alarm.

- **HA Score:** high availability score; determines if switchover is necessary
- **Auto Clear Seconds:** the number of seconds that have the pass before the alarm will clear itself
- **OID:** alarm identifier that appears in SNMP traps
- **Recovery:** provides any necessary steps for correcting or preventing the alarm

10000 - Incompatible database version

Alarm Type: DB

Description: The database version is incompatible with the installed software database version.

Severity: Critical

Instance: N/A

HA Score: Failed

Auto Clear Seconds: 300

OID: tekelecIncompatibleDatabaseVersionNotify

Recovery: Contact the Tekelec [Customer Care Center](#).

10001 - Database backup started

Alarm Type: DB

Description: The database backup has started.

Severity: Info

Instance: GUI

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecBackupStartNotify

Recovery: No action required.

10002 - Database backup completed

Alarm Type: DB

Description: Backup completed

Severity: Info

Instance: GUI

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecBackupCompleteNotify

Recovery:

No action required.

10003 - Database backup failed

Alarm Type: DB

Description: The database backup has failed.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear

OID: tekelecBackupFailNotify

Recovery:

Contact the Tekelec [Customer Care Center](#).

10004 - Database restoration started

Alarm Type: DB

Description: The database restoration has started.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecRestoreStartNotify

Recovery:

No action required.

10005 - Database restoration completed

Alarm Type: DB

Description: The database restoration is completed.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecRestoreCompleteNotify

Recovery:

No action required.

10006 - Database restoration failed

Alarm Type: DB

Description: The database restoration has failed.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecRestoreFailNotify

Recovery:

Contact the Tekelec [Customer Care Center](#).

10008 - Database provisioning manually disabled

Alarm Type: DB

Description: Database provisioning has been manually disabled.

Severity: Minor

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecProvisioningManuallyDisabled

Recovery:

No action required.

10009 - Config and Prov db not yet synchronized

Alarm Type: REPL

Description: The configuration and the provisioning databases are not yet synchronized.

Severity: Critical

Instance: N/A

HA Score: Failed

Auto Clear Seconds: This alarm does not autoclear.

OID: oAGTCfgProvDbNoSync

Recovery:

1. Monitor the replication status using the Status & Manage > Replication GUI page.
2. If alarm persists for more than one hour, contact Tekelec [Customer Care Center](#).

10010 - Stateful db from mate not yet synchronized

Alarm Type: HA

Description: The stateful database is not synchronized with the mate database.

Severity: Minor

Instance: N/A

HA Score: Degraded

Auto Clear Seconds: This alarm does not autoclear.

OID: oAGTStDbNoSync

Recovery:

If alarm persists for more than 30 seconds, contact the Tekelec [Customer Care Center](#).

10011 - Cannot monitor table

Alarm Type: OAM

Description: Monitoring for table cannot be set up.

Severity: Major

Instance: N/A

HA Score: Degraded

Auto Clear Seconds: This alarm does not autoclear.

OID: oAGTCantMonitorTable

Recovery:

Contact the Tekelec [Customer Care Center](#).

10012 - Table change responder failed

Alarm Type: OAM

Description: The responder for a monitored table failed to respond to a table change.

Severity: Major

Instance: N/A

HA Score: Degraded

Auto Clear Seconds: This alarm does not autoclear.

OID: oAGTResponderFailed

Recovery:

Contact the Tekelec [Customer Care Center](#).

10013 - Application restart in progress

Alarm Type: HA

Description: An application restart is in progress.

Severity: Minor

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: oAGTAppISWDdisabled

Recovery:

If duration of alarm is greater than two seconds, contact the Tekelec [Customer Care Center](#).

10020 - Backup failure

Alarm Type: DB

Description: Database backup failed.

Severity: Minor

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: apwBackupFailure

Recovery:

Alarm will clear if a backup (Automated or Manual) of the same group data is successful. Contact the Tekelec [Customer Care Center](#) if failures persist.

10074 - Standby server degraded while mate server stabilizes

Alarm Type: HA

Description: The standby server has temporarily degraded while the new active server stabilizes following a switch of activity.

Severity: Minor

Instance: N/A

HA Score: Degraded

Auto Clear Seconds: This alarm does not autoclear.

OID: hASbyRecoveryInProgress

Recovery:

No action required; the alarm clears automatically when standby server is recovered. This is part of the normal recovery process for the server that transitioned to standby as a result of a failover.

10075 - Application processes have been manually stopped

Alarm Type: HA

Description: The server is no longer providing services because application processes have been manually stopped.

Severity: Minor

Instance: N/A

HA Score: Failed

Auto Clear Seconds: This alarm does not autoclear.

OID: haMtceStopApplications

Recovery:

If maintenance actions are complete, restart application processes on the server from the **Status & Manage>Servers** page by selecting the Restart Applications action for the server that raised the alarm.

Once successfully restarted the alarm will clear.

10078 - Application not restarted on standby server due to disabled failure cleanup mode

Alarm Type: HA

Description: The Applications on the Standby server have not been restarted after an active-to-standby transition since h_FailureCleanupMode is set to 0.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: failureRecoveryWithoutAppRestart

Recovery:

Contact the Tekelec [Customer Care Center](#).

10100 - Log export started

Alarm Type: LOG

Description: Log files export operation has started.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecLogExportStart

Recovery:

No action required.

10101 - Log export successful

Alarm Type: LOG

Description: The log files export operation completed successfully.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecLogExportSuccess

Recovery:

No action required.

10102 - Log export failed

Alarm Type: LOG

Description: The log files export operation failed.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecLogExportFailed

Recovery:

1. Verify the export request and try the export again.
2. If the problem persists, contact the Tekelec [Customer Care Center](#).

10103 - Log export already in progress

Alarm Type: LOG

Description: Log files export operation not run - export can only run on Active Network OAMP server.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecLogExportNotRun

Recovery:

Restart export operation after existing export completes.

10151 - Login successful

Alarm Type: LOG

Description: The login operation was successful.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecLoginSuccess

Recovery:

No action required.

10152 - Login failed

Alarm Type: LOG

Description: The login operation failed

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecLoginFailed

Recovery:

Verify login information and case is correct, and re-enter.

10153 - Logout successful

Alarm Type: LOG

Description: The logout operation was successful.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: tekelecLogoutSuccess

Recovery:

No action required.

10154 - User Account Disabled

Alarm Type: LOG

Description: User account has been disabled

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: userAccountDisabled

Recovery:

The alarm will clear if the account is automatically re-enabled. Otherwise, the administrator must enable or delete user account.

10200 - Remote database reinitialization in progress

Alarm Type: CFG

Description: The remote database reinitialization is in progress. This alarm is raised on the active NOAMP server for the server being added to the server group.

Severity: Minor

Instance: <hostname of remote server>

HA Score: Normal

Auto Clear Seconds: This alarm does not autoclear.

OID: apwSgDbReinit

Recovery:

1. Check to see that the remote server is configured.
2. Make sure the remote server is responding to network connections.
3. If this does not clear the alarm, delete this server from the server group.
4. If the problem persists, contact the Tekelec [Customer Care Center](#).

SDS (14000-14999)

This section provides information and recovery procedures for SDS alarms and events, ranging from 14000-14999.

Alarms formatting information

This section of the document provides information to help you understand why an alarm occurred and to provide a recovery procedure to help correct the condition that caused the alarm.

The information provided about each alarm includes:

- **Alarm Type:** the type of alarm that has occurred. For a list of alarm types see [General alarms information](#).
- **Description:** describes the reason for the alarm

- Severity: the severity of the alarm (Critical, Major, Minor, Informational)
- Instance: where the alarm occurred, for example, GUI, <process name>, IP address, <server name>
Note: The value in the Instance field can vary, depending on the process generating the alarm.
- HA Score: high availability score; determines if switchover is necessary
- Auto Clear Seconds: the number of seconds that must pass before the alarm will clear itself. Some alarms are not autocleared. Informational events are marked N/A because they do not have to be cleared.
- OID: alarm identifier that appears in SNMP traps
- Recovery: provides any necessary steps for correcting or preventing the alarm

14100 - Interface Disabled

Alarm Type: PROV

Description: Provisioning interface is manually disabled.

Severity: Critical

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not automatically clear after a set time.

OID: sdsProvInterfaceDisabled

Recovery: Enable the interface to clear the alarm.

14101 - No Remote Connections

Alarm Type: PROV

Description: No remote provisioning clients are connected.

Severity: Major

Instance: N/A

HA Score: Normal

Auto Clear Seconds: This alarm does not automatically clear.

OID: sdsProvNoRemoteConnections

Recovery: The alarm will clear when at least one remote provisioning client is connected.

14102 - Connection Failed

Alarm Type: PROV

Description: Provisioning client connection initialization failed due to an error specified in additional information. See trace log for details. (CID=<Connection ID>, IP=<IP Address>).

Severity: Major

Instance: N/A

HA Score: Normal

Auto Clear Seconds: 300

OID: sdsProvConnectionFailed

Recovery: Alarm automatically clears after 5 minutes or when connected.

14103 - Both Port Identical

Alarm Type: PROV

Description: Provisioning client connection initialization failed because the provisioning ports are the same.

Severity: Major

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvBothPortIdentical

Recovery: Alarm clears when one of the ports is changed.

14120 - Connection Established

Alarm Type: PROV

Description: Provisioning client connection established.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvConnectionEstablished

Recovery: No action required for this event.

14121 - Connection Terminated

Alarm Type: PROV

Description: Provisioning client connection terminated due to the error specified in additional information.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvConnectionTerminated

Recovery: No action required for this event.

14122 - Connection Denied

Alarm Type: PROV

Description: Provisioning client connection denied due to the error specified in additional information.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvConnectionDenied

Recovery: No action required for this event.

14140 - Import Throttled

Alarm Type: PROV

Description: Provisioning import throttled to prevent overrunning database service processes.

Severity: Minor

Instance: N/A

HA Score: Normal

Auto Clear Seconds: 5

OID: sdsProvImportThrottled

Recovery: Alarm automatically cleared in 5 seconds after throttling subsides.

14150 - Import Initialization Failed

Alarm Type: PROV

Description: Provisioning import failed due to the initialization error specified in additional information. See trace log for details.

Severity: Major

Instance: provimport

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvImportInitializationFailed

Recovery: Alarm clears when initialization completes successfully.

14151 - Import Generation Failed

Alarm Type: PROV

Description: Provisioning import failed due to the import file execution error specified in the additional information. See the trace log for details.

Severity: Major

Instance: provimport

HA Score: Normal

Auto Clear Seconds: 12 hours

OID: sdsProvImportGenerationFailed

Recovery: Alarm clears automatically after 12 hours or when initialization completes successfully.

14152 - Import Transfer Failed

Alarm Type: PROV

Description: Provisioning import operation failed due to the file transfer error specified in additional information. See trace log for details.

Severity: Major

Instance: provimport

HA Score: Normal

Auto Clear Seconds: 12 hours

OID: sdsProvImportTransferFailed

Recovery: Alarm clears automatically after 12 hours or when the file transfer completes successfully.

14153 - Export Initialization Failed

Alarm Type: PROV

Description: Provisioning export failed due to the initialization error specified in the additional information. See trace log for details.

Severity: Major

Instance: provexport

HA Score: Normal

Auto Clear Seconds: 12 hours

OID: sdsProvExportInitializationFailed

Recovery: Alarm clears automatically after 12 hours or when initialization completes successfully.

14154 - Export Generation Failed

Alarm Type: PROV

Description: Provisioning export operation failed due to the export file generation error specified in the additional information. See trace log for details.

Severity: Major

Instance: provexport

HA Score: Normal

Auto Clear Seconds: 12 hours

OID: sdsProvExportGenerationFailed

Recovery: Correct the problem and try the export again.

14155 - Export Transfer Failed

Alarm Type: PROV

Description: Provisioning export operation failed due to the file transfer error specified in the additional information. See trace log for details.

Severity: Major

Instance: provexport

HA Score: Normal

Auto Clear Seconds: 12 hours

OID: sdsProvExportTransferFailed

Recovery: Correct the problem and try the export again.

14160 - Import Operation Completed

Alarm Type: PROV

Description: All files were imported successfully.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvImportOperationCompleted

Recovery: No action required for this event.

14161 - Export Operation Completed

Alarm Type: PROV

Description: All scheduled exports completed successfully.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvExportOperationCompleted

Recovery: No action required for this event.

14170 - Remote Audit started and in progress

Alarm Type: PROV

Description: Remote Audit started and is in progress.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvRemoteAuditStartedAndInProgressNotify

Recovery: No action required for this event.

14171 - Remote Audit aborted

Alarm Type: PROV

Description: Remote Audit aborted.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvRemoteAuditAbortedNotify

Recovery: No action required for this event.

14172 - Remote Audit failed to complete

Alarm Type: PROV

Description: Remote Audit failed to complete.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvRemoteAuditFailedToCompleteNotify

Recovery: No action required for this event.

14173 - Remote Audit completed

Alarm Type: PROV

Description: Remote Audit completed successfully.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvRemoteAuditCompletedNotify

Recovery: No action required for this event.

14174 - NPA Split pending request deleted

Alarm Type: PROV

Description: A Pending NPA Split has been deleted by the user before it could become Active on its Start Date.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvNpaSplitPendingRequestDeleted

Recovery: No action required for this event.

