Oracle® Communications User Data Repository

Alarms, KPIs, and Measurements Reference

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Chapter 1

Introduction

Topics:

The Introduction section explains the purpose and organization of the documentation, defines the document's audience and admonishments, and provides information about technical support, training, and how to locate related publications.

Overview

This documentation provides information about the Oracle Communications User Data Repository (UDR) alarms and events, corrective maintenance procedures, and other information used in maintaining the system, including:

- 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
- List of alarms
- Information relevant to understanding Key Performance Indicators (KPIs) in the application
- The procedure for viewing KPIs
- List of KPIs
- Information relevant to understanding measurements in the application
- Measurement report elements, and the procedures for printing and exporting measurements
- List of measurements by function

Scope and Audience

This reference guide provides preventive and corrective procedures that aid personnel in maintaining the Oracle Communications User Data Repository (UDR) platform. These procedures are used in response to a system alarm or output message, and are used to aid in the detection, isolation, and repair of faults.

Note: Some of the User Data Repository components are shared by other applications in the product line. For this reason, the documentation for the shared components may include references to these other applications, and/or describe GUI options not visible or applicable to User Data Repository. For example, DSR applications (such as RBAR, FABR, CPA, and Policy DRA) and IPFE are currently not used by User Data Repository, so you may ignore references to these applications.

Manual Organization

Information in this document is organized into the following sections:

- *Introduction* contains general information about this documentation, including how to contact *My Oracle Support (MOS)*, and how to *Locate Product Documentation on the Oracle Help Center Site*.
- *User Interface Introduction* describes the organization and usage of the application's user interface.
- *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 by KPI type, then 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

Icon	Description
	Danger: (This icon and text indicate the possibility of *personal injury*.)
	Warning: (This icon and text indicate the possibility of *equipment damage*.)
	Caution: (This icon and text indicate the possibility of *service interruption*.)
	Topple: (This icon and text indicate the possibility of *personal injury* and *equipment damage*.)

Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) site, *http://docs.oracle.com*. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at *http://www.adobe.com*.

1. Access the Oracle Help Center site at *http://docs.oracle.com*.
2. Click **Industries**.
3. Under the Oracle Communications subheading, click the **Oracle Communications documentation** link.
   The Communications Documentation page appears. Most products covered by these documentation sets will appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."
4. Click on your Product and then the Release Number.
   A list of the entire documentation set for the selected product and release appears.
5. To download a file to your location, right-click the **PDF** link, select **Save target as** (or similar command based on your browser), and save to a local folder.

Customer Training

Oracle University offers training for service providers and enterprises. Visit our web site to view, and register for, Oracle Communications training:

http://education.oracle.com/communication

To obtain contact phone numbers for countries or regions, visit the Oracle University Education web site:

www.oracle.com/education/contacts

My Oracle Support (MOS)

MOS (*https://support.oracle.com*) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at *http://www.oracle.com/us/support/contact/index.html*. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select **2** for New Service Request
2. Select **3** for Hardware, Networking and Solaris Operating System Support
3. Select one of the following options:
   - For Technical issues such as creating a new Service Request (SR), Select **1**
   - For Non-technical issues such as registration or assistance with MOS, Select **2**

You will be connected to a live agent who can assist you with MOS registration and opening a support ticket.

MOS is available 24 hours a day, 7 days a week, 365 days a year.

Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at *http://www.oracle.com/us/support/contact/index.html*. 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 Oracle.

Chapter 2

User Interface Introduction

Topics:

This section describes the organization and usage of the application's user interface. In it you can find information about how the interface options are organized, how to use widgets and buttons, and how filtering and other page display options work.

User interface organization

The user interface is the central point of user interaction with the application. It is a Web-based graphical user interface (GUI) that enables remote user access over the network to the application and its functions.

User Interface Elements

Table 2: User Interface Elements describes elements of the user interface.

Table 2: User Interface Elements

Element	Location	Function
Identification Banner	Top bar across the web page	The left side of the banner provides the following information: • Displays the company name, • product name and version, and • the alarm panel. The right side of the banner: • Allows you to pause any software updates. • Links to the online help for all software. • Shows the user name of the currently logged-in user. • Provides a link to log out of the GUI.
Main Menu	Left side of screen, under banners	A tree-structured menu of all operations that can be performed through the user interface. The plus character (+) indicates a menu item contains subfolders. • To display submenu items, click the plus character, the folder, or anywhere on the same line. • To select a menu item that does not have submenu items, click on the menu item text or its associated symbol.
Work Area	Right side of panel under status	Consists of three sections: Page Title Area, Page Control Area (optional), and Page Area. • Page Title Area: Occupies the top of the work area. It displays the title of the current page being displayed, date and time, and includes a link to context-sensitive help. • Page Control Area: Located below the Page Title Area, this area shows controls for the Page Area (this area is optional). When available as an option, filter controls display in this area. The Page Control Area contains the optional layout element toolbar, which displays different

Element	Location	Function
		elements depending on which GUI page is selected. For more information, see *Optional Layout Element Toolbar*. • Page Area: Occupies the bottom of the work area. This area is used for all types of operations. It displays all options, status, data, file, and query screens. Information or error messages are displayed in a message box at the top of this section. A horizontal and/or vertical scroll bar is provided when the displayed information exceeds the page area of the screen. When a user first logs in, this area displays the application user interface page. The page displays a user-defined welcome message. To customize the message, see *Customizing the Login Message*.
Session Banner	Across the bottom of the web page	The left side of the banner provides the following session information: • The name of the machine to which the user is connected, and whether the user is connected via the VIP or directly to the machine. • The HA state of the machine to which the user is connected. • The role of the machine to which the user is connected. The right side of the banner shows the alarm panel.

Main menu options

This table describes all main menu user interface options. Note that user documentation for the **Administration**, **Configuration**, **Alarms & Events**, **Security Log**, **Status & Manage**, and **Measurements** menu options is available in the *Operations, Administration, and Maintenance (OAM)* section of the documentation.

Note: The menu options that appear can differ according to the permissions assigned to a user's log-in account, as well as to the type of server the user is logged into. For example, the **Administration** menu options would not appear on the screen of a user who does not have administrative privileges. Similarly, when the user is accessing the GUI from a Network Operations, Administration, and Provisioning (NOAMP) server, the **Diameter** menu option does not appear.

Table 3: Main Menu Options

Menu Item	Function
Administration	The Administration menu allows you to: • Set up and manage user accounts Prepare, initiate, monitor, and complete upgrades View the software versions report

Menu Item	Function
	• Configure group permissions • View session information • Authorize IP addresses to access the user interface • Configure options including, but not limited to, password history and expiration, login message, welcome message, and the number of failed login attempts before an account is disabled • Configure SNMP services • Configure Export Servers • Configure Domain Name Services
Configuration	Provides access to configuring network elements, servers, server groups, and systems.
Alarms & Events	Lists active alarms and alarm history.
Security Log	Allows you to view and export security log data.
Status & Manage	Allows you to monitor the statuses of server processes, both collectively and individually, as well as perform actions required for server maintenance. Also allows you to view the status of file management systems, and to manage data files on servers throughout the system.
Measurements	Allows you to view, modify, import, and export measurement data.
Communication Agent	Provides infrastructure features and services for enabling inter-server communication.
Diameter Common	Allows you to configure network identifiers and MP profiles, and export and import configuration data.
Diameter	Allows you to configure topology hiding and import and export diameter interface settings.
UDR	Allows you to configure options for the UDR, UDRBE, and subscriber entities. Allows you to perform maintenance on subscriber queries, connections, the command log and to view the import, export, and subscribing client status.

Common Graphical User Interface Widgets

Common controls allow you to easily navigate through the system. The location of the controls remains static for all pages that use the controls. For example, after you become familiar with the location of

the display filter, you no longer need to search for the control on subsequent pages because the location is static.

System Login Page

Access to the user interface begins at the System Login page. The System Login page allows users to log in with a username and password and provides the option of changing the password upon login. The System Login page also features a date and time stamp reflecting the time the page was last refreshed. Additionally, a customizable login message appears just below the **Log In** button.

The user interface is accessed via HTTPS, a secure form of the HTTP protocol. When accessing a server for the first time, HTTPS examines a web certificate to verify the identity of the server. The configuration of the user interface uses a self-signed web certificate to verify the identity of the server. When the server is first accessed, the supported browser warns the user that the server is using a self-signed certificate. The browser requests confirmation that the server can be trusted. The user is required to confirm the browser request to gain access.

Customizing the Login Message

Before logging in, the **System Login** page appears. You can create a login message that appears just below the **Log In** button on the **System Login** page.

Figure 1: Oracle System Login

1. From the **Main Menu**, click **Administration** > **General Options**.
   The **General Options Administration** page appears.
2. Locate **LoginMessage** in the **Variable** column.
3. Enter the login message text in the **Value** column.
4. Click **OK** or **Apply** to submit the information.
   A status message appears at the top of the Configuration Administration page to inform you if the operation was successful.

The next time you log in to the user interface, the login message text displays.

Supported Browsers

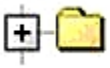
This application supports the use of Microsoft® Internet Explorer 8.0, 9.0, or 10.0.

is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the *Oracle Software Web Browser Support Policy* for details

Main Menu Icons

This table describes the icons used in the **Main Menu**.

Table 4: Main Menu Icons

Icon	Name	Description
	Folder	Contains a group of operations. If the folder is expanded by clicking the plus (+) sign, all available operations and sub-folders are displayed. Clicking the minus (-) collapses the folder.
	Config File	Contains operations in an Options page.
	File with Magnifying Glass	Contains operations in a Status View page.
	File	Contains operations in a Data View page.
	Multiple Files	Contains operations in a File View page.
	File with Question Mark	Contains operations in a Query page.
	User	Contains operations related to users.

Icon	Name	Description
	Group	Contains operations related to groups.
	Task	Contains operations related to Tasks
	Help	Launches the Online Help.
	Logout	Logs the user out of the user interface.

Work Area Displays

In the user interface, tables, forms, tabbed pages, and reports are the most common formats.

Note: Screen shots are provided for reference only and may not exactly match a specific application's GUI.

Tables

Paginated tables describe the total number of records being displayed at the beginning and end of the table. They provide optional pagination with **First | Prev | Next | Last** links at both the beginning and end of this table type. Paginated tables also contain action links on the beginning and end of each row. For more information on action links and other page controls, see *Page Controls*.

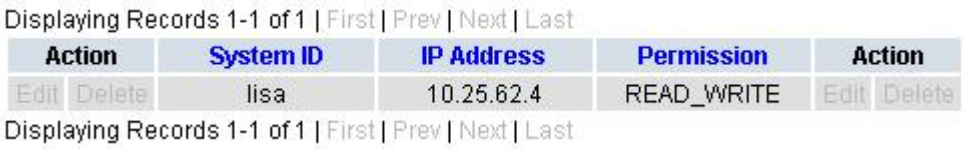
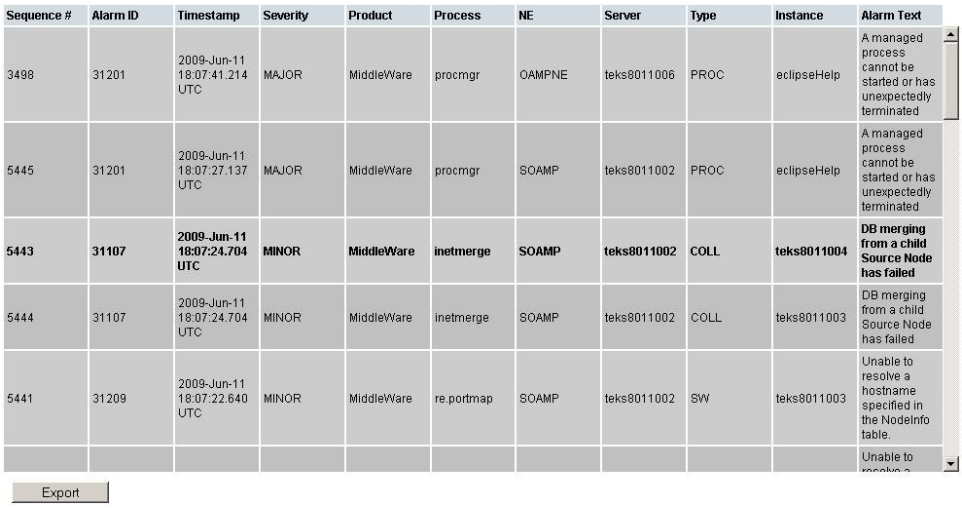


Figure 2: Paginated Table

Scrollable tables display all of the records on a single page. The scroll bar, located on the right side of the table, allows you to view all records in the table. Scrollable tables also provide action buttons that operate on selected rows. For more information on buttons and other page controls, see *Page Controls*.



Sequence #	Alarm ID	Timestamp	Severity	Product	Process	NE	Server	Type	Instance	Alarm Text
3498	31201	2009-Jun-11 18:07:41.214 UTC	MAJOR	MiddleWare	procmgr	OAMPNE	teks8011006	PROC	eclipseHelp	A managed process cannot be started or has unexpectedly terminated
5445	31201	2009-Jun-11 18:07:27.137 UTC	MAJOR	MiddleWare	procmgr	SOAMP	teks8011002	PROC	eclipseHelp	A managed process cannot be started or has unexpectedly terminated
5443	**31107**	**2009-Jun-11 18:07:24.704 UTC**	**MINOR**	**MiddleWare**	**inetmerge**	**SOAMP**	**teks8011002**	**COLL**	**teks8011004**	**DB merging from a child Source Node has failed**
5444	31107	2009-Jun-11 18:07:24.704 UTC	MINOR	MiddleWare	inetmerge	SOAMP	teks8011002	COLL	teks8011003	DB merging from a child Source Node has failed
5441	31209	2009-Jun-11 18:07:22.640 UTC	MINOR	MiddleWare	re.portmap	SOAMP	teks8011002	SW	teks8011003	Unable to resolve a hostname specified in the NodeInfo table.
										Unable to

Export

Figure 3: Scrollable Table

Note: Multiple rows can be selected in a scrollable table. Add rows one at a time using CTRL-click. Add a span of rows using SHIFT-click.

Forms

Forms are pages on which data can be entered. Forms are typically used for configuration. Forms contain fields and may also contain a combination of pulldown lists, buttons, and links.

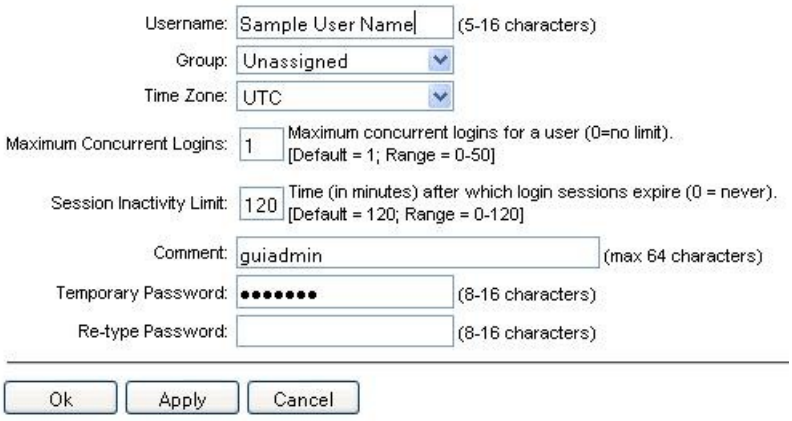
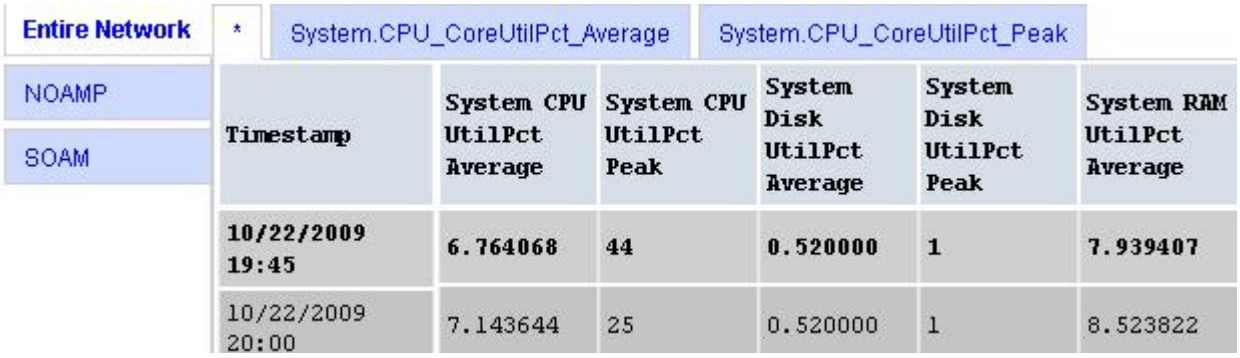


Figure 4: Form Page

Tabbed pages

Tabbed pages provide collections of data in selectable tabs. Click on a tab to see the relevant data on that tab. Tabbed pages also group Retrieve, Add, Update, and Delete options on one page. Click on the relevant tab for the task you want to perform and the appropriate fields populate on the page. Retrieve is always the default for tabbed pages.



Timestamp	System CPU UtilPct Average	System CPU UtilPct Peak	System Disk UtilPct Average	System Disk UtilPct Peak	System RAM UtilPct Average
10/22/2009 19:45	6.764068	44	0.520000	1	7.939407
10/22/2009 20:00	7.143644	25	0.520000	1	8.523822

Figure 5: Tabbed Pages

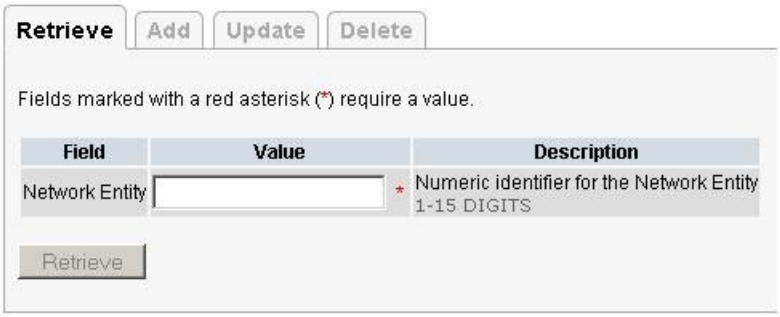


Figure 6: Tabbed Pages

Reports

Reports provide a formatted display of information. Reports are generated from data tables by clicking **Report**. Reports can be viewed directly on the user interface, or they can be printed. Reports can also be saved to a text file.

```
================================================================================

User Account Usage Report

================================================================================

Report Generated: Fri Jun 19 19:30:55 2009 UTC
From: Unknown Network OAM&P on host teks5001701
Report Version: 1.0
User: guiadmin

--------------------------------------------------------------------------------

Username          Date of Last Login    Days Since Last Login   Account Status
----------------  --------------------  ----------------------  ---------------
guiadmin          2009-06-19 19:00:17   0                       enabled

--------------------------------------------------------------------------------

End of User Account Usage Report

================================================================================
```

Figure 7: Report Output

Customizing the Splash Page Welcome Message

When you first log in to the user interface, the splash page appears. Located in the center of the main work area is a customizable welcome message. Use this procedure to create a message suitable for your needs.

1. From the **Main Menu**, click **Administration** > **General Options**.
2. Locate **Welcome Message** in the **Variable** column.
3. Enter the desired welcome message text in the **Value** column.
4. Click **OK** to save the change or **Cancel** to undo the change and return the field to the previously saved value.
   A status message appears at the top of the page to inform you if the operation was successful.

The next time you log in to the user interface, the new welcome message text is displayed.

Column headers (sorting)

Some column headers are links that, when clicked, sort the table by that column. Sorting does not affect filtering. Column headers that are black and group column headers are not sortable.

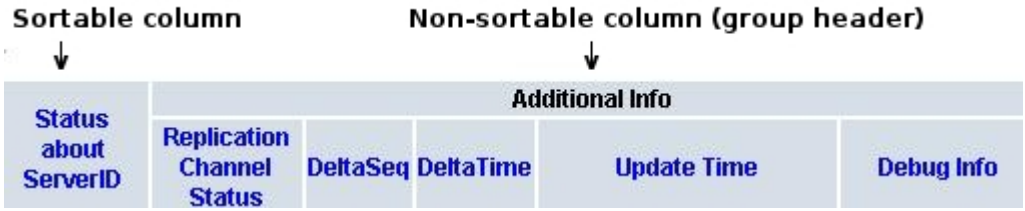


Figure 8: Sortable and Non-sortable Column Headers

Page Controls

User interface pages contain controls, such as buttons and links, that perform specified functions. The functions are described by the text of the links and buttons.

Note: Disabled buttons are grayed out. Buttons that are irrelevant to the selection or current system state, or which represent unauthorized actions as defined in **Group Administration**, are disabled. For example, **Delete** is disabled for users without Global Data Delete permission. Buttons are also disabled if, for example, multiple servers are selected for an action that can only be performed on a single server at a time.

Table 5: Example Action Buttons contains examples of Action buttons.

Table 5: Example Action Buttons

Action Button	Function
Insert	Inserts data into a table.
Edit	Edits data within a table.

Action Button	Function
Delete	Deletes data from table.
Change	Changes the status of a managed object.

Some Action buttons take you to another page.

Submit buttons, described in *Table 6: Submit Buttons*, are used to submit information to the server. The buttons are located in the page area and accompanied by a table in which you can enter information. The Submit buttons, except for **Cancel**, are disabled until you enter some data or select a value for all mandatory fields.

Table 6: Submit Buttons

Submit Button	Function
OK	Submits the information to the server, and if successful, returns to the View page for that table.
Apply	Submits the information to the server, and if successful, remains on the current page so that you can enter additional data.
Cancel	Returns to the View page for the table without submitting any information to the server.

Optional Layout Element Toolbar

The optional layout element toolbar appears in the Page Control Area of the GUI.

Figure 9: Optional Layout Element Toolbar

The toolbar displays different elements depending on which GUI page is selected. The elements of the toolbar that can appear include:

- Filter – Allows you to filter data in a table.
- Errors – Displays errors associated with the work area.
- Info – Displays information messages associated with the work area.
- Status – Displays short status updates associated with the main work area.
- Warning – Displays warnings associated with the work area.

Notifications

Some messages require immediate attention, such as errors and status items. When new errors occur, the Errors element opens automatically with information about the error. Similarly, when new status items are added, the Status element opens. If you close an automatically opened element, the element stays closed until a new, unacknowledged item is added.

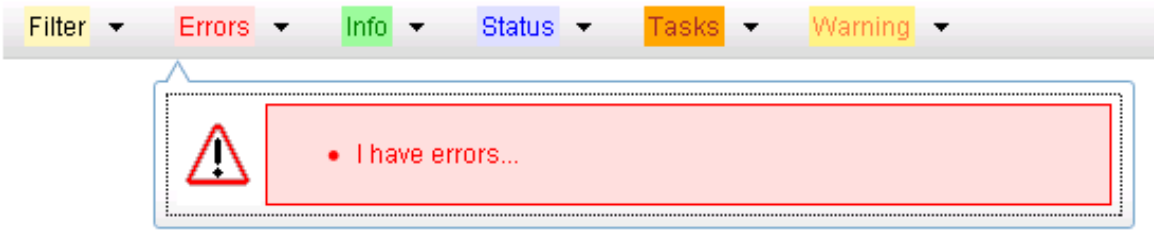


Figure 10: Automatic Error Notification

Note: Viewing and closing an error does not clear the Errors element. If you reopen the Errors element, previously viewed errors are still in the list.

When new messages are added to Warning or Info, the styling of the element changes to indicate new messages are available. The styling of the Task element changes when a task changes state (such as, a task begins or ends).

Opening an Element in the Toolbar

Use this procedure to open an element in the optional layout element toolbar.

1. Click the text of the element or the triangle icon to open an element.
   The selected element opens and overlays the work area.
2. Click **X** to close the element display.

Filters

Filters are part of the optional layout element toolbar and appear throughout the GUI in the Page Control Area. For more information about optional layout element toolbar functionality, see *Optional Layout Element Toolbar*.

Filters allow you to limit the data presented in a table and can specify multiple filter criteria. By default, table rows appear unfiltered. Three types of filters are supported, however, not all filtering options are available on every page. The types of filters supported include:

- Network Element – When enabled, the Network Element filter limits the data viewed to a single Network Element.

  Note: Once enabled, the Network Element filter affect all pages that list or display data relating to the Network Element.

- Collection Interval – When enabled, the collection interval filter limits the data to entries collected in a specified time range.
- Display Filter – The display filter limits the data viewed to data matching the specified criteria.

Once a field is selected, it cannot be selected again. All specified criteria must be met in order for a row to be displayed.

The style or format of filters may vary depending on which GUI pages the filters are displayed. Regardless of appearance, filters of the same type function the same.

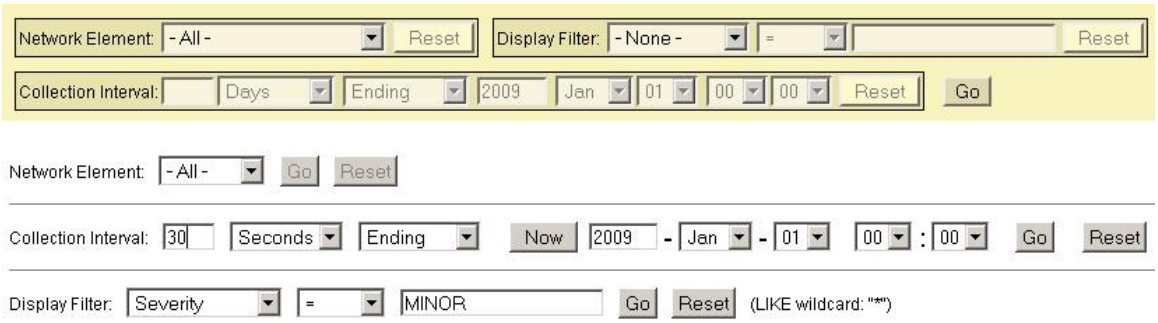


Figure 11: Examples of Filter Styles

Filter Control Elements

This table describes filter control elements of the user interface.

Table 7: Filter Control Elements

Operator	Description
=	Displays an exact match.
!=	Displays all records that do not match the specified filter parameter value.
>	Displays all records with a parameter value that is greater than the specified value.
>=	Displays all records with a parameter value that is greater than or equal to the specified value.
<	Displays all records with a parameter value that is less than the specified value.
<=	Displays all records with a parameter value that is less than or equal to the specified value.
Like	Enables you to use an asterisk (*) as a wildcard as part of the filter parameter value.
Is Null	Displays all records that have a value of **Is Null** in the specified field.

Note: Not all filterable fields support all operators. Only the supported operators are available for you to select.

Filtering on the Network Element

The global Network Element filter is a special filter that is enabled on a per-user basis. The global Network Element filter allows a user to limit the data viewed to a single Network Element. Once enabled, the global Network Element filter affects all sub-screens that display data related to Network Elements. This filtering option may not be available on all pages.

1. Click **Filter** in the optional layout element toolbar.
2. Select a Network Element from the **Network Element** pulldown menu.
3. Click **Go** to filter on the selection, or click **Reset** to clear the selection.

Records are displayed according to the specified criteria.

Filtering on Collection Interval

The Collection Interval filter allows a user to limit the data viewed to a specified time interval. This filtering option may not be available on all pages.

1. Click **Filter** in the optional layout element toolbar.
2. Enter a duration for the **Collection Interval** filter.

   The duration must be a numeric value.
3. Select a unit of time from the pulldown menu.

   The unit of time can be seconds, minutes, hours, or days.
4. Select **Beginning** or **Ending** from the pulldown menu.
5. Click **Go** to filter on the selection, or click **Reset** to clear the selection.

Records are displayed according to the specified criteria.

Filtering Using the Display Filter

Use this procedure to perform a filtering operation. This procedure assumes you have a data table displayed on your screen. This process is the same for all data tables. However, all filtering operations are not available for all tables.

1. Click **Filter** in the optional layout element toolbar.
2. Select a field name from the **Display Filter** pulldown menu.

   This selection specifies the field in the table that you want to filter on. The default is **None**, which indicates that you want all available data displayed.

   The selected field name displays in the **Display Filter** field.
3. Select an operator from the operation selector pulldown menu.
4. Enter a value in the value field.

   This value specifies the data that you want to filter on. For example, if you specify Filter=Severity with the equals (=) operator and a value of MINOR, the table would show only records where Severity=MINOR.
5. For data tables that support compound filtering, click **Add** to add another filter condition. Then repeat steps 2 through 4.

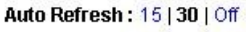
   Multiple filter conditions are joined by an AND operator.
6. Click **Go** to filter on the selection, or click **Reset** to clear the selection.

Records are displayed according to the specified criteria.

Auto refresh controls

Auto refresh controls are widgets that control the rate at which the Page Area refreshes on some pages. They are located in the Page Control Area on the right side. Auto refresh can be set to **15** seconds or **30** seconds, and it can be turned off. The changes take effect immediately.

Click one of the Auto Refresh options to set the auto refresh rate. Click the **Off** option to terminate automatic refreshing of the page.



Pause Updates

Some pages refresh automatically. Updates to these pages can be paused by selecting the **Pause updates** checkbox. Uncheck the **Pause updates** checkbox to resume automatic updates. The **Pause updates** checkbox is available only on some pages.

Max Records Per Page Controls

Max Records Per Page is used to control the maximum number of records displayed in the page area. If a page uses pagination, the value of Max Records Per Page is used. Use this procedure to change the Max Records Per Page.

1. From the **Main Menu**, click **Administration** > **General Options**.
2. Change the value of the **MaxRecordsPerPage** variable.

   Note: Maximum Records Per Page has a range of values from 10 to 100 records. The default value is 20.

3. Click **OK** or **Apply**.

   OK saves the change and returns to the previous page.

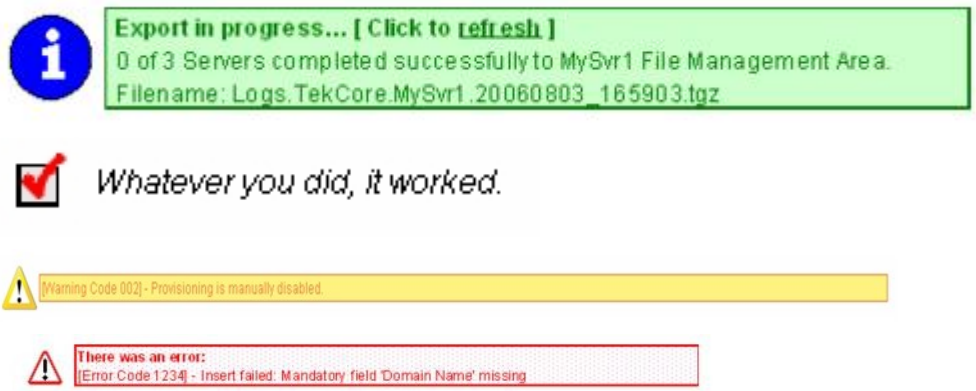
   Apply saves the change and remains on the same page.

The maximum number of records displayed is changed.

Message display

A message appears at the top of the Work Area on a page when a process needs to communicate errors or information. When an event is in progress, a refresh link may be provided here so that you can refresh without having to use the browser's refresh function

These are examples of some of the messages that can appear in a Work Area:



Chapter 3

Alarms and Events

Topics:

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 Operations, Administration, and Maintenance (OAM) and Platform Alarms sections are shared with other applications and may not appear in the UDR.

General alarms and events information

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

Alarms and events defined

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 a disconnected state. Alarms can have these severities:

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

Events note the occurrence of an expected condition, such as an unsuccessful login attempt by a user. 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.

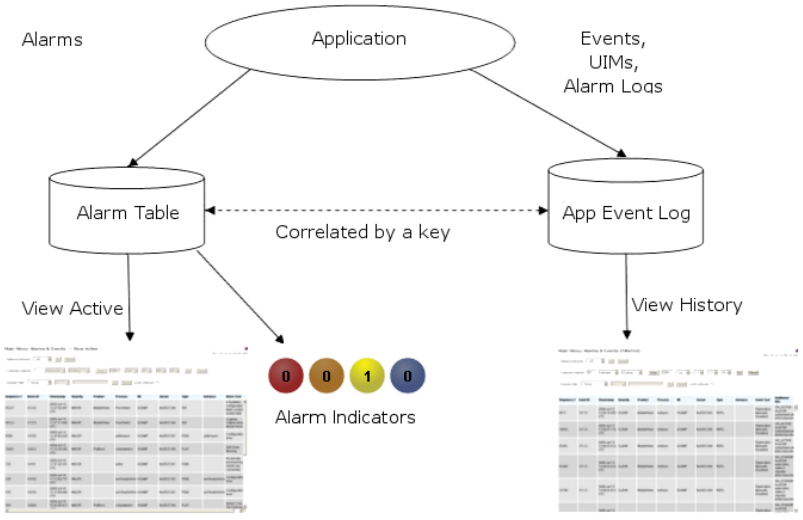


Figure 12: Flow of Alarms

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.

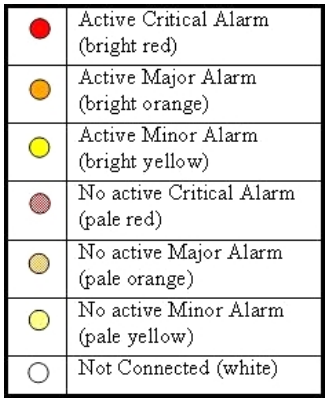


Figure 13: Alarm Indicators Legend

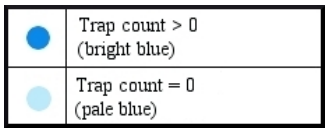


Figure 14: Trap Count Indicator Legend

Alarms formatting information

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

The information provided about each alarm may include:

- Alarm Type: the type of alarm that has occurred. For a list of alarm types see *Table 9: 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 to 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

Alarm and event ID ranges

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

Table 8: Alarm/Event ID Ranges

Application/Process Name	Alarm ID Range
Diameter	8000-8999
Operations, Administration, and Maintenance (OAM)	10000-10999
Provisioning (PROV) (UDR RAS, XSAS, and Prov-Misc)	13000-13100
User Data Repository (UDR)	13101-13500
Transport Manager	19000-19499
Communication Agent (ComAgent)	19800-19899
EXG Stack	19900-19999
Diameter	22000-22999
OAM Alarm Management	25500-25899
Platform	31000-32700

Alarm and event types

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

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

Table 9: Alarm and Event Types

Type Name	Type
AUD	Audit
AUTH	Authorization
CAF	Communication Agent (ComAgent)
CAPM	Computer-Aided Policy Making (Diameter Mediation)
CFG	Configuration
COLL	Collection
DB	Database
DIAG	Diagnostic
DIAM	Diameter
DISK	Disk
HA	High Availability
IDIH	Integrated Diameter Intelligence Hub

Type Name	Type
IF	Interface
IP	Internet Protocol
IPFE	IP Front End
LOG	Logging
MEAS	Measurements
MEM	Memory
OAM	Operations, Administration & Maintenance
PDRA	Policy DRA
PLAT	Platform
PROC	Process
PROV	Provisioning
NAT	Network Address Translation
RBAR	Range-Based Address Resolution
REPL	Replication
SCTP	Stream Control Transmission Protocol
SL	Selective Logging
SPR	Subscriber Profile Repository
STK	EXG Stack
SW	Software (generic event type)
UDR	User Data Request
UDRF/UDRFE	UDR Front End Application running on MP Server

List of alarms

This section of the document provides a list of all alarms that can be raised by the system. They are in numeric order and are grouped by alarm type.

8000-8999 Diameter

This section provides information and recovery procedures for Diameter alarms and events, and lists the types of alarms and events that can occur on the system. All events have a severity of Info.

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 **Alarms & Events > View History** page.

8000 - MpEvFsmException

8000 - 001 - MpEvFsmException_SocketFailure

Event Type:	DIAM
Description:	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:001
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

1. This event is potentially caused by the DSR process reaching its descriptor capacity.
2. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8000 - 002 - MpEvFsmException_BindFailure

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:002
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

1. Potential causes of this event are:
   - Network interface(s) are down.
   - Port is already in use by another process.
   - Configuration is invalid.
2. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8000 - 003 - MpEvFsmException_OptionFailure

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:003
HA Score	Normal

Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

1. Potential causes of this event are:
   - DSR process is not running with root permission.
   - Configuration is invalid.
2. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8000 - 004 - MpEvFsmException_AcceptorCongested

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:004
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

This event is potentially caused by a network or upgrade event that resulted in a synchronization of peer connection attempts.