14175 - NPA Split activation failed

Alarm Type: PROV

Description: NPA Split activation failed. See trace log for details.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvNpaSplitActivationFailed

Recovery: Contact the Tekelec [Customer Care Center](#).

14176 - NPA Split started and is active

Alarm Type: PROV

Description: NPA Split started and is active.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvNpaSplitActivated

Recovery: No action required for this event.

14177 - NPA Split completion failed

Alarm Type: PROV

Description: NPA Split completion failed. See trace log for details.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvNpaSplitCompletionFailed

Recovery: Contact the Tekelec [Customer Care Center](#).

14178 - NPA Split completed

Alarm Type: PROV

Description: NPA Split completed.

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsProvNpaSplitCompleted

Recovery: No action required for this event.

14179 - MSISDN deleted from Blacklist

Alarm Type: PROV

Description: Previously Blacklisted MSISDN is now a Routing Entity

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: 0

OID: sdsProvMsisdnDeletedFromBlacklist

Recovery: No action necessary.

14180 - IMSI deleted from Blacklist

Alarm Type: PROV

Description: Previously Blacklisted IMSI is now a Routing Entity

Severity: Info

Instance: N/A

HA Score: Normal

Auto Clear Seconds: 0

OID: sdsProvImsiDeletedFromBlacklist

Recovery: No action necessary.

14188 - PdbRelay not connected

Alarm Type: PROV

Description: PdbRelay not connected.

- The SDS Command Log does not go back far enough to resume relaying commands. A bulk load of HLRR is required.
- Neither Primary nor Disaster Recovery Virtual IP address is configured for the HLRR.
- The connection is failing with the error shown in Additional Info.

Severity: Major

Instance: pdbrelay

HA Score: Normal

Auto Clear Seconds: 0

OID: sdsProvRelayNotConnectedNotify

Recovery:

1. Perform Bulk Load Procedure at the HLRR.
2. Configure the HLRR address in the SDS GUI.
3. Verify network connectivity with the HLRR.

14189 - PdbRelay Time Lag

Alarm Type: PROV

Description: Pdbrelay feature is enabled but is falling behind. The time between timestamps of the last record processed and the latest entry in the Command Log has exceeded time limit threshold.

- Critical: 27 minutes
- Major - 12 minutes
- Minor - 3 minutes

Severity: Critical, Major, Minor

Instance: pdbrelay

HA Score: Normal

Auto Clear Seconds: 0

OID: sdsProvRelayTimeLagNotify

Recovery: Contact the Tekelec [Customer Care Center](#).

14200 - DP Stack Event Queue utilization

Alarm Type: DPS

Description: The percent utilization of the DP Stack Event Queue is approaching its maximum capacity.

Severity:

- Minor when utilization exceeds 60%.
- Major when utilization exceeds 80%.
- Critical when utilization exceeds 95%.

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsDpsStackEventQueueUtilizationNotify

Recovery:

- Minor alarm clears when utilization falls below 50%.
- Major alarm clears when utilization falls below 70%.
- Critical alarm clears when utilization falls below 90%.

14301- ERA Responder Failed

Alarm Type: ERA

Description: Event responder failed due to an internal error.

Severity: Major

Instance: N/A

HA Score: Normal

Auto Clear Seconds: N/A

OID: sdsEraResponderFailed

Recovery: Contact the Tekelec [Customer Care Center](#).

EXG Stack (19000-19999)

This section provides information and recovery procedures for EXG Stack alarms, ranging from 19000-19999.

19900 - DP Server CPU utilization

Alarm Type: STK

Description: The percent utilization of the DP Server CPU is approaching its maximum capacity.

Severity:

- Minor when utilization exceeds 60%.
- Major when utilization exceeds 66%.
- Critical when utilization exceeds 72%.

Instance: N/A**HA Score:** Normal**Auto Clear Seconds:** N/A**OID:** dbcProcessCpuUtilizationNotify**Recovery:**

- Minor alarm clears when utilization falls below 57%.
- Major alarm clears when utilization falls below 63%.
- Critical alarm clears when utilization falls below 69%.

Platform (31000-32700)

This section provides information and recovery procedures for the Platform alarms, ranging from 31000-32700.

Alarms formatting information

This section of the document provides information to help you understand why an alarm occurred and to provide a recovery procedure to help correct the condition that caused the alarm.

The information provided about each alarm includes:

- Alarm Type: the type of Event that has occurred. For a list of Event types see [Alarm and event types](#).
- Description: describes the reason for the Event
- Severity: the severity of the alarm
- OID: alarm identifier that appears in SNMP traps
- Alarm ID: alarm identifier used internally to Tekelec
- Recovery: provides any necessary steps for correcting or preventing the alarm

31000 - S/W fault

Alarm Type: SW**Description:** Program impaired by s/w fault**Severity:** Minor**OID:** sdsSwFaultNotify**Recovery:**

1. Export event history for the given server and the given process.
2. Contact Tekelec [Customer Care Center](#).

31001 - S/W status

Alarm Type: SW

Description: Program status

Severity: Info

OID: sdsSWStatusNotify

Recovery:

No action required.

31002 - Process watchdog failure

Alarm Type: SW

Description: Process watchdog timed out

Severity: Minor

OID: sdsProcWatchdogFailureNotify

Recovery:

1. Export event history for the given server and the given process.
2. Contact Tekelec [Customer Care Center](#).

31003 - Tab thread watchdog failure

Alarm Type: SW

Description: Tab thread watchdog timed out

Severity: Minor

OID: sdsTabThreadWatchdogFailureNotify

Recovery:

1. Export event history for the given server and the given process.
2. Contact Tekelec [Customer Care Center](#).

31100 - Database replication fault

Alarm Type: SW

Description: The Database replication process (inetsync) is impaired by a s/w fault

Severity: Minor

OID: sdsDbReplicationFaultNotify

Recovery:

1. Export event history for the given server and inetsync task.

2. Contact Tekelec [Customer Care Center](#).

31101 - Database replication to slave failure

Alarm Type: REPL

Description: Database replication to a slave Database has failed

Severity: Critical

OID: sdsDbRepToSlaveFailureNotify

Recovery:

1. Check IMI network connectivity between the affected servers.
2. If there are no issues with network connectivity, contact the Tekelec [Customer Care Center](#).

31102 - Database replication from master failure

Alarm Type: REPL

Description: Database replication from a master Database has failed

Severity: Minor

OID: sdsDbRepFromMasterFailureNotify

Recovery:

1. Check IMI network connectivity between the affected servers.
2. If there are no issues with network connectivity, contact the Tekelec [Customer Care Center](#).

31103- DB Replication update fault

Alarm Type: REPL

Description: Database replication process cannot apply update to DB

Severity: Minor

OID: sdsDbRepUpdateFaultNotify

Recovery:

1. Export event history for the given server and inetsync task.
2. Contact Tekelec [Customer Care Center](#).

31104 - DB Replication latency over threshold

Alarm Type: REPL

Description: Database replication latency has exceeded thresholds

Severity: Minor

OID: sdsDbRepLatencyNotify

Recovery:

1. If this alarm is raised occasionally for short time periods (a couple of minutes or less), it may indicate network congestion or spikes of traffic pushing servers beyond their capacity. Consider re-engineering network capacity or subscriber provisioning.
2. If this alarm does not clear after a couple of minutes, contact Tekelec [Customer Care Center](#).

31105 - Database merge fault

Alarm Type: SW

Description: The database merge process (inetmerge) is impaired by a s/w fault

Severity: Minor

OID: sdsDbMergeFaultNotify

Recovery:

1. Export event history for the given server and inetmerge task.
2. Contact Tekelec [Customer Care Center](#).

31106 - Database merge to parent failure

Alarm Type: COLL

Description: Database merging to the parent Merge Node has failed

Severity: Minor

OID: sdsDbMergeToParentFailureNotify

Recovery:

1. Check IMI network connectivity between the affected servers.
2. If there are no issues with network connectivity, contact the Tekelec [Customer Care Center](#).

31107 - Database merge from child failure

Alarm Type: COLL

Description: Database merging from a child Source Node has failed

Severity: Major

OID: sdsDbMergeFromChildFailureNotify

Recovery:

1. Check IMI network connectivity between the affected servers.
2. If there are no issues with network connectivity, contact the Tekelec [Customer Care Center](#).

31108 - Database merge latency over threshold

Alarm Type: COLL

Description: Database Merge latency has exceeded thresholds

Severity: Minor

OID: sdsDbMergeLatencyNotify

Recovery:

1. If this alarm is raised occasionally for short time periods (a couple of minutes or less), it may indicate network congestion or spikes of traffic pushing servers beyond their capacity. Consider re-engineering network capacity or subscriber provisioning.
2. If this alarm does not clear after a couple of minutes, contact Tekelec [Customer Care Center](#)

31109 - Topology config error

Alarm Type: DB

Description: Topology is configured incorrectly

Severity: Minor

OID: sdsTopErrorNotify

Recovery:

1. This alarm may occur during initial installation and configuration of a server. No action is necessary at that time.
2. If this alarm occurs after successful initial installation and configuration of a server, contact the Tekelec [Customer Care Center](#).

31110 - Database audit fault

Alarm Type: SW

Description: The Database service process (idbsvc) is impaired by a s/w fault

Severity: Minor

OID: sdsDbAuditFaultNotify

Recovery:

1. Export event history for the given server and idbsvc task.
2. Contact Tekelec [Customer Care Center](#).

31111 - Database merge audit in progress

Alarm Type: COLL

Description: Database Merge Audit between mate nodes in progress

Severity: Minor

OID: sdsDbMergeAuditNotify

Recovery:

No action required.

31112 - Stateful db synchronization from mate server

Alarm Type: REPL

Description: Stateful database is not yet synchronized with mate database.

Severity: Minor

OID: sdsDbRepUpLogTransTimeoutNotify

Recovery:

No action required. Contact Tekelec [Customer Care Center](#) if this occurs frequently.

31113 - DB replication manually disabled

Alarm Type: REPL

Description: DB Replication Manually Disabled

Severity: Minor

OID: sdsDbReplicationManuallyDisabledNotify

Recovery:

No action required.

31114 - DB replication over SOAP has failed

Alarm Type: REPL

Description: Database replication of configuration data via SOAP has failed

Severity: Minor

OID: sdsDbReplicationSoapFaultNotify

Recovery:

1. Check IMI network connectivity between the affected servers.
2. If there are no issues with network connectivity, contact the Tekelec [Customer Care Center](#).

31115 - Database service fault

Alarm Type: SW

Description: The Database service process (idbsvc) is impaired by a s/w fault

Severity: Minor

OID: sdsDbServiceFaultNotify

Recovery:

1. Export event history for the given server and idbsvc task.
2. Contact Tekelec [Customer Care Center](#).

31116 - Excessive shared memory

Alarm Type: MEM

Description: The amount of shared memory consumed exceeds configured thresholds

Severity: Major

OID: sdsExcessiveSharedMemoryConsumptionNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31117 - Low disk free

Alarm Type: DISK

Description: The amount of free disk is below configured thresholds

Severity: Major

OID: sdsLowDiskFreeNotify

Recovery:

1. Remove unnecessary or temporary files from partitions.
2. If there are no files known to be unneeded, contact Tekelec [Customer Care Center](#).

31118 - Database disk store fault

Alarm Type: DISK

Description: Writing the database to disk failed

Severity: Minor

OID: sdsDbDiskStoreFaultNotify

Recovery:

1. Remove unnecessary or temporary files from partitions.
2. If there are no files known to be unneeded, contact Tekelec [Customer Care Center](#).

31119 - Database update log overrun

Alarm Type: DB

Description: The Database update log was overrun increasing risk of data loss

Severity: Minor

OID: sdsDbUpdateLogOverrunNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31120 - Database updatelog write fault

Alarm Type: DB

Description: A Database change cannot be stored in the updatelog

Severity: Minor

OID: sdsDbUpdateLogWriteFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31121 - Low disk free early warning

Alarm Type: DISK

Description: The amount of free disk is below configured early warning thresholds

Severity: Minor

OID: sdsLowDiskFreeEarlyWarningNotify

Recovery:

1. Remove unnecessary or temporary files from partitions that are greater than 80% full.
2. If there are no files known to be unneeded, contact Tekelec [Customer Care Center](#).

31122 - Excessive shared memory early warning

Alarm Type: MEM

Description: The amount of shared memory consumed exceeds configured early warning thresholds

Severity: Minor

OID: sdsExcessiveShMemConsumptionEarlyWarnNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31123 - Database replication audit command complete

Alarm Type: REPL

Description: A DB replication audit command completed

Severity: Info

OID: sdsDbRepAuditCmdCompleteNotify

Recovery:

No action required.

31124 - Database replication audit command error

Alarm Type: REPL

Description: A DB replication audit command detected errors

Severity: Minor

OID: sdsDbRepAuditCmdErrorNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31125 - Database durability degraded

Alarm Type: REPL

Description: Database durability has dropped below configured durability level

Severity: Major

OID: sdsDbDurabilityDegradedNotify

Recovery:

1. Check configuration of all servers, and check for connectivity problems between server IMI addresses.
2. If the problem persists, contact Tekelec [Customer Care Center](#).

31126- Audit blocked

Alarm Type: REPL

Description: Site Audit Controls blocked an inter-site replication audit due to the number in progress per configuration.

Severity: Major

OID: eagleXgDsrAuditBlockedNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31130 - Network health warning

Alarm Type: NET

Description: Network health issue detected

Severity: Minor

OID: sdsNetworkHealthWarningNotify

Recovery:

1. Check configuration of all servers, and check for connectivity problems between server IMI addresses.
2. If the problem persists, contact Tekelec [Customer Care Center](#).

31140 - Database perl fault

Alarm Type: SW

Description: Perl interface to Database is impaired by a s/w fault

Severity: Minor

OID: sdsDbPerlFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31145 - Database SQL fault

Alarm Type: SW

Description: SQL interface to Database is impaired by a s/w fault

Severity: Minor

OID: sdsDbSQLFaultNotify

Recovery:

1. Export event history for the given server, and Imysqld task.
2. Contact Tekelec [Customer Care Center](#).

31146- DB mastership fault

Alarm Type: SW

Description: DB replication is impaired due to no mastering process (inetrep/inetrep).

Severity: Major

OID: eagleXgDsrDbMastershipFaultNotify

Recovery:

1. Export event history for the given server.
2. Contact Tekelec [Customer Care Center](#).

31147- DB upsynclog overrun

Alarm Type: SW

Description: UpSyncLog is not big enough for (WAN) replication.

Severity: Minor

Recovery:

Contact Tekelec [Customer Care Center](#).

31200 - Process management fault

Alarm Type: SW

Description: The process manager (procmgr) is impaired by a s/w fault

Severity: Minor

OID: sdsProcMgmtFaultNotify

Recovery:

1. Export event history for the given server, all processes.
2. Contact Tekelec [Customer Care Center](#).

31201 - Process not running

Alarm Type: PROC

Description: A managed process cannot be started or has unexpectedly terminated

Severity: Major

OID: sdsProcNotRunningNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31202 - Unkillable zombie process

Alarm Type: PROC

Description: A zombie process exists that cannot be killed by procmgr. procmgr will no longer manage this process.

Severity: Major

OID: sdsProcZombieProcess

Recovery:

1. If the process does not exit, it may be necessary to reboot the server to eliminate the zombie process.
2. Contact Tekelec [Customer Care Center](#).

31206 - Process mgmt monitoring fault

Alarm Type: SW

Description: The process manager monitor (pm.watchdog) is impaired by a s/w fault

Severity: Minor

OID: sdsProcMgmtMonFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31207 - Process resource monitoring fault

Alarm Type: SW

Description: The process resource monitor (ProcWatch) is impaired by a s/w fault

Severity: Minor

OID: sdsProcResourceMonFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31208 - IP port server fault

Alarm Type: SW

Description: The run environment port mapper (re.portmap) is impaired by a s/w fault

Severity: Minor

OID: sdsPortServerFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31209 - Hostname lookup failed

Alarm Type: SW

Description: Unable to resolve a hostname specified in the NodeInfo table

Severity: Minor

OID: sdsHostLookupFailedNotify

Recovery:

1. This typically indicate a DNS Lookup failure. Verify all server hostnames are correct in the GUI configuration on the server generating the alarm.
2. If the problem persists, contact Tekelec [Customer Care Center](#).

31213 - Process scheduler fault

Alarm Type: SW

Description: The process scheduler (ProcSched/runat) is impaired by a s/w fault

Severity: Minor

OID: sdsProcSchedulerFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31214 - Scheduled process fault

Alarm Type: PROC

Description: A scheduled process cannot be executed or abnormally terminated

Severity: Minor

OID: sdsScheduleProcessFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31215 - Process resources exceeded

Alarm Type: SW

Description: A process is consuming excessive system resources

Severity: Minor

OID: sdsProcResourcesExceededFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31216 - SysMetric configuration error

Alarm Type: SW

Description: A SysMetric Configuration table contains invalid data

Severity: Minor

OID: sdsSysMetricConfigErrorNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31220 - HA configuration monitor fault

Alarm Type: SW

Description: The HA configuration monitor is impaired by a s/w fault

Severity: Minor

OID: sdsHaCfgMonitorFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31221 - HA alarm monitor fault

Alarm Type: SW

Description: The high availability alarm monitor is impaired by a s/w fault

Severity: Minor

OID: sdsHaAlarmMonitorFaultNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31222 - HA not configured

Alarm Type: HA

Description: High availability is disabled due to system configuration

Severity: Minor

OID: sdsHaNotConfiguredNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31223 - HA Heartbeat transmit failure

Alarm Type: HA

Description: The high availability monitor failed to send heartbeat

Severity: Major

OID: sdsHaHbTransmitFailureNotify

Recovery:

1. This alarm clears automatically when the server successfully registers for HA heartbeating.
2. If this alarm does not clear after a couple minutes, contact Tekelec [Customer Care Center](#).

31224 - HA configuration error

Alarm Type: HA

Description: High availability configuration error

Severity: Major

OID: sdsHaCfgErrorNotify

Recovery:

Contact the Tekelec [Customer Care Center](#).

31225 - HA service start failure

Alarm Type: HA

Description: The high availability service failed to start

Severity: Major

OID: sdsHaSvcStartFailureNotify

Recovery:

1. This alarm clears automatically when the HA daemon is successfully started.
2. If this alarm does not clear after a couple minutes, contact Tekelec [Customer Care Center](#).

31226 - HA availability status degraded

Alarm Type: HA

Description: The high availability status is degraded due to raised alarms

Severity: Major

OID: sdsHaAvailDegradedNotify

Recovery:

1. View alarms dashboard for other active alarms on this server.
2. Follow corrective actions for each individual alarm on the server to clear them.
3. If the problem persists, contact Tekelec [Customer Care Center](#).

31227 - HA availability status failed

Alarm Type: HA

Description: The high availability status is failed due to raised alarms

Severity: Critical

OID: sdsHaAvailFailedNotify

Recovery:

1. View alarms dashboard for other active alarms on this server.
2. Follow corrective actions for each individual alarm on the server to clear them.
3. If the problem persists, contact Tekelec [Customer Care Center](#).

31228 - HA standby offline

Alarm Type: HA

Description: High availability standby server is offline

Severity: Major

OID: sdsHaStandbyOfflineNotify

Recovery:

1. If loss of communication between the active and standby servers is caused intentionally by maintenance activity, alarm can be ignored; it clears automatically when communication is restored between the two servers.
2. If communication fails at any other time, look for network connectivity issues and/or contact Tekelec [Customer Care Center](#).

31229 - HA score changed

Alarm Type: HA

Description: High availability health score changed

Severity: Info

OID: sdsHaScoreChangeNotify

Recovery:

Status message - no action required.

31230 - Recent alarm processing fault

Alarm Type: SW

Description: The recent alarm event manager (raclerk) is impaired by a s/w fault

Severity: Minor

OID: sdsRecAlarmEvProcFaultNotify

Recovery:

1. Export event history for the given server and raclerk task.
2. Contact Tekelec [Customer Care Center](#).

31231 - Platform alarm agent fault

Alarm Type: SW

Description: The platform alarm agent impaired by a s/w fault

Severity: Minor

OID: sdsPlatAlarmAgentNotify

Recovery:

Contact Tekelec [Customer Care Center](#).

31232- Late heartbeat warning

Alarm Type: HA

Description: No HA heartbeat received from standby server.

Severity: Minor

OID: eagleXgDsrHaLateHeartbeatWarningNotify

Recovery:

No action required; this is a warning and can be due to transient conditions. If there continues to be no heartbeat from the server, alarm 31228 occurs.

31240 - Measurements collection fault

Alarm Type: SW

Description: The measurements collector (statclerk) is impaired by a s/w fault

Severity: Minor

OID: sdsMeasCollectorFaultNotify

Recovery:

1. Export event history for the given server and statclerk task.
2. Contact Tekelec [Customer Care Center](#).

31250 - RE port mapping fault

Alarm Type: SW

Description: The IP service port mapper (re.portmap) is impaired by a s/w fault

Severity: Minor

OID: sdsRePortMappingFaultNotify

Recovery:

This typically indicate a DNS Lookup failure. Verify all server hostnames are correct in the GUI configuration on the server generating the alarm.

31260 - Database SNMP Agent

Alarm Type: SW

Description: The Database SNMP agent (snmpIdbAgent) is impaired by a s/w fault

Severity: Minor

OID: sdsDbSnmpAgentNotify

Recovery:

1. Export event history for the given server and all processes.
2. Contact Tekelec [Customer Care Center](#).

31270 - Logging output

Alarm Type: SW

Description: Logging output set to Above Normal

Severity: Minor

OID: sdsLoggingOutputNotify

Recovery:

Extra diagnostic logs are being collected, potentially degrading system performance. Contact Tekelec [Customer Care Center](#).

31280 - HA Active to Standby transition

Alarm Type: HA

Description: HA active to standby activity transition

Severity: Info

OID: sdsActiveToStandbyTransNotify

Recovery:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact Tekelec [Customer Care Center](#).

31281 - HA Standby to Active transition

Alarm Type: HA

Description: HA standby to active activity transition

Severity: Info

OID: sdsStandbyToActiveTransNotify

Recovery:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact Tekelec [Customer Care Center](#).

31282- HA Management Fault

Alarm Type: HA

Description: The HA manager (cmha) is impaired by a software fault.

Severity: Minor

OID: sdsHaMgmtFaultNotify

Recovery:

Export event history for the given server and cmha task, then contact Tekelec [Customer Care Center](#).

31283- HA Server Offline

Alarm Type: HA

Description: High availability server is offline

Severity: Critical

OID: sdsHAServerOfflineNotify

Recovery

1. If loss of communication between the active and standby servers is caused intentionally by maintenance activity, alarm can be ignored; it clears automatically when communication is restored between the two servers.
2. If communication fails at any other time, look for network connectivity issues and/or contact Tekelec [Customer Care Center](#).

31290- HA Process Status

Alarm Type: HA

Description: HA manager (cmha) status

Severity: Info

OID: sdsHaProcessStatusNotify

Recovery:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact Tekelec [Customer Care Center](#).

31291- HA Election Status

Alarm Type: HA

Description: HA DC Election status

Severity: Info

OID: sdsHAElectionStatusNotify

Recovery:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact Tekelec [Customer Care Center](#).

32113 - Uncorrectable ECC memory error

Alarm Type: TPD

Description: This alarm indicates that chipset has detected an uncorrectable (multiple-bit) memory error that the ECC (Error-Correcting Code) circuitry in the memory is unable to correct.

Severity: Critical

OID: sdsTpdEccUncorrectableErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#) to request hardware replacement.

32114 - SNMP get failure

Alarm Type: TPD

Description: The server failed to receive SNMP information from the switch.

Severity: Critical

OID: sdsTpdSNMPGetFailure

Within this trap is one bind variable, the OID of which is 1.3.6.1.2.1.1.5 <sysname>, where <sysname> is the name of the switch where the failure occurred.

Recovery

1. Use the following command to verify the switch is active: `ping switch1A/B` (this requires command line access).
2. If the problem persists, contact the Tekelec [Customer Care Center](#).

32300 – Server fan failure

Alarm Type: TPD

Description: This alarm indicates that a fan on the application server is either failing or has failed completely. In either case, there is a danger of component failure due to overheating.

Severity: Major

OID: sdsTpdFanErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32301 - Server internal disk error

Alarm Type: TPD

Description: This alarm indicates the server is experiencing issues replicating data to one or more of its mirrored disk drives. This could indicate that one of the server's disks has either failed or is approaching failure.

Severity: Major

OID: sdsTpdIntDiskErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32302 – Server RAID disk error

Alarm Type: TPD

Description: This alarm indicates that the offboard storage server had a problem with its hardware disks.

Severity: Major

OID: sdsTpdRaidDiskErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32303 - Server Platform error

Alarm Type: TPD

Description: This alarm indicates an error such as a corrupt system configuration or missing files.

Severity: Major

OID: sdsTpdPlatformErrorNotify

Recovery

32304 - Server file system error

Alarm Type: TPD

Description: This alarm indicates unsuccessful writing to at least one of the server's file systems.

Severity: Major

OID: sdsTpdFileSystemErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32305 - Server Platform process error

Alarm Type: TPD

Description: This alarm indicates that either the minimum number of instances for a required process are not currently running or too many instances of a required process are running.

Severity: Major

OID: sdsTpdPlatProcessErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32307 - Server swap space shortage failure

Alarm Type: TPD

Description: This alarm indicates that the server's swap space is in danger of being depleted. This is usually caused by a process that has allocated a very large amount of memory over time.

Severity: Major

OID: sdsTpdSwapSpaceShortageErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32308 - Server provisioning network error

Alarm Type: TPD

Description: This alarm indicates that the connection between the server's ethernet interface and the customer network is not functioning properly.

Severity: Major

OID: sdsTpdProvNetworkErrorNotify

Recovery

1. Verify that a customer-supplied cable labeled TO CUSTOMER NETWORK is securely connected to the appropriate server. Follow the cable to its connection point on the local network and verify this connection is also secure.
2. Test the customer-supplied cable labeled TO CUSTOMER NETWORK with an Ethernet Line Tester. If the cable does not test positive, replace it.
3. Have your network administrator verify that the network is functioning properly.
4. If no other nodes on the local network are experiencing problems and the fault has been isolated to the server or the network administrator is unable to determine the exact origin of the problem, contact the Tekelec [Customer Care Center](#).