Note: The rate will ease over time as an increasing number of connections are accepted.

8000 - 101 - MpEvFsmException_ListenFailure

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:101
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8000 - 102 - MpEvFsmException_PeerDisconnected

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:102

HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

No action required.

8000 - 103 - MpEvFsmException_PeerUnreachable

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:103
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

Potential causes for this event are:

- A host IP interface is down.
- A host IP interface is unreachable from the peer.
- A peer IP interface is down.
- A peer IP interface is unreachable from the host.

8000 - 104 - MpEvFsmException_CexFailure

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:104
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

Potential causes for this event are:

- The peer is misconfigured.
- The host is misconfigured.

8000 - 105 - MpEvFsmException_CerTimeout

Event Type	DIAM
Description	DA-MP connection FSM exception.

Severity	Info
Instance	<DA-MP Name>:105
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

No action required.

8000 - 106 - MpEvFsmException_AuthenticationFailure

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:106
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery

Potential causes for this event are:

- The peer is misconfigured.
- The host is misconfigured.

8000 - 201 - MpEvFsmException_UdpSocketLimit

Event Type	DIAM
Description	DA-MP connection FSM exception.
Severity	Info
Instance	<DA-MP Name>:201
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvFsmException

Recovery:

The DSR supports to a preconfigured maximum number of open UDP sockets (the maximum number of open UDP sockets can be accessed via **Diameter** > **Configuration** > **System Options** > **Maximum Open RADIUS UDP sockets per DA-MP**). One or more peers are being routed more traffic than is normally expected, or the peers are responding slowly, causing more than the usual number of UDP sockets being opened. The concerned peer can be identified using the reported connection ID. Investigate the reason for higher than normal traffic being forwarded to the peer, or why the peer is slow to respond.

8001 - MpEvException

8001 - 001 - MpEvException_Oversubscribed

Event Type	DIAM
Description	DA-MP exception.
Severity	Info
Instance	<DA-MP Name>:001
HA Score	Normal
Throttle Seconds	None
OID	eagleXgDiameterMpEvException

Recovery

Bounce one or more floating connections to force their migration to another DA-MP with available capacity.

8002 - MpEvRxException

8002 - 001 - MpEvRxException_DiamMsgPoolCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:001
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

Potential causes of this event are:

- One or more DA-MPs are unavailable and traffic has been distributed to the remaining DA-MPs.
- One or more peers are generating more traffic than is nominally expected.
- There are an insufficient number of DA-MPs provisioned.
- One or more peers are answering slowly, causing a backlog of pending transactions.

8002 - 002 - MpEvRxException_MaxMpsExceeded

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:002
HA Score	Normal
Throttle Seconds	10

OID	eagleXgDiameterMpEvRxException

Recovery

This event is potentially caused when a peer is generating more traffic than is nominally expected.

8002 - 003 - MpEvRxException_CpuCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:003
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

Potential causes for this event are:

- One or more peers are generating more traffic than is nominally expected.
- Configuration requires more CPU for message processing than is nominally expected.
- One or more peers are answering slowly, causing a backlog of pending transactions

8002 - 004 - MpEvRxException_SigEvPoolCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:004
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8002 - 005 - MpEvRxException_DstMpUnknown

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:005
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8002 - 006 - MpEvRxException_DstMpCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:006
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

Potential causes for this event are:

- One or more peers are generating more traffic than is nominally expected.
- Configuration requires more CPU for message processing than is nominally expected.
- One or more peers are answering slowly, causing a backlog of pending transactions

8002 - 007 - MpEvRxException_DrlReqQueueCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:007
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8002 - 008 - MpEvRxException_DrlAnsQueueCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:008
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8002 - 009 - MpEvRxException_ComAgentCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:009
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8002 - 201 - MpEvRxException_MsgMalformed

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:201
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect.

8002 - 202 - MpEvRxException_PeerUnknown

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:202
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery

The host or peer may be misconfigured. Adjust the peer IP address(es) option of the associated Peer Node if necessary.

8002 - 203 - MpEvRxException_RadiusMsgPoolCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.

Severity	Info
Instance	<DA-MP Name>:203
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. A software defect may exist resulting in PDU buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined using the **Alarms & Events** page.
5. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8002 - 204 - MpEvRxException_ItrPoolCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:204
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery:

1. Adjust the RADIUS **Cached Response Duration** option of the associated Connection configuration set(s) to reduce the lifetime of cached transactions, if needed.
2. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
3. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
4. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.

5. A software defect may exist resulting in PTR buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined from the **Alarms & Events** page.
6. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8002 - 205 - MpEvRxException_RclRxTaskQueueCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:205
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery:

1. The alarm will clear when the DCL egress task message queue utilization falls below the clear threshold. The alarm may be caused by one or more peers being routed more traffic than is nominally expected.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8002 - 206 - MpEvRxException_RclSigEvPoolCongested

Event Type	DIAM
Description	DA-MP ingress message processing exception.
Severity	Info
Instance	<DA-MP Name>:206
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. A software defect may exist resulting in PDU buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined using the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8002 - 207 - MpEvRxException_ReqDuplicate

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:207
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery:

1. It is possible to observe this event occasionally, due to the unreliable nature of the UDP transport protocol. However, if the occurrence of this event is frequent, investigate the issue further.

   This event is expected when a retransmission is received from the client before a server has responded to the request, possibly a result of the client retransmitting too quickly before allowing sufficient time for a server to respond in time. Another possible cause is if one or more servers configured to handle the request are non-responsive.

2. Investigate the routing configuration to narrow down the list of servers (Peer Nodes) which are expected to handle requests from the reported server connection.
3. Evaluate whether an Egress Transaction Failure Rate alarm has been raised for any of the corresponding client connections. If so, investigate the cause of the server becoming non-responsive and address the condition.

   Note: Depending on the operator's choice, the client connection may need to be Admin Disabled until the evaluation is complete, which will allow requests to be routed to other servers, depending on the routing configuration. If this is not the case, tune the client's retransmit timers to be greater than the typical turnaround time for the request to be processed by the server and for the response to be sent back to the client.

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8002 - 208 - MpEvRxException_SharedSecretUnavailable

Event Type	DIAM
Description	Failed to access shared secret.
Severity	Info
Instance	<Connection Name>:208
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvRxException

Recovery:

Check to see if alarm 8207 is present. If so, follow the recovery steps for alarm *8207 - MpRadiusKeyError*.

8003 - MpEvTxException

8003 - 001 - MpEvTxException_ConnUnknown

Event Type	DIAM
Description	DA-MP egress message processing exception.
Severity	Info
Instance	<DA-MP Name>:001
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvTxException

Recovery

No action required.

8003 - 101 - MpEvTxException_DclTxTaskQueueCongested

Event Type	DIAM
Description	DA-MP egress message processing exception.
Severity	Info
Instance	<DA-MP Name>:101
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvTxException

Recovery

This event is potentially caused by one or more peers being routed more traffic than is nominally expected.

8003 - 201 - MpEvTxException_RclTxTaskQueueCongested

Event Type	DIAM
Description	DA-MP egress message processing exception.
Severity	Info
Instance	<DA-MP Name>:201
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvTxException

Recovery:

1. The alarm will clear when the DCL egress task message queue utilization falls below the clear threshold. The alarm may be caused by one or more peers being routed more traffic than is nominally expected.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8003 - 202 - MpEvTxException_EtrPoolCongested

Event Type	DIAM
Description	DA-MP egress message processing exception.
Severity	Info
Instance	<DA-MP Name>:202
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvTxException

Recovery:

1. Adjust the Diameter **Pending Answer Timer** option of the associated Transaction configuration set(s) to reduce the lifetime of pending transactions, if needed.
2. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
3. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
4. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
5. A software defect may exist resulting in PTR buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined from the **Alarms & Events** page.
6. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8003 - 203 - MpEvTxException_RadiusMsgPoolCongested

Event Type	DIAM
Description	DA-MP egress message processing exception.
Severity	Info
Instance	<DA-MP Name>:203
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvTxException

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page.

Each MP in the server site should be receiving approximately the same ingress transaction per second.

3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. A software defect may exist resulting in PDU buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined using the **Alarms & Events** page.
5. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8003 - 204 - MpEvTxException_RadiusIdPoolCongested

Event Type	DIAM
Description	DA-MP egress message processing exception.
Severity	Info
Instance	<DA-MP Name>:204
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvTxException

Recovery:

1. The peer is being routed more traffic than is nominally expected, or is responding slowly. If the problem persists, the client port range configured in the Local Node corresponding to the indicated transport connection may need to be increased.
2. Access the connection information via **Diameter** > **Configuration** > **Connections** screen, which indicates the associated Local Node.
3. Access the **Local Node** screen via **Diameter** > **Configuration** > **Local Nodes**.
4. Update the client port range by modifying the **RADIUS Client UDP Port Range Start** and the **RADIUS Client UDP Port Range End** values in the **Local Node** edit screen, if necessary.

   Note: To update the Local Node configuration, Admin Disable all associated connections.

8003 - 205 - MpEvTxException_SharedSecretUnavailable

Event Type	DIAM
Description	Failed to access shared secret.
Severity	Info
Instance	<DA-MP Name>:205
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterMpEvTxException

Recovery:

1. Proceed to *Step 2* if alarm *8207 - MpRadiusKeyError* is present.
2. Synchronize the RADIUS key file.

3. Restart the DSR process. If the required keys are now available, the alarm will not be raised.
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8004 - EvFsmAdState

8004 - 001 - EvFsmAdState_StateChange

Event Type	DIAM
Description	Connection FSM administrative state change.
Severity	Info
Instance	<Connection Name>:001
HA Score	Normal
Throttle Seconds	None
OID	eagleXgDiameterEvFsmAdState

Recovery

No action required.

8005 - EvFsmOpState

8005 - 001 - EvFsmOpState_StateChange

Event Type	DIAM
Description	Connection FSM operational state change.
Severity	Info
Instance	<Connection Name>:001
HA Score	Normal
Throttle Seconds	None
OID	eagleXgDiameterFsmOpState

Recovery

1. No action required when operationally available.
2. Potential causes for this event when operationally unavailable are:
   - Connection is administratively disabled.
   - Diameter initiator connection is connecting.
   - Diameter initiator connection is suppressed (peer is operationally available).
   - Diameter initiator connection is suppressed (peer did not signal reboot during graceful disconnect).
   - Diameter responder connection is listening.
   - RADIUS server connection is opening.
3. Potential causes for this event when operationally degraded are:
   - Connection egress message rate threshold crossed.
   - Diameter connection is in watchdog proving.

- Diameter connection is in graceful disconnect.
- Diameter peer signaled remote busy.
- Diameter connection is in transport congestion.

8006 - EvFsmException

8006 - 001 - EvFsmException_DnsFailure

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:001
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

Potential causes of this event are:

- DNS server configuration is invalid.
- DNS server(s) are unavailable.
- DNS server(s) are unreachable.
- FQDN configuration is invalid.

8006 - 002 - EvFsmException_ConnReleased

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:002
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

No action required.

8006 - 101 - EvFsmException_SocketFailure

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:101
HA Score	Normal

Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

1. This event is potentially caused by the DSR process reaching its descriptor capacity.
2. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8006 - 102 - EvFsmException_BindFailure

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:102
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

1. Potential causes for this event are:
   - Network interface(s) are down.
   - Port is already in use by another process.
   - Configuration is invalid.
2. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8006 - 103 - EvFsmException_OptionFailure

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:103
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

1. Potential causes for this event are:
   - DSR process is not running with root permission.
   - Configuration is invalid.
2. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8006 - 104 - EvFsmException_ConnectFailure

Event Type	DIAM
Description	Connection FSM exception.

Severity	Info
Instance	<Connection Name>:104
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8006 - 105 - EvFsmException_PeerDisconnected

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:105
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

No action required. Potential causes for this event are:

- Diameter peer signaled DPR.
- Peer is unavailable.

8006 - 106 - EvFsmException_PeerUnreachable

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:106
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

Potential causes for this event are:

- A host IP interface is down.
- A host IP interface is unreachable from the peer.
- A peer IP interface is down.
- A peer IP interface is unreachable from the host.

8006 - 107 - EvFsmException_CexFailure

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:107
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

Potential causes for this event are:

- The peer is misconfigured.
- The host is misconfigured.

8006 - 108 - EvFsmException_CeaTimeout

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:108
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

No action required.

8006 - 109 - EvFsmException_DwaTimeout

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:109
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

No action required.

8006 - 110 - EvFsmException_DwaTimeout

Event Type	DIAM

Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:110
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

No action required.

8006 - 111 - EvFsmException_ProvingFailure

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:111
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

Potential causes for this event are:

- A host IP interface is unreachable from the peer, or intermittently so.
- A peer IP interface is unreachable from the host, or intermittently so.

8006 - 112 - EvFsmException_WatchdogFailure

Event Type	DIAM
Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:112
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

Potential causes for this event are:

- A host IP interface is unreachable from the peer, or intermittently so.
- A peer IP interface is unreachable from the host, or intermittently so.

8006 - 113 - EvFsmException_AuthenticationFailure

Event Type	DIAM

Description	Connection FSM exception.
Severity	Info
Instance	<Connection Name>:113
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvFsmException

Recovery

Potential causes for this event are:

- The peer is misconfigured.
- The host is misconfigured.

8007 - EvException

8007 - 101 - EvException_MsgPriorityFailure

Event Type	DIAM
Description	Connection exception.
Severity	Info
Instance	<Connection Name>:101
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvException

Recovery

This event is potentially caused by misconfiguration of the host.

8008 - EvRxException

8008 - 001 - EvRxException_MaxMpsExceeded

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:001
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery

This event is potentially caused when a peer is generating more traffic than is nominally expected.

8008 - 101 - EvRxException_MsgMalformed

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:101
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8008 - 102 - EvRxException_MsgInvalid

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:102
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.

8008 - 201 - EvRxException_SharedSecretUnavailable

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:201
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect.

8008 - 202 - EvRxException_MsgAttrLenUnsupported

Event Type	DIAM
Description	Connection ingress message processing exception.

Severity	Info
Instance	<Connection Name>:202
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect.

8008 - 203 - EvRxException_MsgTypeUnsupported

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:203
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect or may be misconfigured.

8008 - 204 - EvRxException_AnsOrphaned

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:204
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

The peer is responding slowly, network latency is high, or the ETR timer is configured too small. Adjust the Diameter **Pending Answer Timer** option of the associated Transaction configuration set(s) to reduce the lifetime of pending transactions, if needed.

8008 - 205 - EvRxException_AccessAuthMissing

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info

Instance	<Connection Name>:205
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect.

8008 - 206 - EvRxException_StatusAuthMissing

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:206
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect.

8008 - 207 - EvRxException_MsgAuthInvalid

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:207
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

1. Evaluate the indicated message. If an invalid message authenticator value is indicated, ensure that the same shared secret is configured for the connection on the DSR and on the RADIUS peer. The shared secret configuration set associated with the transport connection on the DSR can be accessed via **Diameter** > **Configuration** > **Connections**.
2. If an invalid message authenticator value is not indicated, then the peer may have an implementation defect or may be misconfigured. It is recommended to contact *My Oracle Support (MOS)* for assistance. This event is unexpected.

8008 - 208 - EvRxException_ReqAuthInvalid

Event Type	DIAM
Description	Connection ingress message processing exception.

Severity	Info
Instance	<Connection Name>:208
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may be misconfigured.

8008 - 209 - EvRxException_AnsAuthInvalid

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:209
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may be misconfigured.

8008 - 210 - EvRxException_MsgAttrAstUnsupported

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:210
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

1. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect or may be misconfigured .
2. Only certain Acct-Status-Type values are supported. Ensure that the Acct-Status-Type value is one of these values:
   - 1 (Start)
   - 2 (Stop)
   - 3 (Interim-Update)
   - 7 (Accounting-On)
   - 8 (Accounting-Off)

8008 - 212 - EvRxException_MsgTypeMissingMccs

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:212
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer or host is misconfigured.

8008 - 213 - EvRxException_ConnUnavailable

Event Type	DIAM
Description	Connection ingress message processing exception.
Severity	Info
Instance	<Connection Name>:213
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvRxException

Recovery:

No action required. This event is for informational purposes only.

8009 - EvTxException

8009 - 001 - EvTxException_ConnUnavailable

Event Type	DIAM
Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:001
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery

No action required.

8009 - 101 - EvTxException_DclTxConnQueueCongested

Event Type	DIAM

Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:101
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery

This event is potentially caused by a peer being routed more traffic than is nominally expected.

8009 - 102 - EvTxException_DtlsMsgOversized

Event Type	DIAM
Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:102
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery

This event is potentially caused by a peer being routed more traffic than is nominally expected.

8009 - 201 - EvTxException_MsgAttrLenUnsupported

Event Type	DIAM
Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:201
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect.

8009 - 202 - EvTxException_MsgTypeUnsupported

Event Type	DIAM
Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:202

HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery:

This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may have an implementation defect, or may be misconfigured.

8009 - 203 - EvTxException_MsgLenInvalid

Event Type	DIAM
Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:203
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery:

1. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance.
2. This event is typically generated when the DSR needs to add a Message-Authenticator to the message, but doing so causes the message size to exceed maximum RADIUS message length. If this problem persists, evaluate the source of this message and ensure that the message size allows adding a Message-Authenticator attribute (16 octets). Evaluate the message authenticator configuration for the egress connection and ensure that the adding of Message-Authenticator to specific message types is configured appropriately. The message authenticator configuration set can be identified by accessing the connection screen via **Diameter** > **Configuration** > **Connections**.

8009 - 204 - EvTxException_ReqOnServerConn

Event Type	DIAM
Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:204
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery:

1. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may be misconfigured.
2. Review the configuration of Route Groups and ensure that there are no RADIUS server instances.

8009 - 205 - EvTxException_AnsOnClientConn

Event Type	DIAM

Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:205
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery:

1. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may be misconfigured.
2. Review the configuration of Connections and ensure that there are no RADIUS client instances being used as a RADIUS server by one or more peers.

8009 - 206 - EvTxException_DiamMsgMisrouted

Event Type	DIAM
Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:206
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery:

1. This event is unexpected. It is recommended to contact *My Oracle Support (MOS)* for assistance. The peer may be misconfigured.
2. Review the configuration of Route Groups and ensure that there are no RADIUS server instances.

8009 - 207 - EvTxException_ReqDuplicate

Event Type	DIAM
Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:207
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery:

No action required.

8009 - 208 - EvTxException_WriteFailure

Event Type	DIAM

Description	Connection egress message processing exception.
Severity	Info
Instance	<Connection Name>:208
HA Score	Normal
Throttle Seconds	10
OID	eagleXgDiameterEvTxException

Recovery:

1. This event is unexpected. It is recommend to contact *My Oracle Support (MOS)* for assistance. The peer may be misconfigured.
2. Ensure that the RADIUS **UDP Transmit Buffer Size** option in **System Options** to ensure it is sufficient for the offered traffic load.

8010 - MpIngressDrop

Alarm Group	DIAM
Description	DA-MP ingress message discarded or rejected.
Severity	Major
Instance	<DA-MP Name>
HA Score	Normal
Auto Clear Seconds	30
OID	eagleXgDiameterMpIngressDrop

Recovery

Potential causes of this alarm are:

- One or more DA-MPs are unavailable and traffic has been distributed to the remaining DA-MPs.
- One or more peers are generating more traffic than is nominally expected.
- There are an insufficient number of DA-MPs provisioned.
- One or more peers are answering slowly, causing a backlog of pending transactions.

8011 - EcRate

Alarm Group	DIAM
Description	Connection egress message rate threshold crossed.
Severity	Minor, Major, Critical
Instance	<Connection Name>
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterEmr

Recovery

This alarm is potentially caused when a peer is routed more traffic than is nominally expected.

8012 - MpRxNgnPsOfferedRate

Alarm Group	DIAM
Description	DA-MP ingress NGN-PS message rate threshold crossed.
Severity	Major
Instance	MpRxNgnPsOfferedRate, DIAM
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterMpRxNgnPsOfferedRateNotify

Recovery

Potential causes of this alarm:

- One or more DA-MPs are unavailable and traffic has been distributed to the remaining DA-MPs.
- One or more peers are generating more traffic than is nominally expected.
- There are an insufficient number of DA-MPs provisioned.

The alarm will clear when threshold crossing abates.

8013 - MpNgnPsStateMismatch

Alarm Group	DIAM
Description	DA-MP NGN-PS administrative and operational state mismatch.
Severity	Major
Instance	<DA-MP Name>
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterMpNgnPsStateMismatchNotify

Recovery

This alarm is potentially caused when a DA-MP restart is required.

The alarm will clear when administrative and operational states are aligned.

8014 - MpNgnPsDrop

Alarm Group	DIAM
Description	DA-MP NGN-PS message discarded or rejected.
Severity	Major
Instance	<DA-MP Name>

HA Score	Normal
Auto Clear Seconds	30
OID	eagleXgDiameterMpNgnPsDropNotify

Recovery

Potential causes of this alarm are:

- Routing or application controls are configured incorrectly.
- Peer or network is in congestion.
- Engineering of internal resources is insufficient.

8015 - NgnPsMsgMisrouted

Alarm Group	DIAM
Description	NGN-PS message routed to peer DSR lacking NGN-PS support.
Severity	Major
Instance	<Connection Name>
HA Score	Normal
Auto Clear Seconds	30
OID	eagleXgDiameterNgnPsMsgMisroutedNotify

Recovery

Potential causes of this alarm are:

- Routing configuration is incorrect.
- Peer DSR has not yet been upgraded.
- Peer DSR has not yet operationally enabled NGN-PS.

8100 - NormMsgMisrouted

Alarm Group:	DIAG
Description:	Normal message routed onto diagnostic connection.
Severity:	Major
Instance:	<Connection Name>
HA Score:	Normal
Auto Clear Seconds:	30 (after last occurrence)
OID:	eagleXgDiameterNormMsgMisrouted

Recovery:

1. The alarm is potentially caused by a diameter routing misconfiguration.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8101 - DiagMsgMisrouted

Alarm Group:	DIAG
Description:	Diagnostic message routed onto normal connection.
Severity:	Minor
Instance:	<Connection Name>
HA Score:	Normal
Auto Clear Seconds:	30 (after last occurrence)
OID:	eagleXgDiameterDiagMsgMisrouted

Recovery:

1. The alarm is potentially caused by a diameter routing misconfiguration.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8200 - MpRadiusMsgPoolCongested

Alarm Group	DIAM
Description	DA-MP RADIUS message pool utilization threshold crossed.
Severity	Minor, Major, Critical
Instance	MpRadiusMsgPool, DIAM
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterMpRadiusMsgPoolCongested

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. A software defect may exist resulting in PDU buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined using the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8201 - RclRxTaskQueueCongested

Alarm Group	DIAM

Description	RCL ingress task message queue utilization threshold crossed.
Severity	Minor, Major, Critical
Instance	RclRxTaskQueue, DIAM
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterRclRxTaskQueueCongested

Recovery:

1. The alarm will clear when the RCL ingress task message queue utilization falls below the clear threshold. The alarm may be caused by one or more peers being routed more traffic than is nominally expected.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8202 - RclItrPoolCongested

Alarm Group	DIAM
Description	RCL ITR pool utilization threshold crossed.
Severity	Minor, Major, Critical
Instance	RclItrPool, DIAM
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterRclItrPoolCongested

Recovery:

1. Adjust the RADIUS **Cached Response Duration** option of the associated Connection configuration set(s) to reduce the lifetime of cached transactions, if needed.
2. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
3. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
4. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
5. A software defect may exist resulting in PTR buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined from the **Alarms & Events** page.
6. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8203 - RclRxTaskQueueCongested

Alarm Group	DIAM
Description	RCL egress task threshold crossed.
Severity	Minor, Major, Critical
Instance	RclRxTaskQueue, DIAM
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterRclRxTaskQueueCongested

Recovery:

1. The alarm will clear when the RCL egress task message queue utilization falls below the clear threshold. The alarm may be caused by one or more peers being routed more traffic than is nominally expected.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8204 - RclEtrPoolCongested

Alarm Group	DIAM
Description	RCL ETR pool utilization threshold crossed.
Severity	Minor, Major, Critical
Instance	RclEtrPool, DIAM
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterRclEtrPoolCongested

Recovery:

1. Adjust the RADIUS **Cached Response Duration** option of the associated Connection configuration set(s) to reduce the lifetime of cached transactions, if needed.
2. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
3. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
4. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
5. A software defect may exist resulting in PTR buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined from the **Alarms & Events** page.
6. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

8205 - RadiusXactionFail

Alarm Group	DIAM
Description	RADIUS connection transaction failure threshold crossed. The presence of this alarm indicates that the server is not responding to requests in a timely manner. A response that is not received in a timely manner constitutes a transaction failure.
Severity	Minor, Major
Instance	<Connection Name>
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterRadiusXactionFail

Recovery:

1. Check whether there is an IP network problem, RADIUS server congestion resulting in large response times, or whether a RADIUS server failure has occurred.
2. The user may choose to Admin Disable the corresponding transport connection which will prevent the DSR from selecting that connection for message routing, until the cause of the alarm is determined.

8206 - MpRxRadiusAllLen

Alarm Group	DIAM
Description	RADIUS average ingress message length threshold crossed.
Severity	Minor, Major
Instance	MpRxRadiusAllLen, DIAM
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterMpRxRadiusAllLen

Recovery:

1. Investigate traffic sources. One or more peers is sending larger messages than is nominally expected.
2. Adjust the message length thresholds if necessary.

8207 - MpRadiusKeyError

Alarm Group	DIAM
Description	DA-MP RADIUS key error. This alarm is unexpected during normal processing. The presence of this alarm indicates that the DSR encountered an error while accessing RADIUS encryption keys that are used to decrypt RADIUS shared secrets.
Severity	Critical

Instance	<DA-MP Name>
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	eagleXgDiameterMpRadiusKeyError

Recovery:

1. Synchronize the RADIUS key file.
2. Restart the DSR process. If the required keys are now available, the alarm will not be raised.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

10000-10999 - Operations, Administration, and Maintenance

This section provides information and recovery procedures for Operations, Administration, and Maintenance (OAM) alarms, ranging from 10000-10999.

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 **Alarms & Events** > **View History** page.

10000 - Incompatible database version

Alarm Group:	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:

It is recommended to contact *My Oracle Support (MOS)*.

10001 - Database backup started

Event Type:	DB
Description:	The database backup has started.
Severity:	Info
Instance:	GUI
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecBackupStartNotify

Recovery:

No action action required.

10002 - Database backup completed

Event Type:	DB
Description:	Backup completed
Severity:	Info
Instance:	GUI
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecBackupCompleteNotify

Recovery:

No action required.

10003 - Database backup failed

Event Type:	DB
Description:	The database backup has failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecBackupFailNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

10004 - Database restoration started

Event Type:	DB
Description:	The database restoration has started.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecRestoreStartNotify

Recovery:

No action required.

10005 - Database restoration completed

Event Type:	DB
Description:	The database restoration is completed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecRestoreCompleteNotify

Recovery:

No action required.

10006 - Database restoration failed

Event Type:	DB
Description:	The database restoration has failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecRestoreFailNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

10008 - Database provisioning manually disabled

Alarm Group:	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:	awpss7TekelecProvisioningManuallyDisabledNotify

Recovery:

No action required.

10009 - Config and Prov db not yet synchronized

Alarm Group:	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:	awpss7OAGTCfgProvDbNoSyncNotify

Recovery:

1. Monitor the replication status using the **Status & Manage** > **Replication GUI** page.
2. If alarm persists for more than one hour, it is recommended to contact *My Oracle Support (MOS)*.

10010 - Stateful db from mate not yet synchronized

Alarm Group:	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:	awpss7OAGTStDbNoSyncNotify

Recovery:

If alarm persists for more than 30 seconds, it is recommended to contact *My Oracle Support (MOS)*.

10011 - Cannot monitor table

Alarm Group:	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:	awpss7OAGTCantMonitorTableNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

10012 - Table change responder failed

Alarm Group:	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:	awpss7OAGTResponderFailedNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

10013 - Application restart in progress

Alarm Group:	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:	awpss7OAGTApplSWDisabledNotify

Recovery:

If duration of alarm is greater than two seconds, it is recommended to contact *My Oracle Support (MOS)*.

10020 - Backup failure

Alarm Group:	DB
Description:	Database backup failed.
Severity:	Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	This alarm does not autoclear.
OID:	awpss7ApwBackupFailureNotify

Recovery:

Alarm will clear if a backup (Automated or Manual) of the same group data is successful. It is recommended to contact *My Oracle Support (MOS)* if failures persist.

10050 - Resource Audit Failure

Alarm Group:	AUD
Description:	Database backup failed.
Severity:	Minor
Instance:	
HA Score:	Normal
Auto Clear Seconds:	0
OID:	awpss7TekelecResourceAuditFailureNotify

Recovery:

10051 - Route Deployment Failed

Alarm Group:	AUD
Description:	An error occurred in the deployment of a network.
Severity:	Minor
Instance:	Route ID that failed to deploy
HA Score:	Normal
Auto Clear Seconds:	0
OID:	awpss7TekelecRouteDeploymentFailedNotify

Recovery:

Edit the route to choose a gateway that is reachable or delete the route.

10052 - Route discovery failed

Alarm Group:	AUD
Description:	An error occurred in the discovery of network routes.
Severity:	Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	awpss7TekelecRouteDiscoveryFailedNotify

Recovery:

If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

10053 - Route deployment failed - no available device

Alarm Group:	AUD

Description:	A suitable device could not be identified for the deployment of a network route.
Severity:	Minor
Instance:	Route ID that failed to deploy
HA Score:	Normal
Auto Clear Seconds:	0
OID:	awpss7TekelecNoRouteDeviceNotify

Recovery:

1. Deploy the route on a specific device instead of using the "AUTO" device.
2. Ensure that every server in the server group has a usable device for the selected gateway.

10054 - Device deployment failed

Alarm Group:	AUD
Description:	An error occurred in the deployment of a network device.
Severity:	Minor
Instance:	Device name that failed to deploy
HA Score:	Normal
Auto Clear Seconds:	0
OID:	awpss7TekelecDeviceDeploymentFailedNotify

Recovery:

Edit or delete the device.

10055 - Device discovery failed

Alarm Group:	AUD
Description:	An error occurred in the discovery of network devices.
Severity:	Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	awpss7TekelecDeviceDiscoveryFailedNotify

Recovery:

If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

10073 - Server Group Max Allowed HA Role Warning

Alarm Group:	HA

Description:	The server group has received the maximum number of allowed HA role warnings.
Severity:	Minor
Instance:	Affected Server Group name
HA Score:	Normal
Auto Clear Seconds:	0
OID:	awpss7OAGTSgMaxAllowedHARoleWarnNotify

Recovery:

1. Login to the SO GUI and navigate to the HA page (**Main Menu** > **Status & Manage** > **HA**).
2. Click the **Edit** button and change the Max Allowed HA role of the current Standby SOAM to *Active*.
3. If you cannot perform the HA switchover, login to the server (**Main Menu** > **Status & Manage** > **Server**).
4. Click on the Active server and press the **Restart** button to restart the server.
   HA switchover occurs.
5. Verify the switchover was successful from the Active SOAM GUI, or login to the Active and Standby SOAMs and execute the following command:

   ```
   # ha.mystate
   ```

10074 - Standby server degraded while mate server stabilizes

Alarm Group:	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:	awpss7HASbyRecoveryInProgressNotify

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 Group:	HA
Description:	The server is no longer providing services because application processes have been manually stopped.
Severity:	Minor
Instance:	N/A

HA Score:	Normal
Auto Clear Seconds:	This alarm does not autoclear.
OID:	awpss7HAMtceStopApplicationsNotify

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

Event 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
Throttle Seconds:	1
OID:	awpss7FailureRecoveryWithoutAppRestartNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

10100 - Log export started

Event Type:	LOG
Description:	Log files export operation has started.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecLogExportStartNotify

Recovery:

No action required.

10101 - Log export successful

Event Type:	LOG

Description:	The log files export operation completed successfully.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecLogExportSuccessNotify

Recovery:

No action required.

10102 - Log export failed

Event Type:	LOG
Description:	The log files export operation failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecLogExportFailedNotify

Recovery:

1. Verify the export request and try the export again.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

10103 - Log export already in progress

Event 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
Throttle Seconds:	1
OID:	awpss7TekelecLogExportNotRunNotify

Recovery:

Restart export operation after existing export completes.

10104 - Log export file transfer failed

Event Type:	LOG

Description:	The performance data export remote copy operation failed.
Severity:	Info
Instance:	<Task ID> **Note:** <Task ID> refers to the ID column found in **Main Menu** > **Status & Manage** > **Tasks** > **Active Tasks**.
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecExportXferFailedNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance.

10105 - Log export cancelled - user request

Event Type:	LOG
Description:	The log files export operation cancelled by user.
Severity:	Info
Instance:	<Task ID> **Note:** <Task ID> refers to the ID column found in **Main Menu** > **Status & Manage** > **Tasks** > **Active Tasks**.
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecLogExportCancelledUserNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance.

10106 - Log export cancelled - duplicate request

Event Type:	LOG
Description:	The log files export operation was cancelled because a scheduled export is queued already.
Severity:	Info
Instance:	<Task ID> **Note:** <Task ID> refers to the ID column found in **Main Menu** > **Status & Manage** > **Tasks** > **Active Tasks**.
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecLogExportCancelledDuplicateNotify

Recovery:

1. Check the duration and/or frequency of scheduled exports as they are not completing before the next scheduled export is requested.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

10107 - Log export cancelled - queue full

Event Type:	LOG
Description:	The log files export operation cancelled because the export queue is full.
Severity:	Info
Instance:	<Task ID> **Note:** <Task ID> refers to the ID column found in **Main Menu** > **Status & Manage** > **Tasks** > **Active Tasks**.
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecLogExportCancelledQueueNotify

Recovery:

1. Check the amount, duration and/or frequency of scheduled exports to ensure the queue does not fill up.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

10108 - Duplicate scheduled log export task

Alarm Group:	LOG
Description:	A duplicate scheduled log export task has been queued.
Severity:	Minor
Instance:	<Target ID> **Note:** <Target ID> refers to the scheduled task ID found by running a report from **Main Menu** > **Status & Manage** > **Tasks** > **Scheduled Tasks**.
HA Score:	Normal
Auto Clear Seconds:	This alarm does not autoclear.
OID:	awpss7TekelecLogExportDupSchedTaskNotify

Recovery:

1. Check the duration and/or frequency of scheduled exports as they are not completing before the next scheduled export is requested.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

10109 - Log export queue is full

Alarm Group:	LOG
Description:	The log export queue is full
Severity:	Minor
Instance:	<Queue Name> **Note:** <Queue Name> refers to the name of the queue used for the export task ID found by running a report from either **Main Menu** > **Status & Manage** > **Tasks** > **Active Tasks** or **Main Menu** > **Status & Manage** > **Tasks** > **Scheduled Tasks**.
HA Score:	Normal
Auto Clear Seconds:	This alarm does not autoclear.
OID:	awpss7TekelecLogExportQueueFullNotify

Recovery:

1. Check the amount, duration and/or frequency of scheduled exports to ensure that the queue does not fill up.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

10110 - Certificate About to Expire

Alarm Group:	AUD
Description:	The certificate expires within 30 days.
Severity:	Minor
Instance:	<CertificateName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	certificateAboutToExpire

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance.

10111 - Certificate Expired

Alarm Group:	AUD
Description:	The certificate is expired.
Severity:	Major
Instance:	<CertificateName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)

OID:	certificateExpired

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance.

10112 - Certificate Cannot Be Used

Alarm Group:	AUD
Description:	The certificate cannot be used because the certificate is not available yet.
Severity:	Major
Instance:	<CertificateName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	certificateCannotBeUsed

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance.