32312 - Server disk space shortage error

Alarm Type: TPD

Description: This alarm indicates that one of the following conditions has occurred:

- A filesystem has exceeded a failure threshold, which means that more than 90% of the available disk storage has been used on the filesystem.
- More than 90% of the total number of available files have been allocated on the filesystem.
- A filesystem has a different number of blocks than it had when installed.

Severity: Major

OID: sdsTpdDiskSpaceShortageErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32313 - Server default route network error

Alarm Type: TPD

Description: This alarm indicates that the default network route of the server is experiencing a problem.



CAUTION: When changing the network routing configuration of the server, verify that the modifications will not impact the method of connectivity for the current login session. The route information must be entered correctly and set to the correct values. Incorrectly modifying the routing configuration of the server may result in total loss of remote network access.

Severity: Major

OID: sdsTpdDefaultRouteNetworkErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32314 - Server temperature error

Alarm Type: TPD

Description: The internal temperature within the server is unacceptably high.

Severity: Major

OID: sdsTpdTemperatureErrorNotify

Recovery

1. Ensure that nothing is blocking the fan's intake. Remove any blockage.
2. Verify that the temperature in the room is normal. If it is too hot, lower the temperature in the room to an acceptable level.

Note: Be prepared to wait the appropriate period of time before continuing with the next step. Conditions need to be below alarm thresholds consistently for the alarm to clear. It may take about ten minutes after the room returns to an acceptable temperature before the alarm cleared.

3. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#).

32315 – Server mainboard voltage error

Alarm Type: TPD

Description: This alarm indicates that one or more of the monitored voltages on the server mainboard have been detected to be out of the normal expected operating range.

Severity: Major

OID: sdsTpdMainboardVoltageErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32316 – Server power feed error

Alarm Type: TPD

Description: This alarm indicates that one of the power feeds to the server has failed. If this alarm occurs in conjunction with any Breaker Panel alarm, there might be a problem with the breaker panel.

Severity: Major

OID: sdsTpdPowerFeedErrorNotify

Recovery

1. Verify that all the server power feed cables to the server that is reporting the error are securely connected.
2. Check to see if the alarm has cleared
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
3. Follow the power feed to its connection on the power source. Ensure that the power source is ON and that the power feed is properly secured.
4. Check to see if the alarm has cleared
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
5. If the power source is functioning properly and the wires are all secure, have an electrician check the voltage on the power feed.
6. Check to see if the alarm has cleared
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
7. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#).

32317 - Server disk health test error

Alarm Type: TPD

Description: Either the hard drive has failed or failure is imminent.

Severity: Major

OID: sdsTpdDiskHealthErrorNotify

Recovery

1. Perform the recovery procedures for the other alarms that accompany this alarm.
2. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#).

32318 - Server disk unavailable error

Alarm Type: TPD

Description: The smartd service is not able to read the disk status because the disk has other problems that are reported by other alarms. This alarm appears only while a server is booting.

Severity: Major

OID: sdsTpdDiskUnavailableErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32319 – Device error

Alarm Type: TPD

This alarm indicates that the offboard storage server had a problem with its disk volume filling up.

Severity: Major

OID: sdsTpdDeviceErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32320 – Device interface error

Alarm Type: TPD

Description: This alarm indicates that the IP bond is either not configured or down.

Severity: Major

OID: sdsTpdDeviceIfErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32321 – Correctable ECC memory error

Alarm Type: TPD

Description: This alarm indicates that chipset has detected a correctable (single-bit) memory error that has been corrected by the ECC (Error-Correcting Code) circuitry in the memory.

Severity: Major

OID: sdsTpdEccCorrectableErrorNotify

Recovery

No recovery necessary. If the condition persists, contact the Tekelec [Customer Care Center](#) to request hardware replacement.

32322 – Power Supply A error

Alarm Type: TPD

Description: This alarm indicates that power supply 1 (feed A) has failed.

Severity: Major

OID: sdsTpdPowerSupply1ErrorNotify

Recovery

1. Verify that nothing is obstructing the airflow to the fans of the power supply.
2. If the problem persists, contact the Tekelec [Customer Care Center](#).

32323 – Power Supply B error

Alarm Type: TPD

Description: This alarm indicates that power supply 2 (feed B) has failed.

Severity: Major

OID: sdsTpdPowerSupply2ErrorNotify

Recovery

1. Verify that nothing is obstructing the airflow to the fans of the power supply.
2. If the problem persists, contact the Tekelec [Customer Care Center](#).

32324 – Breaker panel feed error

Alarm Type: TPD

Description: This alarm indicates that the server is not receiving information from the breaker panel relays.

Severity: Major

OID: sdsTpdBrkPnlFeedErrorNotify

Recovery

1. Verify that the same alarm is displayed by multiple servers:
 - If this alarm is displayed by only one server, the problem is most likely to be with the cable or the server itself. Look for other alarms that indicate a problem with the server and perform the recovery procedures for those alarms first.
 - If this alarm is displayed by multiple servers, go to the next step.

2. Verify that the cables that connect the servers to the breaker panel are not damaged and are securely fastened to both the Alarm Interface ports on the breaker panel and to the serial ports on both servers.
3. If the problem has not been resolved, call the Tekelec [Customer Care Center](#) to request that the breaker panel be replaced.

32325 – Breaker panel breaker error

Alarm Type: TPD

Description: This alarm indicates that a power fault has been identified by the breaker panel. The LEDs on the center of the breaker panel (see [Figure 4: Breaker Panel LEDs](#)) identify whether the fault occurred on the input power or the output power, as follows:

- A power fault on input power (power from site source to the breaker panel) is indicated by one of the LEDs in the PWR BUS A or PWR BUS B group illuminated Red. In general, a fault in the input power means that power has been lost to the input power circuit.

Note: LEDs in the PWR BUS A or PWR BUS B group that correspond to unused feeds are not illuminated; LEDs in these groups that are not illuminated do not indicate problems.

- A power fault on output power (power from the breaker panel to other frame equipment) is indicated by either BRK FAIL BUS A or BRK FAIL BUS B illuminated RED. This type of fault can be caused by a surge or some sort of power degradation or spike that causes one of the circuit breakers to trip.

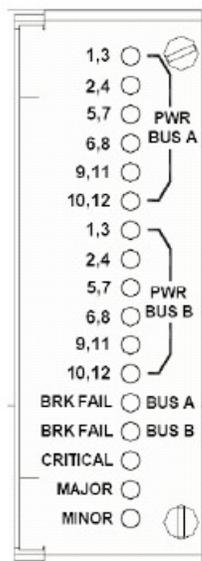


Figure 4: Breaker Panel LEDs

Description: This alarm indicates that a power fault has been identified by the breaker panel.

Severity: Major

OID: TPDBrkPnlBreakerErrorNotify

Recovery

1. Verify that the same alarm is displayed by multiple servers both servers (the single breaker panel normally sends alarm information to both servers):
 - If this alarm is displayed by only one server, the problem is most likely to be with the cable or the server itself. Look for other alarms that indicate a problem with the server and perform the recovery procedures for those alarms first.
 - If this alarm is displayed by both servers multiple servers, go to the next step.
2. Look at the breaker panel assignments in [Figure 5: Breaker Panel Setting](#). For each breaker assignment, and verify that the corresponding LED in the PWR BUS A group and the PWR BUS B group is illuminated Green.

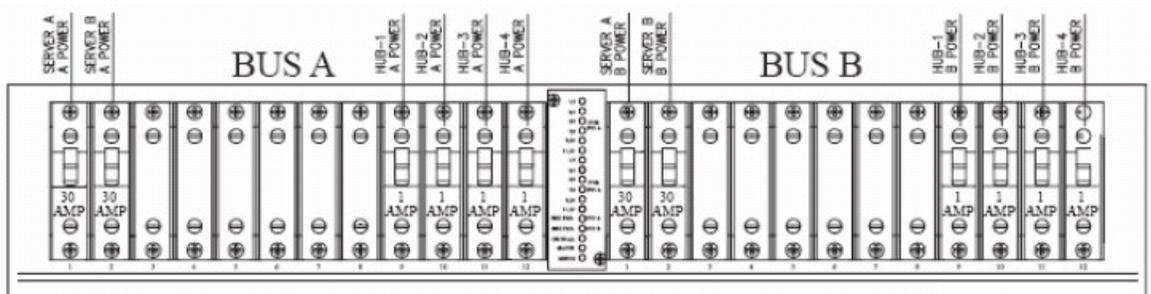


Figure 5: Breaker Panel Setting

If one of the LEDs in the PWR BUS A group or the PWR BUS B group is illuminated Red, a problem has been detected with the corresponding input power feed. Contact the Tekelec [Customer Care Center](#)

- a) Verify that the customer provided source for the affected power feed is operational. If the power source is properly functioning, have an electrician remove the plastic cover from the rear of the breaker panel and verify the power source is indeed connected to the input power feed connector on the rear of the breaker panel. Correct any issues found.
- b) Check the LEDs in the PWR BUS A group and the PWR BUS B group again.
 - If the LEDs are now illuminated Green, the issue has been resolved.
 - Proceed to [Substep c](#) to verify that the alarm has been cleared.
 - If the LEDs are still illuminated Red, continue to the next sub-step.
- c) Have the electrician verify the integrity of the input power feed. The input voltage should measure nominally -48VDC (that is, between -41VDC and -60VDC). If the supplied voltage is not within the acceptable range, the input power source must be repaired or replaced.

Note: Be sure the voltmeter is connected properly. The locations of the BAT and RTN connections are in mirror image on either side of the breaker panel.

If the measured voltage is within the acceptable range, the breaker panel may be malfunctioning. The breaker panel must be replaced.

- d) Check the LEDs in the PWR BUS A group and the PWR BUS B group again after the necessary actions have been taken to correct any issues found.
 - If the LEDs are now illuminated Green, the issue has been resolved. Proceed to [Step 3](#) to verify that the alarm has been cleared.
 - If the LEDs are still illuminated Red, skip to [Step 4](#)

3. Check the BRK FAIL LEDs for BUS A and for BUS B.
 - If one of the BRK FAIL LEDs is illuminated Red, then one or more of the respective Input Breakers has tripped. (A tripped breaker is indicated by the toggle located in the center position.) Perform the following steps to repair this issue:
 - a) For all tripped breakers, move the breaker down to the open (OFF) position and then back up to the closed (ON) position.
 - b) After all the tripped breakers have been reset, check the BRK FAIL LEDs again. If one of the BRK FAIL LEDs is still illuminated Red, contact the Tekelec [Customer Care Center](#)
 - If all of the BRK FAIL LEDs and all the LEDs in the PWR BUS A group and the PWR BUS B group are illuminated Green, continue with the next step.
 - If all of the BRK FAIL LEDs and all the LEDs in the PWR BUS A group and the PWR BUS B group are illuminated Green, there is most likely a problem with the serial connection between the server and the breaker panel. This connection is used by the system health check to monitor the breaker panel for failures. Verify that both ends of the labeled serial cables are properly secured. If any issues are discovered with these cable connections, make the necessary corrections and continue to the next step to verify that the alarm has been cleared, otherwise contact the Tekelec [Customer Care Center](#)
4. Check to see if the alarm has cleared.
 - If the alarm has been cleared, the problem is resolved.
 - If the alarm has not been cleared, continue with the next step.
5. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#)

32326 – Breaker panel monitoring error

Alarm Type: TPD

Description: This alarm indicates a failure in the hardware and/or software that monitors the breaker panel. This could mean there is a problem with the file I/O libraries, the serial device drivers, or the serial hardware itself.

Note: When this alarm occurs, the system is unable to monitor the breaker panel for faults. Thus, if this alarm is detected, it is imperative that the breaker panel be carefully examined for the existence of faults. The LEDs on the breaker panel will be the only indication of the occurrence of either alarm

- 32324-Breaker Panel Feed Error or
- 32325-Breaker Panel Breaker Error

until the Breaker Panel Monitoring Error has been corrected.

Severity: Major

OID: sdsTpdBrkPnlMntErrorNotify

Recovery

1. Verify that the same alarm is displayed by multiple servers:
 - If this alarm is displayed by only one server, the problem is most likely to be with the cable or the server itself. Look for other alarms that indicate a problem with the server and perform the recovery procedures for those alarms first.

- If this alarm is displayed by multiple servers, go to the next step.
2. Verify that both ends of the labeled serial cables are secured properly (for locations of serial cables, see the appropriate hardware manual).
 3. If the alarm has not been cleared, contact the Tekelec [Customer Care Center](#).

32327 – Server HA Keepalive error

Alarm Type: TPD

Description: This alarm indicates that heartbeat process has detected that it has failed to receive a heartbeat packet within the timeout period.

Severity: Major

OID: sdsTpdHaKeepaliveErrorNotify

Recovery

1. Determine if the mate server is currently down and bring it up if possible.
2. Determine if the keepalive interface is down.
3. Determine if heartbeat is running (service TKLCha status).

Note: This step may require command line ability.

4. Contact the Tekelec [Customer Care Center](#).

32331 – HP disk problem

Alarm Type: TPD

Description: This major alarm indicates that there is an issue with either a physical or logical disk in the HP disk subsystem. The message will include the drive type, location, slot and status of the drive that has the error.

Severity: Major

OID: sdsTpdHpDiskProblemNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32332 – HP Smart Array controller problem

Alarm Type: TPD

Description: This major alarm indicates that there is an issue with an HP disk controller. The message will include the slot location, the component on the controller that has failed, and status of the controller that has the error.

Severity: Major

OID: sdsTpdHpDiskCtrlrProblemNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32333 – HP hpacucliStatus utility problem

Alarm Type: TPD

Description: This major alarm indicates that there is an issue with the process that caches the HP disk subsystem status. This usually means that the hpacucliStatus daemon is either not running, or hung.

Severity: Major

OID: sdsTpdHPACUCLIProblemNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32334 - Multipath device access link problem

Alarm Type: TPD

Description: One or more "access paths" of a multipath device are failing or are not healthy, or the multipath device does not exist.

Severity: Major

OID: sdsTpdMpathDeviceProblemNotify

Recovery

32335 - Switch link down error

Alarm Type: TPD

Description: The link is down.

Severity: Major

OID: sdsTpdSwitchLinkDownErrorNotify

Within this trap are two bind variables, the OIDs of which are:

- 1.3.6.1.2.1.1.5 <sysname>, where <sysname> is the name of the switch where the failure occurred.
- 1.3.6.1.2.1.2.1.1 <link index>, where <link index> is the index of the failed link.

Recovery

1. Verify the cabling between the port and the remote side.
2. Verify networking on the remote end.
3. If the problem persists, contact the Tekelec [Customer Care Center](#) who should verify port settings on both the server and the switch.

32336– Half Open TCP Socket Limit

Alarm Type: TPD

This alarm indicates that the number of half open TCP sockets has reached the major threshold. This problem is caused by a remote system failing to complete the TCP 3-way handshake.

Severity: Major

OID: sdsTpdHalfOpenSockLimitNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32403 – PM&C backup failed

Alarm Type: PM&C

The PM&C application has a failure that needs to be investigated.

Severity: Major

OID: sdsPmacBackupErrorNotify

1. Attempt a manual backup using the PM&C GUI.
2. If the problems persists, contact the Tekelec [Customer Care Center](#).

32500 – Server disk space shortage warning

Alarm Type: TPD

Description: This alarm indicates that one of the following conditions has occurred:

- A file system has exceeded a warning threshold, which means that more than 80% (but less than 90%) of the available disk storage has been used on the file system.
- More than 80% (but less than 90%) of the total number of available files have been allocated on the file system.

Severity: Minor

OID: sdsTpdDiskSpaceShortageWarningNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32501 – Server application process error

Alarm Type: TPD

Description: This alarm indicates that either the minimum number of instances for a required process are not currently running or too many instances of a required process are running.

Severity: Minor

OID: sdsTpdApplicationProcessErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32502 – Server hardware configuration error

Alarm Type: TPD

Description: This alarm indicates that one or more of the server's hardware components are not in compliance with Tekelec specifications (refer to the appropriate hardware manual).

Severity: Minor

OID: sdsTpdHardwareConfigErrorNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32503 – Server RAM shortage warning

Alarm Type: TPD

Description: This alarm is generated by the MPS syscheck software package and is not part of the TPD distribution.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.4

Recovery

Contact the Tekelec [Customer Care Center](#).

32505 – Server swap space shortage warning

Alarm Type: TPD

Description: This alarm indicates that the swap space available on the server is less than expected. This is usually caused by a process that has allocated a very large amount of memory over time.

Note: For this alarm to clear, the underlying failure condition must be consistently undetected for a number of polling intervals. Therefore, the alarm may continue to be reported for several minutes after corrective actions are completed.

Severity: Minor

OID: sdsTpdSwapSpaceShortageWarningNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32506 – Server default router not defined

Alarm Type: TPD

Description: This alarm indicates that the default network route is either not configured or the current configuration contains an invalid IP address or hostname.

Severity: Minor

OID: sdsTpdDefaultRouteNotDefinedNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32507 – Server temperature warning

Alarm Type: TPD

Description: This alarm indicates that the internal temperature within the server is outside of the normal operating range. A server Fan Failure may also exist along with the Server Temperature Warning.

Severity: Minor

OID: sdsTpdTemperatureWarningNotify

Recovery

1. Ensure that nothing is blocking the fan's intake. Remove any blockage.
2. Verify that the temperature in the room is normal. If it is too hot, lower the temperature in the room to an acceptable level.

Note: Be prepared to wait the appropriate period of time before continuing with the next step. Conditions need to be below alarm thresholds consistently for the alarm to clear. It may take about ten minutes after the room returns to an acceptable temperature before the alarm cleared.

3. Replace the filter (refer to the appropriate hardware manual).

Note: Be prepared to wait the appropriate period of time before continuing with the next step. Conditions need to be below alarm thresholds consistently for the alarm to clear. It may take about ten minutes after the filter is replaced before the alarm cleared.

4. If the problem has not been resolved, contact the Tekelec [Customer Care Center](#).

32508 – Server core file detected

Alarm Type: TPD

Description: This alarm indicates that an application process has failed and debug information is available.

Severity: Minor

OID: sdsTpdCoreFileDetectedNotify

Recovery

32509 – Server NTP Daemon not synchronized

Alarm Type: TPD

Description: This alarm indicates that the NTP daemon (background process) has been unable to locate a server to provide an acceptable time reference for synchronization.

Severity: Minor

OID: sdsTpdNTPDaemonNotSynchronizedNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32510 – CMOS battery voltage low

Alarm Type: TPD

Description: The presence of this alarm indicates that the CMOS battery voltage has been detected to be below the expected value. This alarm is an early warning indicator of CMOS battery end-of-life failure which will cause problems in the event the server is powered off.

Severity: Minor

OID: sdsTpdCMOSBatteryVoltageLowNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32511 – Server disk self test warning

Alarm Type: TPD

Description: A non-fatal disk issue (such as a sector cannot be read) exists.

Severity: Minor

OID: sdsTpdSmartTestWarnNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32512 – Device warning

Alarm Type: TPD

Description: This alarm indicates that either we are unable to perform an snmpget command on the configured SNMP OID or the value returned failed the specified comparison operation.

Severity: Minor

OID: sdsTpdDeviceWarnNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32513 – Device interface warning

Alarm Type: TPD

Description: This alarm can be generated by either an SNMP trap or an IP bond error.

Severity: Minor

OID: sdsTpdDeviceIfWarnNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32514 – Server reboot watchdog initiated

Alarm Type: TPD

Description: This alarm indicates that the hardware watchdog was not strobed by the software and so the server rebooted the server. This applies to only the last reboot and is only supported on a T1100 application server.

Severity: Minor

OID: sdsTpdWatchdogRebootNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32515 – Server HA failover inhibited

Alarm Type: TPD

Description: This alarm indicates that the server has been inhibited and therefore HA failover is prevented from occurring.

Severity: Minor

OID: sdsTpdHaInhibitedNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32516 – Server HA Active to Standby transition

Alarm Type: TPD

Description: This alarm indicates that the server is in the process of transitioning HA state from Active to Standby.

Severity: Minor

OID: sdsTpdHaActiveToStandbyTransNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32517 – Server HA Standby to Active transition

Alarm Type: TPD

Description: This alarm indicates that the server is in the process of transitioning HA state from Standby to Active.

Severity: Minor

OID: sdsTpdHaStandbyToActiveTransNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32518 – Platform Health Check failure

Alarm Type: TPD

Description: This alarm is used to indicate a configuration error.

Severity: Minor

OID: sdsTpdPlatformHealthCheckFailedNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32519 – NTP Offset Check failure

Alarm Type: TPD

Description: This minor alarm indicates that time on the server is outside the acceptable range (or offset) from the NTP server. The Alarm message will provide the offset value of the server from the NTP server and the offset limit that the application has set for the system.

Severity: Minor

OID: sdsNtpOffsetCheckFailedNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32520 – NTP Stratum Check failure

Alarm Type: TPD

Description: This alarm indicates that NTP is syncing to a server, but the stratum level of the NTP server is outside of the acceptable limit. The Alarm message will provide the stratum value of the NTP server and the stratum limit that the application has set for the system.

Severity: Minor

OID: sdsNtpStratumCheckFailedNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32521 – SAS Presence Sensor Missing

Alarm Type: TPD

Description: This alarm indicates that the T1200 server drive sensor is not working.

Severity: Minor

OID: sdsSasPresenceSensorMissingNotify

Recovery

Contact the Tekelec [Customer Care Center](#) to get a replacement server.

32522 – SAS Drive Missing

Alarm Type: TPD

Description: This alarm indicates that the number of drives configured for this server is not being detected.

Severity: Minor

OID: sdsSasDriveMissingNotify

Recovery

Contact the Tekelec [Customer Care Center](#) to determine whether the issue is with a failed drive or failed configuration.

32523 – DRBD failover busy

Alarm Type: TPD

Description: This alarm indicates that a DRBD sync is in progress from the peer server to the local server. The local server is not ready to act as the primary DRBD node, since it's data is not up to date.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.24

Recovery

A DRBD sync should not take more than 15 minutes to complete. Please wait for approximately 20 minutes, and then check if the DRBD sync has completed. If the alarm persists longer than this time period, contact the Tekelec [Customer Care Center](#).

32524 – HP disk resync

Alarm Type: TPD

Description: This minor alarm indicates that the HP disk subsystem is currently resynchronizing after a failed or replaced drive, or some other change in the configuration of the HP disk subsystem. The output of the message will include the disk that is resynchronizing and the percentage complete. This alarm should eventually clear once the resync of the disk is completed. The time it takes for this is dependant on the size of the disk and the amount of activity on the system.

Severity: Minor

OID: sdsTpdHpDiskResyncNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32525 – Telco Fan Warning

Alarm Type: TPD

Description: This alarm indicates that the Telco switch has detected an issue with an internal fan.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.26

Recovery

1. Contact the Tekelec [Customer Care Center](#) to get a replacement switch. Verify the ambient air temperature around the switch is as low as possible until the switch is replaced.
2. Tekelec [Customer Care Center](#) personnel can perform an snmpget command or log into the switch to get detailed fan status information.

32526 – Telco Temperature Warning

Alarm Type: TPD

Description: This alarm indicates that the Telco switch has detected the internal temperature has exceeded the threshold.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.27

Recovery

1. Lower the ambient air temperature around the switch as low as possible.
2. If problem persists, contact the Tekelec [Customer Care Center](#).

32527 – Telco Power Supply Warning

Alarm Type: TPD

Description: This alarm indicates that the Telco switch has detected that one of the duplicate power supplies has failed.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.28

Recovery

1. Verify breaker wasn't tripped.

2. If breaker is still good and problem persists, contact the Tekelec [Customer Care Center](#) who can perform a **snmpget** command or log into the switch to determine which power supply is failing. If the power supply is bad, the switch must be replaced.

32528 – Invalid BIOS value

Alarm Type: TPD

Description: This alarm indicates that the HP server has detected that one of the setting for either the embedded serial port or the virtual serial port is incorrect.

Severity: Minor

OID: sdsTpdInvalidBiosValueNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32529– Server Kernel Dump File Detected

Alarm Type: TPD

Description: This alarm indicates that the kernel has crashed and debug information is available.

Severity: Minor

OID: sdsTpdServerKernelDumpFileDetectedNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32530– TPD Upgrade Failed

Alarm Type: TPD

Description: This alarm indicates that a TPD upgrade has failed.

Severity: Minor

OID: sdsTpdServerUpgradeFailDetectedNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32531– Half Open Socket Warning Limit

Alarm Type: TPD

This alarm indicates that the number of half open TCP sockets has reached the major threshold. This problem is caused by a remote system failing to complete the TCP 3-way handshake.

Severity: Minor

OID: tpdHalfOpenSocketWarningNotify

Recovery

Contact the Tekelec [Customer Care Center](#).

32532– Server Upgrade Pending Accept/Reject

Alarm Type: TPD

This alarm indicates that an upgrade occurred but has not been accepted or rejected yet.

Severity: Minor

OID: 1.3.6.1.4.1.323.5.3.18.3.1.3.33

Recovery

Follow the steps in the application's upgrade procedure for accepting or rejecting the upgrade.

32603 – PM&C backup to remote server failed

Alarm Type: PM&C

The PMAC application has a failure that needs to be investigated.

Severity: Minor

OID: sdsmpacRemoteBackupErrorNotify

1. Verify that the remote server is operational.
2. Verify that the primary PMAC can ping the remote server.
3. Attempt a manual backup to remote server using the PMAC GUI.
4. If the problems persists, contact the Tekelec [Customer Care Center](#).

Chapter 4

Key Performance Indicators (KPIs)

Topics:

- *General KPIs information.....101*
- *KPIs server elements103*
- *Provisioning KPIs.....104*
- *Process-based KPIs.....105*
- *DP KPIs.....107*

This section provides general information about KPIs, and lists the KPIs that can appear on the Status & Manage KPIs GUI page.