10115 - Health Check Started

Event Type:	LOG
Description:	Upgrade health check operation started.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	N/A
OID:	tekelecLogHealthCheckStart

Recovery:

No action required.

10116 - Health Check Successful

Event Type:	LOG
Description:	Upgrade health check operation completed successfully.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	N/A
OID:	tekelecLogHealthCheckSuccess

Recovery:

No action required.

10117 - Health Check Failed

Event Type:	LOG
Description:	Upgrade health check operation failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	N/A
OID:	tekelecLogHealthCheckFailed

Recovery:

No action required.

10118 - Health Check Not Run

Event Type:	LOG
Description:	Upgrade health check not run.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	N/A
OID:	tekelecLogHealthCheckNotRun

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

10120 - Server Group Upgrade Started

Event Group:	LOG
Description:	The server group upgrade operation has started.
Severity:	Info
Instance:	<ServerGroupName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogSgUpgradeStart

Recovery:

No action required.

10121 - Server Group Upgrade Cancelled - Validation Failed

Event Group:	LOG
Description:	The server group upgrade operation has been cancelled due to validation failure.
Severity:	Info
Instance:	<ServerGroupName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogSgUpgradeCancelled

Recovery:

No action required.

10122 - Server Group Upgrade Successful

Event Group:	LOG
Description:	The server group upgrade operation completed successfully.
Severity:	Info
Instance:	<ServerGroupName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogSgUpgradeSuccess

Recovery:

No action required.

10123 - Server Group Upgrade Failed

Event Group:	LOG
Description:	The server group upgrade operation failed.
Severity:	Info
Instance:	<ServerGroupName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogSgUpgradeFailed

Recovery:

No action required. Alarm *10134 - Server Upgrade Failed* is raised for each server upgrade that fails. The alarm clears when the server begins upgrading.

10124 - Server Group Upgrade Cancelled - User Request

Event Group:	LOG
Description:	The user cancelled the server group upgrade operation.
Severity:	Info
Instance:	<ServerGroupName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogSgUpgradeCancelledUser

Recovery:

No action required.

10130 - Server Upgrade Started

Event Group:	LOG
Description:	The server upgrade operation has started.
Severity:	Info
Instance:	<HostName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogServerUpgradeStart

Recovery:

No action required.

10131 - Server Upgrade Cancelled

Event Group:	LOG
Description:	The server upgrade operation has been cancelled due to validation failure.
Severity:	Info
Instance:	<HostName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogServerUpgradeCancelled

Recovery:

No action required.

10132 - Server Upgrade Successful

Event Group:	LOG
Description:	The server upgrade operation completed successfully.
Severity:	Info
Instance:	<HostName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogServerUpgradeSuccess

Recovery:

No action required.

10133 - Server Upgrade Failed

Event Group:	LOG
Description:	The server upgrade operation failed.
Severity:	Info
Instance:	<HostName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogServerUpgradeFailed

Recovery:

No action required. Alarm *10134 - Server Upgrade Failed* is raised for each server upgrade that fails. The alarm clears when the server begins upgrading.

10134 - Server Upgrade Failed

Alarm Group:	LOG
Description:	The server upgrade operation failed.
Severity:	Major
Instance:	<HostName>
HA Score:	Normal
Auto Clear Seconds:	0
OID:	tekelecLogServerUpgradeFailAlm

Recovery:

1. If there are servers in the server group that have successfully upgraded, you will need to individually restart the upgrade on the server that raised the alarm.
   a) Navigate to the Upgrade page (**Administration** > **Software Management** > **Upgrade**).

b) Select the tab associated with the server group containing the server(s) that raised the alarm.
c) Select the individual server(s) and then click the **Upgrade Server** button to start the upgrade on those servers.

Note: Servers cannot be selected across tabs. If there are servers in multiple server groups, you must restart the server upgrade for each additional "Server Group" tab.

2. If no servers in the group have been upgraded, you can click **Auto Upgrade** to upgrade all servers in the server group. If a server upgrade has failed already, the alarm will be cleared when the server begins to upgrade.

Note: The active server in the NO server group will never upgrade automatically.

3. If no server groups have been upgraded, you can select **Site Upgrade** to upgrade all server groups in the site. If a server upgrade has failed already, the alarm will be cleared when the site begins to upgrade.
   a) Navigate to the Upgrade page (**Administration** > **Software Management** > **Upgrade**).
   b) Select an SO server group to make the second row of tabs appear.
   c) Select the **Entire Site** tab.

   Note: The **Entire Site** tab only appears when the result set for the site contains more than one server group.

   d) Click **Site Upgrade**. Clicking **Site Upgrade** generates a report of the planned upgrade order for all the servers in the site.
   e) Select an ISO and initiate the site upgrade.

10151 - Login successful

Event Type:	LOG
Description:	The login operation was successful.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecLoginSuccessNotify

Recovery:

No action required.

10152 - Login failed

Event Type:	LOG
Description:	The login operation failed
Severity:	Info
Instance:	N/A
HA Score:	Normal

Throttle Seconds:	1
OID:	awpss7TekelecLoginFailedNotify

Recovery:

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

10153 - Logout successful

Event Type:	LOG
Description:	The logout operation was successful.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	awpss7TekelecLogoutSuccessNotify

Recovery:

No action required.

10154 - User Account Disabled

Alarm Group:	AUTH
Description:	User account has been disabled due to multiple login failures.
Severity:	Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	This alarm does not autoclear.
OID:	awpss7TekelecAccountDisabledNotify

Recovery:

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

10155 - SAML Login Successful

Event Group:	LOG
Description:	SAML Login Successful
Severity:	Info
Instance:	N/A
HA Score:	Normal

Throttle Seconds:	1
OID:	awpss7TekelecSamlLoginSuccessNotify

Recovery:

This is not a failure event. It's an indication that a user was successfully authenticated for login to the GUI. This applies to both conventional login and Single Sign On (SSO) login.

10156 - SAML Login Failed

Event Group:	LOG
Description:	An attempt to login to the GUI via conventional login or via SSO login failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecSamlLoginFailed

Recovery:

1. Use correct username and password to log in.
2. For failed SSO login, verify SSO was properly configured. Collect logs, and it is recommended to contact *My Oracle Support (MOS)* if the problem persists.

10200 - Remote database reinitialization in progress

Alarm Group:	CFG
Description:	The remote database reinitialization is in progress. This alarm is raised on the active NOAM 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:	awpss7ApwSgDbReinitNotify

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, it is recommended to contact *My Oracle Support (MOS)*.

13000-13100 - PROV (UDR RAS, XSAS, and Prov-Misc)

This section provides information and recovery procedures for provisioning alarms (RAS, XSAS, and miscellaneous provisioning-related), ranging from 13000 - 13100. Alarms and events are recorded in a database log table.

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 **Alarms & Events** > **View History** page.

13002 - RAS Connection Failed

Alarm Type:	PROV
Description:	Provisioning client connection initialization failed due to an error. See the trace log for details (`CID=<Connection ID>, IP=<IP Address>`).
Severity:	Major
Instance:	Connection ID : IP Address
HA Score:	Normal
Auto Clear Seconds:	300
OID:	RasProvConnectionFailed

Recovery:

1. Wait 5 minutes for the alarm to automatically clear or establish a successful RAS connection.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13003 - Invalid RAS Provisioning Configuration

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:	0
OID:	RasProvInvalidConfiguration

Recovery:

1. Change the ports to all be unique on the Provisioning Options page.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13010 - RAS Connection Established

Alarm Type:	PROV
Description:	This event is generated each time a remote provisioning client successfully establishes a REST connection. (Remote client connection established -- CID *Connection ID*, IP *IP Address*)
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	RasProvConnectionEstablished

Recovery:

No action required.

13011 - RAS Connection Terminated

Alarm Type:	PROV
Description:	This event is generated each time a remote provisioning client connection terminates. (Remote client connection terminated -- CID *Connection ID*, IP *IP Address*)
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	RasProvConnectionTerminated

Recovery:

1. Attempt to re-establish the RAS connection.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13012 - RAS Connection Denied

Alarm Type:	UDR
Description:	This event is generated each time a local or remote provisioning client initiated connection establishment is denied due to one of the following reasons: • Connection originating from an unauthorized IP address • Maximum number of allowed remote client connections have been reached
Severity:	Info

Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	RasProvConnectionDenied

Recovery:

1. Determine the cause the issue using the following
   - Is the IP address authorized?
   - Has the maximum number of allowed remote client connections been reached?
2. After resolving the underlying issue, attempt to reconnect the RAS connection.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13028 - XSAS Connection Failed

Alarm Type:	PROV
Description:	Provisioning client connection initialization failed due to an error. See the trace log for details. (`CID=<Connection ID>, IP=<IP Address>`).
Severity:	Major
Instance:	Connection ID : IP Address
HA Score:	Normal
Auto Clear Seconds:	0
OID:	XsasProvConnectionFailed

Recovery:

1. Wait 5 minutes for the alarm to automatically clear or establish a successful XSAS connection.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13029 - Invalid XSAS Provisioning Configuration

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:	0
OID:	XsasProvInvalidConfiguration

Recovery:

1. Change the ports to all be unique.

2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13035 - XSAS Connection Established

Alarm Type:	PROV
Description:	This event is generated each time a remote provisioning client successfully establishes a SOAP connection.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	XsasProvConnectionEstablished

Recovery:

No action required.

13036 - XSAS Connection Terminated

Alarm Type:	PROV
Description:	This event is generated each time a remote provisioning client connection terminates.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	XsasProvConnectionTerminated

Recovery:

1. Attempt to re-establish the XSAS connection.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13037 - XSAS Connection Denied

Alarm Type:	PROV
Description:	This event is generated each time a local or remote provisioning client initiated connection establishment is denied due to one of the following reasons: • Connection originating from an unauthorized IP address • Maximum number of allowed remote client connections have been reached
Severity:	Info
Instance:	N/A

HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	XSASConnectionDenied

Recovery:

1. Determine the cause of the issue using the following:
   - Is the IP address authorized?
   - Has the maximum number of allowed remote client connections been reached?
2. After resolving the underlying issue, attempt to reconnect the XSAS connection.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13051 - Import Throttled

Alarm Type:	PROV
Description:	Provisioning import throttled to prevent overrunning database service processes.
Severity:	Minor
Instance:	provimport
HA Score:	Normal
Auto Clear Seconds:	5
OID:	ProvImportThrottled

Recovery:

1. Wait 5 seconds for throttling to subside.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13052 - Import Initialization Failed

Alarm Type:	PROV
Description:	Provisioning import failed due to initialization error. See the trace log for details.
Severity:	Major
Instance:	provimport
HA Score:	Normal
Auto Clear Seconds:	43200
OID:	ProvImport InitializationFailed

Recovery:

1. Correct the problem based on the error in the trace log.
2. Try the import again.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13053 - Import Generation Failed

Alarm Type:	PROV
Description:	Provisioning import failed due to failure to generate import log. See the trace log for error details.
Severity:	Major
Instance:	provimport
HA Score:	Normal
Auto Clear Seconds:	43200
OID:	ProvImportGenerationFailed

Recovery:

1. Correct the problem based on the error in the trace log.
2. Try the import again.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13054 - Import Transfer Failed

Alarm Type:	PROV
Description:	Provisioning import operation failed due to a file transfer error for the import log. Failed to transfer the file either to or from the remote host. See the trace log for details.
Severity:	Major
Instance:	provimport
HA Score:	Normal
Auto Clear Seconds:	43200
OID:	ProvImportTransferFailed

Recovery:

1. Correct the problem based on the error in the trace log.
2. Try the import again.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13055 - Import Successful

Alarm Type:	PROV
Description:	This event is generated each time an XML import is successful.
Severity:	Info
Instance:	N/A
HA Score:	Normal

Auto Clear Seconds:	N/A
OID:	ProvImportSuccessful

Recovery:

No action required.

13056 - Export Initialization Failed

Alarm Type:	PROV
Description:	Provisioning export failed due to an initialization. See the trace log for details.
Severity:	Major
Instance:	provexport
HA Score:	Normal
Auto Clear Seconds:	43200
OID:	ProvExport InitializationFailed

Recovery:

1. Correct the problem based on the error in the trace log.
2. Try the export again.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13057 - Export Generation Failed

Alarm Type:	PROV
Description:	Provisioning export failed due to failure to generate export log. See the trace log for error details.
Severity:	Major
Instance:	provexport
HA Score:	Normal
Auto Clear Seconds:	43200
OID:	ProvExportGenerationFailed

Recovery:

1. Correct the problem based on the error in the trace log.
2. Try the export again.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13058 - Export TransferFailed

Alarm Type:	PROV

Description:	Provisioning export operation failed due to a file transfer error for the export log. The file failed to transfer either from or to the remote host. See the trace log for error details.
Severity:	Major
Instance:	provexport
HA Score:	Normal
Auto Clear Seconds:	43200
OID:	ProvExportTransferFailed

Recovery:

1. Correct the problem based on the error in the trace log.
2. Try the export again.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13059 - Export Successful

Alarm Type:	PROV
Description:	This event is generated each time an XML export is successful.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	ProvExportSuccessful

Recovery:

No action required.

13061 - ERA ResponderFailed

Alarm Type:	PROV
Description:	Event responder failed (or event responder error cleared).
Severity:	Major
Instance:	era
HA Score:	Normal
Auto Clear Seconds:	0
OID:	EraResponderFailed

Recovery:

It is recommended to call *My Oracle Support (MOS)*.

13062 - RAS Process CPU Utilization Threshold Exceeded

Alarm Type:	PROV
Description:	The RAS Process CPU Utilization is approaching its maximum capacity. The alarm severity depends on the amount of CPU being used: • Minor when utilization exceeds 60% • Major when utilization exceeds 66% • Critical when utilization exceeds 72%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	RasProcCpuThresh

Recovery:

1. Reduce the REST interface provisioning rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 57% (clears Minor alarm)
   - <= 63% (clears Major alarm)
   - <= 69% (clears Critical alarm)
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13063 - RAS Process Memory Utilization Threshold Exceeded

Alarm Type:	PROV
Description:	The RAS Process Memory Utilization is approaching its maximum capacity. The alarm severity depends on the amount of memory being used: • Minor when utilization exceeds 60% • Major when utilization exceeds 66% • Critical when utilization exceeds 72%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	RasProcMemThresh

Recovery:

1. Reduce the REST interface provisioning rate to clear the alarm. The alarm clears when utilization falls below these thresholds:

- <= 57% (clears Minor alarm)
- <= 63% (clears Major alarm)
- <= 69% (clears Critical alarm)

2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13064 - XSAS Process CPU Utilization Threshold Exceeded

Alarm Type:	PROV
Description:	The XSAS Process CPU Utilization is approaching its maximum capacity. The alarm severity depends on the amount of CPU being used: • Minor when utilization exceeds 60% • Major when utilization exceeds 66% • Critical when utilization exceeds 72%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	XsasProcCpuThresh

Recovery:

1. Reduce the SOAP interface provisioning rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 57% (clears Minor alarm)
   - <= 63% (clears Major alarm)
   - <= 69% (clears Critical alarm)
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13065 - XSAS Process Memory Utilization Threshold Exceeded

Alarm Type:	PROV
Description:	The XSAS Process Memory Utilization is approaching its maximum capacity. The alarm severity depends on the amount of memory being used: • Minor when utilization exceeds 60% • Major when utilization exceeds 66% • Critical when utilization exceeds 72%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0

OID:	XsasProcMemThresh

Recovery:

1. Reduce the SOAP interface provisioning rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 57% (clears Minor alarm)
   - <= 63% (clears Major alarm)
   - <= 69% (clears Critical alarm)
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13066 - UDRPROV Process CPU Utilization Threshold Exceeded

Alarm Type:	PROV
Description:	The UDRPROV Process CPU Utilization is approaching its maximum capacity. The alarm severity depends on the amount of CPU being used: • Minor when utilization exceeds 60% • Major when utilization exceeds 66% • Critical when utilization exceeds 72%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	udrProvProcCpuThresh

Recovery:

1. Reduce the UDRPROV interface provisioning rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 57% (clears Minor alarm)
   - <= 63% (clears Major alarm)
   - <= 69% (clears Critical alarm)
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13067 - UDRPROV Process Memory Utilization Threshold Exceeded

Alarm Type:	PROV
Description:	The UDRPROV Process Memory Utilization is approaching its maximum capacity. Alarms 13063 through 13066 may also appear at the same time to help identify which aspect of UDRPROV is having an issue. The alarm severity depends on the amount of memory being used: • Minor when utilization exceeds 60%

- Major when utilization exceeds 66%
- Critical when utilization exceeds 72%

Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	udrProvProcMemThresh

Recovery:

1. Reduce the UDRPROV interface provisioning rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 57% (clears Minor alarm)
   - <= 63% (clears Major alarm)
   - <= 69% (clears Critical alarm)
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13068 - Command Log Export Initialization Failed

Alarm Type:	PROV
Description:	Command Log Export failed due to an initialization error. Alarm clears automatically after 12 hours or when initialization completes successfully.
Severity:	Major
Instance:	cmdlogexport
HA Score:	Normal
Auto Clear Seconds:	43200
OID:	ProvCommandLogExportInitializationFailed

Recovery:

1. Correct the problem based on the error in the trace log and wait for the command log export to be triggered again.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13069 - Command Log Export Generation Failed

Alarm Type:	PROV
Description:	Command Log Export failed due to a failure in generating the command log export.
Severity:	Major
Instance:	cmdlogexport
HA Score:	Normal

Auto Clear Seconds:	43200
OID:	ProvCommandLogExportGenerationFailed

Recovery:

1. Correct the problem based on the error in the trace log and wait for the command log export to be triggered again.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13070 - Command Log Export Transfer Failed

Alarm Type:	PROV
Description:	Command log export failed due to a file transfer error of command log export log. This alarm is raised when there are wrong or missing credentials, or the disk is full on the remote server.
Severity:	Major
Instance:	cmdlogexport
HA Score:	Normal
Auto Clear Seconds:	43200
OID:	ProvCommandLogExportTransferFailed

Recovery:

1. Correct the problem based on the error in the trace log and wait for the command log export to be triggered again.
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13071 - No Northbound Provisioning Connections

Alarm Type:	PROV
Description:	Alarm occurs when OCUDR is started and there are no active SOAP or REST connections from a remote provisioning system, or when the last active SOAP or REST provisioning connection is disconnected.
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	86400
OID:	ProvNoRemoteConnections

Recovery:

1. Check that the provisioning system is attempting to establish a SOAP or REST connection, and verify the TCP/IP connectivity between the provisioning system and OCUDR.

2. View the whitelist from the **Provisioning Connections** GUI option on the **UDR Configuration** menu. Ensure that the IP address of the provisioning system has been added to the IP whitelist of allowed provisioning clients.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13075 - Provisioning Interfaces Disabled

Alarm Type:	PROV
Description:	Alarm occurs when UDR is started and both the SOAP and the REST interfaces are disabled. Since both SOAP and REST interfaces are disabled by default when UDR is newly installed, this alarm is automatically generated on installation.
Severity:	Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	86400
OID:	ProvInterfaceDisabled

Recovery:

1. Use the **Provisioning Connections** GUI page on the **UDR Configuration** menu to make sure a SOAP/REST provisioning connection exists.
2. Manually enable the SOAP and/or the REST interface on the **Provisioning Options** GUI page on the **UDR Configuration** menu.
   The alarm should clear.
3. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13101-13500 - User Data Repository

This section provides information and recovery procedures for UDR alarms and events, ranging from 13101-13500.

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 **Alarms & Events** > **View History** page.

13151 - AE Sh Create Failed

Alarm Type:	UDR
Description:	The creation of an auto-enrolled subscriber initiated by the reception of an Sh interface request failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A

OID:	xgSDMAeShCreateFailed

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

13152 - AE Sh Delete Failed

Alarm Type:	UDR
Description:	The deletion of an auto-enrolled subscriber initiated by the reception of an Sh interface request failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMAeShDeleteFailed

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

13153 - AE Prov Create Failed

Alarm Type:	UDR
Description:	The creation of an auto-enrolled subscriber initiated by the reception of a provisioning interface request failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMAeProvCreateFailed

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

13154 - AE Convert Failed

Alarm Type:	UDR
Description:	The conversion of an auto-enrolled subscriber to a provisioned subscriber while provisioning failed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A

OID:	xgSDMAeConvertToProvFailed

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

13155 - Scheduled Quota Reset Activity started

Alarm Type:	UDR
Description:	This event is generated each time the Quota Reset Scheduler starts running a new Quota Reset Task.
Severity:	Major
Instance:	Info
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	QuotaResetActivityStarted

Recovery:

No action required.

13156 - Scheduled Quota Reset Activity completed

Alarm Type:	UDR
Description:	Scheduled Quota Reset scheduler completed executing a Quota Reset Task.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	QuotaResetActivityCompleted

Recovery:

No action required.

13157 - Scheduled Quota Reset Activity aborted

Alarm Type:	UDR
Description:	This event is generated each time a user aborts a Quota Reset Task.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A

OID:	QuotaResetActivityAborted

Recovery:

No action required.

13158 - Scheduled Quota Reset Activity paused

Alarm Type:	UDR
Description:	This event is generated each time the Quota Reset Scheduler pauses a task in RUNNING State due to UDRBE process congestion.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	QuotaResetActivityPaused

Recovery:

No action required.

13159 - Scheduled Quota Reset Activity resumed

Alarm Type:	UDR
Description:	This event is generated each time Quota Reset Scheduler resumes a task that was in PAUSED State due to UDRBE process congestion.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	QuotaResetActivityResumed

Recovery:

No action required.

13160 - xgSDM Ud Sh Create Failed

Alarm Type:	UDR
Description:	This event is generated each time an attempt is made to create a Ud-created subscriber using the Sh interface and it fails.
Severity:	Info
Instance:	N/A

HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdShCreateFailed

Recovery:

You can contact Customer Support if you want assistance with analysis of the issue.

13161 - xgSDM Ud Bind Request Timeout

Alarm Type:	UDR
Description:	This event in generated each time no response is received within the expected time period for a bind request on an LDAP connection.
Severity:	Info
Instance:	Connection ID
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdBindRequestTimeout

Recovery:

1. Verify the LDAP connection details configured on the **Main Menu** > **UDR** > **Configuration** > **Ud Client** > **Ud Remote Server Configuration** GUI page are correct on the Ud server.
2. Also verify connectivity from the NO servers the host/port details specified; ensure a TCP/IP connection can be established from each NO to each specified LDAP host/port. Check:
   - Host/port details for each primary, secondary, and tertiary connection
   - LDAP bind type (Anonymous, Unauthenticated, or Authenticated)
   - LDAP bind credentials used in the bind request:
     - LDAP authentication DN
     - LDAP authentication password
3. Verify connectivity from the NO servers the host/port details specified; ensure a TCP/IP connection can be established from each NO to each specified LDAP host/port.

13162 - xgSDM Ud Bind Request Failed

Alarm Type:	UDR
Description:	This event in generated each time a bind response is received on an LDAP connection which indicates a general failure.
Severity:	Info
Instance:	Connection ID
HA Score:	Normal
Auto Clear Seconds:	N/A

OID:	xgSDMUdBindRequestTimeout

Recovery:

1. Verify that the Ud client is attempting to connect to an active Ud server.
2. Verify that the LDAP connection details configured on the **Main Menu** > **UDR** > **Configuration** > **Ud Client** > **Ud Remote Server Configuration** GUI page are correct.
3. Also verify the connectivity from the NO servers the host/port details specified; ensure a TCP/IP connection can be established from each NO to each specified LDAP host/port. Check:
   - Host/port details for each primary, secondary, and tertiary connection
   - LDAP bind type (Anonymous, Unauthenticated, or Authenticated)
   - LDAP bind credentials used in the bind request:
     - LDAP authentication DN
     - LDAP authentication password
4. Verify connectivity from the NO servers the host/port details specified; ensure a TCP/IP connection can be established from each NO to each specified LDAP host/port.

13163 - xgSDM Ud Bind Request Authentication Failed

Alarm Type:	UDR
Description:	This event in generated each time a Bind response is received on an LDAP connection which indicates an authentication failure..
Severity:	Info
Instance:	Connection ID
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdBindRequestAuthenticationFailed

Recovery:

Verify the LDAP authentication details configured on the **Main Menu** > **UDR** > **Configuration** > **Ud Client** > **Ud Remote Server Configuration** GUI page are correct:

- The LDAP bind type (Anonymous, Unauthenticated, or Authenticated)
- The LDAP bind credentials used in the bind request :
  - LDAP authentication DN
  - LDAP authentication password.

13164 - xgSDM Ud Search Request Failed

Alarm Type:	UDR
Description:	This event in generated each time a Search response is received on an LDAP connection which indicates a general failure.

Severity:	Info
Instance:	Connection ID
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdSearchRequestFailed

Recovery:

Check the LDAP error received. Check Ud Server to investigate why error is being returned.

13165 - xgSDM Ud Search Request Authentication Failed

Alarm Type:	UDR
Description:	This event in generated each time a search response is received on an LDAP connection which indicates an authentication failure.
Severity:	Info
Instance:	Connection ID
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdSearchRequestAuthenticationFailed

Recovery:

Check Ud server to determine why error is being returned. Check permissions in LDAP database to ensure that the search request is allowed.

13166 - xgSDM Ud Search Request Unknown Subscriber

Alarm Type:	UDR
Description:	This event in generated each time a search response is received on an LDAP connection which indicates that the subscriber does not exist in the Ud Server.
Severity:	Info
Instance:	Connection ID
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdSearchRequestUnknownSubscriber

Recovery:

1. Verify that the subscriber exists on the Ud server.
2. Check that SOAP notify requests being sent and processed by the Ud client: check notifications to verify subscriber delete requests on the Ud server are being processed.

13167 - xgSDM Ud Subscribe Request Unknown Subscriber

Alarm Type:	UDR
Description:	This event in generated each time a subscribe response is received on a SOAP connection which indicates that the subscriber does not exist on the Ud server.
Severity:	Info
Instance:	Connection ID
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdSubscribeRequestUnknownSubscriber

Recovery:

1. Verify that the subscriber exists on the Ud server.
2. Check that SOAP notify requests are being sent and processed by the Ud client: check notifications to verify subscriber delete requests on the Ud server are being processed.

13168 - xgSDM Ud Subscribe Request Failed

Alarm Type:	UDR
Description:	This event in generated each time a subscribe response is received on a SOAP connection which indicates an authentication failure.
Severity:	Info
Instance:	Connection ID
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdSubscribeRequestFailed

Recovery:

1. Check the HTTP error received.
2. Check Ud server to investigate why error is being returned.

13169 - xgSDM Ud Notify Request Invalid Key

Alarm Type:	UDR
Description:	This event is generated each time an attempt is made to create a Ud-created subscriber using the Sh interface and it fails.
Severity:	Info
Instance:	Connection ID
HA Score:	Normal

Auto Clear Seconds:	N/A
OID:	xgSDMUdNotifyRequestInvalidKey

Recovery:

1. Verify the key configuration details configured on the **Main Menu** > **UDR** > **Configuration** > **Ud Client Key Details** GUI screen are correct and are as set by the Ud server:
   - Type
   - Ud Attribute
   - Search DN
   - Filter
2. Check that the DN/objectClass sent in the SOAP notify matches the configuration and is the same format as used by the Ud client to send a SOAP subscribe request or an LDAP search request.

13170 - xgSDM Ud Created Subscriber Audit Complete

Alarm Type:	UDR
Description:	This event is generated each time a Ud-created subscriber audit completes. Statistics for each pass are given and are reset for each pass of the audit.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdCreatedSubscriberAuditComplete

Recovery:

No action required.

13251 - Subscription Record Full

Alarm Type:	UDR
Description:	The subscription record exceeded the maximum number of allowed notification subscriptions. When the maximum number of subscriptions is exceeded, the oldest subscription is purged to make room for the new subscription.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMUdrSmSNOFull

Recovery:

1. Determine whether the cause of the event is one of the following:
   - Failures/restarts of an AS when a subscription was active (and thus an unsubscribe request was not sent)
   - Multiple subscribe requests from the same AS but with different user identities (IMSI, MSISDN, NAI etc.)
2. If these cases are valid, it may be possible to increase the maximum number of subscriptions allowed. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

13252 - Notification Late Response

Alarm Type:	UDR
Description:	A notification delivery response was received after timeout expired.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMNotifLateResponse

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

13253 - Notification No Valid Entity

Alarm Type:	UDR
Description:	The notification contains no valid entities. This event is most likely to occur if an entity is deleted from the Subscriber Entity Configuration, and a notification had been already written for the deleted entity.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMNotifNoValidEntity

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

13254 - AS Unavailable

Alarm Type:	UDR

Description:	The AS is unavailable. An AS becomes unavailable when a configurable number of attempts to deliver (different or the same) notifications to an AS fail, and the error indicates that the PNR did not reach the AS or could not be processed because the AS was too busy.
Severity:	Major
Instance:	AS address
HA Score:	Normal
Auto Clear Seconds:	0
OID:	xgSDMASUnavailable

Recovery:

1. Verify connectivity status between UDR and the AS, using the SO GUI.
2. Verify the connection states are as expected.
3. Check the event history logs for additional DIAM events or alarms from the MP server.
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

13256 - Notification Table Utilization

Alarm Type:	UDR
Description:	The Notification table contains too many notifications that have not been delivered to application servers. This could be because: • The rate at which notifications are being produced exceeds the rate at which they can be delivered. • The servers are unavailable, and the notifications are being buffered for delivery at a later time. **Note:** If the number of notifications exceeds the percentage value set for the Major threshold, the notifications received after the threshold is met are cleared. Measurements are pegged. The alarm severity depends upon the percentage of the Notification table being used: • Minor when utilization exceeds 60%. • Major when utilization exceeds 80%. • Critical when utilization exceeds 95%.
Severity:	Major (Minor, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	xgSDMNotificationTableUtilization

Recovery:

1. Reduce the traffic rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 50% (clears Minor alarm)
   - <= 70% (clears Major alarm)
   - <= 90% (clears Critical alarm)
2. Check the PCRF to ensure the route is there for the PCRF MPE to talk to the User Data Repository message processor.
3. Verify that the application servers are available by checking the **Main Menu** > **UDR** > **Maintenance** > **Subscribing Client Status** page.
4. Depending on the reason that notifications cannot be delivered, it may be necessary to increase the number of notifications that can be stored by User Data Repository. It is recommended to call *My Oracle Support (MOS)*.

13351 - SNO Audit Complete

Alarm Type:	UDR
Description:	The SNO audit is complete.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMAuditStatisticsReportSNO

Recovery:

No action required.

13352 - SDO Audit Complete

Alarm Type:	UDR
Description:	The SDO audit is complete.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	xgSDMAuditStatisticsReportSDO

Recovery:

No action required.

13354 - UDRBE Provisioning Task Message Queue Utilization

Alarm Type:	UDR

Description:	The UDRBE application's provisioning task message queue is approaching its maximum capacity. This alarm should not occur when no other congestion alarms are asserted. The alarm severity depends upon the amount of the UDRBE provisioning task message queue being used: • Minor when utilization exceeds 60%. • Major when utilization exceeds 80%. • Critical when utilization exceeds 95%.
Severity:	Major (Minor, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeProvisioningTaskMessageQueueUtilization

Recovery:

1. Determine whether the traffic rate of the system is too high. If yes, reduce traffic rate to clear alarm. The alarm clears when utilization falls below these thresholds:
   - <= 50% (clears Minor alarm)
   - <= 70% (clears Major alarm)
   - <= 90% (clears Critical alarm)
2. If the problem persists, contact *My Oracle Support (MOS)*.

13355 - UDRBE Notification Task Event Queue Utilization

Alarm Type:	UDR
Description:	The UDRBE application's notification task event queue is approaching its maximum capacity. This alarm should not occur when no other congestion alarms are asserted. The alarm severity depends upon the amount of the UDRBE notification task event queue being used: • Minor when utilization exceeds 60%. • Major when utilization exceeds 80%. • Critical when utilization exceeds 95%.
Severity:	Major (Minor, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeNotificationTaskEventQueueUtilization

Recovery:

1. Determine whether the traffic rate of the system is too high. If yes, reduce traffic rate to clear alarm. The alarm clears when utilization falls below these thresholds:

- <= 50% (clears Minor alarm)
- <= 70% (clears Major alarm)
- <= 90% (clears Critical alarm)

2. If the problem persists, contact *My Oracle Support (MOS)*.

13356 - UDRBE Udr Task Event Queue Utilization

Alarm Type:	UDR
Description:	The UDRBE application's UDR task event queue is approaching its maximum capacity. This alarm should not occur when no other congestion alarms are asserted. The alarm severity depends upon the amount of the UDRBE UDR task event queue being used: • Minor when utilization exceeds 60%. • Major when utilization exceeds 80%. • Critical when utilization exceeds 95%.
Severity:	Major (Minor, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeUdrTaskEventQueueUtilization

Recovery:

1. Determine whether the traffic rate of the system is too high. If yes, reduce traffic rate to clear alarm. The alarm clears when utilization falls below these thresholds:
   - <= 50% (clears Minor alarm)
   - <= 70% (clears Major alarm)
   - <= 90% (clears Critical alarm)
2. If the problem persists, contact *My Oracle Support (MOS)*.

13357 - UDRBE Subscription Task Event Queue Utilization

Alarm Type:	UDR
Description:	The UDRBE application's subscription task event queue is approaching its maximum capacity. This alarm should not occur when no other congestion alarms are asserted. The alarm severity depends upon the amount of the UDRBE subscription task event queue being used: • Minor when utilization exceeds 60%. • Major when utilization exceeds 80%. • Critical when utilization exceeds 95%.
Severity:	Major (Minor, Critical)
Instance:	N/A

HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeSubscriptionTaskEventQueueUtilization

Recovery:

1. Determine whether the traffic rate of the system is too high. If yes, reduce traffic rate to clear alarm. The alarm clears when utilization falls below these thresholds:
   - <= 50% (clears Minor alarm)
   - <= 70% (clears Major alarm)
   - <= 90% (clears Critical alarm)
2. If the problem persists, contact *My Oracle Support (MOS)*.

13358 - UDRBE Auto Enrollment Task Event Queue Utilization

Alarm Type:	UDR
Description:	The UDRBE application's auto enrollment task event queue is approaching its maximum capacity. This alarm should not normally occur when no other congestion alarms are asserted. The alarm severity depends upon the amount of the UDRBE auto enrollment task event queue being used: • Minor when utilization exceeds 60%. • Major when utilization exceeds 80%. • Critical when utilization exceeds 95%.
Severity:	Major (Minor, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeAutoEnrollmentTaskEventQueueUtilization

Recovery:

1. Determine whether the traffic rate of the system is too high. If yes, reduce traffic rate to clear alarm. The alarm clears when utilization falls below these thresholds:
   - <= 50% (clears Minor alarm)
   - <= 70% (clears Major alarm)
   - <= 90% (clears Critical alarm)
2. Examine the Alarm log to determine whether there are any problems preventing the UDRBE application task from processing messages from its auto enrollment task event queue.
3. If the problem persists, contact *My Oracle Support (MOS)*.

13359 - Failed to register as a Routed Service user with ComAgent

Alarm Type:	UDR

Description:	The ComAgent Routed Service user registration failed. The UDRBE cannot use the ComAgent Routed Service for notification operations.
Severity:	Critical
Instance:	N/A
HA Score:	Failed
Auto Clear Seconds:	0
OID:	UdrbeComAgentRoutedServiceRegistrationFailure

Recovery:

1. Determine whether the configured ComAgent Routed Service name is correct.
2. Determine whether the ComAgent Routed Service is not configured in ComAgent.
3. If the problem persists, contact *My Oracle Support (MOS)*.

13360 - The UDRBE Process CPU Utilization is approaching its maximum capacity

Alarm Type:	UDR
Description:	The UDRBE Process CPU Utilization is approaching its maximum capacity. The alarm severity depends on the amount of CPU being used: • Minor when utilization exceeds 60%. • Major when utilization exceeds 66%. • Critical when utilization exceeds 72%.
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeProcCpuThresh

Recovery:

1. Reduce the traffic rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 57% (clears Minor alarm)
   - <= 63% (clears Major alarm)
   - <= 69% (clears Critical alarm)
2. If the problem persists, contact *My Oracle Support (MOS)*.

13361 - UDRBE Process Memory Utilization Threshold Exceeded

Alarm Type:	UDR

Description:	The UDRBE Process Memory Utilization is approaching its maximum capacity. The alarm severity depends on the amount of memory being used: • Minor when utilization exceeds 75% • Major when utilization exceeds 80% • Critical when utilization exceeds 85%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeProcMemThresh

Recovery:

1. Reduce the traffic rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 73% (clears Minor alarm)
   - <= 78% (clears Major alarm)
   - <= 83% (clears Critical alarm)
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13362 - Pool Audit Complete

Alarm Type:	UDR
Description:	This event is generated when the last record in the pool audit table is audited. The pool audit report is generated and appears on the **View History Report** (accessed from the **Alarms & Events** > **View History** GUI page) as part of the text for event 13362. Information included in the report: records visited, total enterprise pools, total subscribers in enterprise pools, and pool audit pass duration (sec).
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	xgSDMAuditStatisticsReportPool

Recovery:

No action required.

13363 - User Data Exceeds Max Size

Alarm Type:	UDR

Description:	This event is generated when user data received or sent in a Diameter Sh message exceeds the maximum supported size.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	xgSDMUserDataExceedsMaxSize

Recovery:

No action required.

13367 - UDRBE System Memory Utilization Threshold Exceeded

Alarm Type:	UDR
Description:	System memory utilization threshold exceeded. Create and update provisioning, as well as auto-enrolled operations, are suspended when critical threshold is reached. Note that update requests for existing subscribers, triggered by a PUR message on the Sh interface, will continue to be processed, regardless of alarm status. The alarm severity depends on the amount of memory being used: • Minor when system memory utilization exceeds 80% • Major when system memory utilization exceeds 83% • Critical when system memory utilization exceeds 85%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeSysMemThresh

Recovery:

1. The alarm clears when system memory utilization falls below these thresholds:
   - <= 79% (clears Minor alarm)
   - <= 82% (clears Major alarm)
   - <= 84% (clears Critical alarm)
2. It is recommended to call *My Oracle Support (MOS)*.

13368 - Database Auditor: Audit/Clean Process Failed

Alarm Type:	UDR
Description:	Database Auditor's audit/clean process failed to complete the desired operation. Please refer to the result log for details.

Severity:	Major (Minor, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	300
OID:	DbAuditorAuditFailed

Recovery:

Manually start the audit/clean process from **UDR** > **Maintenance** > **Database Auditor**.

13369 - Ud No LDAP Connection

Alarm Type:	UDR
Description:	The Ud client has attempted to open LDAP connections to the Ud server but no LDAP connections can be established after trying primary, secondary (if configured), and tertiary (if configured) connections. This alarm clears when: **1.** the Ud client establishes at least one LDAP connection to the Ud server. **2.** the Ud client LDAP connections are disabled by configuration. **3.** the Ud client LDAP connections are disabled from the **Main Menu** > **UDR** > **Maintenance** > **Ud Client** > **Ud Client Connection Status** GUI page . **4.** the Ud client feature is disabled.
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdNoLDAPConnection

Recovery:

1. Verify the LDAP connection details configured on the **Main Menu** > **UDR** > **Configuration** > **Ud Client** > **Ud Remote Server Configuration** GUI page are correct on the Ud server.
2. Also verify connectivity from the NO servers the host/port details specified; ensure a TCP/IP connection can be established from each NO to each specified LDAP host/port. Check:
   - Host/port details for each primary, secondary, and tertiary connection
   - LDAP bind type (Anonymous, Unauthenticated, or Authenticated)
   - LDAP bind credentials used in the bind request:
     - LDAP authentication DN
     - LDAP authentication password
3. Verify connectivity from the NO servers the host/port details specified; ensure a TCP/IP connection can be established from each NO to each specified LDAP host/port.

13370 - Ud No SOAP Connection

Alarm Type:	UDR
Description:	The Ud client has attempted to open SOAP connections to the Ud server but no SOAP connections can be established after trying primary, secondary (if configured), and tertiary (if configured) connections. This alarm clears when: 1. the Ud client establishes at least one SOAP connection to the Ud server. 2. the Ud client SOAP connections are disabled by configuration. 3. the Ud client SOAP connections are disabled from the **Main Menu** > **UDR** > **Maintenance** > **Ud Client** > **Ud Client Connection Status** GUI page . 4. the Ud client feature is disabled.
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdNoSOAPConnection

Recovery:

1. Verify the SOAP connection details configured on the **Main Menu** > **UDR** > **Configuration** > **Ud Client** > **Ud Remote Server Configuration** GUI page are correct on the Ud server.
2. Also verify connectivity from the NO servers the host/port details specified; ensure a TCP/IP connection can be established from each NO to each specified SOAP host/port. Check host/port details for each primary, secondary, and tertiary connection.
3. Verify connectivity from the NO servers the host/port details specified; ensure a TCP/IP connection can be established from each NO to each specified SOAP host/port.

13403 - Diameter Application ComAgent Event Queue Utilization

Alarm Type:	UDRF
Description:	Diameter Application's ComAgent Event Queue utilization is approaching its maximum capacity. This alarm appears when congestion occurs, and the severity of the alarm depends on how much queue capacity is being used: • Minor when utilization >= 60% • Major when utilization >= 80% • Critical when utilization > 95%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0

OID:	DiameterAppComAgentEventQueueUtilization

Recovery:

1. Reduce the traffic rate to clear the alarm after all pending stack events are processed by UDRBE. The alarm clears when the UDRFE application's ComAgent Event Queue utilization falls below the maximum threshold:
   - <= 50% (clears Minor alarm)
   - <= 70% (clears Major alarm)
   - <= 90% (clears Critical alarm)
2. If the problem persists, contact *My Oracle Support (MOS)*.

13404 - ComAgent Registration Failure

Alarm Type:	UDRF
Description:	COM Agent routing service registration or service notification registration failed. UDRFE cannot use the COM Agent service for database operations.
Severity:	Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	SprfeComAgentRegistrationFailure

Recovery:

1. Restart the UDR process to clear the alarm:
   a) At the command line on the MP server, enter **`pm.set off udr`** (to stop process).
   b) At the command line on the MP server, enter **`pm.set on udr`** (to restart process).
2. If the problem persists, contact *My Oracle Support (MOS)*.

13405 - Diameter Application Unavailable

Alarm Type:	UDRF
Description:	Diameter Application is unable to process any messages because it is Unavailable. A Diameter Application can become unavailable when: • The Admin State is set to Disable with the forced shutdown option. • The Admin State is set to Disable with the graceful shutdown option and the graceful shutdown timer expires. • It reaches Congestion Level 3.
Severity:	Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0

OID: DiameterApplicationUnavailable

Recovery:

1. Display and monitor the Diameter Application status by selecting **Diameter** > **Maintenance** > **Applications** in the SO GUI. Verify that the Admin State variable is set as expected.
2. A Diameter Application operation status becomes Unavailable when either the Admin State is set to Disable with the Forced Shutdown option, or the Admin State is set to Disable with the Graceful Shutdown option and the Graceful Shutdown timer expires.
3. A Diameter Application can also become Unavailable when it reaches Congestion Level 3, if enabled. **Note:** This alarm will NOT be raised when the Diameter application is shutting down gracefully or application is in Disabled state. Only the Diameter Application operational status will be changed to Unavailable.
4. Check the Event History logs for additional DIAM events or alarms for this MP server.
5. If the problem persists, contact *My Oracle Support (MOS)*.

13406 - Diameter Application Degraded

Alarm Type:	UDRF
Description:	Unable to forward requests to the Diameter Application because it is Degraded. A Diameter Application becomes degraded when the Diameter Application becomes congested (if enabled).
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	DiameterApplicationDegraded

Recovery:

1. Display and monitor the Diameter Application status by selecting **Diameter** > **Maintenance** > **Applications** in the SO GUI. Verify that the Admin State variable is set as expected.

   A Diameter Application operation status becomes Unavailable when either the Admin State is set to Disable with the Forced Shutdown option, or the Admin State is set to Disable with the Graceful Shutdown option and the Graceful Shutdown timer expires.

   A Diameter Application can also become Unavailable when it reaches Congestion Level 3 (if enabled). **Note:** This alarm will NOT be raised when the Diameter application is shutting down gracefully or application is in Disabled state. Only the Diameter Application operational status will be changed to Unavailable.
2. Check the Event History logs for additional DIAM events or alarms for this MP server.
3. If the problem persists, contact *My Oracle Support (MOS)*.

13407 - Diameter Application Request Task Queue Utilization

Alarm Type: UDRF

Description:	The Diameter Application Request Task Queue Utilization is approaching its maximum capacity. The severity of the alarm depends on how much request queue capacity is being used: • Minor when utilization exceeds 60% • Major when utilization exceeds 80% • Critical when utilization exceeds 95%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	DiameterAppRequestTaskQueueUtilization

Recovery:

1. Display and monitor the Diameter Application status by selecting **Diameter** > **Maintenance** > **Applications** in the SO GUI. Verify that the Admin State variable is set as expected.

   The Diameter Application's Request Message Queue Utilization is approaching its maximum capacity. This alarm should not normally occur when no other congestion alarms are asserted.
2. Application Routing might be misconfigured and is sending too much traffic to the Diameter Application. Verify the configuration by selecting **Diameter** > **Maintenance** > **Application Routing Rules**.
3. If no additional congestion alarms are asserted, the Diameter Application Task might be experiencing a problem that is preventing it from processing message from its Request Message Queue. Examine the Alarm log in **Alarms & Events**.
4. If the problem persists, contact *My Oracle Support (MOS)*.

13408 - Diameter Application Answer Task Queue Utilization

Alarm Type:	UDRF
Description:	The Diameter Application Answer Task Queue utilization is approaching its maximum capacity. The severity of the alarm depends on how much answer queue capacity is being used: • Minor when utilization exceeds 60% • Major when utilization exceeds 80% • Critical when utilization exceeds 95%
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	DiameterAppAnswerTaskQueueUtilization

Recovery:

1. Application Routing might be misconfigured and is sending too much traffic to the Diameter Application. Verify the configuration by selecting **Diameter** > **Maintenance** > **Application Routing Rules** in the SO GUI.
2. If no additional congestion alarms are asserted, the Diameter Application Task might be experiencing a problem that is preventing it from processing messages from its Answer Message Queue. Examine the Alarm log in **Alarms & Events**.
3. If the problem persists, contact *My Oracle Support (MOS)*.

13409 - Diameter Application Ingress Message Rate Exceeded

Alarm Type:	UDRF
Description:	This alarm is raised from an MP based on the ingress and routing message rate thresholds listed on the **Diameter Common** > **MPs** > **Profiles** page. The specific parameters that correspond to this alarm are RxSprfeMsgRateMinorSet, RxSprfeMsgRateMinorClear, RxSprfeMsgRateMajorSet, RxSprfeMsgRateMajorClear, RxSprfeMsgRateCriticalSet, RxSprfeMsgRateCriticalClear. This alarm is raised and cleared by individual MPs. The alarm severity depends upon the amount of the Notification Table being used: • Minor when utilization exceeds 80%. • Major when utilization exceeds 90%. • Critical when utilization exceeds 100%.
Severity:	Major (Minor, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	DiameterAppIngressMessageRateExceeded

Recovery:

1. Application Routing might be misconfigured and is sending too much traffic to the Diameter Application. Verify the configuration by selecting **Diameter** > **Configuration** > **Application Route Tables** in the SO GUI.
2. There may be an insufficient number of MPs configured to handle the network load. Monitor the ingress traffic rate of each MP by selecting **Main Menu** > **Status & Manage** > **KPIs**. If MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
3. If the problem persists, contact *My Oracle Support (MOS)*.

13410 - UDR Process CPU Utilization Threshold Exceeded

Alarm Type:	UDR

Description:	The UDR Process CPU Utilization is approaching its maximum capacity. The alarm severity depends on the amount of CPU being used: • Minor when utilization exceeds 60%. • Major when utilization exceeds 66%. • Critical when utilization exceeds 72%.
Severity:	Minor (Major, Critical)
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	UdrbeProcCpuThresh

Recovery:

1. Reduce the traffic rate to clear the alarm. The alarm clears when utilization falls below these thresholds:
   - <= 57% (clears Minor alarm)
   - <= 63% (clears Major alarm)
   - <= 69% (clears Critical alarm)
2. If the problem persists, it is recommended to call *My Oracle Support (MOS)*.

13451 - Message Decoding Failure

Alarm Type:	UDRF
Description:	Message received was rejected because of a decoding failure. Decoding Failures can include: bad message/parameter length received; answer decode failure; diameter AVP not present; AVP occurs too many times in a Diameter message.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfeMessageDecodingFailure

Recovery:

1. Determine the cause of the decoding failure and resend the message.
2. If the problem persists, contact *My Oracle Support (MOS)*.

13452 - Unknown Command Code

Alarm Type:	UDRF
Description:	Either the message could not be routed because the Diameter Command Code in the ingress Request message is not supported (the

	Diameter Command Code is not UDR, PUR or SNR); or the response could not be sent because the Diameter Command Code in the response message is not supported (the Diameter Command Code is not PNA).
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfeUnknownCommandCode

Recovery:

1. Resolve the command code and resend the message.
2. If the problem persists, contact *My Oracle Support (MOS)*.

13453 - ComAgent Error

Alarm Type:	UDRF
Description:	This event occurs when the UDRFE application receives a ComAgent Error (timeout, congestion, or queue full) for the sent SprEvent. This event is raised when: 1. UDRFE fails to send a notifyAck event to ComAgent 2. UDRFE fails to send a UDR message to ComAgent 3. An internal client error or internal server error occurs 4. A timeout, congestion, or queue full error occurs
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfeDbConnectionError

Recovery:

1. Verify that the ComAgent connection status between UDR and UDRBE is up.
2. If the connection is not up or is degraded, restart the UDR process on MP and the UDRBE process on NO.
   a) At the command line on the MP server, enter **`pm.set off udr`** (to stop process).
   b) At the command line on the MP server, enter **`pm.set on udr`** (to restart process).
   c) At the command line on the NO server, enter **`pm.set off udrbe`** (to stop process).
   d) At the command line on the NO server, enter **`pm.set on udrbe`** (to restart process).
3. If necessary, slow down the traffic rate to bring back the connection state to Available.
4. If the problem persists, contact *My Oracle Support (MOS)*.

13456 - Invalid Service Indication

Alarm Type:	UDRF
Description:	Message received from a peer that was rejected because no register ID could be mapped because the service indication received in the request is not supported by ESPR application (RegisterID not found for a service Indication).
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfeInvalidServiceIndication

Recovery:

1. Fix the service indication and resend the message.
2. If the problem persists, contact *My Oracle Support (MOS)*.

13457 - Orphan Response Event Received from UDRBE

Alarm Type:	UDRF
Description:	A response event was received from UDRBE for which no pending request transaction existed, resulting in the response event being discarded.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfeOrphanResponseEventRcvdFromUdrbe

Recovery:

No action required.

13458 - Orphan Response Event Received from peer

Alarm Type:	UDRF
Description:	An Answer message was received from a peer for whom no pending request transaction existed, resulting in the Answer message being discarded.
Severity:	Info
Instance:	N/A
HA Score:	Normal

Auto Clear Seconds:	N/A
OID:	SprfeOrphanResponseRcvdFromPeer

Recovery:

No action required.

13459 - Sending Client Invalid

Alarm Type:	UDRF
Description:	This event is generated each time a client sends a request that it is not permitted to send. This could be because: • The client was not present in the Subscribing Client Permissions table. • The client was present in the Subscribing Client Permissions table, but was not authorized to send the Sh Operation (PUR, SNR or UDR). • The DataReference value supplied was not 0 (i.e. RepositoryData).
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfeSendingClientInvalid

Recovery:

1. Determine the issue and resend the request.
2. If the problem persists, contact *My Oracle Support (MOS)*.

13460 - Client Not Subscribed

Alarm Type:	UDR
Description:	This event is generated each time a PNR is sent to an AS, and the AS responds with a PNA, indicating that it was not subscribed to receive notifications for the subscriber to which it was notified.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfeClientNotSubscribed

Recovery:

1. Subscribe the application server to received notifications and resend the PNR.

2. If the problem persists, contact *My Oracle Support (MOS)*.

13461 - Invalid Parameter Value

Alarm Type:	UDRF
Description:	This event is generated each time an AS sends PUR, SNR, or UDR that contains a parameter that fails application validation. Validation failures include: • Diameter AVP value is invalid. • The requested operation is not allowed.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfeInvalidParameterValue

Recovery:

1. Determine why the application failed validation and resend the request.
2. If the problem persists, contact *My Oracle Support (MOS)*.

13462 - PNR Create Failed

Alarm Type:	UDRF
Description:	This event is generated each time a PNR request fails to be created or the origin host/realm or destination host/realm could not be determined.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	SprfePnrCreateFailed

Recovery:

No action required.

13463 - Diameter Application Enabled

Alarm Type:	UDRF
Description:	This event is generated when Diameter's Application Admin State variable is changed to **enabled**.
Severity:	Info
Instance:	N/A

HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	DiameterAppEnabled

Recovery:

No action required.

13464 - Diameter Application Disabled

Alarm Type:	UDRF
Description:	This event is generated when Diameter's Application Admin State variable is changed to **disabled**.
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	DiameterAppDisabled

Recovery:

No action required.

19400-19499 - Transport Manager Alarms and Events

This section provides information and recovery procedures for alarms and events, ranging from 19400-19499.

19420 - BDFQFull

Alarm Group	SMS
Description	The BDF work queue depth size has reached full capacity.
Severity	Minor
Instance	N/A
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	cAFBDFQFullNotify

Recovery:

The system itself may be heavily loaded with work, causing this subsystem to also become overloaded. Check other system resources for signs of overload. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

19421 - BDFThrotl

Alarm Group	SMS
Description	The BDF subsystem is throttling traffic at sender.
Severity	Minor
Instance	N/A
HA Score	Normal
Auto Clear Seconds	0 (zero)
OID	cAFBDFThrotlNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

19422 - BDFInvalidPkt

Alarm Group	SMS
Description	The BDF subsystem received a StackEvent that was somehow invalid, corrupt, or could not be delivered to the application.
Severity	Info
Instance	<Source IP>
HA Score	Normal
Throttle Seconds	0 (zero)
OID	cAFBroadcastDataFrameworkInvalidStackEventNotify

Recovery:

If more messages of the same type occur, then check the site(s) and network for other possible corruption or overloaded conditions. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

19800-19899 - Communication Agent

This section provides information and recovery procedures for Communication Agent (ComAgent) alarms and events, ranging from 19800 - 19899, and lists the types of alarms and events that can occur on the system. All events have a severity of Info.

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 **Alarms & Events** > **View History** page.

19800 - Communication Agent Connection Down

Alarm Group:	CAF

Description:	This alarm indicates that a Communication Agent is unable to establish transport connections with one or more other servers, and this may indicate that applications on the local server are unable to communicate with all of their peers. Generally this alarm is asserted when a server or the IP network is undergoing maintenance or when a connection has been manually disabled.
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFConnectionDownNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** > **View History** to find additional information about the alarm.

   The information can be found by locating the row with a sequence number that matches the active alarm sequence number and viewing the Additional Info column.

2. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this MP server.
3. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine which connections on the server have abnormal status.
4. If the connection is manually disabled, then no further action is necessary.
5. Verify that the remote server is not under maintenance.
6. Verify that IP network connectivity exists between the two connection end-points.
7. Verify that the connection's local IP address and port number are configured on remote Node.
8. Verify that the Application Process using Communication Agent plug-in is running on both ends.
9. Verify that the connection's remote IP address and port correctly identify remote's listening port.
10. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19801 - Communication Agent Connection Locally Blocked

Alarm Group:	CAF
Description:	This alarm indicates that one or more Communication Agent connections have been administratively blocked at the server asserting the alarm, and this is generally done as part of a maintenance procedure. A connection that is blocked cannot be used by applications to communicate with other servers, and so this alarm may indicate that applications are unable to communicate with their expected set of peers. **Note:** It is normal to have this alarm if the connection is in the Blocked administrative state on the near-side of the connection.
Severity:	Minor

Instance: N/A

Note: This alarm is cleared when:

- Locally UNBLOCKed: An Admin Action to locally UNBLOCK the service connection and no other connection is locally blocked.
- Deleted: The MP Server/Connection is deleted.
- Failed: The Connection is terminated, due to Admin Disable action or Heartbeat failure or remote end initiated disconnection or any other reason.

HA Score: Normal

Auto Clear Seconds: 0 (zero)

OID: cAFConnLocalBlockedNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** > **View History** to find additional information about the alarm.

   The information can be found by locating the row with a sequence number that matches the active alarm sequence number and viewing the Additional Info column.

2. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this MP server.
3. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine which connections on the server have abnormal status.
4. If the expected set of connections is locally blocked, then no further action is necessary.
5. To remove a the local block condition for a connection, use the **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** screen and click the 'Enable' action button for the desired connection.
6. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19802 - Communication Agent Connection Remotely Blocked

Alarm Group: CAF

Description: This alarm indicates that one or more Communication Agent connections have been administratively blocked at a remote server connected to the server, and this is generally done as part of a maintenance procedure. A connection that is blocked cannot be used by applications to communicate with other servers, and so this alarm may indicate that applications are unable to communicate with their expected set of peers.

Note: It is normal to have this alarm if the connection is in the Blocked administrative state on the far-side of the connection.

Severity: Minor

Instance: N/A

Note: This alarm is cleared when:

- Locally UNBLOCKed: An Admin Action to locally UNBLOCK the service connection and no other connection is locally blocked.

- Deleted: The MP Server/Connection is deleted.
- Failed: The Connection is terminated, due to Admin Disable action or Heartbeat failure or remote end initiated disconnection or any other reason.

HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFConnRemoteBlockedNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** > **View History** to find additional information about the alarm.

   The information can be found by locating the row with a sequence number that matches the active alarm sequence number and viewing the Additional Info column.

2. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this MP server.
3. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine which connections on the server have abnormal status.
4. If the expected set of connections is locally blocked, then no further action is necessary.
5. To remove a the local block condition for a connection, use the **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** screen and click the 'Enable' action button for the desired connection.
6. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19803 - Communication Agent stack event queue utilization

Alarm Group:	CAF
Description:	The percent utilization of the Communication Agent Task stack queue is approaching defined threshold capacity. If this problem persists and the queue reaches above the defined threshold utilization, the new StackEvents (Query/Response/Relay) messages for the Task can be discarded, based on the StackEvent priority and Application's Global Congestion Threshold Enforcement Mode.
Severity:	Minor, Major, Critical
Instance:	<ComAgent StackTask Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFQueueUtilNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** to examine the alarm log.

   An IP network or Adjacent node problem may exist preventing from transmitting messages into the network at the same pace that messages are being received from the network. The Task thread may be experiencing a problem preventing it from processing events from its event queue. It is recommended to contact *My Oracle Support (MOS)* for assistance.

2. Use **Main Menu** > **Status & Control** > **KPIs** to monitor the ingress traffic rate of each MP.

   Each MP in the server site should be receiving approximately the same ingress transaction per second.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

3. If the MP ingress rate is approximately the same, there may be an insufficient number of MPs configured to handle the network traffic load.

   If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

19804 - Communication Agent configured connection waiting for remote client to establish connection

Alarm Group:	CAF
Description:	Communication Agent configured connection waiting for remote client to establish connection. This alarm indicates that a Communication Agent is waiting for one or more far-end client MPs to initiate transport connections. Generally this alarm is asserted when a client MP or the IP network is undergoing maintenance or when a connection has been manually disabled at a client MP. **Note:** It is normal to have this auto-clearing connection alarm for the remote server connections that configured manually in "Client" mode, but are not yet available for processing traffic.
Severity:	Minor
Instance:	N/A **Note:** The alarm is cleared when a "server" connection exits the "forming" state and no other connection having "server" connect mode is in the "forming" state or the auto-clear time-out occurs. • The MP Server/Connection is deleted • When connection is moved to TotallyBlocked/RemotelyBlocked/InService state from Aligning • Auto Clear • Connection is disabled
HA Score:	Normal
Auto Clear Seconds:	300 (5 min)
OID:	cAFClientConnWaitNotify

Recovery:

1. Find additional information for the alarm in **Main Menu** > **Alarms & Events** > **View History** by locating the row with a sequence number that matches the active alarm sequence number and viewing the Additional Info column.

   The alarm is cleared only for remote server connections that are configured manually in “Client” mode. This mode is used to listen for connection requests from configured remote clients.

- The MP Server/Connection is deleted
- When connection is moved to TotallyBlocked/RemotelyBlocked/InService state from Aligning
- Auto Clear
- Connection is disabled

2. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this MP server.
3. Check **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine which connections on the server have abnormal status.
4. Verify that the remote server is not under maintenance.
5. If the connection is manually disabled at the client MP, and it is expected to be disabled, then no further action is necessary.
6. If the connection has been manually disabled at the client MP, but it is not supposed to be disabled, then enable the connection by clicking on the 'Enable' action button on the Connection Status screen.
7. Verify that IP network connectivity exists between the two connection end-points.
8. Verify that the connection's local IP address and port number are configured on remote client MP.
9. Verify that the Application Process using Communication Agent plug-in is running on both ends.
10. Verify that the connection's remote IP address and port correctly identify remote's listening port.
11. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19805 - Communication Agent Failed To Align Connection

Alarm Group:	CAF
Description:	The Communication Agent failed to align connection. This alarm indicates that Communication Agent has established one or more transport connections with servers that are running incompatible versions of software, and so Communication Agent is unable to complete the alignment of the connection. A connection that fails alignment cannot be used by applications to communicate with other servers, and so this alarm may indicate that applications are unable to communicate with their expected set of peers.
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFConnAlignFailedNotify

Recovery:

1. If the connection administrative action is set to ‘disable’, the alarm is cleared. No further action is necessary.
2. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this MP server.
3. Find additional information for the alarm in **Main Menu** > **Alarms & Events** > **View History** by locating the row with a sequence number that matches the active alarm sequence number and viewing the Additional Info column.

4. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this MP server.
5. Check **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine which connections on the server have abnormal status.

   For each connection reporting 'Aligning' connection status, determine the servers that are endpoints, and verify that the correct software is installed on each server. If incorrect software is present, then server maintenance may be required.

6. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19806 - Communication Agent CommMessage mempool utilization

Alarm Group:	CAF
Description:	The percent utilization of the Communication Agent CommMessage mempool is approaching defined threshold capacity. The percent utilization of the Communication Agent internal resource pool (CommMessage) is approaching its defined capacity. If this problem persists and the usage reaches 100% utilization, ComAgent will allocate the CommMessage objects from the heap. This should not impact the functionality, but may impact performance and/or latency.
Severity:	Critical, Major, Minor
Instance:	<ComAgent Process Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFPoolResUtilNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** to examine the alarm log.

   An IP network or Adjacent node problem may exist preventing from transmitting messages into the network at the same pace that messages are being received from the network. The Task thread may be experiencing a problem preventing it from processing events from its internal resource queue. It is recommended to contact *My Oracle Support (MOS)* for assistance.

2. Use **Main Menu** > **Status & Control** > **KPIs** to monitor the ingress traffic rate of each MP.

   Each MP in the server site should be receiving approximately the same ingress transaction per second.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

3. If the MP ingress rate is approximately the same, there may be an insufficient number of MPs configured to handle the network traffic load.

   If all MPs are in a congestion state then the ingres rate to the server site is exceeding its capacity.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

19807 - Communication Agent User Data FIFO Queue utilization

Alarm Group:	CAF
Description:	The percent utilization of the Communication Agent User Data FIFO Queue is approaching defined threshold capacity. If this problem persists and the queue reaches above the defined threshold utilization, the new StackEvents (Query/Response/Relay) messages for the Task can be discarded, based on the StackEvent priority and Application's Global Congestion Threshold Enforcement Mode.
Severity:	Minor, Major, Critical
Instance:	<ComAgent StackTask Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFUserDataFIFOUtilNotify

Recovery:

1. An IP network or Adjacent node problem may exist preventing from transmitting messages into the network at the same pace that messages are being received from the network.
2. Use **Main Menu** > **Alarms & Events** to determine if the ComAgent worker thread may be experiencing a problem preventing it from processing events from User Data FIFO queue.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

3. The mis-configuration of Adjacent Node IP routing may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from **Main Menu** > **Status & Control** > **KPIs**.

   Each MP in the server site should be receiving approximately the same ingress transaction per second.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

4. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from **Main Menu** > **Status & Control** > **KPIs**.

   If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

19808 - Communication Agent Connection FIFO Queue utilization

Alarm Group:	CAF
Description:	The percent utilization of the Communication Agent Connection FIFO Queue is approaching defined threshold capacity. If this problem persists and the queue reaches above the defined threshold utilization, the new ComAgent internal Connection Management StackEvents messages can be discarded based on Application's Global Congestion Threshold Enforcement Mode.
Severity:	Minor, Major, Critical

Instance:	<ComAgent StackTask Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFMxFIFOUtilNotify

Recovery:

1. An IP network or Adjacent node problem may exist preventing from transmitting messages into the network at the same pace that messages are being received from the network.
2. Use **Main Menu** > **Alarms & Events** to determine if the ComAgent worker thread may be experiencing a problem preventing it from processing events from ComAgent Connection FIFO queue.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

3. The mis-configuration of Adjacent Node IP routing may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from **Main Menu** > **Status & Control** > **KPIs**.

   Each MP in the server site should be receiving approximately the same ingress transaction per second.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

4. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from **Main Menu** > **Status & Control** > **KPIs**.

   If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.

   It is recommended to contact *My Oracle Support (MOS)* for assistance.

19810 - Communication Agent Egress Message Discarded

Event Type:	CAF
Description:	The Communication Agent egress message is being discarded due to one of the following reasons: • Unknown destination server • Connection state is not InService • Incompatible destination • Serialization failed • MxEndpoint send failed • Internal error
Severity:	Info
Instance:	<RemoteIP> **Note:** If <RemoteIP> is not known at the time of message discard, then "Unknown" will be used.
HA Score:	Normal
Throttle Seconds:	10

OID:	cAFEventEgressMessageDiscardedNotify

Recovery:

1. View the Event AddlInfo column.

   Message is being discarded due to one of the reasons specified.

2. If it's a persistent condition with the status of one of the Communication Agent Configuration Managed Object then resolve the underlying issue with the Managed Object.
3. If the event is raised due to software condition, It's an indication that the Communication Agent Process may be experiencing problems.
4. Use **Main Menu** > **Alarms & Events** and examine the alarm log.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19811 - Communication Agent Ingress Message Discarded

Event Type:	CAF
Description:	Communication Agent Ingress Message Discarded.
Severity:	Info
Instance:	<RemoteIP>
HA Score:	Normal
Throttle Seconds:	10
OID:	cAFEventIngressMessageDiscardedNotify

Recovery:

1. View the Event AddlInfo column.

   Message is being discarded due to one of the reasons specified.

2. If it's a persistent condition with the status of one of the Communication Agent Configuration Managed Object then resolve the underlying issue with the Managed Object.
3. If the event is raised due to software condition, it is an indication that the Communication Agent Process may be experiencing problems.
4. Use **Main Menu** > **Alarms & Events** and examine the alarm log.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19814 - Communication Agent Peer has not responded to heartbeat

Event Type:	CAF
Description:	Communication Agent Peer has not responded to heartbeat.
Severity:	Info
Instance:	<RemoteIP>
HA Score:	Normal
OID:	cAFEventHeartbeatMissedNotify

Recovery:

1. Check the configuration of managed objects and resolve any configuration issues with the Managed Object or hosting nodes.

   This message may be due to network condition or latency or due to setup issues.

2. If the event is raised due to software condition, It's an indication that the Communication Agent Process may be experiencing problems.
3. Use **Main Menu** > **Alarms & Events** and examine the alarm log.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19816 - Communication Agent Connection State Changed

Event Type:	CAF
Description:	Communication Agent Connection State Changed.
Severity:	Info
Instance:	<RemoteIP>
HA Score:	Normal
OID:	cAFEventConnectionStateChangeNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** and examine the alarm log.

   This Event is a log of connection state change.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19817 - Communication Agent DB Responder detected a change in configurable control option parameter

Event Type:	CAF
Description:	Communication Agent DB Responder detected a change in configurable control option parameter. **Note:** This event is an indication that Communication Agent detected a control parameter change. The change will be applied to applicable software component. If the change is applied on the GUI, the appropriate GUI action is logged in security logs. If the action is not performed from GUI and the control parameter is changed, this event indicates the executed change.
Severity:	Info
Instance:	N/A
HA Score:	Normal
OID:	cAFEventComAgtConfigParamChangeNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** and examine the alarm log.

2. Use **Main Menu** > **Security Log** and examine the alarm log.
3. If the event shows up in **Main Menu** > **Alarms & Events**, without the corresponding GUI security-log in **Main Menu** > **Security Log**. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19818 - Communication Agent DataEvent Mempool utilization

Event Type:	CAF
Description:	The percent utilization of the Communication Agent DataEvent Mempool is approaching defined threshold capacity.
Severity:	Minor, Major, Critical
Instance:	<ComAgent Process>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFDataEvPoolResUtilNotify

Recovery:

If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

19820 - Communication Agent Routed Service Unavailable

Alarm Group:	CAF
Description:	This alarm indicates that all connections of all connection groups associated with a Routed Service are unavailable. This generally occurs when far-end servers have been removed from service by maintenance actions. This can also occur if all of the Routed Service's connections have been either disabled or blocked.
Severity:	Major
Instance:	<RoutedServiceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFRSUnavailNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Service Status** to view the connection groups and connections associated with the Routed Service.
2. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to view the the reasons why connections are unavailable.
3. Use **Main Menu** > **Status & Manage** > **Server** to confirm that the far-end servers have an application state of enabled, and that their subsystems are operating normally.

   It is possible that this alarm results from conditions at the far-end servers connected to the server that asserted this alarm.

4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19821 - Communication Agent Routed Service Degraded

Alarm Group:	CAF
Description:	This alarm indicates that some, but not all, connections are unavailable in the connection group being used by a Communication Agent Routed Service to route messages. The result is that the server that posted this alarm is not load-balancing traffic across all of the connections configured in the connection group.
Severity:	Major
Instance:	<ServiceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFRSDegradedNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Service Status** to view the connection groups and connections associated with the Routed Service.
2. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to view the reasons why connections are unavailable.
3. Use **Main Menu** > **Status & Manage** > **Server** to confirm that the far-end servers have an application state of enabled, and that their subsystems are operating normally.

   It is possible that this alarm results from conditions at the far-end servers connected to the server that asserted this alarm.

4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19822 - Communication Agent Routed Service Congested

Alarm Group:	CAF
Description:	This alarm indicates that a routed service is load-balancing traffic across all connections in a connection group, but all of the connections are experiencing congestion. Messages may be discarded due to congestion.
Severity:	Major
Instance:	<ServiceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFRSCongestedNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Service Status** to view the connection groups and connections associated with the Routed Service.

2. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to view the are congested and the degree to which they are congested.
3. Check the far-end of the congested connections in order to further isolate the cause of congestion.

   If the far-end servers are overloaded, then it is possible that the system is being presented a load that exceeds its engineered capacity. If this is the case, then either the load must be reduced, or additional capacity must be added.

4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19823 - Communication Agent Routed Service Using Low-Priority Connection Group

Alarm Group:	CAF
Description:	Communication Agent routed service is routing traffic using a connection group that has a lower-priority than another connection group.
Severity:	Major
Instance:	<ServiceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFRSUsingLowPriConnGrpNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Service Status** to view the connection groups and connections associated with the Routed Service.
2. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to view the reasons why connections are unavailable.
3. Use **Main Menu** > **Status & Manage** > **Server** to confirm that the far-end servers have an application state of enabled, and that their subsystems are operating normally.

   It is possible that this alarm results from conditions at the far-end servers connected to the server that asserted this alarm.