General KPIs information

This section provides general information about KPIs and the Status and Manage KPI page, and how to view KPIs.

KPIs overview

Key Performance Indicators (KPIs) allow the user to monitor system performance data, including CPU, memory, swap space, and uptime per server. This performance data is collected from all servers within the defined topology.

The KPI display function resides on all OAM servers. Servers that provide a GUI connection rely on KPI information merged to that server. The Network OAMP servers maintain status information for all servers in the topology. System OAM servers have reliable information only for servers within the same network element.

The Status and Manage KPIs page displays performance data for the entire system. KPI data for the entire system is updated every 60 seconds. If data is not currently being collected for a particular server, the KPI for that server will be shown as Unk for "Unknown".

KPIs

The **Status & Manage > KPIs** page displays KPIs for the entire system. KPIs for the server and its applications are displayed on separate tabs. The application KPIs displayed may vary according to whether you are logged in to an NOAMP server or an SOAM server.

Viewing KPIs

Use this procedure to view KPI data.

1. Select **Status & Manage > KPIs**.

The **Status & Manage KPIs** page appears with the **Server** tab displayed. For details about the KPIs displayed on this page, see the application documentation.

2. Click to select an application tab to see KPI data relevant to the application.

Note: The application KPIs displayed may vary according to whether you are logged in to an NOAMP server or an SOAM server. Collection of KPI data is handled solely by NOAMP servers in systems that do not support SOAMs.

KPIs data export elements

This table describes the elements on the **KPIs Export** page.

Table 10: Schedule KPI Data Export Elements

Element	Description	Data Input Notes
Task Name	Name of the scheduled task	Format: Textbox

Key Performance Indicators (KPIs)

Element	Description	Data Input Notes
		Range: Maximum length is 24 characters; alphanumeric (a-z, A-Z, and 0-9) and minus sign (-). Task Name must begin and end with an alphanumeric character.
Description	Description of the scheduled task	Format: Textbox Range: Maximum length is 255 characters; alphanumeric (a-z, A-Z, and 0-9) and minus sign (-). Description must begin with an alphanumeric character.
Export Frequency	Frequency at which the export occurs	Format: Radio button Range: Hourly, Once, Weekly, or Daily Default: Once
Minute	If hourly is selected for Upload Frequency, this is the minute of each hour when the data will be written to the export directory.	Format: Scrolling list Range: 0 to 59
Time of Day	Time of day the export occurs	Format: Time textbox Range: 15-minute increments Default: 12:00 AM
Day of Week	Day of week on which the export occurs	Format: Radio button Range: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday Default: Sunday

Exporting KPIs

You can schedule periodic exports of security log data from the **KPIs** page. KPI data can be exported immediately, or you can schedule exports to occur daily or weekly. If filtering has been applied in the **KPIs** page, only filtered data is exported.

During data export, the system automatically creates a CSV file of the filtered data. The file will be available in the file management area until you manually delete it, or until the file is transferred to an alternate location using the Export Server feature. For more information about using **Export Server**, see [Export Server](#).

Use this procedure to schedule a data export task.

1. Select **Status & Manage > KPIs**.

The **KPIs** page appears.

2. If necessary, specify filter criteria and click **Go**.
The KPIs are displayed according to the specified criteria.
3. Click **Export**.
The **Schedule KPI Data Export** page appears.
4. Enter the **Task Name**.
For more information about **Task Name**, or any field on this page, see [KPIs data export elements](#).
5. Select the **Export Frequency**.
6. If you selected Hourly, specify the **Minutes**.
7. Select the **Time of Day**.

Note: **Time of Day** is not an option if **Export Frequency** equals **Once**.

8. Select the **Day of Week**.

Note: **Day of Week** is not an option if **Export Frequency** equals **Once**.

9. Click **OK** or **Apply** to initiate the KPI export task.

From the **Status & Manage > Files** page, you can view a list of files available for download, including the file you exported during this procedure. For more information, see [Displaying the file list](#).

Scheduled tasks can be viewed, edited, and deleted, and reports of scheduled tasks can be generated from **Status & Manage > Tasks**. For more information see:

- [Viewing scheduled tasks](#)
- [Editing a scheduled task](#)
- [Deleting a scheduled task](#)
- [Generating a scheduled task report](#)

KPIs server elements

This table describes KPIs that appear regardless of server role.

Table 11: KPIs Server Elements

KPIs Status Element	Description
Network Element	The network element name (set up on the Configuration > Network Elements page) associated with each Server Hostname.
Server Hostname	The server hostname set up on the Configuration > Servers page. All servers in the system are listed here.
Server Indicators:	

Key Performance Indicators (KPIs)

KPIs Status Element	Description
CPU	Percentage utilization of all processors on the server by all software as measured by the operating system.
RAM	Percentage utilization of physical memory on the server by all software as measured by TPD.
Swap	Percentage utilization of swap space on the server by all software as measured by TPD.
Uptime	The total amount of time the server has been running.

Provisioning KPIs

Table 12: provisioning KPIs

Variable	Description
ProvConnections	The number of provisioning client connections currently established. A single connection includes a client having successfully established a TCP/IP connection, sent a provisioning connect message, and having received a successful response.
ProvMsgsReceived	The number of provisioning messages per second that have been received from all sources except import files.
ProvMsgsImported	The number of provisioning messages per second imported from files.
ProvMsgsSuccessful	The number of provisioning messages per second that have been successfully processed and a success response sent to the requestor.
ProvMsgsFailed	The number of provisioning messages per second that have failed to be processed due to errors and a failure response sent to the requestor.
ProvMsgsSent	The number of provisioning message responses sent per second to the requestor.
ProvMsgsDiscarded	The number of provisioning messages discarded per second. provisioning messages are discarded due to connection shutdown, server shutdown, server's role switching from active to standby, or transaction not becoming durable within the allowed amount of time.

Key Performance Indicators (KPIs)

Variable	Description
ProvTxnCommitted	The number of provisioning transactions per second that have been successfully committed to the database (memory and on disk) on the active server of the primary SDS cluster.
ProvTxnFailed	The number of provisioning transactions per second that have failed to be started, committed, or aborted due to errors.
ProvTxnAborted	The number of provisioning transactions aborted per second.
ProvTxnActive	The number of provisioning transactions that are currently active (normal transaction mode only).
ProvTxnNonDurable	The number of transactions that have been committed, but are not yet durable. Responses for the associated requests are not sent until the transaction has become durable.
ProvRelayMsgsSent	The number of relayed provisioning messages sent per second.
ProvRelayMsgsSuccessful	The number of relayed provisioning messages per second that were successful at the HLRR.
ProvRelayMsgsFailed	The number of relayed provisioning messages per second that failed at the HLRR.
ProvRemoteAuditMsgsSent	The number of IMSI and MSISDN records audited per second.
ProvRelayTimeLag	Time in seconds between timestamps of last record PdbRelay processed and latest entry in the Command Log.

Process-based KPIs

Table 13: Process-based KPIs

Variable	Description
provimport.Cpu	CPU usage of provimport process
provimport.MemHeap	Heap memory usage of provimport process
provimport.MemBasTotal	Memory usage of provimport process
provimport.MemPerTotal	Percent memory usage of provimport process
provexport.Cpu	CPU usage of provexport process

Key Performance Indicators (KPIs)

Variable	Description
provexport.MemHeap	Heap memory usage of provexport process
provexport.MemBasTotal	Memory usage of provexport process
provexport.MemPerTotal	Percent memory usage of provexport process
pdbrelay.Cpu	CPU usage of pdbrelay process
pdbrelay.MemHeap	Heap memory usage of pdbrelay process
pdbrelay.MemBasTotal	Memory usage of the pdbrelay process
pdbrelay.MemPerTotal	Percent memory usage of pdbrelay process
pdbaudit.Cpu	CPU usage of pdbaudit process
pdbaudit.MemHeap	Heap memory usage of pdbaudit process
pdbaudit.MemBasTotal	Memory usage of the pdbaudit process
pdbaudit.MemPerTotal	Percent memory usage of pdbaudit process
pdba.Cpu	CPU usage of pdba process
pdba.MemHeap	Heap memory usage of pdba process
pdba.MemBasTotal	Memory usage of pdba process
pdba.MemPerTotal	Percent memory usage of pdba process
xds.Cpu	CPU usage of xds process
xds.MemHeap	Heap memory usage of xds process
xds.MemBasTotal	Memory usage of xds process
xds.MemPerTotal	Percent memory usage of xds process
dpserver.Cpu	CPU usage of dpserver process on DP
dpserver.MemHeap	Heap memory usage of dpserver process on DP
dpserver.MemBaseTotal	Memory usage of the dpserver process on DP
dpserver.MemPerTotal	Percent memory usage of dpserver on DP
era.Cpu	CPU usage of era process
era.MemHeap	Heap memory usage of era process
era.MemBasTotal	Memory usage of era process
era.MemPerTotal	Percent memory usage of era process

DP KPIs

Table 14: DP KPIs

Variable	Description
DpsQueryRate	Total number of queries received per second
DpsMsisdnQueryRate	Total number of MSISDN queries received per second
DpsImsiQueryRate	Total number of IMSI queries received per second
DpsNaiQueryRate	Total number of NAI queries received per second
DpsFailedQueryRate	Total number of queries failed per second
DpsNotFoundQueryRate	Total number of queries with Not Found responses per second
DpsMsisdnNotFoundQueryRate	Total number of MSISDN queries with Not Found responses per second
DpsImsiNotFoundQueryRate	Total number of IMSI queries with Not Found responses per second
DpsNaiNotFoundQueryRate	Total number of NAI queries with Not Found responses per second
DpsResponseSent	Total number of responses sent per second
DpsIngressQueue	DP Ingress Queue percentage full
DpsMsisdnBlacklistedRate	Total number of MSISDN Queries with Blacklisted Responses per second
DpsImsiBlacklistedRate	Total number of IMSI Queries with Blacklisted Responses per second

Chapter 5

Measurements

Topics:

- *General measurements information.....109*
- *Provisioning interface measurements.....113*
- *DP Measurements.....126*
- *OAM Alarm measurements.....138*
- *OAM System measurements.....138*

This section provides general information about measurements (including measurement procedures), and lists the measurements that display on measurement reports.

General measurements information

This section provides general information about measurements, measurement-related GUI elements, and measurement report procedures.

Measurements

This section provides an overview of the options on the **Measurements** page. All components of the system measure the amount and type of messages sent and received. Measurement data collected from all components of the system can be used for multiple purposes, including discerning traffic patterns and user behavior, traffic modeling, size traffic sensitive resources, and troubleshooting. This section provides an overview of measurements, describes how to generate and export a measurements report, and provides a list of register types.

The measurements framework allows applications to define, update, and produce reports for various measurements.

- Measurements are ordinary counters that count occurrences of different events within the system, for example, the number of messages received. Measurement counters are also called pegs. Additional measurement types provided by the Platform framework are not used in this release.
- Applications simply peg (increment) measurements upon the occurrence of the event that needs to be measured.
- Measurements are collected and merged at the SOAM and NOAM servers as appropriate.
- The GUI allows reports to be generated from measurements.

Measurements that are being pegged locally are collected from shared memory and stored in a disk-backed database table every 5 minutes on all servers in the network. Measurements are collected every 5 minutes on a 5 minute boundary, i.e. at HH:00, HH:05, HH:10, HH:15, and so on. The collection frequency is set to 5 minutes to minimize the loss of measurement data in case of a server failure, and also to minimize the impact of measurements collection on system performance.

All servers in the network (NOAMP, SOAM, and MP servers) store a minimum of 8 hours of local measurements data. More than 5 minutes of local measurements data is retained on each server to minimize loss of measurements data in case of a network connection failure to the server merging measurements.

Measurements data older than the required retention period are deleted by the measurements framework.

Measurements are reported in groups. A measurements report group is a collection of measurement IDs. Each measurement report contains one measurement group. A measurement can be assigned to one or more existing or new measurement groups so that it is included in a measurement report. Assigning a measurement ID to a report group ensures that when you select a report group the same set of measurements is always included in the measurements report.

Note: Measurements from a server may be missing in a report if the server is down; the server is in overload; something in the Platform merging framework is not working; or the report is generated before data is available from the last collection period (there is a 25 to 30 second lag time in availability).

Measurement elements

This table describes the elements on the **Measurements Report** page.

Table 15: Measurements Elements

Element	Description	Data Input Notes
Scope	<p>Network Elements or Server Groups for which the measurements report can be run.</p> <p>Note: If the report is generated from an SOAM network element, the scope filter will not be displayed, and the selected scope will be that specific SOAM network element.</p> <p>Note: Measurements for SOAM network elements are not available in systems that do not support SOAMs.</p>	<p>Format: Pulldown list</p> <p>Range: Network Elements in the topology; Server Groups in the topology</p> <p>Note: If no selection is made, the default scope is Entire Network.</p> <p>Default: Entire Network</p>
Report	A selection of reports	<p>Format: Pulldown list</p> <p>Range: Varies depending on application</p> <p>Default: Group</p>
Interval	The increments by which data can be measured	<p>Format: Pulldown list</p> <p>Range: Day, Fifteen Minute, Five Minute, Half Hour, Hour</p> <p>Default: N/A</p>
Time Range	The interval of time for which the data is being reported, beginning or ending on a specified date.	<p>Format: Pulldown list</p> <p>Range: Days, Hours, Minutes, Seconds</p> <p>Interval Reference Point: Ending, Beginning</p> <p>Default: Days</p>

Generating a measurements report

Use this procedure to generate and view a measurements report.