4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19824 - Communication Agent Pending Transaction Utilization

Alarm Group:	CAF
Description:	The ComAgent Reliable Transfer Function is approaching or exceeding its engineered reliable transaction handling capacity.
Severity:	Minor, Major, Critical
Instance:	n/a (ComAgent process)
HA Score:	Normal
Auto Clear Seconds:	0 (zero)

OID:	cAFTransUtilNotify

Recovery:

1. Use **Main Menu** > **Status & Control** > **Server Status** to view MP server status.
2. Remote server is slow in responding to outstanding transaction with correlation resource in-use. The mis-configuration of ComAgent Server/Client routing may result in too much traffic being distributed to affected connection for MP.
3. There may be an insufficient number of server application MPs configured to handle the internal traffic load. If server application MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. Use **Main Menu** > **Alarm & Events** and examine the alarm log.

   The system may be experiencing network problems.

   The Communication Agent Process may be experiencing problems.

5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19825 - Communication Agent Transaction Failure Rate

Alarm Group:	CAF
Description:	The number of failed transactions during the sampling period has exceeded configured thresholds.
Severity:	Minor, Major, Critical
Instance:	<ServiceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFTransFailRateNotify

Recovery:

1. Use **Main Menu** > **Status & Control** > **Server Status** to view MP server status.
2. Remote server is slow in responding to outstanding transaction with correlation resource in-use. The mis-configuration of ComAgent Server/Client routing may result in too much traffic being distributed to affected connection for MP.
3. There may be an insufficient number of server application MPs configured to handle the internal traffic load. If server application MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. Use **Main Menu** > **Alarm & Events** and examine the alarm log.

   The system may be experiencing network problems.

   The Communication Agent Process may be experiencing problems.

5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19826 - Communication Agent Connection Congested

Alarm Group:	CAF

Description:	This alarm indicates that Communication Agent is experiencing congestion in communication between two servers, and this can be caused by a server becoming overloaded or by network problems between two servers.
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFConnCongestedNotify

Recovery:

1. Find additional information for the alarm in **Main Menu** > **Alarms & Events** > **View History** by locating the row with a sequence number that matches the active alarm sequence number and viewing the Additional Info column.
2. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this MP server.
3. Check **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine which connections on the server have abnormal status.
4. If the Remote MP Overload Level (OL) > 0 then determine why the remote server is congested.
   a) Verify that the remote server is not under maintenance.
   b) Examine the remote's CPU utilization.
   c) Examine the remote's current alarms.
5. If the local server's Transport Congestion Level (TCL) > 0 then determine why the connection is not handling the load.
   a) The remote may be overload by traffic from other MPs.
   b) The local server may be trying to send too much traffic to the remote.
   c) The IP connectivity may be impaired.
6. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19827 - SMS stack event queue utilization

Alarm Group:	SMS
Description:	The percent utilization of the SMS Task stack queue is approaching defined threshold capacity.
Severity:	Minor, Major, Critical
Instance:	<SMS Thread/Queue Index>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFSmsQueueUtilNotify

Recovery:

1. The system itself may be heavily loaded with work, causing this subsystem to also become overloaded. Check other system resources (ComAgent Congestion, Cpu Utilization, and Server Congestion are some examples) for signs of overload.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

19830 - Communication Agent Service Registration State Change

Event Type:	CAF
Description:	Communication Agent Service Registration State Change.
Severity:	Info
Instance:	<ServiceName>
HA Score:	Normal
OID:	cAFEventComAgtSvcRegChangedNotify

Recovery:

This event is a log of normal application startup and shutdown activity. It may provide aid during troubleshooting when compared to other events in the log.

19831 - Communication Agent Service Operational State Changed

Event Type:	CAF
Description:	Communication Agent Service Operational State Changed.
Severity:	Info
Instance:	<ServiceName>
HA Score:	Normal
OID:	cAFEventComAgtSvcOpStateChangedNotify

Recovery:

1. This event indicates that a Communication Agent service changed operational state, and typically results from maintenance actions.

   A service can also change state due to server overload.

2. If the state change is unexpected, it is recommended to contact *My Oracle Support (MOS)* for assistance.

19832 - Communication Agent Reliable Transaction Failed

Event Type:	CAF
Description:	Failed transaction between servers result from normal maintenance actions, overload conditions, software failures, or equipment failures.
Severity:	Info

Instance:	<ServiceName>, <RemoteIP> |<null> • If serviceID is InvalidServiceID, then <ServiceName> is "EventTransfer". • If <ServiceName> is "EventTransfer", then include <RemoteIP>. • If serviceID is unknown, then <ServiceName> is null.
HA Score:	Normal
Throttle Seconds:	10
OID:	cAFEventComAgtTransFailedNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine if the local server is unable to communicate with another server or if servers have become overloaded.
2. Check the server's KPIs and the **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to trouble-shoot the cause of server overload.
3. Check the **Main Menu** > **Communication Agent** > **Maintenance** > **HA Status** that corresponds to the ServiceID in the event instance to trouble-shoot the operation of the service.
4. If the event cannot be explained by maintenance actions, it is recommended to contact *My Oracle Support (MOS)* for assistance.

19833 - Communication Agent Service Egress Message Discarded

Event Type:	CAF
Description:	Communication Agent Service Egress Message Discarded.
Severity:	Info
Instance:	<ServiceName> • If serviceID is unknown, then <ServiceName> is null.
HA Score:	Normal
Throttle Seconds:	10
OID:	cAFEventRoutingFailedNotify

Recovery:

1. View the Event AddlInfo column.

   Message is being discarded due to one of the reasons specified.

2. If it's a persistent condition with the status of one of the Communication Agent Configuration Managed Object then resolve the underlying issue with the Managed Object.
3. If the event is raised due to software condition, it's an indication that the Communication Agent Process may be experiencing problems.
4. Use **Main Menu** > **Alarms & Events** and examine the alarm log.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19842 - Communication Agent Resource-Provider Registered

Event Type:	CAF
Description:	Communication Agent Resource-Provider Registered.
Severity:	Info
Instance:	<ResourceName>
HA Score:	Normal
OID:	cAFEventResourceProviderRegisteredNotify

Recovery:

No action required.

19843 - Communication Agent Resource-Provider Resource State Changed

Event Type:	CAF
Description:	Communication Agent Resource-Provider Resource State Changed.
Severity:	Info
Instance:	<ProviderServerName>: <ResourceName>
HA Score:	Normal
OID:	cAFEventResourceStateChangeNotify

Recovery:

No action required.

19844 - Communication Agent Resource-Provider Stale Status Received

Event Type:	CAF
Description:	Communication Agent Resource-Provider Stale Status Received.
Severity:	Info
Instance:	<ProviderServerName>: <ResourceName>
HA Score:	Normal
Throttle Seconds:	10
OID:	cAFEventStaleHBPacketNotify

Recovery:

If this event is occurring frequently then check the ComAgent maintenance screens for other anomalies and to troubleshoot further.

19845 - Communication Agent Resource-Provider Deregistered

Event Type:	CAF
Description:	Communication Agent Resource-Provider Deregistered.
Severity:	Info
Instance:	<ResourceName>
HA Score:	Normal
OID:	cAFEventResourceProviderDeRegisteredNotify

Recovery:

No action required.

19846 - Communication Agent Resource Degraded

Alarm Group:	CAF
Description:	Communication Agent Resource Degraded. A local application is using the resource, identified in the alarm, and the access to the resource is impaired. Some of the resource providers are either unavailable and/or congested.
Severity:	Major
Instance:	<ResourceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFResourceCongestedNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **HA Services Status** to determine which sub-resources are unavailable or degraded for the server that asserted the alarm.
2. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine if connections have failed or have congested.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19847 - Communication Agent Resource Unavailable

Alarm Group:	CAF
Description:	Communication Agent Resource Unavailable. A local application needs to use a ComAgent resource, but the resource is unavailable. The resource can be unavailable if the local server has no ComAgent connections to servers providing the resource or no servers host active instances of the resource's sub-resources.
Severity:	Major
Instance:	<ResourceName>

HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFResourceUnavailNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to verify that the local server is connected to the expected servers.

   If the local server reports unavailable connections, then take actions to troubleshoot the cause of the connection failures.

2. If the ComAgent connections are InService, use **Main Menu** > **Communication Agent** > **Maintenance** > **HA Services Status** to determine which servers are providing the resource.

   If no servers are providing the resource, then the most likely reason is that maintenance actions have been taken that have removed from service the application that provides the concerned resource.

3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19848 - Communication Agent Resource Error

Alarm Group:	CAF
Description:	Communication Agent Resource Error. Two sets of servers are using incompatible configurations for a ComAgent resource.
Severity:	Minor
Instance:	<ResourceName>
HA Score:	Normal
Auto Clear Seconds:	50
OID:	cAFResourceErrorNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **HA Services Status** to determine which sets of servers are incompatible.

   Check the incompatible servers to verify that they are operating normally and are running the expected versions of software.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19850 - Communication Agent Resource-User Registered

Event Type:	CAF
Description:	Communication Agent Resource-User Registered.
Severity:	Info
Instance:	<ResourceName>

HA Score:	Normal
OID:	cAFEventResourceUserRegisteredNotify

Recovery:

No action required.

19851 - Communication Agent Resource-User Deregistered

Event Type:	CAF
Description:	Communication Agent Resource-User Deregistered.
Severity:	Info
Instance:	<ResourceName>
HA Score:	Normal
OID:	cAFEventResourceUserDeRegisteredNotify

Recovery:

No action required.

19852 - Communication Agent Resource Routing State Changed

Event Type:	CAF
Description:	Communication Agent Resource Routing State Changed.
Severity:	Info
Instance:	<ResourceName>
HA Score:	Normal
OID:	cAFEventResourceRoutingStateNotify

Recovery:

No action required.

19853 - Communication Agent Resource Egress Message Discarded

Event Type:	CAF
Description:	Communication Agent Resource Egress Message Discarded.
Severity:	Info
Instance:	<ResourceName>: <SubResourceID> **Note:** If the resource is unknown, then <ResourceName> is the ResourceID converted to text. The <SubResourceID> is an integer converted to text, regardless of whether it is known or unknown.
HA Score:	Normal
Throttle Seconds:	10

OID:	cAFEventHaEgressMessageDiscardedNotify

Recovery:

1. Message is being discarded due to one of the reasons specified in Event AddlInfo.

   If the condition is persistent with the status of one of the ComAgent Configuration Managed Objects there is an underlying issue with the Managed Object.

2. Use **Main Menu** > **Alarms & Events** and examine the alarm log for ComAgent Process problems.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19854 - Communication Agent Resource-Provider Tracking Table Audit Results

Event Type:	CAF
Description:	Communication Agent Resource-Provider Tracking Table Audit Results. This event is generated when a Resource Provider Tracking Table (RPTT) entry with Status equal to Auditing is replaced with a new status (null, Active, Standby, Spare, OOS, etc) and there are no other RPTT entries, for this specific Resource/SR, with Status equal to Auditing.
Severity:	Info
Instance:	None
HA Score:	Normal
OID:	cAFEventHaRPTTAuditResultNotify

Recovery:

No action required.

19855 - Communication Agent Resource Has Multiple Actives

Alarm Group:	CAF
Description:	This alarm indicates a possible IP network disruption that has caused more than one Resource Provider to become Active. The server that asserted this alarm expects there to be only one active Resource Provider server for the Resource, but instead it is seeing more than one. During this condition the server may be sending commands to the wrong Resource Provider. This may affect applications such as CPA, PDRA.
Severity:	Major
Instance:	<ResourceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFMultipleActivesNotify

Recovery:

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **HA Services Status** to determine which Resource Provider servers are announcing 'Active' status for the Resource.

2. Investigate possible IP network isolation between these Resource Provider servers.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

19856 - Communication Agent Service Provider Registration State Changed

Alarm Type:	CAF
Description:	The Communication Agent service provider registration state changed.
Severity:	Info
Instance:	<ServiceName>
HA Score:	Normal
Auto Clear Seconds:	0
OID:	cAFEventSvcProvRegStateChangedNotify

Recovery:

No action required.

19857 - Communication Agent Service Provider Operational State Changed

Event Type:	CAF
Description:	The Communication Agent Service Provider Operational State has Changed
Severity:	Info
Instance:	<ServiceName>
HA Score:	Normal
OID:	cAFEventSvcProvOpStateChangedNotify

Recovery:

1. This event indicates that a ComAgent service provider changed operational state, and typically results from maintenance actions. A service can also change state due to overload.
2. If the state change is unexpected, it is recommended to contact *My Oracle Support (MOS)*.

19858 - Communication Agent Connection Rejected

Event Type:	CAF
Description:	The Communication Agent receives a connection request from an unknown server.
Severity:	Info
Instance:	<RemoteIP>
HA Score:	Normal
Throttle Seconds:	1800 (30 minutes)

OID:	cAFEventSvcProvOpStateChangedNotify

Recovery:

1. Verify network routes are correctly configured for ComAgent.
2. If assistance is required, it is recommended to contact *My Oracle Support (MOS)*.

19860 - Communication Agent Configuration Daemon Table Monitoring Failure

Alarm Group:	CAF
Description:	This alarm indicates that a Communication Agent Configuration Daemon has encountered an error that prevents it from properly using server topology configuration data to configure automatic connections for the Communication Agents on MPs, and this may prevent applications on MPs from communicating.
Severity:	Critical
Instance:	None
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFTableMonitorFailureNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** > **View History** to find additional information about the alarm.

   The information can be found by locating the row with a sequence number that matches the active alarm sequence number and viewing the Additional Info column.

2. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this MP server.
3. If conditions do not permit a forced failover of the active NOAM, it is recommended to contact *My Oracle Support (MOS)* for assistance.
4. If conditions permit, then initiate a failover of active NOAM.

   This causes the Communication Agent Configuration Daemon to exit on the originally-active NOAM and to start on the newly-active NOAM.

5. After NOAM failover completes, verify that the alarm has cleared.
6. If the alarm has not cleared, it is recommended to contact *My Oracle Support (MOS)* for assistance.

19861 - Communication Agent Configuration Daemon Script Failure

Alarm Group:	CAF
Description:	This alarm indicates that a Communication Agent Configuration Daemon has encountered an error that prevents it from properly using server topology configuration data to configure automatic connections for the Communication Agents on MPs, and this may prevent applications on MPs from communicating.

Severity:	Critical
Instance:	None
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFScriptFailureNotify

Recovery:

1. Use **Main Menu** > **Alarms & Events** > **View History** to find additional information about the alarm.

   The information can be found by locating the row with a sequence number that matches the active alarm sequence number and viewing the Additional Info column.

2. Check the event history logs at **Main Menu** > **Alarms & Events** > **View History** for additional Communication Agent events or alarms from this server.
3. If conditions do not permit a forced failover of the active NOAM, it is recommended to contact *My Oracle Support (MOS)* for assistance.
4. If conditions permit, then initiate a failover of active NOAM.

   This causes the Communication Agent Configuration Daemon to exit on the originally-active NOAM and to start on the newly-active NOAM.

5. After NOAM failover completes, verify that the alarm has cleared.
6. If the alarm has not cleared, it is recommended to contact *My Oracle Support (MOS)* for assistance.

19862 - Communication Agent Ingress Stack Event Rate

Alarm Group:	CAF
Description:	The Communication Agent Ingress Stack Event Rate is approaching its defined threshold capacity.
Severity:	• Minor - if exceeding 100K on Gen8/Gen9 hardware, 75k on other hardware • Major - if exceeding 110K on Gen8/Gen9 hardware, 80k on other hardware • Critical - if exceeding 120K on Gen8/Gen9 hardware, 84k on other hardware
Instance:	<ServiceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	cAFIngressRateNotify

Recovery:

1. This alarm indicates that a server is overrunning its defined processing capacity. If any of the defined threshold onset levels are exceeded, Communication Agent will discard comparatively low priority messages. Check the configuration, routing, and deployment mode capacity.
2. It is recommended to contact *My Oracle Support (MOS)* for further assistance.

19863 - Communication Agent Max Connections Limit In Connection Group Reached

Event Group:	CAF
Description:	The maximum number of connections per connection group limit has been reached.
Severity:	Info
Instance:	<Connection group name>
HA Score:	Normal
Throttle Seconds:	10
OID:	cAFComAgentMaxConnsInConnGrpNotify

Recovery:

1. This event indicates that a connection group has already reached its maximum limit and no more connections can be added to the group. Determine what is preventing potential connections from being added to the connection group.
2. It is recommended to contact *My Oracle Support (MOS)* for further assistance.

19864 - ComAgent Successfully Set Host Server Hardware Profile

Event Group:	CAF
Description:	ComAgent successfully set the host server hardware profile.
Severity:	Info
Instance:	None
HA Score:	Normal
OID:	cAFEventSuccessSetHostServerHWProfileNotify

Recovery:

1. This event indicates that all TPS controlling parameter values are successfully set for the host server hardware profile.
2. If needed, it is recommended to contact *My Oracle Support (MOS)*.

19865 - ComAgent Failed to Set Host Server Hardware Profile

Event Group:	CAF
Description:	ComAgent failed to set the host server hardware profile.
Severity:	Info
Instance:	None
HA Score:	Normal
OID:	cAFEventFailToSetHostServerHWProfileNotify

Recovery:

1. This event indicates that there is a failure in applying default hardware settings for ComAgent TPS controlling parameters. When default settings also fail to apply, then the factory values will be used for the TPS controlling parameters.
2. If needed, it is recommended to contact *My Oracle Support (MOS)*.

19866 - Communication Agent Peer Group Status Changed

Event Type:	CAF
Description:	The Communication Agent Peer Group operational status has changed
Severity:	Info
Instance:	<PeerGroupName>
HA Score:	Normal
OID:	cAFEventPeerGroupStatusChangeNotify

Recovery:

This alarm is informational and no action is required.

19867 - Communication Agent Peer Group Egress Message Discarded

Event Type:	CAF
Description:	The Communication Agent Peer Group egress message is being discarded due to one of the following reasons: • Unknown Peer Group • Peer Group Unavailable • Peer Congested • Reliability not supported
Severity:	Info
Instance:	<PeerGroupName>
HA Score:	Normal
Throttle Seconds:	10
OID:	cAFEventPSEgressMessageDiscardedNotify

Recovery:

This alarm is informational and no action is required.

19868 - Communication Agent Connection Rejected - Incompatible Network

Event Type:	CAF
Description:	Communication Agent connection rejected. Connection to the peer node is not initiated due to network incompatibility. This event will be raised on the connection initiator side when the connection initiator MP has only IPv6 IP addresses configured and Remote MP has only IPv4 IP addresses

	configured or when connection initiator MP has only IPv4 IP addresses configured and Remote MP has only IPv6 IP addresses configured.
Severity:	Info
Instance:	<RemoteIP>
HA Score:	Normal
OID:	cAFEventConnectionRejectNotify

Recovery:

1. Disable both sides of the connection.
2. Configure the correct network modes on either server.
3. Restart the application on the reconfigured server.
4. Enable both sides of the connection.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

19900-19999 - EXG Stack

This section provides information and recovery procedures for EXG Stack alarms, ranging from 19900-19999.

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 **Alarms & Events** > **View History** page.

19900 - Process CPU Utilization

Alarm Group:	STK
Description:	The Process, which is responsible for handling all Signaling traffic, is approaching or exceeding its engineered traffic handling capacity.
Severity:	Critical, Major, Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	dbcProcessCpuUtilizationNotify

Recovery:

1. Use **Main Menu** > **Status & Control** > **KPIs** to monitor the ingress traffic rate of each MP.
   - The mis-configuration of Server/Client routing may result in too much traffic being distributed to the MP. Each MP in the server site should be receiving approximately the same ingress transaction per second.
   - There may be an insufficient number of MPs configured to handle the network traffic load. If all MPs are in a congestion state then the traffic load to the server site is exceeding its capacity.
2. Use **Main Menu** > **Alarms & Events** to examine the alarm log.

It is recommended to contact *My Oracle Support (MOS)* for assistance.

19901 - CFG-DB Validation Error

Alarm Group:	STK
Description:	A minor database validation error was detected on the MP server during an update. MP internal database is now out of sync with the configuration database. Subsequent database operations on the MP are ALLOWED.
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	dbcCfgDbValidationErrorNotify

Recovery:

An unexpected condition has occurred while performing a database update, but database updates are still enabled.

It is recommended to contact *My Oracle Support (MOS)* for assistance.

19902 - CFG-DB Update Failure

Alarm Group:	STK
Description:	A critical database validation error was detected on the MP server during an update. MP internal database is now out of sync with the configuration database. Subsequent database operations on the MP are DISABLED.
Severity:	Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	dbcCfgDbUpdateFailureNotify

Recovery:

An unexpected condition has occurred while performing a database update and database updates are disabled.

It is recommended to contact *My Oracle Support (MOS)* for assistance.

19903 - CFG-DB post-update Error

Alarm Group:	STK

Description:	A minor database validation error was detected on the MP server after a database update. MP internal database is still in sync with the configuration database. Subsequent database operations on the MP are ALLOWED.
Severity:	Major
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	dbcCfgDbPostUpdateErrorNotify

Recovery:

An unexpected condition has occurred while performing a database update, but database updates are still enabled.

It is recommended to contact *My Oracle Support (MOS)* for assistance.

19904 - CFG-DB post-update Failure

Alarm Group:	STK
Description:	A critical database validation error was detected on the MP server after a database update. MP internal database is still in sync with the configuration database. Subsequent database operations on the MP are DISABLED.
Severity:	Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	dbcCfgDbPostFailureNotify

Recovery:

An unexpected condition has occurred while performing a database update and database updates are disabled.

It is recommended to contact *My Oracle Support (MOS)* for assistance.

19905 - Measurement Initialization Failure

Alarm Group:	STK
Description:	A measurement object failed to initialize.
Severity:	Critical
Instance:	<measTagName>
HA Score:	Normal

Auto Clear Seconds:	0 (zero)
OID:	dbcMeasurementInitializationFailureNotify

Recovery:

Measurement subsystem initialization has failed for the specified measurement.

It is recommended to contact *My Oracle Support (MOS)* for assistance.

22000-22999 - Diameter

This section provides information and recovery procedures for Diameter alarms and events, and lists the types of alarms and events that can occur on the system. All events have a severity of Info.

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 **Alarms & Events > View History** page.

22001 - Message Decoding Failure

Event Type:	DIAM
Description:	A message received from a peer was rejected because of a decoding failure. Decoding failures can include missing mandatory parameters.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterIngressMsgRejectedDecodingFailureNotify

Recovery:

During Diameter Request decoding, the message content was inconsistent with the "Message Length" in the message header. This protocol violation can be caused by the originator of the message (identified by the Origin-Host AVP in the message) or the peer who forwarded the message to this node.

22002 - Peer Routing Rules with Same Priority

Event Type:	DIAM
Description:	A peer routing table search with a received Request message found more than one highest priority Peer Routing Rule match. The system selected the first rule found but it is not guaranteed that the same rule will be selected in the future. It is recommended that Peer Routing Rules be unique for the same type of messages to avoid non-deterministic routing results.
Severity:	Info

Instance:	<MPName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterPeerRoutingTableRulesSamePriorityNotify

Recovery:

Modify one of the Peer Routing Rule Priorities using the **Diameter > Configuration > Peer Routing Rules** GUI page.

22003 - Application ID Mismatch with Peer

Event Type:	DIAM
Description:	While attempting to route a request message to a peer, a peer's transport connection was bypassed because the peer did not support the Application ID for that transport connection.
Severity:	Info
Instance:	<MPName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterApplicationIdMismatchWithPeerNotify

Recovery:

1. The system's peer routing table may be using a Route List containing a peer which does not support the Application ID or the list of Application IDs supported by the peer on each connection may not be the same. The list of Application IDs that the peer supports on each connection can be viewed as follows:
   a) Navigate to the GUI page: **Diameter > Maintenance > Connections**
   b) Locate the relevant Peer Node and check the supported Application IDs.
2. If Application IDs are not the same for each connection (but should be) the Application ID for any connection can be refreshed by:
   a) Navigate to the GUI page: **Diameter > Maintenance > Connections**
   b) Locate the relevant **Connection**
   c) Disable the **Connection**
   d) Enable the **Connection**
3. The Diameter Node which originated the message (identified by the Origin-Host AVP) could be configured incorrectly and the application is trying to address a node which doesn't support the Application ID. This cannot be fixed using this application.
4. If the problem persists, contact *My Oracle Support (MOS)*.

22004 - Maximum pending transactions allowed exceeded

Event Type:	DIAM

Description:	Routing attempted to select an egress transport connection to forward a message but the maximum number of allowed pending transactions queued on the connection has been reached.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterMaxPendingTxnsPerConnExceededNotify

Recovery:

The maximum number of pending transactions for each connection is set to a system-wide default value. If this event is occurring frequently enough for a particular connection then the maximum value may need to be increased. It is recommended to contact *My Oracle Support (MOS)* for assistance.

22005 - No peer routing rule found

Event Type:	DIAM
Description:	A message not addressed to a peer (either Destination-Host AVP was absent or Destination-Host AVP was present but was not a peer's FQDN) could not be routed because no Peer Routing Rules matched the message.
Severity:	Info
Instance:	<MPName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterNoPrtRuleNotify

Recovery:

1. Either the message was incorrectly routed to this node or additional Peer Routing Rules need to be added. Existing Peer Routing Rules can be viewed and updated using **Diameter > Configuration > Peer Routing Rules** page.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22007 - Inconsistent Application ID Lists from a Peer

Event Type:	DIAM
Description:	The list of Application IDs supported by a peer during the Diameter Capabilities Exchange procedure on a particular transport connection is not identical to one of the list of Application IDs received from the peer over a different available transport connection to that peer.
Severity:	Info
Instance:	<PeerName>
HA Score:	Normal

Throttle Seconds:	10
OID:	eagleXgDiameterSupportedAppIdsInconsistentNotify

Recovery:

1. A peer with multiple transport connections has established a connection and provided a list of supported Application IDs which does match a previously established connection. This could prevent Request messages from being routed uniformly over the peer's transport connections because the decision to route a message containing an Application ID is based upon the list of Application IDs supported on each transport connection. The list of Application IDs that the peer supports on each connection can be viewed as follows:
   a) Navigate to **Diameter > Maintenance > Connections**.
   b) Locate the relevant Peer Node and check the supported Application IDs.
2. If Application IDs are not the same for each connection (but should be) the Application ID for any connection can be refreshed by:
   a) Navigate to **Diameter > Maintenance > Connections**.
   b) Locate the relevant Connection.
   c) Disable the Connection.
   d) Enable the Connection.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22008 - Orphan Answer Response Received

Event Type:	DIAM
Description:	An Answer response was received for which no pending request transaction existed, resulting in the Answer message being discarded. When a Request message is forwarded the system saves a pending transaction, which contains the routing information for the Answer response. The pending transaction is abandoned if an Answer response is not received in a timely fashion.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterOrphanAnswerResponseReceivedNotify

Recovery:

If this event is occurring frequently, the transaction timers may be set too low. The timer values can be viewed and/or modified using the **Diameter > Configuration > Pending Answer Timers** page.

22009 - Application Routing Rules with Same Priority

Event Type:	DIAM

Description:	An application routing table search with a received Request message found more than one highest priority application routing rule match. At least two application routing rules with the same priority matched an ingress Request message. The system selected the first application routing rule found.
Severity:	Info
Instance:	<MPName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterApplicationRoutingTableRulesSamePriorityNotify

Recovery:

1. It is recommended that application routing rules be unique for the same type of messages to avoid unexpected routing results. Peer routing rule priorities can be modified using **Diameter > Configuration > Application Route Tables** page.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22010 - Specified DAS Route List not provisioned

Event Type:	DIAM
Description:	The DAS Route List specified by the message copy trigger point is not provisioned.
Severity:	Info
Instance:	<RouteListId>
HA Score:	Normal
Throttle Seconds:	10 **Note:** Because many route lists can be created on a DA-MP server, care must be taken to prevent excessive event generation with these resources.
OID:	eagleXgDiameterSpecifiedDasRouteListNotProvisionedNotify

Recovery:

1. Provisioning is incorrect/misconfigured. Verify provisioning and provision/correct provisioning.
2. If this problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

22012 - Specified MCCS not provisioned

Event Type:	DIAM
Description:	The Message Copy Config Set specified by the trigger point is not provisioned.
Severity:	Info
Instance:	<MCCS>

HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterSpecifiedMCCSNotProvisionedNotify

Recovery:

1. Verify the configured value of MCCS with the trigger point.
2. Verify the Message Copy CfgSet (MCCS) provisioning is properly configured.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22013 - DAS Peer Number of Retransmits Exceeded for Copy

Event Type:	DIAM
Description:	The configured number of Message Copy retransmits has been exceeded for the DAS Peer.
Severity:	Info
Instance:	<MCCS>
HA Score:	Normal
Throttle Seconds:	10 **Note:** Because many route lists can be created on a DA-MP server, care must be taken to prevent excessive event generation with these resources.
OID:	eagleXgDiameterNumberOfRetransmitsExceededToDasNotify

Recovery:

1. Verify the configured value of 'Max Retransmission Attempts'
2. Verify local provisioning to connections to intended DAS peer server(s) are in service and no network issues in path(s) to intended DAS peer server(s) exist.
3. Verify DAS peer provisioning to insure proper configuration.
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

22014 - No DAS Route List specified

Alarm Group:	DIAM
Description:	No valid DAS Route List was specified in the Message Copy Config Set.
Severity:	Info
Instance:	<RouteListId>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterNoDasRouteListSpecifiedNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)* for further assistance.

22015 - Connection Operational Status Inconsistency May Exist

Event Type: DIAM

Description: DSR was unable to update the Operational Status and Operation Reason attributes for a transport connection on the OAM.

Severity: Info

Instance: TransConnName

HA Score: Normal

Throttle Seconds: 0 (zero)

OID: eagleXgDiameterOperationalStatusInconsistencyNotify

Recovery:

1. Use **Main Menu** > **Diameter** > **Maintenance** > **Connections** to view the Operational Status and Operation Reason attributes for a Connection.

   The Operational Status and Operation Reason attributes for a Connection on the OAM may be temporarily out of date with the values on DSR.

   This occurs when an internal event queue size has been exceeded. This should rarely occur and the inconsistency should be cleared when the Connection's "Remote Busy State" changes again.

2. If the problem persists, contact *My Oracle Support (MOS)*.

22016 - Peer Node Alarm Aggregation Threshold

Alarm Group:	DIAM
Description:	This alarm occurs when there are a 'Critical' number of Peer Node alarms for a single Network Element. **Note:** The Alarm Thresholds are configurable using the "Alarm Threshold Options" tab on the **Main Menu** > **Diameter** > **Configuration** > **System Options** screen.
Severity:	Critical
Instance:	<NetworkElement>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterPeerNodeUnavailableThresholdReachedNotify

Recovery:

1. Use **Main Menu** > **Diameter** > **Maintenance** > **Peer Nodes** to monitor Peer status.
2. Verify that IP network connectivity exists between the MP server and the adjacent servers.
3. Check the event history logs for additional DIAM events or alarms from this MP server.
4. Verify that the peer is not under maintenance.

5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

22017 - Route List Alarm Aggregation Threshold

Alarm Group:	DIAM
Description:	This alarm occurs when there are a 'Critical' number of Route List alarms for the Network Element. **Note:** The Alarm Thresholds are configurable using the "Alarm Threshold Options" tab on the **Main Menu** > **Diameter** > **Configuration** > **System Options** screen.
Severity:	Critical
Instance:	<NetworkElement>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterRouteListUnavailableThresholdReachedNotify

Recovery:

1. Use **Main Menu** > **Diameter** > **Maintenance** > **Route Lists** to monitor Route List status.
2. Verify that IP network connectivity exists between the MP server and the peers.
3. Check the event history logs for additional DIAM events or alarms from this MP server.
4. Verify that the peers in the Route List are not under maintenance.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

22018 - Maintenance Leader HA Notification to go Active

Alarm Group:	DIAM
Description:	This alarm occurs when a DA-MP has received a notification from HA that the Maintenance Leader resource should transition to the Active role.
Severity:	Info
Instance:	<MP Node ID>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterDaMpLeaderGoActiveNotificationNotify

Recovery:

No action necessary.

22019 - Maintenance Leader HA Notification to go OOS

Alarm Group:	DIAM

Description:	This alarm occurs when a DA-MP has received a notification from HA that the Maintenance Leader resource should transition to the OOS role.
Instance:	<MP Node ID>
Severity:	Info
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterDaMpLeaderGoOOSNotificationNotify

Recovery:

No action necessary.

22020 - Copy Message size exceeded the system configured size limit

Event Type:	DIAM
Description:	The generated Copy message size exceeded the max message size on the system.
Severity:	Info
Instance:	<DA-MP>
HA Score:	Normal
Throttle Seconds:	10 **Note:** Because many copy messages can exceed the system configured size, care must be taken to prevent excessive generation with these resources.
OID:	eagleXgDiameterCopyMessageSizeExceededNotify

Recovery:

1. Verify the size of the Request and Answer messages and see it exceeds the system set message size.

   Use **Main** > **Diameter** > **Configuration** > **Route Lists** to correct provisioning.

2. Review provisioning and correct provisioning and see whether answers also needed to copy.

   Requests and answers may be copied to DAS.

3. If this problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

22021 - Debug Routing Info AVP Enabled

Alarm Group:	DIAM
Description:	Debug Routing Info AVP is enabled.
Severity:	Minor
Instance:	None
HA Score:	Normal

Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterDebugRoutingInfoAvpEnabledNotify

Recovery:

1. Change the IncludeRoutingInfoAvp parameter to *no* in the DpiOption table on the NO for a 2-tier system or on the SO for a 3-tier system.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22022 - Forwarding Loop Detected

Alarm Group:	DIAM
Description:	Ingress Request message received was previously processed by the local node as determined from the Route-Record AVPs received in the message.
Severity:	Major
Instance:	<Peer Name>
HA Score:	Normal
Auto Clear Seconds:	30
OID:	eagleXgDiameterForwardingLoopDetectedNotify

Recovery:

1. An ingress Request message was rejected because message looping was detected. In general, the forwarding node should not send a message to a peer which has already processed the message (it should examine the Route-Record AVPs prior to message forwarding). If this type of error is occurring frequently, then the forwarding node is most likely mis-routing the message. This should not be related to a configuration error because the identity of the local node is sent to the peer during the Diameter Capabilities Exchange procedure when the Connection comes into service.
2. If Path Topology Hiding is activated and Protected Network Node's Route-Records are obscured with PseudoNodeFQDN, then inter-network ingress message loop detection could reject the message if same Request message is routed back to DEA. If this type of error is occurring then the forwarding node is most likely mis-routing the message back to DEA.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22051 - Peer Unavailable

Alarm Group:	DIAM
Description:	Unable to access the Diameter Peer because all of the transport connections are Down.
Severity:	Critical
Instance:	<PeerName> (of the Peer which failed)
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterPeerUnavailableNotify

Recovery:

1. Peer status can be monitored from **Diameter** > **Maintenance** > **Peer Nodes**.
2. Verify that IP network connectivity exists between the MP server and the adjacent servers.
3. Check the event history logs for additional DIAM events or alarms from this MP server.
4. Verify that the peer is not under maintenance.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22052 - Peer Degraded

Alarm Group:	DIAM
Description:	The peer has some available connections, but less than its minimum connection capacity. Continued routing to this peer may cause congestion or other overload conditions.
Severity:	Major
Instance:	<PeerName> (of the Peer which is degraded)
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterPeerDegradedNotify

Recovery:

1. Peer status can be monitored from **Diameter** > **Maintenance** > **Peer Nodes**.
2. Verify that IP network connectivity exists between the MP server and the adjacent servers.
3. Check the event history logs for additional DIAM events or alarms from this MP server.
4. Verify that the peer is not under maintenance.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22053 - Route List Unavailable

Alarm Group:	DIAM
Description:	The Route List is Unavailable. A Route List becomes Unavailable when all of its peers become Unavailable and a Peer becomes Unavailable when all of its transport connections become Unavailable. If a Transport Connection is configured for Initiate mode, the Network Element will periodically attempt to automatically recover the connection if its Admin State is Enabled. If the Transport Connection is configured for Responder-Only mode, the peer will be responsible for re-establishing the transport connection.
Severity:	Critical
Instance:	<RouteListName> (of the Route List which failed)
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterRouteListUnavailableNotify

Recovery:

1. Route List status can be monitored from **Diameter** > **Maintenance** > **Route Lists**.
2. Verify that IP network connectivity exists between the MP server and the peers.
3. Check the event history logs for additional DIAM events or alarms from this MP server.
4. Verify that the peers in the Route List not under maintenance.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22054 - Route List Degraded

Alarm Group:	DIAM
Description:	The Route List's Operational Status has changed to Degraded because the capacity of the Route List's Active Route Group has dropped below the Route List's configured minimum capacity. There are two potential causes: 1. One or more of the Route List's peers become Unavailable. A Peer becomes Unavailable when all of its transport connections become Unavailable. If a Transport Connection is configured for Initiate mode, the Network Element will periodically attempt to automatically recover the connection if its Admin State is Enabled. If the Transport Connection is configured for Responder-Only mode, the peer will be responsible for re-establishing the transport connection. 2. The Route Groups within the Route List may not have been configured with sufficient capacity to meet the Route List's configured minimum capacity.
Severity:	Major
Instance:	<RouteListName> (of the Route List which is degraded)
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterRouteListDegradedNotify

Recovery:

1. Route List status and configured minimum capacity can be monitored from **Diameter** > **Maintenance** > **Route Lists**.
2. Verify that IP network connectivity exists between the MP server and the peers.
3. Check the event history logs for additional DIAM events or alarms from this MP server.
4. Verify that the peers in the Route List not under maintenance.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22055 - Non-Preferred Route Group in Use

Alarm Group:	DIAM
Description:	The application has started to utilize a Route Group other than the highest priority Route Group to route Request messages for a Route List because the highest priority Route Group specified for that Route List has either become Unavailable

	or its capacity has dropped below the minimum capacity configured for the Route List while a lower priority Route Group has more capacity. The preferred Route Group (i.e., with highest priority) is demoted from the Active Route Group to a Standby Route Group when a peer failure occurs causing the Route Group's Operational Status to change to Unavailable or Degraded. A Route Group becomes Degraded when its capacity has dropped below Route List's configured minimum capacity. A Route Group becomes Unavailable when all of its peers have an Operational Status of Unavailable or Degraded. A Peer becomes Unavailable when all of its transport connections become Unavailable. If a Transport Connection is configured for Initiate mode, the Network Element will periodically attempt to automatically recover the connection if its Admin State is Enabled. If the Transport Connection is configured for Responder-Only mode, the peer will be responsible for re-establishing the transport connection.
Severity:	Minor
Instance:	<RouteListName> (of the concerned Route List)
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterNonPreferredRouteGroupInUseNotify

Recovery:

1. Route List status and configured minimum capacity can be monitored from **Diameter** > **Maintenance** > **Route Lists**.
2. Verify that IP network connectivity exists between the MP server and the peers.
3. Check the event history logs for additional DIAM events or alarms from this MP server.
4. Verify that the adjacent server is not under maintenance.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22056 - Connection Admin State Inconsistency Exists

Alarm Group:	DIAM
Description:	An operator request to change the Admin State of a transport connection was not completely processed due to an internal error. The admin state is either disabled from an egress routing perspective but the connection could not be taken out of service or the admin state is enabled from an egress routing perspective but the connection is not in service.
Severity:	Major
Instance:	<TransConnName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterConnAdminStateInconsistencyNotify

Recovery:

1. If the transport connection's Admin State is Disabled but the transport connection was not taken out of service due to an internal error do the following actions to correct the failure:
   a) Enable the connection via the following GUI menu: **Diameter** > **Maintenance** > **Connections**
   b) Wait for this alarm to clear.
   c) Disable the connection via the following GUI menu: **Diameter** > **Maintenance** > **Connections**
2. If the transport connection's Admin State is Enabled but the transport connection was not taken out of service due to an internal error do the following actions to correct the failure:
   a) Disable the connection via the following **Diameter** > **Maintenance** > **Connections**
   b) Wait for this alarm to clear.
   c) Enable the connection via the following GUI menu: **Diameter** > **Maintenance** > **Connections**
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22057 - ETG Rate Limit Degraded

Alarm Group:	DIAM
Description:	The ETG Rate Limit has exceeded the defined threshold.
Severity:	Major
Instance:	<ETGName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterEtgRateLimitDegradedNotify

Recovery:

1. Check the configuration in **Main Menu** > **Diameter** > **Configuration** > **Egress Throttle Groups** to determine if the Maximum Configured rate is too low.
2. Check the Egress Message Rate at **Main Menu** > **Diameter** > **Maintenance** > **Egress Throttle Groups** and **Main Menu** > **Diameter** > **Maintenance** > **Connections** to determine if the sending Peers/Connections are offering too much traffic.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22058 - ETG Pending Transaction Limit Degraded

Alarm Group:	DIAM
Description:	The ETG Pending Transactions Limit has exceeded the defined threshold.
Severity:	Major
Instance:	<ETGName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterEtgPendingTransLimitDegradedNotify

Recovery:

1. Check the configuration in **Main Menu** > **Diameter** > **Configuration** > **Egress Throttle Groups** to determine if the Maximum Configured rate is too low.
2. Check the Egress Message Rate at **Main Menu** > **Diameter** > **Maintenance** > **Egress Throttle Groups** and **Main Menu** > **Diameter** > **Maintenance** > **Connections** to determine if the sending Peers/Connections are offering too much traffic.
3. Determine if the receiving Peers or Connections in the ETG are not responding with Answers in a timely manner because they are either busy or overloaded.
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22059 - Egress Throttle Group Message Rate Congestion Level changed

Event Group:	DIAM
Description:	The Egress Throttle Group Message rate Congestion Level has changed. This will change the Request priority that can be routed on peers and connections in the ETG.
Severity:	Info
Instance:	<ETGName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterEtgRateCongestionNotify

Recovery:

1. The Maximum Configured rate may be too low. Check the configuration in **Main Menu** > **Diameter** > **Configuration** > **Egress Throttle Groups**
2. The sending Peers/Connections are offering too much traffic. Check the EMR rate at **Main Menu** > **Diameter** > **Maintenance** > **Egress Throttle Groups** and/or **Main Menu** > **Diameter** > **Maintenance** > **Connections**
3. Typically all routes to a server should be in an ETG. However, if that is not the case, alternate routes may be out of service and could cause overloading of traffic towards connections contained in this ETG. Evaluate traffic distribution to server connections and see if any alternate routes to server are unavailable causing overloading of traffic on an ETG.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

22060 - Egress Throttle Group Pending Transaction Limit Congestion Level changed

Event Group:	DIAM
Description:	The Egress Throttle Group Pending Transaction Limit Congestion Level has changed. This will change the Request priority that can be routed on peers and connections in the ETG.
Severity:	Info
Instance:	<ETGName>
HA Score:	Normal

Throttle Seconds:	10
OID:	eagleXgDiameterEtgPendingTransCongestionNotify

Recovery:

1. The Maximum Configured rate may be too low. Check the configuration in **Main Menu** > **Diameter** > **Configuration** > **Egress Throttle Groups**
2. The sending Peers/Connections are offering too much traffic. Check the EMR rate at **Main Menu** > **Diameter** > **Maintenance** > **Egress Throttle Groups** and/or **Main Menu** > **Diameter** > **Maintenance** > **Connections**
3. Typically all routes to a server should be in a ETG, however if that is not the case, then those routes becoming out of service could cause overloading of traffic towards connections contained in this ETG. Evaluate traffic distribution to server connections and see if any alternate routes to server are unavailable causing overloading of traffic on an ETG.
4. The receiving Peers or Connections in the ETG are not responding with Answers in a timely manner. Check to see if they are busy or overloaded.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

22061 - Egress Throttle Group Monitoring stopped

Alarm Group:	DIAM
Description:	ETG Rate and Pending Transaction Monitoring is stopped on all configured ETGs
Severity:	Minor
Instance:	<DA-MP Hostname>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterEtgMonitoringStoppedNotify

Recovery:

1. Verify that ComAgent links setup between DA-MPs have not gone OOS causing SMS Service to not receive Responses from DA-MP Leader under **Main Menu** > **Communication Agent** > **Maintenance**.
2. Verify that ComAgent links are established between DA-MPs under **Main Menu** > **Communication Agent** > **Maintenance**
3. Verify the No-MP Leader condition in **Main Menu** > **Diameter** > **Maintenance** > **DA-MPs** > **Peer DA-MP Status** that at least 1 DA-MP is MP-Leader.
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22062 - Actual Host Name cannot be determined for Topology Hiding

Event Group:	Diameter
Description:	Topology Hiding could not be applied because the Actual Host Name could not be determined.
Severity:	Info

Instance:	<CfgSetName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterTopoHidingActualHostNameNotFoundNotify

Recovery:

1. Ensure that all MME/SGSN hostnames to be hidden are present in the MME/SGSN Configuration Set.
2. If any DSR Applications are activated on DSR, ensure that any specific Application Level Topology Hiding feature is not conflicting with the contents of Actual Host Names specified in the MME Configuration Set.
3. Check if the first instance of a Session-ID AVP in the Request/Answer message contains the mandatory delimited ";".
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22063 - Diameter Max Message Size Limit Exceeded

Event Type:	DIAM
Description:	The size of the message encoded by DSR has exceeded its max limits.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterDiameterMaxMsgSizeLimitExceededNotify

Recovery:

No action required. However, if this event is seen to be incrementing consistently, it is recommended to contact *My Oracle Support (MOS)* for assistance.

22064 - Upon receiving Redirect Host Notification the Request has not been submitted for re-routing

Event Type:	DIAM
Description:	This event indicates that the DSR has encountered a Redirect Host Notification that it can accept for processing but cannot continue processing due to some reason, such as internal resources exhaustion.
Severity:	Info
Instance:	<PeerName>
HA Score:	Normal
Throttle Seconds:	60

OID:	eagleXgDiameterRxRedirectHostNotRoutedNotify

Recovery:

1. Examine the DA-MP congestion status and related measurements and take appropriate action.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*

22065 - Upon receiving Redirect Realm Notification the Request has not been submitted for re-routing

Event Type:	DIAM
Description:	The Redirect Realm Notification received is accepted but cannot be processed due to some reason, such as internal resources exhaustion.
Severity:	Info
Instance:	<PeerName>
HA Score:	Normal
Throttle Seconds:	60
OID:	eagleXgDiameterRxRedirectRealmNotRoutedNotify

Recovery:

1. Examine the DA-MP congestion status and related measurements and take appropriate action.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*

22066 - ETG-ETL Scope Inconsistency

Alarm Group:	DIAM
Description:	An ETG's Control Scope is set to ETL, but the ETG is not configured against an ETL.
Severity:	Minor
Instance:	<ETG Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterEtgEtlScopeInconsistencyNotify

Recovery:

1. Correct the configuration inconsistency by changing the Control Scope of the ETG from ETL to ETG, or by adding the ETG to an ETL.
2. If a backup image has been restored to the SOAM, but not the NOAM, restoring a consistent backup image for the NOAM should resolve the problem.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22067 - ETL-ETG Invalid Association

Event Type:	DIAM
Description:	An ETL is associated with an ETG that does not exist.
Severity:	Minor
Instance:	<ETL Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterEtgEtlInvalidAssocNotify

Recovery:

1. Correct the configuration inconsistency by updating the ETL to refer to a valid ETG, or by installing consistent backups on the NOAM and SOAM.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22068 - TtpEvDoicException

22068 - 001 - TtpEvDoicException: DOIC OC-Supported-Features AVP not received

Event Type:	DIAM
Description:	DOIC Protocol Error
Severity:	Info
Instance:	<TTP Name>:001
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterTtpEvDoicExceptionNotify

Recovery:

The Peer Node associated with the TTP is not responding to a DOIC Capability Announcement (DCA). This can occur when the Peer Node either does not support DOIC or DOIC has been disabled on the Peer Node. The operator should either disable DOIC on the DSR associated with TTP by setting the TTP's "Dynamic Throttling Admin State" to Disabled or enable DOIC on the Peer Node.

22068 - 002 - TtpEvDoicException: DOIC OC-Feature-Vector AVP contains an invalid value

Event Type:	DIAM
Description:	DOIC Protocol Error
Severity:	Info
Instance:	<TTP Name>:002
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterTtpEvDoicExceptionNotify

Recovery:

The Peer Node associated with the TTP has selected a DOIC Abatement Algorithm not supported by the TTP. This should never happen and may be the result of a mis-configuration or bug on the Peer Node. If this error persists, the operator should disable DOIC for the TTP by setting the TTP's "Dynamic Throttling Admin State" to Disabled or enable DOIC on the Peer Node.

22068 - 003 - TtpEvDoicException: DOIC OC-Report-Type AVP contains an unsupported value

Event Type:	DIAM
Description:	DOIC Protocol Error
Severity:	Info
Instance:	<TTP Name>:003
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterTtpEvDoicExceptionNotify

Recovery:

The Peer Node associated with the TTP is sending a DOIC overload report which is not supported by DSR at this time. The operator should disable Realm-based DOIC overload reports on the Peer Node.

22068 - 004 - TtpEvDoicException: DOIC OC-Sequence-Number AVP contains an out of order sequence number

Event Type:	DIAM
Description:	DOIC Protocol Error
Severity:	Info
Instance:	<TTP Name>:004
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterTtpEvDoicExceptionNotify

Recovery:

The Peer Node associated with the TTP has sent a DOIC overload report which is out of sequence. If this error occurs infrequently, then it may have been caused by a timing delay whereby Answer messages received from the Peer Node were delivered out of order. If this error occurs frequently, then the Peer Node may be in violation of the DOIC specification.

22068 - 005 - TtpEvDoicException: DOIC OC-Reduction-Percentage AVP contains an invalid value

Event Type:	DIAM
Description:	DOIC Protocol Error
Severity:	Info
Instance:	<TTP Name>:005

HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterTtpEvDoicExceptionNotify

Recovery:

The Peer Node associated with the TTP has sent a DOIC overload report containing an OC-Reduction-Percentage AVP value greater than 100. If this error occurs infrequently, then there may be a DOIC software error in the Peer Node. If this error occurs frequently, then the error may be caused by a Peer Node DOIC mis-configuration problem.

22068 - 006 - TtpEvDoicException: DOIC OC-Validity-Duration AVP contains an invalid value

Event Type:	DIAM
Description:	DOIC Protocol Error
Severity:	Info
Instance:	<TTP Name>:006
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterTtpEvDoicExceptionNotify

Recovery:

The Peer Node associated with the TTP has sent a DOIC overload report containing an OC-Validity-Duration AVP value greater than the maximum allowed. The maximum value for the OC-Validity-Duration AVP is 86,400 seconds (24 hours). If this error occurs infrequently, then there may be a DOIC software error in the Peer Node. If this error occurs frequently, then the error may be caused by a Peer Node DOIC mis-configuration problem.

22069 - 001 - TtpEvDoicOlr: Valid DOIC OLR Applied to TTP

Event Type:	DIAM
Description:	A DOIC OverLoad Request (OLR) was received from a Peer Node and applied to a configured TTP.
Severity:	Info
Instance:	<TTP Name>:001
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterTtpEvDoicExceptionNotify

Recovery:

No action required.

22070 - TtpEvDegraded

22070 - 001 - TtpEvDegraded: TTP Degraded, Peer Overload

Event Type:	DIAM
Description:	TTP Degraded
Severity:	Info
Instance:	<TTP Name>:001
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterTtpEvDegradedNotify

Recovery:

No action required.

22070 - 002 - TtpEvDegraded: TTP Degraded, Peer Overload Recovery

Event Type:	DIAM
Description:	TTP Degraded
Severity:	Info
Instance:	<TTP Name>:002
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterTtpEvDegradedNotify

Recovery:

No action required.

22070 - 003 - TtpEvDegraded: TTP Degraded, Static Rate Limit Exceeded

Event Type:	DIAM
Description:	TTP Degraded
Severity:	Info
Instance:	<TTP Name>:003
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterTtpEvDegradedNotify

Recovery:

No action required.

22071 - 001 - TtgEvLossChg: TTG Loss Percent Changed

Event Type:	DIAM

Description:	TTG's Loss Percentage was modified.
Severity:	Info
Instance:	<TTG Name>:001
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterTtpEvDoicExceptionNotify

Recovery:

No action required.

22072 - TTP Degraded

Alarm Group	DIAM
Description	The TTP's Operational Status has been changed to Degraded.
Severity	Major
Instance	<TTP Name>
HA Score	Normal
Auto Clear Seconds	0
OID	eagleXgDiameterTtpDegradedNotify

Recovery

No action required.

22073 - TTP Throttling Stopped

Alarm Group	DIAM
Description	TTP rate throttling has been suspended due to an internal failure.
Severity	Minor
Instance	<DA-MP Name>
HA Score	Normal
Auto Clear Seconds	0
OID	eagleXgDiameterTtpThrottlingStoppedNotify

Recovery:

1. Verify that ComAgent links setup between DA-MPs have not gone OOS causing SMS Service to not receive Responses from DA-MP Leader under **Main Menu** > **Communication Agent** > **Maintenance**.
2. Verify that ComAgent links are established between DA-MPs under **Main Menu** > **Communication Agent** > **Maintenance**

3. Verify the No-MP Leader condition in **Main Menu** > **Diameter** > **Maintenance** > **DA-MPs** > **Peer DA-MP Status** that at least 1 DA-MP is MP-Leader.
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22074 - TTP Maximum Loss Percentage Threshold Exceeded

Alarm Group	DIAM
Description	The Maximum Loss Percentage Threshold assigned to the TTP has been exceeded.
Severity	Major
Instance	<TTP Name>
HA Score	Normal
Auto Clear Seconds	0
OID	eagleXgDiameterTtpMaxLossPercentageExceededNotify

Recovery

No action required.

22075 - Message is not routed to Application

Alarm Group:	DIAM
Description:	ART Rule-X was selected but message was not routed because DSR Application is Disabled or not Available.
Severity:	Major
Instance:	<DSR Application Name>
HA Score:	Normal
Auto Clear Seconds:	0
OID:	eagleXgDiameterArtMatchAppUnavailableNotify

Recovery:

1. Check the Application Status by selecting **Diameter** > **Maintenance** > **Applications** and Enable the application if the Admin State of the DSR Application is Disabled for a particular DA-MP(s) which raised the alarm.
2. If the Application is Enabled for a particular DA-MP, but the Operational Status is Unavailable or Degraded, then refer to the Operational Reason and rectify it accordingly.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22076 - TTG Maximum Loss Percentage Threshold Exceeded

Alarm Group	DIAM
Description	The "Maximum Loss Percentage Threshold" assigned to the Route Group within the Route List has been exceeded.
Severity	Major

Instance	<Route List Name>:<Route Group Name>.<TTG Name>
HA Score	Normal
Auto Clear Seconds	0
OID	eagleXgDiameterTtgMaxLossPercentageExceededNotify

Recovery

No action required.

22101 - FsmOpStateUnavailable

Alarm Group:	DIAM
Description:	Connection is unavailable for Diameter Request/Answer exchange with peer. **Note:** This alarm is not added when the "Suppress Connection Unavailable Alarm" for a Transport Connection is set to "Yes".
Severity:	Major
Instance:	<Connection Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterFsmOpStateUnavailable

Recovery:

1. Identify the most recent Connection Unavailable event in the event log for the connection and use the Event's recovery steps to resolve the issue.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22102 - FsmOpStateDegraded

Alarm Group:	DIAM
Description:	Connection is only available for routing messages with a priority greater than or equal to the connection's congestion level.
Severity:	Major
Instance:	<Connection Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterFsmOpStateDegraded

Recovery:

1. Identify the most recent Connection Degraded event in the event log for the connection and use the Event's recovery steps to resolve the issue.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22103 - SCTP Path Unavailable

Alarm Group:	DIAM
Description:	SCTP multi-homed connection has operationally unavailable path.
Severity:	Minor
Instance:	<ConnectionName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterSctpPathUnavailable

Recovery:

1. The alarm will clear when the connection is operationally unavailable or all paths are operationally available.

   Potential causes are:

   - A host IP interface is down.
   - A host IP interface is unreachable from the peer.
   - A peer IP interface is down.
   - A peer IP interface is unreachable from the host.

2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22104 - SCTPPathMismatch

Alarm Group:	DIAM
Description:	SCTP multi-homed connection has path mismatch.
Severity:	Minor
Instance:	<ConnectionName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterSctpPathMismatch

Recovery:

1. The alarm will clear when the connection is operationally unavailable.

   Potential causes are:

   - A host IP interface is down.
   - A host IP interface is unreachable from the peer.
   - The connection is misconfigured on the host.
   - A peer IP interface is down.
   - A peer IP interface is unreachable from the host.
   - The connection is misconfigured on the peer.

2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22105 - Connection Transmit Congestion

Alarm Group:	DIAM
Description:	The connection transmit buffer is congested, messages will be discarded until this condition clears up. This error indicates that the socket write cannot complete without blocking, signaling that the socket buffer is currently full.
Severity:	Major
Instance:	<TransConnName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterConnectionTxCongestionAlarmNotify

Recovery:

1. The peer is not able to process the volume of traffic being offered on the connection. The traffic volume must be reduced, or processing capacity on the peer must be increased.
2. If the problem persists, contact *My Oracle Support (MOS)*.

22200 - MpCpuCongested

Alarm Group:	DIAM
Description:	DA-MP CPU utilization threshold crossed.
Severity:	Minor, Major, Critical
Instance:	dsr.Cpu, ExgStack
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMpCpuCongestedNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of DIAMETER peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. The alarm log should be examined using the **Alarms & Events** page.

5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22201 - MpRxAllRate

Alarm Group:	DIAM
Description:	DA-MP ingress message rate threshold crossed.
Severity:	Minor, Major, Critical
Instance:	MpRxAllRate, DIAM
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMpRxAllRateNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22202 - MpDiamMsgPoolCongested

Alarm Group:	DIAM
Description:	DA-MP Diameter message pool utilization threshold crossed.
Severity:	Minor, Major, Critical
Instance:	MpDiamMsgPool, DIAM
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMpDiamMsgPoolCongestedNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.

3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. A software defect may exist resulting in PDU buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined using the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22203 - PTR Buffer Pool Utilization

Alarm Group:	DIAM
Description:	The MP's PTR buffer pool is approaching its maximum capacity. If this problem persists and the pool reaches 100% utilization all new ingress messages will be discarded. This alarm should not normally occur when no other congestion alarms are asserted.
Severity:	Minor, Major, Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterPtrBufferPoolUtilNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. A software defect may exist resulting in PTR buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined from the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22204 - Request Message Queue Utilization

Alarm Group:	DIAM
Description:	The MP's Request Message Queue Utilization is approaching its maximum capacity. If this problem persists and the queue reaches 100% utilization all new ingress Request messages will be discarded. This alarm should not normally occur when no other congestion alarms are asserted.

Severity:	Minor, Major, Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterRequestMessageQueueUtilNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. If no additional congestion alarms are asserted, the Request Task may be experiencing a problem preventing it from processing messages from its Request Message Queue. The alarm log should be examined from the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22205 - Answer Message Queue Utilization

Alarm Group:	DIAM
Description:	The MP's Answer Message Queue Utilization is approaching its maximum capacity. If this problem persists and the queue reaches 100% utilization all new ingress Answer messages will be discarded. This alarm should not normally occur when no other congestion alarms are asserted.
Severity:	Minor, Major, Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterAnswerMessageQueueUtilNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.

3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. If no additional congestion alarms are asserted, the Answer Task may be experiencing a problem preventing it from processing messages from its Answer Message Queue. The alarm log should be examined from the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22206 - Reroute Queue Utilization

Alarm Group:	DIAM
Description:	The MP's Reroute Queue is approaching its maximum capacity. If this problem persists and the queue reaches 100% utilization any transactions requiring rerouting will be rejected. This alarm should not normally occur when no other congestion alarms are asserted.
Severity:	Minor, Major, Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterRerouteQueueUtilNotify

Recovery:

1. An excessive amount of Request message rerouting may have been triggered by either connection failures or Answer time-outs. The status of connections should be examined from the **Diameter** > **Maintenance** > **Connections** page.
2. If no additional congestion alarms are asserted, the Reroute Task may be experiencing a problem preventing it from processing messages from its Reroute Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22207 - DclTxTaskQueueCongested

Alarm Group:	DIAM
Description:	DCL egress task message queue utilization threshold crossed.
Severity:	Minor, Major, Critical
Instance:	<DA-MP Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterDclTxTaskQueueCongested

Recovery:

1. The alarm will clear when the DCL egress task message queue utilization falls below the clear threshold. The alarm may be caused by one or more peers being routed more traffic than is nominally expected.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22208 - DclTxConnQueueCongested

Alarm Group:	DIAM
Description:	DCL egress connection message queue utilization threshold crossed.
Severity:	Minor, Major, Critical
Instance:	<ConnectionName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterDclTxConnQueueCongested

Recovery:

1. The alarm will clear when the DCL egress connection message queue utilization falls below the clear threshold. The alarm may be caused by peers being routed more traffic than nominally expected.
2. It is recommended to contact *My Oracle Support (MOS)* for further assistance.

22209 - Message Copy Disabled

Alarm Group:	DIAM
Description:	Diameter Message Copy is disabled.
Severity:	Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMessageCopyDisabledNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.

4. The Diameter Process may be experiencing problems. The alarm log should be examined using the **Alarms & Events** page.
5. If the problem persists, contact *My Oracle Support (MOS)*.

22214 - Message Copy Queue Utilization

Alarm Group:	DIAM
Description:	The DA-MP's Message Copy queue utilization is approaching its maximum capacity.
Severity:	Minor, Major, Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMsgCopyQueueUtilNotify

Recovery:

1. Reduce traffic to the MP.
2. Verify that no network issues exist between the DA-MP and the intended DAS peer(s).
3. Verify that the intended DAS peer has sufficient capacity to process the traffic load being routed to it.
4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22221 - Routing MPS Rate

Alarm Group:	DIAM
Description:	Message processing rate for this MP is approaching or exceeding its engineered traffic handling capacity. The routing mps rate (MPS/second) is approaching or exceeding its engineered traffic handling capacity for the MP.
Severity:	Minor, Major, Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterRoutingMpsRateNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site.

   MP server status can be monitored from **Main Menu** > **Status & Manage** > **Server Status**.

2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP.

The routing mps rate of each MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. Each MP in the server site should be receiving approximately the same ingress transaction per second.

3. There may be an insufficient number of MPs configured to handle the network traffic load.

   The routing mps rate of each MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state then the ingress message rate to the MP is exceeding its capacity to process the messages.

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22222 - Long Timeout PTR Buffer Pool Utilization

Alarm Group:	DIAM
Description:	The MP's Long Timeout PTR buffer pool is approaching its maximum capacity.
Severity:	Minor, Major, Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterLongTimeoutPtrBufferPoolUtilNotify

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. Monitor the MP server status from **Main Menu** > **Status & Manage** > **Server Status**.
2. The misconfiguration of Pending Answer Timer assignment may result in excessive traffic being assigned to the Long Timeout PTR buffer Pool. View the Pending Answer Timer values via **Diameter** > **Configuration** > **Pending Answer Timers**. Examine the Pending Answer Timers assignment via the **Diameter** > **Configuration** > **Application Ids and Diameter** > **Configuration** > **Peer Nodes**.
3. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. Monitor the ingress traffic rate of each MP from **Main Menu** > **Status & Manage** > **KPIs**. Each MP in the server site should be receiving approximately the same ingress transaction per second
4. There may be an insufficient number of MPs configured to handle the network traffic load. Monitor the ingress traffic rate of each MP from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
5. A software defect may exist resulting in Long Timeout PTR buffers not being de-allocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. Examine the alarm log from **Main Menu** > **Alarms & Events**.
6. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22223 - MpMemCongested

Alarm Group:	DIAM
Description:	DA-MP memory utilization threshold crossed.

Severity:	Minor, Major, Critical
Instance:	System.RAM_UtilPct, DSR
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMpMemCongestedNotify

Recovery:

Potential causes for this alarm are:

- One or more peers are generating more traffic than is nominally expected.
- Configuration requires more CPU usage for message processing than is nominally expected.
- One or more peers are answering slowly, causing a backlog of pending transactions.

22224 - Average Hold Time Limit Exceeded

Alarm Group:	DIAM
Description:	The average transaction hold time has exceeded its configured limits.
Severity:	Minor, Major, Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterAvgHoldTimeLimitExceededNotify

Recovery:

The average transaction hold time is exceeding its configured limits, resulting in an abnormally large number of outstanding transactions. Reduce the average hold time by examining the configured Pending Answer Timer values and reducing any values that are unnecessarily large.

22225 - MpRxDiamAllLen

Alarm Group:	DIAM
Description:	The Diameter average ingress message length threshold was crossed.
Severity:	Minor, Major, Critical
Instance:	<DA-MP Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMpRxDiamAllLen

Recovery:

The alarm will clear when the average ingress message length falls below the clear threshold. The alarm may be caused by one or more peers generating larger messages than is nominally expected.

22315 - Connection Unavailable: Peer IP address validation failure

Event Type:	DIAM
Description:	Actual peer connection IP address does not match configured peer IP address.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailPeerIpAddrVldtnFailNotify

Recovery:

1. Confirm that peer connection configuration (Realm, Host, protocol, remote/local IP address, remote/local port) matches local connection configuration using the **Diameter** > **Configuration** > **Local Nodes** page.
2. If the problem persists, contact *My Oracle Support (MOS)*.

22317 - Connection Rejected: Connection already established

Event Type:	DIAM
Description:	Peer initiated connection was rejected because locally initiated connection has already completed capabilities exchange.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterConnRejectedConnAlrdyEstdNotify

Recovery:

1. If condition persists, diagnose peer to determine reason for the second connection initiation.
2. If the problem persists, contact *My Oracle Support (MOS)*.

22318 - Connection Rejected: Connection not Enabled

Event Type:	DIAM
Description:	Peer initiated connection was rejected because connection was locally Admin Disabled.
Severity:	Info
Instance:	<TransConnName>

HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterConnRejectedConnNotEnabledNotify

Recovery:

1. Resolve inconsistency between the local and peer nodes Administrative State.
2. If the problem persists, contact *My Oracle Support (MOS)*.

22323 - Connection Degraded: Diameter Watchdog

Event Type:	DIAM
Description:	Connection declared suspect due to no traffic from peer within Tw time after sending DWR.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterConnDegradedWatchdogSuspectNotify

Recovery:

1. Examine the peer to determine why it is not responding.
2. If the problem persists, contact *My Oracle Support (MOS)*.

22324 - Connection Unavailable: CER validation failure

Event Type:	DIAM
Description:	CER contained invalid or unsupported AVP or AVP value.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailCerValidationFailureNotify

Recovery:

1. Disable peer's use of inband security.
2. If the problem persists, contact *My Oracle Support (MOS)*.

22325 - Host-IP-Address AVP(s) in CER/CEA do not match peer IP address(es)

Event Type:	DIAM

Description:	The Host-IP-Address AVP(s) received in a CER or CEA message from the peer did not match the actual peer connection's IP address(es).
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailCerHostIpAvpVldtnFailNotify

Recovery:

1. Diagnose peer to resolve inconsistency.
2. If the problem persists, contact *My Oracle Support (MOS)*.

22328 - IcRate

Alarm Group:	DIAM
Description:	The diameter connection specified in the alarm instance is processing a higher than normal ingress messaging rate.

Severity:	• Minor (if all of the following are true):
	  • The average ingress MPS rate that the connection is processing has reached the percentage of the connection's maximum ingress MPS rate configured for the connection minor alarm threshold.
	  • The average ingress MPS rate that the connection is processing has not yet reached the percentage of the connection's maximum ingress MPS rate configured for the connection major alarm threshold.
	• Major (if the following are true):
	  • The average ingress MPS rate that the connection is processing has reached the percentage of the connection's maximum ingress MPS rate configured for the connection major alarm threshold.

Instance:	<Connection Name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterImr

Recovery:

1. The Diameter connection specified in the Alarm Instance field is processing a higher than expected average ingress Diameter message rate. The alarm thresholds for minor and major alarms are configured in the Capacity Configuration Set used by the Diameter connection.
2. The message rate used for this alarm is an exponentially smoothed 30 second average. This smoothing limits false alarms due to short duration spikes in the ingress message rate.
3. If the alarm severity is minor, the alarm means that the average ingress message rate has exceeded the minor alarm threshold percentage of the maximum ingress MPS configured for the connection.

4. If the alarm severity is major, the alarm means that the average ingress message rate has exceeded the major alarm threshold percentage of the maximum ingress MPS configured for the connection.
5. This alarm is cleared when the average ingress message rate falls 5% below the minor alarm threshold, or the connection becomes disabled or disconnected. This alarm is downgraded from major to minor if the average ingress message rate falls 5% below the major alarm threshold.
6. If the average ingress message rate is determined to be unusually high, investigate the connection's remote Diameter peer (the source of the ingress messaging) to determine why they are sending the abnormally high traffic rate. Otherwise, consider increasing either the connection's maximum ingress MPS rate or the connection's alarm thresholds.

22332 - Connection Rejected: Max Connections Exceeded

Event Type:	DIAM
Description:	Connection was rejected due to the DA-MP exceeding its maximum number of supported Diameter Connections.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnRejMaxConnExceededNotify

Recovery:

1. If the DA-MP is a member of a IPFE TS, verify that the IPFE is configured to fully monitor the DA-MP's availability status.

   When a IPFE fully monitors application servers in a IPFE TS, it will cease from distributing new Diameter connections to any/all application servers that report a "Stasis" availability status.

2. If the problem persists, contact *My Oracle Support (MOS)*.

22333 - Connection Rejected: Insufficient Ingress MPS

Event Type:	DIAM
Description:	Connection was rejected due to insufficient Ingress MPS on the DA-MP to support the Reserved Ingress MPS configured for the connection. This sum of the Reserved Ingress MPS for the added connection and MP Reserved Ingress MPS has exceeded the MP Maximum Reserved Ingress MPS.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterConnRejInsufficientIngressMpsNotify

Recovery:

1. The value for Reserved Ingress MPS for the added connection needs to be examined to determine if its value should be decreased.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

22336 - Connection Rejected: Multihomed SCTP connection attempt

Event Type:	DIAM
Description:	Connection was rejected because the peer attempted to initiate an SCTP multihomed connection to an IPFE connection.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterConnRejMHSctpConnAttemptNotify

Recovery:

1. Update the peer to initiate unihomed IPFE SCTP connections.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

22349 - IPFE Connection Alarm Aggregation Threshold

Alarm Group:	DIAM
Description:	This alarm occurs when there are a 'Critical' number of IPFE Connection alarms for the Network Element. **Note:** The Alarm Thresholds are configurable using the "Alarm Threshold Options" tab on the **Main Menu** > **Diameter** > **Configuration** > **System Options** screen.
Severity:	Major, Critical **Note:** The Critical threshold may be disabled by setting the Critical Threshold to zero using the "Alarm Threshold Options" tab on the **Main Menu** > **Diameter** > **Configuration** > **System Options** screen.
Instance:	<NetworkElement>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterIPFEConnUnavailableThresholdReachedNotify

Recovery:

1. Use **Main Menu** > **Diameter** > **Maintenance** > **Connection** to monitor IPFE Connection status.
2. Confirm that peer connection configuration (protocol, remote/local IP address, remote/local port) matches the local connection configuration.
3. Confirm that the connection's transport protocol and/or port are not being blocked by a network firewall or other ACL in the network path.

4. Verify that the peers in the Route List are not under maintenance.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

22350 - Fixed Connection Alarm Aggregation Threshold

Alarm Group:	DIAM
Description:	This alarm occurs when there are a 'Critical' number of Fixed Connection alarms for the DA-MP. **Note:** The Alarm Thresholds are configurable using the "Alarm Threshold Options" tab on the **Main Menu** > **Diameter** > **Configuration** > **System Options** screen.
Severity:	Major, Critical **Note:** The Critical threshold may be disabled by setting the Critical Threshold to zero using the "Alarm Threshold Options" tab on the **Main Menu** > **Diameter** > **Configuration** > **System Options** screen.
Instance:	<DA-MP-Hostname>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterConnUnavailableThresholdReachedNotify

Recovery:

1. Use **Main Menu** > **Diameter** > **Maintenance** > **Connection** to monitor Fixed Connection status.
2. Confirm that peer connection configuration (protocol, remote/local IP address, remote/local port) matches the local connection configuration.
3. Confirm that the connection's transport protocol and/or port are not being blocked by a network firewall or other ACL in the network path.
4. Verify that the peers in the Route List are not under maintenance.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance.