1. Select **Measurements > Report** .

The **Measurements Report** page appears.

2. Select the **Scope**.

For details about this field, or any field on the **Measurements Report** page, see [Measurement elements](#)

3. Select the **Report**.
4. Select the **Interval**.
5. Select the **Time Range**.
6. Select **Beginning** or **Ending** as the **Time Range** interval reference point.
7. Select the **Beginning** or **Ending** date.
8. Click **Go**.

The report is generated.

Note: Data for the selected scope is displayed in the primary report page. Data for any available sub-scopes are displayed in tabs. For example, if the selected scope is Entire Network, report data for the entire network appears in the primary report page. The individual network entities within the entire network are considered sub-scopes.

9. To view report data for a specific sub-scope, click on the tab for that sub-scope.
The report data appears.

Measurements data export elements

This table describes the elements on the **Measurements Report Export** page.

Table 16: Schedule Measurement Data Export Elements

Element	Description	Data Input Notes
Task Name	Name of the scheduled task	Format: Textbox Range: Maximum length is 24 characters; alphanumeric (a-z, A-Z, and 0-9) and minus sign (-). Task Name must begin and end with an alphanumeric character.
Description	Description of the scheduled task	Format: Textbox Range: Maximum length is 255 characters; alphanumeric (a-z, A-Z, and 0-9) and minus sign (-). Description must begin with an alphanumeric character.
Export Frequency	Frequency at which the export occurs	Format: Radio button Range: Once, Weekly, or Daily Default: Once
Minute	If hourly is selected for Upload Frequency, this is the minute of each hour when the data will be written to the export directory.	Format: Scrolling list Range: 0 to 59

Element	Description	Data Input Notes
Time of Day	Time of day the export occurs	Format: Time textbox Range: 15-minute increments Default: 12:00 AM
Day of Week	Day of week on which the export occurs	Format: Radio button Range: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday Default: Sunday

Exporting measurements reports

You can schedule periodic exports of data from the **Measurements Report** page. Measurements data can be exported immediately, or you can schedule exports to occur daily or weekly. If filtering has been applied on the **Measurements Report** page, only filtered data is exported.

During data export, the system automatically creates a CSV file of the filtered data. The file will be available in the file management area until you manually delete it, or until the file is transferred to an alternate location using the Export Server feature. For more information about using **Export Server**, see [Export Server](#).

Use this procedure to save a measurements report to the file management storage area. Use this procedure to schedule a data export task.

1. Select **Measurements > Report**.

The **Measurements Report** page appears. For a description of each field, see [Measurement elements](#).

2. Generate a measurements report.

For information about how to generate a measurements report, see [Generating a measurements report](#).

3. Click to select the scope or sub-scope measurement report that you want to export.

4. Click **Export**.

The measurement report is exported to a CSV file. Click the link at the top of the page to go directly to the **Status & Manage > Files** page. From the **Status & Manage > Files** page, you can view a list of files available for download, including the measurements report you exported during this procedure. The **Schedule Measurement Log Data Export** page appears.

5. Enter the **Task Name**.

For more information about Task Name, or any field on this page, see [Measurements data export elements](#).

6. Select the **Export Frequency**.

7. If you selected Hourly, specify the **Minutes**.

8. Select the **Time of Day**.

Note: **Time of Day** is not an option if **Export Frequency** equals **Once**.

9. Select the **Day of Week**.

Note: **Day of Week** is not an option if **Export Frequency** equals **Once**.

10. Click **OK** or **Apply** to initiate the data export task.

The data export task is scheduled. From the **Status & Manage > Files** page, you can view a list of files available for download, including the file you exported during this procedure. For more information, see [Displaying the file list](#).

Scheduled tasks can be viewed, edited, and deleted, and reports of scheduled tasks can be generated from **Status & Manage > Tasks**. For more information see:

- [Viewing scheduled tasks](#)
- [Editing a scheduled task](#)
- [Deleting a scheduled task](#)
- [Generating a scheduled task report](#)

Provisioning interface measurements

The provisioning interface measurement group is a set of measurements associated with the usage of provisioning Rules. These measurements will allow the user to determine which provisioning Rules are most commonly used and the percentage of times that messages were successfully (or unsuccessfully) routed.

Table 17: Application Routing Rule Measurements

Measurement Tag	Description	Collection Interval
ProvConnectsAttempted	The total number of client initiated connect attempts to establish a connection with the server.	5 min
ProvConnectsAccepted	The total number of client initiated connect attempts that have been accepted.	5 min
ProvConnectsDenied	The total number of client initiated connect attempts that have been denied due to clients not running on an authorized server, maximum number of allowed connections already established, or the provisioning interface is disabled.	5 min
ProvConnectsFailed	The total number of client initiated connect attempts that failed due to errors during initialization.	5 min

Measurement Tag	Description	Collection Interval
ProvConnectionIdleTimeouts	The total number of connections that have timed out and terminated due to idleness.	5 min
ProvMsgsReceived	The total number of provisioning messages that have been received from all sources (except import files).	5 min
ProvMsgsSuccessful	The total number of provisioning messages that have been successfully processed and a success response sent to the requestor.	5 min
ProvMsgsFailed	The total number of provisioning messages that have failed to be processed due to errors and a failure response sent to the requestor.	5 min
ProvMsgsSent	The total number of provisioning messages for which a response has been sent to the requestor.	5 min
ProvMsgsDiscarded	The total number of provisioning messages that have been discarded (instead of sending a reply to the requestor) due to the connection being shutdown, server being shutdown, server's role switching from active to standby, or transaction not becoming durable within the allowed amount of time.	5 min
ProvMsgsImported	The total number of provisioning messages that have been received from a file import operation.	5 min
ProvTxnCommitted	The total number of transactions that have been successfully committed to the database (memory and on disk) on the active server of the primary SDS site.	5 min
ProvTxnWriteMutexTimeouts	The total number of write transactions that have failed to be processed due to timing out while waiting to acquire the write transaction mutex.	5 min

Measurement Tag	Description	Collection Interval
ProvTxnFailed	The total number of transactions that have failed to be started, committed, or aborted due to errors.	5 min
ProvTxnAborted	The total number of transactions that have been successfully aborted.	5 min
ProvTxnTotal	The total number of transactions that have been attempted. It is the sum of ProvTxnCommitted, ProvTxnTimeouts, ProvTxnAborted, and ProvTxnFailed counters.	5 min
ProvTxnDurabilityTimeouts	The total number of committed, non-durable transaction that have failed to become durable within the amount of time specified by Transaction Durability Timeout.	5 min
RemoteAuditStarted	Number of started remote audit requests.	5 min
RemoteAuditCompleted	Number of successfully completed remote audit requests.	5 min
ProvRelayMsgsSent	The total number of relayed provisioning messages sent to the remote system.	5 min
ProvRelayMsgsSuccessful	The total number of relayed provisioning messages that have been successfully processed on the remote system.	5 min
ProvRelayMsgsFailed	The total number of relayed provisioning messages that have failed to be processed due to errors on the remote system.	5 min
ProvImportsSuccessful	The number of files imported successfully.	5 min
ProvImportsFailed	The number of files that failed to be imported due to errors.	5 min
ProvExportsSuccessful	The number of successful file export requests.	5 min
ProvExportsFailed	The number of file export requests that failed due to errors.	5 min

Measurement Tag	Description	Collection Interval
ProvDnSplitCreated	Number of MSISDN records successfully created by a Split Activation starting its PDP.	5 min
ProvDnSplitRemoved	Number of MSISDN records successfully removed by a Split Completing its PDP.	5 min
ProvNpaSplitStarted	Number of NPA split records successfully starting a PDP.	5 min
ProvNpaSplitCompleted	Number of NPA split records successfully completing a PDP.	5 min
ProvRemoteAuditMsgsSent	Number of IMSI and MSISDN records audited.	5 min
ProvRelayTimeLag	Time in seconds between timestamps of last record PdbRelay processed and latest entry in the Command Log.	5 min

ProvConnectsAttempted

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of client initiated connect attempts to establish a connection with the server.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvConnectsAccepted

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of client initiated connect attempts that have been accepted.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvConnectsDenied

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of client initiated connect attempts that have been denied due to clients not running on an authorized server, maximum number of allowed connections already established, or the provisioning interface is disabled.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvConnectsFailed

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of client initiated connect attempts that failed due to errors during initialization.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvConnectionIdleTimeouts

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Total number of connections that have timed out and terminated due to idleness.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvMsgsReceived

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of PROVISIONING messages that have been received from all sources (except import files).

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvMsgsImported

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of PROVISIONING messages that have been received from a file import operation.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvMsgsSuccessful

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of PROVISIONING messages that have been successfully processed and a success response sent to the requestor.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvMsgsFailed

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of PROVISIONING messages that have failed to process due to errors and a failure response sent to the requestor.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvMsgsSent

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of PROVISIONING messages that have been sent and a response sent to the requestor.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvMsgsDiscarded

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of PROVISIONING messages that have been discarded (instead of sending a reply to the requestor) due to the connection being shutdown, server being shutdown, server's role switching from active to standby, or transaction not becoming durable within the allowed amount of time.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvTxnCommitted

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of transactions that have been successfully committed to the database (memory and on disk) on the active server of the primary SDS site.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvTxnWriteMutexTimeouts

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of write transactions that have failed to be processed due to timing out while waiting to acquire the write transaction mutex.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvTxnFailed

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of transactions that have failed to be started, committed, or aborted due to errors.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvTxnAborted

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of transactions that have been successfully aborted.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvTxnDurabilityTimeouts

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of committed, non-durable transaction that have failed to become durable within the amount of time specified by Transaction Durability Timeout.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvTxnTotal

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of transactions that have been attempted. It is the sum of ProvTxnCommitted, ProvTxnTimeouts, ProvTxnAborted, and ProvTxnFailed counters.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvImportsSuccessful

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The number of files imported successfully.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvImportsFailed

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The number of files that failed to be imported due to errors.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvExportsSuccessful

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The number of successful CSV/XML file export requests.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvExportsFailed

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The number of CSV/XML file export requests that failed due to errors.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvDnSplitCreated

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Number of DN records successfully created by an Active Split.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvDnSplitRemoved

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Number of DN records successfully removed by a Split Completing its PDP.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvNpaSplitStarted

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Number of NPA split records successfully starting a PDP.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvNpaSplitCompleted

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Number of NPA split records successfully completing a PDP.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvRelayMsgsFailed

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of relayed PROVISIONING messages that have failed to be processed due to errors on the remote system.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvRelayMsgsSent

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of relayed PROVISIONING messages sent to the remote system.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvRelayMsgsSuccessful

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: The total number of relayed PROVISIONING messages that have been successfully processed on the remote system.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvRelayTimeLag

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Time in seconds between timestamps of last record PdbRelay processed and latest entry in the Command Log.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

ProvRemoteAuditMsgsSent

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Number of IMSI and MSISDN records audited.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

RemoteAuditCompleted

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Number of successfully completed remote audit requests.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

RemoteAuditStarted

Measurement Group:Provisioning Rules

Measurement Type: Simple

Description: Number of started remote audit requests.

Collection Interval: 5 min

Peg Condition:

Measurement Scope: PROV Group

Recovery:

No action required.

DP Measurements

Table 18: DP Measurements

Measurement Tag	Description	Collection Interval
DpsQueriesReceived	Number of Queries received	5 minutes
DpsMsisdnQueriesReceived	Number of MSISDN Queries received	5 minutes
DpsImsiQueriesReceived	Number of IMSI Queries received	5 minutes
DpsNaiQueriesReceived	Number of NAI Queries received	5 minutes
DpsQueriesFailed	Number of Queries failed	5 minutes
DpsMsisdnQueriesFailed	Number of MSISDN Queries with Fail response	5 minutes
DpsImsiQueriesFailed	Number of IMSI Queries with Fail response	5 minutes

Measurements

Measurement Tag	Description	Collection Interval
DpsNaiQueriesFailed	Number of NAI Queries with Fail response	5 minutes
DpsSuccessResponses	Number of Queries with Success response	5 minutes
DpsMsisdnSuccessResponses	Number of MSISDN Queries with Success response	5 minutes
DpsImsiSuccessResponses	Number of IMSI Queries with Success response	5 minutes
DpsNaiSuccessResponses	Number of NAI Queries with Success response	5 minutes
DpsNotFoundReponses	Number of Queries with Not Found response	5 minutes
DpsMsisdnNotFoundResponses	Number of MSISDN Queries with Not Found response	5 minutes
DpsImsiNotFoundResponses	Number of IMSI Queries with Not Found response	5 minutes
DpsNaiNotFoundResponses	Number of NAI Queries with Not Found response	5 minutes
DpsRespSent	Total number of responses sent	5 minutes
DpsIngressQueuePeak	Peak DPS Ingress Queue utilization during collection period	5 minutes
DpsIngressQueueAvg	Average DPS Ingress Queue utilization during the collection period	5 minutes
DpsIngressQueueFull	Number of DPS Ingress Queue StackTask messages discarded during the collection period because the number of message queued exceeded the maximum capacity	5 minutes
DpsQueryRatePeak	Peak Ingress Message Rate in messages per second during the collection period	5 minutes
DpsQueryRateAvg	Average Ingress Message Rate in messages per second during the collection period	5 minutes
DpsQueryProcessingTime	Distribution of times (in microseconds) taken by dpserver to process each query and send its reply.	5 minutes
DpsQueryProcessingTimeAvg	The average query processing time (in microseconds) taken by dpserver to process each query and sent its reply.	5 minutes
DpsMsisdnBlacklistedResponses	Number of MSISDN Queries with Blacklisted response	5 minutes
DpsImsiBlacklistedResponses	Number of IMSI Queries with Blacklisted response	5 minutes

Measurement Tag	Description	Collection Interval
DpsMsisdnPrefixFound	Number of MSISDN Queries that were found by matching a prefix	5 minutes
DpsImsiPrefixFound	Number of IMSI Queries that were found by matching a prefix	5 minutes
DpsMsisdnBlacklistLookups	Number of MSISDN Blacklist Lookups performed	5 minutes
DpsImsiBlacklistLookups	Number of IMSI Blacklist Lookups performed	5 minutes
DpsMsisdnPrefixLookups	Number of MSISDN Prefix Lookups performed	5 minutes
DpsImsiPrefixLookups	Number of IMSI Prefix Lookups performed	5 minutes

DpsQueriesReceived

Measurement Group: DP

Measurement Type: Simple

Description: Number of Queries received

Collection Interval: 5 min

Peg Condition:

Measurement Scope: DP Group

Recovery:

No action required.