22900 - DPI DB Table Monitoring Overrun

Event Type:	DIAM
Description:	The COMCOL update sync log used by DB Table monitoring to synchronize Diameter Connection Status among all DA-MP RT-DBs has overrun. The DA-MP's Diameter Connection Status sharing table is automatically audited and re-synced to correct any inconsistencies.
Severity:	Info
Instance:	<DbTblName> **Note:** <DbTblName> refers to the name of the Diameter Connection Status Sharing Table the Diameter Connection status inconsistency that was detected.
HA Score:	Normal

Throttle Seconds:	10
OID:	eagleXgDiameterDpiTblMonCbOnLogOverrunNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)* if this alarm is constantly being asserted and cleared.

22901 - DPI DB Table Monitoring Error

Event Type:	DIAM
Description:	An unexpected error occurred during DB Table Monitoring.
Severity:	Info
Instance:	DpiTblMonThreadName
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterDpiSldbMonAbnormalErrorNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

22950 - Connection Status Inconsistency Exists

Alarm Group:	DIAM
Description:	Diameter Connection status inconsistencies exist among the DA-MPs in the DSR signaling NE.
Severity:	Critical
Instance:	<DbTblName> (Name of the Diameter Connection Status Sharing Table where the Diameter Connection status inconsistency was detected)
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterConnStatusInconsistencyExistsNotify

Recovery:

No action necessary.

Note: DA-MP's SLDB tables are automatically audited and re-synchronized to correct inconsistencies after a log overrun has occurred.

22960 - DA-MP Profile Not Assigned

Alarm Group:	DIAM

Description:	A DA-MP configuration profile has not been assigned to this DA-MP.
Severity:	Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterDaMpProfileNotAssignedNotify

Recovery:

1. A DA-MP profile must be assigned to the DA-MP via the DSR OAM GUI.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

22961 - Insufficient Memory for Feature Set

Alarm Group:	DIAM
Description:	The Available Memory (in kilobytes) for Feature Set is less than the Required Memory (in kilobytes).
Severity:	Critical
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterInsufficientAvailMemNotify

Recovery:

1. Make additional memory available on the DA-MP for the configured DiameterMaxMessageSize.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

25500-25899 - OAM Alarm Management

This section provides information and recovery procedures related for alarms and events related to OAM Alarm Management, ranging from 25500 - 25899, that can occur on the system. All events have a severity of Info.

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 **Alarms & Events > View History** page.

25500 - No DA-MP Leader Detected Alarm

Alarm Group:	DIAM
Description:	This alarm occurs when no active DA-MP leaders have been detected.
Severity:	Critical

Instance:	<NetworkElement>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterNoDaMpLeaderDetectedNotify

Recovery:

If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

25510 - Multiple DA-MP Leader Detected Alarm

Alarm Group:	DIAM
Description:	This alarm occurs when multiple active DA-MP leaders have been detected.
Severity:	Critical
Instance:	<NetworkElement>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMultipleDaMpLeadersDetectedNotify

Recovery:

If the problem persists, it is recommended to contact *My Oracle Support (MOS)* for assistance.

25800 - Peer Discovery Failure

Alarm Group:	DIAM
Description:	Peer discovery failure.
Severity:	Minor
Instance:	Discover_Realm_{realm_name} where {realm_name} is the full configured name of the Realm whose discovery has failed.
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterDpdRealmDiscoveryFailedNotify

Recovery:

1. Analyze event *25801 - Peer Discovery Configuration Error Encountered* that has the same instance to identify the error(s).
2. Verify the DSR and DNS configurations and fix any configuration error(s).
3. Administratively refresh the Realm.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

25801 - Peer Discovery Configuration Error Encountered

Event Type:	DIAM
Description:	Peer discovery configuration error encountered.
Severity:	Info
Instance:	Discover_Realm_{realm_name} where {realm_name} is the full configured name of the Realm whose discovery has encountered a configuration error.
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterDpdConfigErrorNotify

Recovery:

1. Depending on the specific error code, follow the appropriate recovery steps.

   Note: One likely cause is the number of instances of a managed object type is at capacity, and no new instances can be created. The user can delete unused instances of the MO type to free up capacity and try the Realm discovery again.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

25802 - Realm Expiration Approaching

Alarm Group:	DIAM
Description:	Realm expiration approaching.
Severity:	Minor, Major
Instance:	Discover_Realm_{realm_name} where {realm_name} is the full configured name of the Realm whose expiry is approaching.
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterDpdConfigErrorNotify

Recovery:

1. Administratively disable the Realm.
2. Administratively extend the Realm.
3. Administratively refresh the Realm.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

25803 - Peer Discovery - Inconsistent Remote Host Port Assignment

Event Type:	DIAM
Description:	Peer discovery - inconsistent remote host port assignment.
Severity:	Info

Instance:	Discover_Realm_{realm_name} where {realm_name} is the full configured name of the Realm whose discovery has encountered inconsistent remote host port assignment.
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterDpdInconsistentPortAssignmentNotify

Recovery:

No action required. The DNS records for the Realm being discovered must be corrected by the Realm's DNS administrator.

25804 - Peer Discovery State Change

Event Type:	DIAM
Description:	Peer discovery state change.
Severity:	Info
Instance:	Discover_Realm_{realm_name} where {realm_name} is the full configured name of the Realm whose discovery state has changed.
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterDpdInconsistentPortAssignmentNotify

Recovery:

No action required.

25805 - Invalid Shared TTG Reference

Alarm Group	DIAM
Description	Invalid Shared TTG Reference
Severity	Minor
Instance	<Route List Name>&<Route Group Name>&<TTG SG Name>&<TTG Name>
HA Score	Normal
Auto Clear Seconds	N/A
OID	eagleXgDiameterDoicInvalidSharedTtgRefNotify

Recovery

1. For the Route List named in the alarm instance, edit its configuration and delete the association to the non-existent Shared TTG. Then,
2. If desired, re-create the Shared TTG at its host site, and re-add the association to the Route List/Route Group.

Note: Because, internally, the association of a TTG to the RL/RG is based on an internal ID, (not the TTG name), it is not valid to leave the original association in the Route List configuration and simply create a new Shared TTG with original name. This will not work, as the internal ID for the original TTG will not be the same as the ID for the new TTG (even though the TTG name is the same).

25806 - Invalid Internal SOAM Server Group Designation

Alarm Group	DIAM
Description	Invalid Internal SOAM Server Group Designation
Severity	Minor
Instance	<Route List Name>&<Route Group Name>&<TTG SG Name>&<TTG Name>
HA Score	Normal
Auto Clear Seconds	N/A
OID	eagleXgDiameterDoicInvalidInternalSoamSgDesignationNotify

Recovery

For the Route List named in the alarm instance, edit its configuration and delete the association to the Shared TTG. This will clear the alarm. The association can simply be re-added to restore integrity to the configuration.

31000-32800 - Platform

This section provides information and recovery procedures for the Platform alarms, ranging from 31000-32700. Platform provides basic functionality that is shared across products.

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 **Alarms & Events** > **View History** page.

31000 - S/W fault

Alarm Group:	SW
Description:	Program impaired by s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolSwFaultNotify

Recovery:

No action is required. This event is used for command-line tool errors only.

31001 - S/W status

Alarm Group:	SW
Description:	Program status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolSwStatusNotify

Recovery:

No action required.

31002 - Process watchdog failure

Alarm Group:	SW
Description:	Process watchdog timed out.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	comcolProcWatchdogFailureNotify

Recovery:

1. Alarm indicates a stuck process was automatically recovered, so no additional steps are needed.
2. If this problem persists, collect savelogs ,and it is recommended to contact *My Oracle Support (MOS)*.

31003 - Tab thread watchdog failure

Alarm Group:	SW
Description:	Tab thread watchdog timed out
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolThreadWatchdogFailureNotify

Recovery:

1. Alarm indicates a stuck process was automatically recovered, so no additional steps are needed.
2. If this problem persists, collect savelogs, and it is recommended to contact *My Oracle Support (MOS)*.

31100 - Database replication fault

Alarm Group:	SW
Description:	The Database replication process is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbReplicationFaultNotify

Recovery:

1. Export event history for the given server and inetsync task.
2. It is recommended to contact *My Oracle Support (MOS)*.

31101 - Database replication to slave failure

Alarm Group:	REPL
Description:	Database replication to a slave Database has failed
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbRepToSlaveFailureNotify

Recovery:

1. Check network connectivity between the affected servers.
2. If there are no issues with network connectivity, contact *My Oracle Support (MOS)*.

31102 - Database replication from master failure

Alarm Group:	REPL
Description:	Database replication from a master Database has failed.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal

Auto Clear Seconds:	300
OID:	comcolDbRepFromMasterFailureNotify

Recovery:

1. Indicates replication subsystem is unable to contact a server, due to networking issues or because the server is not available. Investigate the status of the server and verify network connectivity.
2. If no issues with network connectivity or the server are found and the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

31103 - DB Replication update fault

Alarm Group:	REPL
Description:	Database replication process cannot apply update to DB.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbRepUpdateFaultNotify

Recovery:

1. This alarm indicates a transient error occurred within the replication subsystem, but the system has recovered, so no additional steps are needed.
2. If the problem persists, collect savelogs, and it is recommended to contact *My Oracle Support (MOS)*.

31104 - DB Replication latency over threshold

Alarm Group:	REPL
Description:	Database replication latency has exceeded thresholds
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbRepLatencyNotify

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, it is recommended to contact *My Oracle Support (MOS)*.

31105 - Database merge fault

Alarm Group:	SW
Description:	The database merge process (inetmerge) is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbMergeFaultNotify

Recovery:

1. This alarm indicates a transient error occurred within the merging subsystem, but the system has recovered, so no additional steps are needed.
2. If the problem persists, collect savelogs, and it is recommended to contact *My Oracle Support (MOS)*.

31106 - Database merge to parent failure

Alarm Group:	COLL
Description:	Database merging to the parent Merge Node has failed.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	comcolDbMergeToParentFailureNotify

Recovery:

1. This alarm indicates the merging subsystem is unable to contact a server, due to networking issues or because the server is not available. Investigate the status of the server and verify network connectivity.
2. If no issues with network connectivity or the server are found and the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

31107 - Database merge from child failure

Alarm Group:	COLL
Description:	Database merging from a child Source Node has failed.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr

HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbMergeFromChildFailureNotify

Recovery:

1. This alarm indicates the merging subsystem is unable to contact a server, due to networking issues or because the server is not available. Investigate the status of the server and verify network connectivity.
2. If no issues with network connectivity or the server are found and the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

31108 - Database merge latency over threshold

Alarm Group:	COLL
Description:	Database Merge latency has exceeded thresholds
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbMergeLatencyNotify

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, it is recommended to contact *My Oracle Support (MOS)*.

31109 - Topology config error

Alarm Group:	DB
Description:	Topology is configured incorrectly
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolTopErrorNotify

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, it is recommended to contact *My Oracle Support (MOS)*.

31110 - Database audit fault

Alarm Group:	SW
Description:	The Database service process (idbsvc) is impaired by a s/w fault.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbAuditFaultNotify

Recovery:

1. Alarm indicates an error occurred within the database audit system, but the system has recovered, so no additional steps are needed.
2. If this problem persists, collect savelogs, and it is recommended to contact *My Oracle Support (MOS)*.

31111 - Database merge audit in progress

Alarm Group:	COLL
Description:	Database Merge Audit between mate nodes in progress
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbMergeAuditNotify

Recovery:

No action required.

31112 - DB replication update log transfer timed out

Alarm Group:	REPL
Description:	DB Replicated data may not have transferred in the time allotted.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr

HA Score:	Normal
Auto Clear Seconds:	30
OID:	comcolDbRepUpLogTransTimeoutNotify

Recovery:

1. No action required.
2. It is recommended to contact *My Oracle Support (MOS)* if this occurs frequently.

31113 - DB replication manually disabled

Alarm Group:	REPL
Description:	DB Replication Manually Disabled
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	comcolDbReplicationManuallyDisabledNotify

Recovery:

No action required.

31114 - DB replication over SOAP has failed

Alarm Group:	REPL
Description:	Database replication of configuration data via SOAP has failed.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	3600
OID:	comcolDbReplicationSoapFaultNotify

Recovery:

1. This alarm indicates a SOAP subsystem is unable to connect to a server, due to networking issues or because the server is not available. Investigate the status of the server and verify network connectivity.
2. If no issues with network connectivity or the server are found and the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

31115 - Database service fault

Alarm Group:	SW

Description:	The Database service process (idbsvc) is impaired by a s/w fault.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbServiceFaultNotify

Recovery:

1. Alarm indicates an error occurred within the database disk service subsystem, but the system has recovered, so no additional steps are needed.
2. If this problem persists, collect savelogs, and it is recommended to contact *My Oracle Support (MOS)*.

31116 - Excessive shared memory

Alarm Group:	MEM
Description:	The amount of shared memory consumed exceeds configured thresholds.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolExcessiveSharedMemoryConsumptionNotify

Recovery:

This alarm indicates that a server has exceeded the engineered limit for shared memory usage and there is a risk that application software will fail. Because there is no automatic recovery for this condition, it is recommended to contact *My Oracle Support (MOS)*.

31117 - Low disk free

Alarm Group:	DISK
Description:	The amount of free disk is below configured thresholds
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolLowDiskFreeNotify

Recovery:

1. Remove unnecessary or temporary files from partitions.
2. If there are no files known to be unneeded, it is recommended to contact *My Oracle Support (MOS)*.

31118 - Database disk store fault

Alarm Group:	DISK
Description:	Writing the database to disk failed
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbDiskStoreFaultNotify

Recovery:

1. Remove unnecessary or temporary files from partitions.
2. If there are no files known to be unneeded, it is recommended to contact *My Oracle Support (MOS)*.

31119 - Database updatelog overrun

Alarm Group:	DB
Description:	The Database update log was overrun increasing risk of data loss
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbUpdateLogOverrunNotify

Recovery:

1. This alarm indicates a replication audit transfer took too long to complete and the incoming update rate exceeded the engineered size of the update log. The system will automatically retry the audit, and if successful, the alarm will clear and no further recovery steps are needed.
2. If the alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31120 - Database updatelog write fault

Alarm Group:	DB
Description:	A Database change cannot be stored in the updatelog
Severity:	Minor

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbUpdateLogWriteFaultNotify

Recovery:

1. This alarm indicates an error has occurred within the database update log subsystem, but the system has recovered.
2. If the alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31121 - Low disk free early warning

Alarm Group:	DISK
Description:	The amount of free disk is below configured early warning thresholds
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolLowDiskFreeEarlyWarningNotify

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, it is recommended to contact *My Oracle Support (MOS)*.

31122 - Excessive shared memory early warning

Alarm Group:	MEM
Description:	The amount of shared memory consumed exceeds configured early warning thresholds
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolExcessiveShMemConsumptionEarlyWarnNotify

Recovery:

1. This alarm indicates that a server is close to exceeding the engineered limit for shared memory usage and the application software is at risk to fail. There is no automatic recovery or recovery steps.
2. It is recommended to contact *My Oracle Support (MOS)*.

31123 - Database replication audit command complete

Alarm Group:	REPL
Description:	ADIC found one or more errors that are not automatically fixable.
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbRepAuditCmdCompleteNotify

Recovery:

No action required.

31124 - ADIC error

Alarm Group:	REPL
Description:	An ADIC detected errors
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbRepAuditCmdErrNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

31125 - Database durability degraded

Alarm Group:	REPL
Description:	Database durability has dropped below configured durability level
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr

HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbDurabilityDegradedNotify

Recovery:

1. Check configuration of all servers, and check for connectivity problems between server addresses.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

31126 - Audit blocked

Alarm Group:	REPL
Description:	Site Audit Controls blocked an inter-site replication audit due to the number in progress per configuration.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolAuditBlockedNotify

Recovery:

This alarm indicates that WAN network usage has been limited following a site recovery. No recovery action is needed.

31127 - DB Replication Audit Complete

Alarm Group:	REPL
Description:	DB replication audit completed
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbRepAuditCompleteNotify

Recovery:

No action required.

31128 - ADIC Found Error

Alarm Group:	REPL

Description:	ADIC found one or more errors that are not automatically fixable.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbADICErrorNotify

Recovery:

1. This alarm indicates a data integrity error was found by the background database audit mechanism, and there is no automatic recovery.
2. It is recommended to contact *My Oracle Support (MOS)*.

31129 - ADIC Found Minor Issue

Alarm Group:	REPL
Description:	ADIC found one or more minor issues that can most likely be ignored
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	14400
OID:	comcolDbADICWarn

Recovery:

No action required.

31130 - Network health warning

Alarm Group:	NET
Description:	Network health issue detected
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolNetworkHealthWarningNotify

Recovery:

1. Check configuration of all servers, and check for connectivity problems between server addresses.

2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

31131 - DB Ousted Throttle Behind

Alarm Group:	DB
Description:	DB ousted throttle may be affecting processes.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	comcolOustedThrottleWarnNotify

Recovery:

1. This alarm indicates that a process has failed to release database memory segments which is preventing new replication audits from taking place. There is no automatic recovery for this failure.
2. Run 'procshm -o' to identify involved processes.
3. It is recommended to contact *My Oracle Support (MOS)*.

31140 - Database perl fault

Alarm Group:	SW
Description:	Perl interface to Database is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbPerlFaultNotify

Recovery:

1. This alarm indicates an error has occurred within a Perl script, but the system has recovered.
2. If the alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31145 - Database SQL fault

Alarm Group:	SW
Description:	SQL interface to Database is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal

Auto Clear Seconds:	300
OID:	comcolDbSQLFaultNotify

Recovery:

1. This alarm indicates an error has occurred within the MySQL subsystem, but the system has recovered.
2. If this alarm occurs frequently, it is recommended to collect savelogs and contact *My Oracle Support (MOS)*.

31146 - DB mastership fault

Alarm Group:	SW
Description:	DB replication is impaired due to no mastering process (inetrep/inetrep).
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbMastershipFaultNotify

Recovery:

1. Export event history for the given server.
2. It is recommended to contact *My Oracle Support (MOS)*.

31147 - DB upsynclog overrun

Alarm Group:	SW
Description:	UpSyncLog is not big enough for (WAN) replication.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbUpSyncLogOverrunNotify

Recovery:

1. This alarm indicates that an error occurred within the database replication subsystem. A replication audit transfer took too long to complete, and during the audit the incoming update rate exceeded the engineered size of the update log. The replication subsystem will automatically retry the audit, and if successful, the alarm will clear.
2. If the alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31148 - DB lock error detected

Alarm Group:	DB
Description:	The DB service process (idbsvc) has detected an IDB lock-related error caused by another process. The alarm likely indicates a DB lock-related programming error, or it could be a side effect of a process crash.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolDbLockErrorNotify

Recovery:

1. This alarm indicates an error occurred within the database disk service subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31200 - Process management fault

Alarm Group:	SW
Description:	The process manager (procmgr) is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolProcMgmtFaultNotify

Recovery:

1. This alarm indicates an error occurred within the process management subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31201 - Process not running

Alarm Group:	PROC
Description:	A managed process cannot be started or has unexpectedly terminated
Severity:	Major

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolProcNotRunningNotify

Recovery:

1. This alarm indicates that the managed process exited unexpectedly due to a memory fault, but the process was automatically restarted.
2. It is recommended to collect savelogs and contact *My Oracle Support (MOS)*.

31202 - Unkillable zombie process

Alarm Group:	PROC
Description:	A zombie process exists that cannot be killed by procmgr. procmgr will no longer manage this process.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolProcZombieProcessNotify

Recovery:

1. This alarm indicates managed process exited unexpectedly and was unable to be restarted automatically.
2. It is recommended to collect savelogs and contact *My Oracle Support (MOS)*.

31206 - Process mgmt monitoring fault

Alarm Group:	SW
Description:	The process manager monitor (pm.watchdog) is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolProcMgmtMonFaultNotify

Recovery:

1. This alarm indicates an error occurred within the process management subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31207 - Process resource monitoring fault

Alarm Group:	SW
Description:	The process resource monitor (ProcWatch) is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolProcResourceMonFaultNotify

Recovery:

1. This alarm indicates an error occurred within the process monitoring subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31208 - IP port server fault

Alarm Group:	SW
Description:	The run environment port mapper (re.portmap) is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolPortServerFaultNotify

Recovery:

1. This alarm indicates an error occurred within the port mapping subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31209 - Hostname lookup failed

Alarm Group:	SW
Description:	Unable to resolve a hostname specified in the NodeInfo table
Severity:	Minor

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHostLookupFailedNotify

Recovery:

1. This typically indicates 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, it is recommended to contact *My Oracle Support (MOS)*.

31213 - Process scheduler fault

Alarm Group:	SW
Description:	The process scheduler (ProcSched/runat) is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolProcSchedulerFaultNotify

Recovery:

1. This alarm indicates an error occurred within the process management subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31214 - Scheduled process fault

Alarm Group:	PROC
Description:	A scheduled process cannot be executed or abnormally terminated
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolScheduleProcessFaultNotify

Recovery:

1. This alarm indicates that a managed process exited unexpectedly due to a memory fault, but the system has recovered.
2. It is recommended to contact *My Oracle Support (MOS)*.

31215 - Process resources exceeded

Alarm Group:	SW
Description:	A process is consuming excessive system resources.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	14400
OID:	comcolProcResourcesExceededFaultNotify

Recovery:

1. This alarm indicates a process has exceeded the engineered limit for heap usage and there is a risk the application software will fail.
2. Because there is no automatic recovery for this condition, it is recommended to contact *My Oracle Support (MOS)*.

31216 - SysMetric configuration error

Alarm Group:	SW
Description:	A SysMetric Configuration table contains invalid data
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolSysMetricConfigErrorNotify

Recovery:

1. This alarm indicates a system metric is configured incorrectly.
2. It is recommended to contact *My Oracle Support (MOS)*.

31220 - HA configuration monitor fault

Alarm Group:	SW
Description:	The HA configuration monitor is impaired by a s/w fault.
Severity:	Minor

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaCfgMonitorFaultNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

31221 - HA alarm monitor fault

Alarm Group:	SW
Description:	The high availability alarm monitor is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaAlarmMonitorFaultNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

31222 - HA not configured

Alarm Group:	HA
Description:	High availability is disabled due to system configuration
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaNotConfiguredNotify

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

31223 - HA Heartbeat transmit failure

Alarm Group:	HA
Description:	The high availability monitor failed to send heartbeat.
Severity:	Major

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaHbTransmitFailureNotify

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, it is recommended to contact *My Oracle Support (MOS)*.

31224 - HA configuration error

Alarm Group:	HA
Description:	High availability configuration error
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaCfgErrorNotify

Recovery:

1. This alarm indicates a platform configuration error in the High Availability or VIP management subsystem.
2. Because there is no automatic recovery for this condition, it is recommended to contact *My Oracle Support (MOS)*.

31225 - HA service start failure

Alarm Group:	HA
Description:	The required high availability resource failed to start.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0
OID:	comcolHaSvcStartFailureNotify

Recovery:

1. This alarm clears automatically when the HA daemon is successfully started.

2. If this alarm does not clear after a couple minutes, it is recommended to contact *My Oracle Support (MOS)*.

31226 - HA availability status degraded

Alarm Group:	HA
Description:	The high availability status is degraded due to raised alarms.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0
OID:	comcolHaAvailDegradedNotify

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, it is recommended to contact *My Oracle Support (MOS)*.

31227 - HA availability status failed

Alarm Group:	HA
Description:	The high availability status is failed due to raised alarms.
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	N/A
OID:	comcolHaAvailFailedNotify

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, it is recommended to contact *My Oracle Support (MOS)*.

31228 - HA standby offline

Alarm Group:	HA
Description:	High availability standby server is offline.
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr

HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	comcolHaStandbyOfflineNotify

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, it is recommended to look for network connectivity issues and/or contact *My Oracle Support (MOS)*.

31229 - HA score changed

Alarm Group:	HA
Description:	High availability health score changed
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaScoreChangeNotify

Recovery:

Status message - no action required.

31230 - Recent alarm processing fault

Alarm Group:	SW
Description:	The recent alarm event manager (raclerk) is impaired by a s/w fault.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolRecAlarmEvProcFaultNotify

Recovery:

1. This alarm indicates an error occurred within the alarm management subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31231 - Platform alarm agent fault

Alarm Group:	SW
Description:	The platform alarm agent impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolPlatAlarmAgentNotify

Recovery:

1. This alarm indicates an error occurred within the alarm management subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to contact *My Oracle Support (MOS)*.

31232 - Late heartbeat warning

Alarm Group:	HA
Description:	High availability server has not received a message on specified path within the configured interval.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaLateHeartbeatWarningNotify

Recovery:

No action is required. This is a warning and can be due to transient conditions. If there continues to be no heartbeat from the server, alarm *31228 - HA standby offline* occurs.

31233 - HA Path Down

Alarm Group:	HA
Description:	High availability path loss of connectivity
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300

OID:	comcolHaPathDownNotify

Recovery:

1. If loss of communication between the active and standby servers over the secondary path 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 on the secondary network.
3. It is recommended to contact *My Oracle Support (MOS)*.

31234 - Untrusted Time Upon Initialization

Alarm Group:	REPL
Description:	Upon system initialization, the system time is not trusted probably because NTP is misconfigured or the NTP servers are unreachable. There are often accompanying Platform alarms to guide correction. Generally, applications are not started if time is not believed to be correct on start-up. Recovery will often will require rebooting the server.
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	comcolUtrustedTimeOnInitNotify

Recovery:

1. Correct NTP configuration.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

31235 - Untrusted Time After Initialization

Alarm Group:	REPL
Description:	After system initialization, the system time has become untrusted probably because NTP has reconfigured improperly, time has been manually changed, the NTP servers are unreachable, etc. There are often accompanying Platform alarms to guide correction. Generally, applications remain running, but time-stamped data is likely incorrect, reports may be negatively affected, some behavior may be improper, etc.
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	comcolUtrustedTimePostInitNotify

Recovery:

1. Correct NTP configuration.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

31236 - HA Link Down

Alarm Group:	HA
Description:	High availability TCP link is down.
Severity:	Critical
Instance:	Remote node being connected to plus the path identifier
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaLinkDownNotify

Recovery:

1. If loss of communication between the active and standby servers over the specified path 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, it is recommended to look for network connectivity issues on the primary network and/or contact *My Oracle Support (MOS)*.

31240 - Measurements collection fault

Alarm Group:	SW
Description:	The measurements collector (statclerk) is impaired by a s/w fault.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolMeasCollectorFaultNotify

Recovery:

1. This alarm indicates that an error within the measurement subsystem has occurred, but that the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to collect savelogs and contact *My Oracle Support (MOS)*.

31250 - RE port mapping fault

Alarm Group:	SW

Description:	The IP service port mapper (re.portmap) is impaired by a s/w fault
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolRePortMappingFaultNotify

Recovery:

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

31260 - SNMP Agent

Alarm Group:	SW
Description:	The SNMP agent (cmsnmpa) is impaired by a s/w fault.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	DbcomcolSnmpAgentNotify

Recovery:

1. This alarm indicates an error occurred within the SNMP subsystem, but the system has recovered.
2. If this alarm occurs repeatedly, it is recommended to collect savelogs and contact *My Oracle Support (MOS)*.

31270 - Logging output

Alarm Group:	SW
Description:	Logging output set to Above Normal
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolLoggingOutputNotify

Recovery:

Extra diagnostic logs are being collected, potentially degrading system performance. Turn off the debugging log.

31280 - HA Active to Standby transition

Alarm Group:	HA
Description:	HA active to standby activity transition
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolActiveToStandbyTransNotify

Recovery:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, it is recommended to contact *My Oracle Support (MOS)*.

31281 - HA Standby to Active transition

Alarm Group:	HA
Description:	HA standby to active activity transition
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolStandbyToActiveTransNotify

Recovery:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, it is recommended to contact *My Oracle Support (MOS)*.

31282 - HA Management Fault

Alarm Group:	HA
Description:	The HA manager (cmha) is impaired by a software fault.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal

Auto Clear Seconds:	300
OID:	comcolHaMgmtFaultNotify

Recovery:

1. This alarm indicates an error occurred within the High Availability subsystem, but the system has automatically recovered.
2. If the alarm occurs frequently, it is recommended to contact *My Oracle Support (MOS)*.

31283 - Lost Communication with server

Alarm Group:	HA
Description:	Highly available server failed to receive mate heartbeats
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	comcolHaServerOfflineNotify

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 it is recommended to contact *My Oracle Support (MOS)* for assistance.

31284 - HA Remote Subscriber Heartbeat Warning

Alarm Group:	HA
Description:	High availability remote subscriber has not received a heartbeat within the configured interval.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaRemoteHeartbeatWarningNotify

Recovery:

1. No action required. This is a warning and can be due to transient conditions. The remote subscriber will move to another server in the cluster.
2. If there continues to be no heartbeat from the server, it is recommended to contact *My Oracle Support (MOS)*.

31285 - HA Node Join Recovery Entry

Alarm Group:	HA
Description:	High availability node join recovery entered
Severity:	Info
Instance:	Cluster set key of the DC outputting the event
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaSbrEntryNotify

Recovery:

No action required; this is a status message generated when one or more unaccounted for nodes join the designated coordinators group.

31286 - HA Node Join Recovery Plan

Alarm Group:	HA
Description:	High availability node join recovery plan
Severity:	Info
Instance:	Names of HA Policies (as defined in HA policy configuration)
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaSbrPlanNotify

Recovery:

No action required; this is a status message output when the designated coordinator generates a new action plan during node join recovery.

31287 - HA Node Join Recovery Complete

Alarm Group:	HA
Description:	High availability node join recovery complete
Severity:	Info
Instance:	Names of HA Policies (as defined in HA policy configuration)
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaSbrCompleteNotify

Recovery:

No action required; this is a status message output when the designated coordinator finishes running an action plan during node join recovery.

31290 - HA Process Status

Alarm Group:	HA
Description:	HA manager (cmha) status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaProcessStatusNotify

Recovery:

This event is used for internal logging. No action is required.

31291 - HA Election Status

Alarm Group:	HA
Description:	HA DC Election status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaElectionStatusNotify

Recovery:

This event is used for internal logging. No action is required.

31292 - HA Policy Status

Alarm Group:	HA
Description:	HA Policy plan status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaPolicyStatusNotify

Recovery:

This event is used for internal logging. No action is required.

31293 - HA Resource Link Status

Alarm Group:	HA
Description:	HA ResourceAgent Link status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaRaLinkStatusNotify

Recovery:

This event is used for internal logging. No action is required.

31294 - HA Resource Status

Alarm Group:	HA
Description:	HA Resource registration status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaResourceStatusNotify

Recovery:

This event is used for internal logging. No action is required.

31295 - HA Action Status

Alarm Group:	HA
Description:	HA Resource action status
Severity:	Info
Instance	N/A
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaActionStatusNotify

Recovery:

This event is used for internal logging. No action is required.

31296 - HA Monitor Status

Alarm Group:	HA
Description:	HA Monitor action status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaMonitorStatusNotify

Recovery:

This event is used for internal logging. No action is required.

31297 - HA Resource Agent Info

Alarm Group:	HA
Description:	HA Resource Agent Info
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaRaInfoNotify

Recovery:

This event is used for internal logging. No action is required.

31298 - HA Resource Agent Detail

Alarm Group:	HA
Description:	Resource Agent application detailed information
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaRaDetailNotify

Recovery:

This event is used for internal logging. No action is required.

31299 - HA Notification Status

Alarm Group:	HA
Description:	HA Notification status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaNotificationNotify

Recovery:

No action required.

31300 - HA Control Status

Alarm Group:	HA
Description:	HA Control action status
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaControlNotify

Recovery:

No action required.

31301 - HA Topology Events

Alarm Group:	HA
Description:	HA Topology events
Severity:	Info
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDsrHaTopologyNotify

Recovery:

No action required.

32100 - Breaker Panel Feed Unavailable

Alarm Group:	PLAT
Description:	Breaker Panel Breaker Unavailable
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdBrkPnlFeedUnavailable

Recovery:

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32101 - Breaker Panel Breaker Failure

Alarm Group:	PLAT
Description:	Breaker Panel Breaker Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdBrkPnlBreakerFailure

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32102 - Breaker Panel Monitoring Failure

Alarm Group:	PLAT
Description:	Breaker Panel Monitoring Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdBrkPnlMntFailure

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32103 - Power Feed Unavailable

Alarm Group:	PLAT
Description:	Power Feed Unavailable
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPowerFeedUnavail

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32104 - Power Supply 1 Failure

Alarm Group:	PLAT
Description:	Power Supply 1 Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPowerSupply1Failure

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32105 - Power Supply 2 Failure

Alarm Group:	PLAT
Description:	Power Supply 2 Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPowerSupply2Failure

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32106 - Power Supply 3 Failure

Alarm Group:	PLAT
Description:	Power Supply 3 Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPowerSupply3Failure

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32107 - Raid Feed Unavailable

Alarm Group:	PLAT
Description:	Raid Feed Unavailable
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdRaidFeedUnavailable

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32108 - Raid Power 1 Failure

Alarm Group:	PLAT
Description:	Raid Power 1 Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdRaidPower1Failure

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32109 - Raid Power 2 Failure

Alarm Group:	PLAT
Description:	Raid Power 2 Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdRaidPower2Failure

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32110 - Raid Power 3 Failure

Alarm Group:	PLAT
Description:	Raid Power 3 Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdRaidPower3Failure

Recovery

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32111 - Device Failure

Alarm Group:	PLAT
Description:	Device Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDeviceFailure

Recovery:

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32112 - Device Interface Failure

Alarm Group:	PLAT
Description:	Device Interface Failure
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDeviceIfFailure

Recovery:

It is recommended to contact *My Oracle Support (MOS)* to request hardware replacement.

32113 - Uncorrectable ECC memory error

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdEccUncorrectableError
Alarm ID:	TKSPLATCR14

Recovery:

Contact the hardware vendor to request hardware replacement.

32114 - SNMP get failure

Alarm Group:	PLAT
Description:	The server failed to receive SNMP information from the switch.
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr

HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdSNMPGetFailure
Alarm ID:	TKSPLATCR15

Recovery:

1. Verify device is active and responds to the ping command.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32115 - TPD NTP Daemon Not Synchronized Failure

Alarm Group:	PLAT
Description:	This alarm indicates that the server's current time precedes the timestamp of the last known time the servers time was good.
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdNTPDaemonNotSynchronizedFailure
Alarm ID:	TKSPLATCR16

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running .
   b) Verify the content of the /etc/ntp.conf file is correct for the server.
   c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
   d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.
2. If ntp peer is reachable, restart the ntpd service.
3. If problem persists then a reset the NTP date may resolve the issue.

   Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

   a) Reset date:

   - sudo service ntpd stop
   - sudo ntpdate <ntp server ip>
   - sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32116 - TPD Server's Time Has Gone Backwards

Alarm Group:	PLAT
Description:	This alarm indicates that the server's current time precedes the timestamp of the last known time the servers time was good.
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdNTPTimeGoneBackwards
Alarm ID:	TKSPLATCR17

Recovery:

1. Verify NTP settings and that NTP sources are providing accurate time.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.
   c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
   d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.
2. If ntp peer is reachable, restart the ntpd service.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32117 - TPD NTP Offset Check Failure

Alarm Group:	PLAT
Description:	This alarm indicates the NTP offset of the server that is currently being synced to is greater than the critical threshold.
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	ntpOffsetCheckFailure
Alarm ID:	TKSPLATCR18

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.

c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.

d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.

2. If ntp peer is reachable, restart the ntpd service.
3. If problem persists then a reset the NTP date may resolve the issue.

   Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

   a) To reset date:

   - sudo service ntpd stop
   - sudo ntpdate <ntp server ip>
   - sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32300 - Server fan failure

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdFanError
Alarm ID:	TKSPLATMA1

Recovery:

1. Run Syscheck in Verbose mode to determine which server fan assemblies is failing and replace the fan assembly.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32301 - Server internal disk error

Alarm Group:	PLAT
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

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdIntDiskError
Alarm ID:	TKSPLATMA2

Recovery:

1. Run syscheck in verbose mode.
2. Determine the raid state of the mirrored disks, collect data:

```
cat /proc/mdstat
```

```
cat /etc/raidtab
```

3. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output and collected data.