DpsMsisdnQueriesReceived

Measurement Group: DP

Measurement Type: Simple

Description: Number of MSISDN Queries received

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsImsiQueriesReceived

Measurement Group: DP

Measurement Type: Simple

Description: Number of IMSI Queries received

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsNaiQueriesReceived

Measurement Group: DP

Measurement Type: Simple

Description: Number of NAI Queries received

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsQueriesFailed

Measurement Group: DP

Measurement Type: Simple

Description: Number of Queries failed

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsMsisdnQueriesFailed

Measurement Group: DP

Measurement Type: Simple

Description: Number of MSISDN Queries with Fail response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsImsiQueriesFailed

Measurement Group: DP

Measurement Type: Simple

Description: Number of IMSI Queries with Fail response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsNaiQueriesFailed

Measurement Group: DP

Measurement Type: Simple

Description: Number of NAI Queries with Fail response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsSuccessResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of Queries with Success response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsMsisdnSuccessResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of MSISDN Queries with Success response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsImsiSuccessResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of IMSI Queries with Success response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsNaiSuccessResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of NAI Queries with Success response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsNotFoundResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of Queries with Not Found response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsMsisdnNotFoundResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of MSISDN Queries with Not Found response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsImsiNotFoundResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of IMSI Queries with Not Found response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsNaiNotFoundResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of NAI Queries with Not Found response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsRespSent

Measurement Group: DP

Measurement Type: Simple

Description: Total number of responses sent

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsIngressQueuePeak

Measurement Group: DP

Measurement Type: Simple

Description: Peak DPS Ingress Queue utilization during collection period

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsIngressQueueAvg

Measurement Group: DP

Measurement Type: Simple

Description: Average DPS Ingress Queue utilization during collection period

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsIngressQueueFull

Measurement Group: DP

Measurement Type: Simple

Description: Number of DPS Ingress Queue Stack Task messages discarded during the collection period because the number of messages queued exceeded the maximum capacity

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsQueryRatePeak

Measurement Group: DP

Measurement Type: Simple

Description: Peak Ingress Message Rate in messages per second during the collection period

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsQueryRateAvg

Measurement Group: DP

Measurement Type: Simple

Description: Average Ingress Message Rate in messages per second during the collection period

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsQueryProcessingTime

Measurement Group: DP

Measurement Type: Simple

Description: Distribution of times (in microseconds) taken by dpserver to process each query and send its reply

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsQueryProcessingTimeAvg

Measurement Group: DP

Measurement Type: Simple

Description: The average query processing time (in microseconds) taken by dpserver to process each query and send its reply

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsMsisdnBlacklistedResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of MSISDN Queries with Blacklisted response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsImsiBlacklistedResponses

Measurement Group: DP

Measurement Type: Simple

Description: Number of IMSI Queries with Blacklisted response

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsMsisdnPrefixFound

Measurement Group: DP

Measurement Type: Simple

Description: Number of MSISDN Queries that were found by matching a prefix

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsImsiPrefixFound

Measurement Group: DP

Measurement Type: Simple

Description: Number of IMSI Queries that were found by matching a prefix

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsMsisdnBlacklistLookups

Measurement Group: DP

Measurement Type: Simple

Description: Number of MSISDN Blacklist Lookups performed

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsImsiBlacklistLookups

Measurement Group: DP

Measurement Type: Simple

Description: Number of IMSI Blacklist Lookups performed

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsMsisdnPrefixLookups

Measurement Group: DP

Measurement Type: Simple

Description: Number of MSISDN Prefix Lookups performed

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

DpsImsiPrefixLookups

Measurement Group: DP

Measurement Type: Simple

Description: Number of IMSI Prefix Lookups performed

Collection Interval: 5 min

Peg Condition:

Measurement Scope: Data Processor

Recovery:

No action required.

OAM Alarm measurements

Table 19: OAM Alarm measurements

Measurement Tag	Description	Collection Interval
Alarm Crit	The number of critical alarms.	5 minutes
Alarm Major	The number of major alarms.	5 minutes
Alarm Minor	The number of minor alarms	5 minutes
Alarm State	The alarm state.	5 minutes

OAM System measurements

Table 20: OAM System measurements

Measurement Tag	Description	Collection Interval
System CPU UtilPct Average	The average CPU usage from 0 to 100% (100% indicates that all cores are completely busy).	5 minutes
System CPU UtilPct Peak	The peak CPU usage from 0 to 100% (100% indicates that all cores are completely busy).	5 minutes
System Disk UtilPct Average	The average disk usage for the partition on which the COMCOL database resides.	5 minutes
System Disk UtilPct Peak	The peak disk usage for the partition on which the COMCOL database resides.	5 minutes
System RAM UtilPct Average	The average committed RAM usage as a percentage of the total physical RAM. This measurement is based on the Committed_AS measurement from Linux/proc/meminfo. This measurement can exceed 100%	5 minutes

Measurement Tag	Description	Collection Interval
	if the kernel has committed more resources than provided by physical RAM, in which case, swapping will occur.	
System RAM UtilPct Peak	The peak committed RAM usage as a percentage of the total physical RAM. This measurement is based on the Committed_AS measurement from Linux/proc/meminfo. This measurement can exceed 100% if the kernel has committed more resources than provided by physical RAM, in which case, swapping will occur.	5 minutes
System ShMem UtilPct Average	The average shared memory usage as a percentage of the limit configured by shl.set.	5 minutes
System ShMem UtilPct Peak	The peak shared memory usage as a percentage of the limit configured by shl.set.	5 minutes
System SwapIn Rate Average	The average number of memory pages swapped in to memory from disk per second.	5 minutes
System SwapIn Rate Peak	The peak number of memory pages swapped in to memory from disk per second.	5 minutes
System SwapOut Rate Average	The average number of memory pages swapped out of memory from disk per second.	5 minutes
System SwapOut Rate Peak	The peak number of memory pages swapped out of memory from disk per second.	5 minutes
System Swap UtilPct Average	The average usage of swap space as a percentage of the total configured swap space.	5 minutes
System Swap UtilPct Peak	The peak usage of swap space as a percentage of the total configured swap space.	5 minutes
System CPU CoreUtilPct Average	The average CPU usage for each core. On an eight-core system, there will be eight sub-metrics	5 minutes

Measurements

Measurement Tag	Description	Collection Interval
	showing the utilization of each core.	
System CPU CoreUtilPct Peak	The peak CPU usage for each core. On an eight-core system, there will be eight sub-metrics showing the utilization of each core.	5 minutes

Glossary

B

BIOS Basic Input-Output System

C

CAPM Computer-aided policy making

Charging Proxy Application A DSR Application that is responsible for sending and receiving Diameter accounting messages.

CMOS Complementary Metal Oxide Semiconductor
CMOS semiconductors use both NMOS (negative polarity) and PMOS (positive polarity) circuits. Since only one of the circuit types is on at any given time, CMOS chips require less power than chips using just one type of transistor.

ComAgent Communication Agent
A common infrastructure component delivered as part of a common plug-in, which provides services to enable communication of message between application processes on different servers.

Communication Agent See ComAgent.

CPA Charging Proxy Application
The Charging Proxy Application (CPA) feature defines a DSR-based Charging Proxy Function (CPF) between the CTFs and the CDFs. The types of CTF include GGSN, PGW, SGW, HSGW, and CSCF/TAS.

C

CSV

Comma-separated values

The comma-separated value file format is a delimited data format that has fields separated by the comma character and records separated by newlines (a newline is a special character or sequence of characters signifying the end of a line of text).

D

DB

Database

DNS

Domain Name System

A system for converting Internet host and domain names into IP addresses.

DSR

Diameter Signaling Router

A set of co-located Message Processors which share common Diameter routing tables and are supported by a pair of OAM servers. A DSR Network Element may consist of one or more Diameter nodes.

F

FABR

Full Address Based Resolution

Provides an enhanced DSR routing capability to enable network operators to resolve the designated Diameter server addresses based on individual user identity addresses in the incoming Diameter request messages.

Full Address Based Resolution

See FABR.

G

G

GUI	Graphical User Interface The term given to that set of items and facilities which provide the user with a graphic means for manipulating screen data rather than being limited to character based commands.
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H

HA	High Availability High Availability refers to a system or component that operates on a continuous basis by utilizing redundant connectivity, thereby circumventing unplanned outages.
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HP	Hewlett-Packard
----	-----------------

I

IMSI	International Mobile Subscriber Identity
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IPFE	IP Front End A traffic distributor that routes TCP traffic sent to a target set address by application clients across a set of application servers. The IPFE minimizes the number of externally routable IP addresses required for application clients to contact application servers.
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K

KPI	Key Performance Indicators
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M

MP	Measurement Platform Message Processor
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M

The role of the Message Processor is to provide the application messaging protocol interfaces and processing. However, these servers also have OAM&P components. All Message Processors replicate from their Signaling OAM's database and generate faults to a Fault Management System.

MSISDN

Mobile Station International
Subscriber Directory Number

The MSISDN is the network specific subscriber number of a mobile communications subscriber. This is normally the phone number that is used to reach the subscriber.

N

NAI

Nature of Address Indicator

Standard method of identifying users who request access to a network.

Network Access Identifier

The user identity submitted by the client during network authentication.

NPA

Number Plan Area

The North American "Area Codes." (3 digits: 2- to-9, 0-or 1, 0-to-9. Middle digit to expand soon).

NTP

Network Time Protocol

O

OAM

Operations, Administration, and
Maintenance

The application that operates the
Maintenance and Administration

O

Subsystem which controls the operation of many Tekelec products.

OID**Object Identifier**

An identifier for a managed object in a Management Information Base (MIB) hierarchy. This can be depicted as a tree, the levels of which are assigned by different organizations. Top level MIB OIDs belong to different standard organizations. Vendors define private branches that include managed objects for their own products.

P**PM&C****Platform Management and Configuration**

Server with hardware management software that manages the remaining servers (System OAMs and MPs) in a network element. The terms PM&C and system manager are used synonymously in the online help documentation. PM&C functions include hardware monitoring and control, switch configuration, and software installation and upgrade.

Provides hardware and platform management capabilities at the site level for Tekelec platforms. The PMAC application manages and monitors the platform and installs the TPD operating system from a single interface.

R**RBAR****Range Based Address Resolution**

A DSR enhanced routing application which allows the user to route Diameter end-to-end transactions based on Application ID, Command

R

Code, "Routing Entity" Type, and Routing Entity address ranges.

S

SDS

Subscriber Database Server

Subscriber Database Server (SDS) provides the central provisioning of the Full-Address Based Resolution (FABR) data. The SDS, which is deployed geo-redundantly at a Primary and Disaster recovery site, connects with the Query Server and the Data Processor System Operations, Administration, and Maintenance (DP SOAM) servers at each Diameter Signaling Router (DSR) site or a standalone DP site to replicate and recover provisioned data to the associated components.

Service Broker

Provides service aggregation and orchestration in both wireless and wireline networks using the Customized Application of Mobile network Enhanced Logic (CAMEL) protocol.

SNMP

Simple Network Management Protocol.

An industry-wide standard protocol used for network management. The SNMP agent maintains data variables that represent aspects of the network. These variables are called managed objects and are stored in a management information base (MIB). The SNMP protocol arranges managed objects into groups.

SOAM

System Operations,
Administration, and Maintenance

S

SOAP

Simple Object Access Protocol

SSR

SIP Signaling Router

Function responsible for querying a redirection server and proxying requests to other SSR servers, redirect servers, SSR Service Points, and Gateways. It helps in evolving a Flat NGN network into a hierarchical network.

SW

Software