32303 - Server Platform error

Alarm Group:	PLAT
Description:	This alarm indicates an error such as a corrupt system configuration or missing files.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPlatformError
Alarm ID:	TKSPLATMA4

Recovery:

1. Run syscheck in verbose mode.
2. Determine the raid state of the mirrored disks, collect data:

```
cat /proc/mdstat
```

```
cat /etc/raidtab
```

3. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output and collected data.

32304 - Server file system error

Alarm Group:	PLAT
Description:	This alarm indicates unsuccessful writing to at least one of the server's file systems.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdFileSystemError
Alarm ID:	TKSPLATMA5

Recovery:

1. Run syscheck in verbose mode.
2. Address full file systems identified in syscheck output, and run syscheck in verbose mode.
3. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32305 - Server Platform process error

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPlatProcessError
Alarm ID:	TKSPLATMA6

Recovery:

1. Rerun syscheck in verbose mode.
2. If the alarm has been cleared then the problem is solved..
3. If the alarm has not been cleared then determine the run level of the system.
4. If system run level is not 4 then determine why the system is operating at that run level.
5. If system run level is 4, determine why the required number of instances process(es) are not running.
6. If the alarm persists, it is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32306 - Server RAM shortage error

Alarm Group:	PLAT
Description:	Not Implemented.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdRamShortageError

Recovery

It is recommended to contact *My Oracle Support (MOS)*.

32307 - Server swap space shortage failure

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdSwapSpaceShortageError
Alarm ID:	TKSPLATMA8

Recovery:

1. Run syscheck in verbose mode.
2. Determine processes using swap.

   Note: One method to determine the amount of swap being used by process is:

```
grep VmSwap /proc/<process id>/status
```

3. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output and process swap usage.

32308 - Server provisioning network error

Alarm Group:	PLAT

Description:	This alarm indicates that the connection between the server's ethernet interface and the customer network is not functioning properly.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdProvNetworkError
Alarm ID:	TKSPLATMA9

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, it is recommended to contact *My Oracle Support (MOS)*.

32312 - Server disk space shortage error

Alarm Group:	PLAT
Description:	This alarm indicates that one of the following conditions has occurred: • A file system has exceeded a failure threshold, which means that more than 90% of the available disk storage has been used on the file system. • More than 90% of the total number of available files have been allocated on the file system. • A file system has a different number of blocks than it had when installed.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDiskSpaceShortageError
Alarm ID:	TKSPLATMA13

Recovery:

1. Run syscheck in verbose mode.

2. Examine contents of identified volume in syscheck output to determine if any large files are in the file system. Delete unnecessary files, or move files off of server. Capture output from "du -sx <file system>".
3. Capture output from "df -h" and "df -i" commands.
4. Determine processes using the file system(s) that have exceeded the threshold.
5. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output and provide additional file system output.

32313 - Server default route network error

Alarm Group: PLAT

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

Instance: May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr

HA Score: Normal

Auto Clear Seconds: 0 (zero)

OID: tpdDefaultRouteNetworkError

Recovery:

1. Run syscheck in verbose mode.
2. If the syscheck output is: `The default router at <IP_address> cannot be pinged`, the router may be down or unreachable. Do the following:
   a) Verify the network cables are firmly attached to the server and the network switch, router, hub, etc.
   b) Verify that the configured router is functioning properly. Check with the network administrator to verify the router is powered on and routing traffic as required.
   c) Check with the router administrator to verify that the router is configured to reply to pings on that interface.
   d) Rerun syscheck.
   e) If the alarm has not been cleared, it is recommended to collect the syscheck output and contact *My Oracle Support (MOS)*.
3. If the syscheck output is: `The default route is not on the provisioning network`, it is recommended to collect the syscheck output and contact *My Oracle Support (MOS)*.
4. If the syscheck output is: `An active route cannot be found for a configured default route`, it is recommended to collect the syscheck output and contact *My Oracle Support (MOS)*.

32314 - Server temperature error

Alarm Group:	PLAT
Description:	The internal temperature within the server is unacceptably high.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdServerTemperatureError
Alarm ID:	TKSPLATMA15

Recovery:

1. Ensure that nothing is blocking the fan 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. Run syscheck.
   a) If the alarm has been cleared, the problem is resolved.
   b) If the alarm has not been cleared, continue troubleshooting.
4. Replace the filter.

   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. The alarm may take up to five minutes to clear after conditions improve. It may take about ten minutes after the filter is replaced before syscheck shows the alarm cleared.

5. Re-run syscheck.
   a) If the alarm has been cleared, the problem is resolved.
   b) If the alarm has not been cleared, continue troubleshooting.
6. If the problem has not been resolved, it is recommended to contact *My Oracle Support (MOS)*.

32315 - Server mainboard voltage error

Alarm Group:	PLAT
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

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdServerMainboardVoltageError
Alarm ID:	TKSPLATMA16

Recovery:

1. Run syscheck in verbose mode.
2. If the alarm persists, it is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32316 - Server power feed error

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPowerFeedError
Alarm ID:	TKSPLATMA17

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, it is recommended to contact *My Oracle Support (MOS)*.

32317 - Server disk health test error

Alarm Group:	PLAT
Description:	Either the hard drive has failed or failure is imminent.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDiskHealthError
Alarm ID:	TKSPLATMA18

Recovery:

1. Run syscheck in verbose mode.
2. Replace the hard drives that have failed or are failing.
3. Re-run syscheck in verbose mode.
4. Perform the recovery procedures for the other alarms that may accompany this alarm.
5. If the problem has not been resolved, it is recommended to contact *My Oracle Support (MOS)* and provide the system health check output. .

32318 - Server disk unavailable error

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDiskUnavailableError
Alarm ID:	TKSPLATMA19

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32320 - Device interface error

Alarm Group:	PLAT
Description:	This alarm indicates that the IP bond is either not configured or down.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDeviceIfError
Alarm ID:	TKSPLATMA21

Recovery:

1. Run syscheck in verbose mode.
2. Investigate the failed bond, and slave devices, configuration:
    1. Navigate to /etc/sysconfig/network-scripts for the persistent configuration of a device.
3. Determine if the failed bond, and slave devices, has been administratively shut down or has operational issues:
    1. cat /proc/net/bonding/bondX, where X is bond designation
    2. ethtool <slave device>
4. If bond, and slaves, are healthy attempt to administratively bring bond up:
    1. ifup bondX
5. If the problem has not been resolved, it is recommended to contact *My Oracle Support (MOS)* and provide the system health check output and the output of the above investigation.

32321 - Correctable ECC memory error

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdEccCorrectableError
Alarm ID:	TKSPLATMA22

Recovery:

1. No recovery necessary.
2. If the condition persists, verify the server firmware. Update the firmware if necessary, and re-run syscheck in verbose mode. Otherwise if the condition persists and the firmware is up to date, contact the hardware vendor to request hardware replacement.

32322 - Power Supply A error

Alarm Group:	PLAT
Description:	This alarm indicates that power supply 1 (feed A) has failed.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPowerSupply1Error
Alarm ID:	TKSPLATMA23

Recovery:

1. Verify that nothing is obstructing the airflow to the fans of the power supply.
2. Run syscheck in verbose mode. The output will provide details about what is wrong with the power supply.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* and provide the syscheck verbose output. Power supply 1 (feed A) will probably need to be replaced.

32323 - Power Supply B error

Alarm Group:	PLAT
Description:	This alarm indicates that power supply 2 (feed B) has failed.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdPowerSupply2Error
Alarm ID:	TKSPLATMA24

Recovery:

1. Verify that nothing is obstructing the airflow to the fans of the power supply.
2. Run syscheck in verbose mode. The output will provide details about what is wrong with the power supply.

3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* and provide the syscheck verbose output. Power supply 2 (feed B) will probably need to be replaced.

32324 - Breaker panel feed error

Alarm Group:	PLAT
Description:	This alarm indicates that the server is not receiving information from the breaker panel relays.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdBrkPnlFeedError
Alarm ID:	TKSPLATMA25

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, it is recommended to contact *My Oracle Support (MOS)* to request that the breaker panel be replaced.

32325 - Breaker panel breaker error

Alarm Group:	PLAT
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 15: 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.

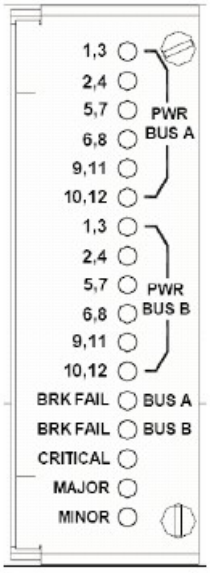


Figure 15: Breaker Panel LEDs

Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	TPDBrkPnlBreakerError
Alarm ID:	TKSPLATMA26

Recovery:

1. Verify that the same alarm is displayed by 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, go to the next step.
2. For each breaker assignment, verify that the corresponding LED in the PWR BUS A group and the PWR BUS B group is illuminated Green.

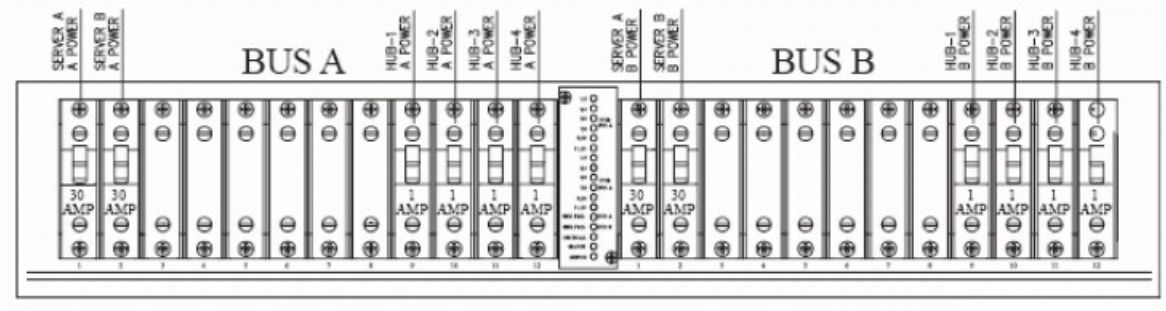


Figure 16: Breaker Panel Setting

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. Perform the following steps to correct this problem:

- 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.
- Check the LEDs in the PWR BUS A group and the PWR BUS B group again.
  1. If the LEDs are now illuminated Green, the issue has been resolved. Proceed to step 4 to verify that the alarm has been cleared.
  2. If the LEDs are still illuminated Red, continue to the next sub-step.
- 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.
- 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
  1. If the LEDs are now illuminated Green, the issue has been resolved and proceed to step 4 to verify that the alarm has been cleared.
  2. If the LEDs are still illuminated Red, skip to step 5

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, run syscheck and contact *My Oracle Support (MOS)*

4. 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 it is recommended to run syscheck and contact *My Oracle Support (MOS)*
5. Run syscheck.
   - If the alarm has been cleared, the problem is resolved.
   - If the problem has not been resolved, it is recommended to contact *My Oracle Support (MOS)*

32326 - Breaker panel monitoring error

Alarm Group:	PLAT
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 • 32325 – Breaker panel breaker error until the Breaker Panel Monitoring Error has been corrected.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdBrkPnlMntError
Alarm ID:	TKSPLATMA27

Recovery:

1. Verify that the same alarm is displayed by 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, 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. Run syscheck..

- If the alarm has been cleared, the problem is resolved.
- If the alarm has not been cleared, it is recommended to contact *My Oracle Support (MOS)*

32327 - Server HA Keepalive error

Alarm Group:	PLAT
Description:	This alarm indicates that heartbeat process has detected that it has failed to receive a heartbeat packet within the timeout period.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHaKeepaliveError
Alarm ID:	TKSPLATMA28

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 heartbeart is running (service TKLCha status).

   Note: This step may require command line ability.

4. It is recommended to contact *My Oracle Support (MOS)*.

32331 - HP disk problem

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHpDiskProblem
Alarm ID:	TKSPLATMA32

Recovery:

1. Run syscheck in verbose mode.

2. If "Cache Status" is OK and "Cache Status Details" reports a cache error was detected so diagnostics should be run, there probably is no battery and data was left over in the write cache not getting flushed to disk and won't since there is no battery.
3. If "Cache Status" is "Permanently Disabled" and "Cache Status Details" indicated the cache is disabled, if there is no battery then the firmware should be upgraded.
4. Re-run syscheck in verbose mode if firmware upgrade was necessary.
5. If the condition persists, it is recommended to contact *My Oracle Support (MOS)* and provide the system health check output. The disk may need to be replaced.

32332 - HP Smart Array controller problem

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHpDiskCtrlrProblem
Alarm ID:	TKSPLATMA33

Recovery:

1. Run syscheck in verbose mode.
2. If condition persists, it is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32333 - HP hpacucliStatus utility problem

Alarm Group:	PLAT
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/hpDiskStatus daemon is either not running, or hung.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHPACUCLIProblem
Alarm ID:	TKSPLATMA34

Recovery:

1. Run syscheck in verbose mode.
2. Verify the firmware is up to date for the server, if not up to date upgrade firmware, and re-run syscheck in verbose mode.
3. Determine if the HP disk status daemon is running. If not running verify that it was not administratively stopped.

   Note: The disk status daemon is named either TKLChpacucli or TPDhpDiskStatus in more recent versions of TPD.

   a) Executing "status TPDhpDiskStatus", or "status TKLChpacucli" depending on TPD release, should produce output indicating that the process is running.
4. If not running, attempt to start the HP disk status process :
   "start TPDhpDiskStatus", or if appropriate "start TKLChpacucli" .
5. Verify that there are no hpssacli, or hpacucli, error messages in /var/log/messages. If there are this could indicate that the HP utility is hung. If the HP hpssacli utility, or hpacucli utility, is hung, proceed with next step.
6. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output, and savelogs_plat output.

32335 - Switch link down error

Alarm Group:	PLAT
Description:	The link is down.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdSwitchLinkDownError
Alarm ID:	TKSPLATMA36

Recovery:

1. Verify the cabling between the port and the remote side.
2. Verify networking on the remote end.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)* to determine who should verify port settings on both the server and the switch.

32336 - Half Open Socket Limit

Alarm Group:	PLAT
Description:	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

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHalfOpenSockLimit
Alarm ID:	TKSPLATMA37

Recovery:

1. Run syscheck in verbose mode.
2. Determine what process and address reports a state of SYN_RECV and collect data:
   - netstat -nap.
3. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output and collected data.

32337 - Flash Program Failure

Alarm Group:	PLAT
Description:	This alarm indicates that there was an error while trying to update the firmware flash on the E5-APP-B cards.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdFlashProgramFailure
Alarm ID:	TKSPLATMA38

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32338 - Serial Mezzanine Unseated

Alarm Group:	PLAT
Description:	This alarm indicates that a connection to the serial mezzanine board may not be properly seated.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)

OID:	tpdSerialMezzUnseated
Alarm ID:	TKSPLATMA39

Recovery:

1. Ensure that both ends of both cables connecting the serial mezzanine card to the main board are properly seated into their connectors.
2. It is recommended to contact *My Oracle Support (MOS)* if reseating the cables does not clear the alarm.

32339 - TPD Max Number Of Running Processes Error

Alarm Group:	PLAT
Description:	This alarm indicates that the maximum number of running processes has reached the major threshold.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdMaxPidLimit
Alarm ID:	TKSPLATMA40

Recovery:

1. Run syscheck in verbose mode.
2. Execute 'pstree' to see what pids are on the system and what process created them. Collect the output of command, and review the output to determine the process responsible for the alarm.
3. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output, and pid output.

32340 - TPD NTP Daemon Not Synchronized Error

Alarm Group:	PLAT
Description:	This alarm indicates that the server is not synchronized to an NTP source and has not been synchronized for an extended number of hours and has reached the major threshold.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdNTPDaemonNotSynchronizedError
Alarm ID:	TKSPLATMA41

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.
   c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
   d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.
2. If ntp peer is reachable, restart the ntpd service.
3. If problem persists then a reset the NTP date may resolve the issue.

   Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

   a) To reset date:

   - sudo service ntpd stop
   - sudo ntpdate <ntp server ip>
   - sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32341 - TPD NTP Daemon Not Synchronized Error

Alarm Group:	PLAT
Description:	This alarm indicates that the server is not synchronized to an NTP source and has never been synchronized since the last configuration change.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdNTPDaemonNeverSynchronized
Alarm ID:	TKSPLATMA42

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.
   c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
   d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.

2. If the ntp peer is reachable, restart the ntpd service.
3. If the problem persists then a reset the NTP date may resolve the issue.

   Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

   a) To reset date:

   - sudo service ntpd stop
   - sudo ntpdate <ntp server ip>
   - sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32342 - NTP Offset Check Error

Alarm Group:	PLAT
Description:	This alarm indicates the NTP offset of the server that is currently being synced to is greater than the major threshold.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	ntpOffsetCheckError
Alarm ID:	TKSPLATMA43

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.
   c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
   d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.
2. If the ntp peer is reachable, restart the ntpd service.
3. If the problem persists then a reset the NTP date may resolve the issue.

   Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

   a) To reset date:

   - sudo service ntpd stop
   - sudo ntpdate <ntp server ip>
   - sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32343 - TPD RAID disk

Alarm Group:	PLAT
Description:	This alarms indicates that physical disk or logical volume on RAID controller is not in optimal state as reported by syscheck.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDiskProblem
Alarm ID:	TKSPLATMA44

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32344 - TPD RAID controller problem

Alarm Group:	PLAT
Description:	This alarms indicates that RAID controller needs intervention.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDiskCtrlrProblem
Alarm ID:	TKSPLATMA45

Recovery:

1. Run syscheck in verbose mode.
2. Verify firmware is up to date for the server, if not up to date upgrade firmware, and re-run syscheck in verbose mode.
3. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32345 - Server Upgrade snapshot(s) invalid

Alarm Group:	PLAT
Description:	This alarm indicates that upgrade snapshot(s) are invalid and backout is no longer possible.
Severity:	Major

Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdUpgradeSnapshotInvalid
Alarm ID:	TKSPLATMA46

Recovery:

1. Run accept to remove invalid snapshot(s) and clear alarms.
2. If the alarm persists, it is recommended to contact *My Oracle Support (MOS)*.

32346 - OEM hardware management service reports an error

Alarm Group:	PLAT
Description:	This alarms indicates that OEM hardware management service reports an error.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdOEMHardware
Alarm ID:	TKSPLATMA47

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32347 - The hwmgmtcliStatus daemon needs intervention

Alarm Group:	PLAT
Description:	This alarms indicates the hwmgmtcliStatus daemon is not running or is not responding.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHWMGMTCLIProblem
Alarm ID:	TKSPLATMA47

Recovery:

1. Run syscheck in verbose mode.
2. Verify the firmware is up to date for the server, if not up to date upgrade firmware, and re-run syscheck in verbose mode.
3. Determine if the hwmgmtd process is running. If not running verify that it was not administratively stopped.
   - Executing "service hwmgmtd status" should produce output indicating that the process is running.
   - If not running attempt to start process "service hwmgmtd status".
4. Determine if the TKLChwmgmtcli process is running. If not running verify that it was not administratively stopped.
   - Executing "status TKLChwmgmtcli" should produce output indicating that the process is running.
   - If not running attempt to start process "start TKLChwmgmtcli".
5. Verify that there are no hwmgmt error messages in /var/log/messages. If there are this could indicate that the Oracle utility is hung. If hwmgmtd process is hung, proceed with next step.
6. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32348 - FIPS subsystem problem

Alarm Group:	PLAT
Description:	This alarm indicates the FIPS subsystem is not running or has encountered errors.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdFipsSubsystemProblem

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)* and provide the system health check output.

32349 - File Tampering

Alarm Group:	PLAT
Description:	This alarm indicates HIDS has detected file tampering.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal

Auto Clear Seconds:	0 (zero)
OID:	tpdHidsFileTampering

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32350 - Security Process Terminated

Alarm Group:	PLAT
Description:	This alarm indicates that the security process monitor is not running.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdSecurityProcessDown

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32500 - Server disk space shortage warning

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDiskSpaceShortageWarning
Alarm ID:	TKSPLATMI1

Recovery:

1. Run syscheck in verbose mode.

2. Examine contents of identified volume in syscheck output to determine if any large files are in the file system. Delete unnecessary files, or move files off of server. Capture output from "du -sx <file system>".
3. Capture output from "df -h" and "df -i" commands.
4. Determine processes using the file system(s) that have exceeded the threshold.
5. It is recommended to contact *My Oracle Support (MOS)*, provide the system health check output, and provide additional file system output.

32501 - Server application process error

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdApplicationProcessError
Alarm ID:	TKSPLATMI2

Recovery:

1. Run syscheck in verbose mode.
2. If the alarm has been cleared, then the problem is solved.
3. If the alarm has not been cleared, determine the run level of the system.
   - If system run level is not 4, determine why the system is operating at that run level.
   - If system run level is 4, determine why the required number of instances processes are not running.
4. For additional assistance, it is recommended to contact *My Oracle Support (MOS)* and provide the syscheck output.

32502 - Server hardware configuration error

Alarm Group:	PLAT
Description:	This alarm indicates that one or more of the server's hardware components are not in compliance with specifications (refer to the appropriate hardware manual).
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal

Auto Clear Seconds:	0 (zero)
OID:	tpdHardwareConfigError
Alarm ID:	TKSPLATMI3

Recovery:

1. Run syscheck in verbose mode.
2. Contact the hardware vendor to request a hardware replacement.

32505 - Server swap space shortage warning

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdSwapSpaceShortageWarning
Alarm ID:	TKSPLATMI6

Recovery:

1. Run syscheck in verbose mode.
2. Determine which processes are using swap.
   a) List application processes and determine the process id.
   b) Determine how much swap each process is using. One method to determine the amount of swap being used by process is:
   - grep VmSwap /proc/<process id>/status
3. It is recommended to contact *My Oracle Support (MOS)*, provide the system health check output, and process swap usage.

32506 - Server default router not defined

Alarm Group:	PLAT

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

Caution: When changing the server's network routing configuration it is important to verify that the modifications will not impact the method of connectivity for the current login session. It is also crucial that this information not be entered incorrectly or set to improper values. Incorrectly modifying the server's routing configuration may result in total loss of remote network access.

Severity: Minor

Instance: May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr

HA Score: Normal

Auto Clear Seconds: 0 (zero)

OID: tpdDefaultRouteNotDefined

Alarm ID: TKSPLATMI7

Recovery:

1. Run syscheck in verbose mode.
2. If the syscheck output is: `The default router at <IP_address> cannot be pinged`, the router may be down or unreachable. Do the following:
   a) Verify the network cables are firmly attached to the server and the network switch, router, hub, etc.
   b) Verify that the configured router is functioning properly. Check with the network administrator to verify the router is powered on and routing traffic as required.
   c) Check with the router administrator to verify that the router is configured to reply to pings on that interface.
   d) Rerun syscheck.
3. If the alarm has not cleared, it is recommended to collect the syscheck output and contact *My Oracle Support (MOS)*.

32507 - Server temperature warning

Alarm Group: PLAT

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

Instance: May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr

HA Score: Normal

Auto Clear Seconds: 0 (zero)

OID:	tpdServerTemperatureWarning
Alarm ID:	TKSPLATMI8

Recovery:

1. Ensure that nothing is blocking the fan 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. Run syscheck.
4. 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.

5. Run syscheck.
6. If the problem has not been resolved, it is recommended to contact *My Oracle Support (MOS)*.

32508 - Server core file detected

Alarm Group:	PLAT
Description:	This alarm indicates that an application process has failed and debug information is available.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdServerCoreFileDetected
Alarm ID:	TKSPLATMI9

Recovery:

1. It is recommended to contact *My Oracle Support (MOS)* to create a service request.
2. On the affected server, execute this command:

   ```
   ll /var/TKLC/core
   ```

   Add the command output to the service request. Include the date of creation found in the command output.

3. Attach core files to the *My Oracle Support (MOS)* service request.

4. The user can remove the files to clear the alarm with this command:

```
rm -f /var/TKLC/core/<coreFileName>
```

32509 - Server NTP Daemon not synchronized

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdNTPDeamonNotSynchronizedWarning
Alarm ID:	TKSPLATMI10

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.
   c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
   d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.
2. If ntp peer is reachable, restart the ntpd service.
3. If problem persists then a reset the NTP date may resolve the issue.

   Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

   a) To reset date:

   - sudo service ntpd stop
   - sudo ntpdate <ntp server ip>
   - sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32510 - CMOS battery voltage low

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdCMOSBatteryVoltageLow
Alarm ID:	TKSPLATMI11

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32511 - Server disk self test warning

Alarm Group:	PLAT
Description:	A non-fatal disk issue (such as a sector cannot be read) exists.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdSmartTestWarn
Alarm ID:	TKSPLATMI12

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)*.

32512 - Device warning

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDeviceWarn

Alarm ID:	TKSPLATMI13

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)*.

32513 - Device interface warning

Alarm Group:	PLAT
Description:	This alarm can be generated by either an SNMP trap or an IP bond error.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDeviceIfWarn
Alarm ID:	TKSPLATMI14

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)*.

32514 - Server reboot watchdog initiated

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdWatchdogReboot
Alarm ID:	TKSPLATMI15

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32515 - Server HA failover inhibited

Alarm Group:	PLAT
Description:	This alarm indicates that the server has been inhibited and therefore HA failover is prevented from occurring.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHaInhibited
Alarm ID:	TKSPLATMI16

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32516 - Server HA Active to Standby transition

Alarm Group:	PLAT
Description:	This alarm indicates that the server is in the process of transitioning HA state from Active to Standby.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHaActiveToStandbyTrans
Alarm ID:	TKSPLATMI17

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32517 - Server HA Standby to Active transition

Alarm Group:	PLAT
Description:	This alarm indicates that the server is in the process of transitioning HA state from Standby to Active.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal

Auto Clear Seconds:	0 (zero)
OID:	tpdHaStandbyToActiveTrans
Alarm ID:	TKSPLATMI18

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32518 - Platform Health Check failure

Alarm Group:	PLAT
Description:	This alarm is used to indicate a configuration error.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHealthCheckFailed
Alarm ID:	TKSPLATMI19

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32519 - NTP Offset Check failure

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	ntpOffsetCheckWarning
Alarm ID:	TKSPLATMI20

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.

c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.

2. If ntp peer is reachable, restart the ntpd service.
3. If problem persists then a reset the NTP date may resolve the issue.

Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

a) To reset date:

- sudo service ntpd stop
- sudo ntpdate <ntp server ip>
- sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32520 - NTP Stratum Check failure

Alarm Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	ntpStratumCheckFailed
Alarm ID:	TKSPLATMI21

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.
   c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
   d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.
2. If ntp peer is reachable, restart the ntpd service.
3. If problem persists then a reset the NTP date may resolve the issue.

Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

a) To reset date:

- sudo service ntpd stop
- sudo ntpdate <ntp server ip>
- sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32521 - SAS Presence Sensor Missing

Alarm Group:	PLAT
Description:	This alarm indicates that the T1200 server drive sensor is not working.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	sasPresenceSensorMissing
Alarm ID:	TKSPLATMI22

Recovery:

It is recommended to contact *My Oracle Support (MOS)* to get a replacement sensor.

32522 - SAS Drive Missing

Alarm Group:	PLAT
Description:	This alarm indicates that the number of drives configured for this server is not being detected.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	sasDriveMissing
Alarm ID:	TKSPLATMI23

It is recommended to contact *My Oracle Support (MOS)*.

32524 - HP disk resync

Alarm Group:	PLAT

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 dependent on the size of the disk and the amount of activity on the system.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHpDiskResync
Alarm ID:	TKSPLATMI25

Recovery:

1. Run syscheck in verbose mode.
2. If the percent recovering is not updating, wait at least 5 minutes between subsequent runs of syscheck.
3. If the alarm persists, it is recommended to contact *My Oracle Support (MOS)* and provide the syscheck output.

32525 - Telco Fan Warning

Alarm Group:	PLAT
Description:	This alarm indicates that the Telco switch has detected an issue with an internal fan.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdTelcoFanWarning
Alarm ID:	TKSPLATMI26

Recovery:

Contact the vendor to get a replacement switch. Verify the ambient air temperature around the switch is as low as possible until the switch is replaced.

Note: *My Oracle Support (MOS)* personnel can perform an `snmpget` command or log into the switch to get detailed fan status information.

32526 - Telco Temperature Warning

Alarm Group:	PLAT
Description:	This alarm indicates that the Telco switch has detected the internal temperature has exceeded the threshold.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdTelcoTemperatureWarning
Alarm ID:	TKSPLATMI27

Recovery:

1. Lower the ambient air temperature around the switch as low as possible.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32527 - Telco Power Supply Warning

Alarm Group:	PLAT
Description:	This alarm indicates that the Telco switch has detected that one of the duplicate power supplies has failed.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdTelcoPowerSupplyWarning
Alarm ID:	TKSPLATMI28

Recovery:

1. Verify the breaker was not tripped.
2. If the breaker is still good and problem persists, it is recommended to contact *My Oracle Support (MOS)* 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 Group:	PLAT
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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdInvalidBiosValue
Alarm ID:	TKSPLATMI29

Recovery:

Change the BIOS values to the expected values which involves re-booting the server. It is recommended to contact *My Oracle Support (MOS)* for directions on changing the BIOS.

32529 - Server Kernel Dump File Detected

Alarm Group:	PLAT
Description:	This alarm indicates that the kernel has crashed and debug information is available.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdServerKernelDumpFileDetected
Alarm ID:	TKSPLATMI30

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)*.

32530 - TPD Upgrade Failed

Alarm Group:	PLAT
Description:	This alarm indicates that a TPD upgrade has failed.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	TpdServerUpgradeFailed
Alarm ID:	TKSPLATMI31

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32531 - Half Open Socket Warning Limit

Alarm Group:	PLAT
Description	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
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdHalfOpenSocketWarning
Alarm ID:	TKSPLATMI32

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)*.

32532 - Server Upgrade Pending Accept/Reject

Alarm Group:	PLAT
Description:	This alarm indicates that an upgrade occurred but has not been accepted or rejected yet.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdServerUpgradePendingAccept
Alarm ID:	TKSPLATMI33

Recovery:

Follow the steps in the application procedure to accept or reject the upgrade.

32533 - TPD Max Number Of Running Processes Warning

Alarm Group:	PLAT
Description:	This alarm indicates that the maximum number of running processes has reached the minor threshold.

Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdMaxPidWarning
Alarm ID:	TKSPLATMI34

Recovery:

1. Run syscheck in verbose mode.
2. It is recommended to contact *My Oracle Support (MOS)*.

32534 - TPD NTP Source Is Bad Warning

Alarm Group:	PLAT
Description:	This alarm indicates that an NTP source has been rejected by the NTP daemon and is not being considered as a time source.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdNTPSourceIsBad
Alarm ID:	TKSPLATMI35

Recovery:

1. Verify NTP settings and that NTP sources can be reached.
   a) Ensure ntpd service is running.
   b) Verify the content of the /etc/ntp.conf file is correct for the server.
   c) Verify the ntp peer configuration; execute ntpq -p and analyze the output. Verify peer data, (such as tally code (first column before "remote"), remote, refid, stratum (st), and jitter), are valid for server.
   d) Execute ntpstat to determine the ntp time synchronization status. If not synchronized or the stratum is not correct for server then ping the ntp peer to determine if peer can be reached.
2. If ntp peer is reachable, restart the ntpd service.
3. If problem persists then a reset the NTP date may resolve the issue.

   Note: Prior to the reset of the ntp date the applications may need to be stopped, and subsequent to the ntp reset, the application restarted.

   a) To reset date:

   - sudo service ntpd stop
   - sudo ntpdate <ntp server ip>

- sudo service ntpd start

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

32535 - TPD RAID disk resync

Alarm Group:	PLAT
Description:	This alarm indicates that the RAID logical volume is currently resyncing after a failed/replaced drive, or some other change in the configuration. The output of the message will include the disk that is resyncing. This alarm should eventually clear once the resync of the disk is completed. The time it takes for this is dependent on the size of the disk and the amount of activity on the system (rebuild of 600G disks without any load takes about 75min).
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdDiskResync
Alarm ID:	TKSPLATMI36

Recovery:

1. Run syscheck in verbose mode.
2. If this alarm persists for several hours (depending on a load of a server, rebuilding an array can take multiple hours to finish), it is recommended to contact *My Oracle Support (MOS)*.

32536 - TPD Server Upgrade snapshot(s) warning

Alarm Group:	PLAT
Description:	This alarm indicates that upgrade snapshot(s) are above configured threshold and either accept or reject of LVM upgrade has to be run soon, otherwise snapshots will become full and invalid.
Severity:	Minor
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdUpgradeSnapshotWarning
Alarm ID:	TKSPLATMI37

Recovery:

1. Run accept or reject of current LVM upgrade before snapshots become invalid.

2. It is recommended to contact *My Oracle Support (MOS)*

32540 - CPU Power limit mismatch

Alarm Group:	PLAT
Description:	The BIOS setting for CPU Power Limit is different than expected.
Severity:	Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdCpuPowerLimitMismatch
Alarm ID:	TKSPLATMI41

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32700 - Telco Switch Notification

Alarm Group:	PLAT
Description	Telco Switch Notification
Severity	Info
Instance	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score	Normal
Auto Clear Seconds	86400
OID	tpdTelcoSwitchNotification

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32701 - HIDS Initialized

Alarm Group:	PLAT
Description:	This alarm indicates HIDS was initialized.
Default Severity:	Info
OID:	tpdHidsBaselineCreated

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32702 - HIDS Baseline Deleted

Alarm Group:	PLAT
Description:	HIDS baseline was deleted.
Default Severity:	Info
OID:	tpdHidsBaselineDeleted

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32703 - HIDS Enabled

Alarm Group:	PLAT
Description:	HIDS was enabled.
Default Severity:	Info
OID:	tpdHidsEnabled

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32704 - HIDS Disabled

Alarm Group:	PLAT
Description:	HIDS was disabled.
Default Severity:	Info
OID:	tpdHidsDisabled

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32705 - HIDS Monitoring Suspended

Alarm Group:	PLAT
Description:	HIDS monitoring suspended.
Default Severity:	Info
OID:	tpdHidsSuspended

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32706 - HIDS Monitoring Resumed

Alarm Group:	PLAT

Description:	HIDS monitoring resumed.
Default Severity:	Info
OID:	tpdHidsResumed

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

32707 - HIDS Baseline Updated

Alarm Group:	PLAT
Description:	HIDS baseline updated.
Default Severity:	Info
OID:	tpdHidsBaselineUpdated

Recovery:

It is recommended to contact *My Oracle Support (MOS)*.

Chapter 4

Key Performance Indicators (KPIs)

Topics:

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 lists the KPIs that can be viewed from the **Status & Manage** > **KPIs** page.

KPIs overview

Key Performance Indicators (KPIs) allow you 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 N/A.

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 NOAM server or an SOAM server.

List of KPIs

This section of the document provides a list of all KPIs that can appear on the KPI page. They are listed here in tables by KPI type.

Communication Agent (ComAgent) KPIs

The KPI values associated with ComAgent are available using **Main Menu** > **Status & Manage** > **KPIs**.

Table 10: Communication Agent KPIs

Variable	Description
User Data Ingress message rate	The number of User Data Stack Events received by ComAgent.
Broadcast Data Rate	The overall data broadcast rate on the server.

Connection Maintenance KPIs

The KPI values associated with Connection Maintenance are available using **Main Menu** > **Status & Manage** > **KPIs**.

Table 11: Connection Maintenance KPIs

Variable	Description
RxConnAvgMPS	Exponentially smoothed average rate in MPS on the connection. Note: This measurement will be sampled periodically and reported in the Connections Maintenance GUI as a type of KPI.

Diameter (DIAM) KPIs

The KPI values associated with Diameter are available using **Main Menu** > **Status & Manage** > **KPIs**.

Table 12: DIAM KPIs

Variable	Description
MsgCopyTxQueueUtilization	Percentage of utilization of the Message Copy Tx Queue
Average Response Time	The average time from when routing receives a request message from a peer to when routing sends an answer message to that peer.
Transaction Success Rate	Percentage of Diameter and RADIUS transactions successfully completed on a DA-MP server with respect to the offered load.

KPIs server elements

This table describes KPIs that appear regardless of server role.

Table 13: 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:	
CPU	Percentage utilization of all processors on the server by all software as measured by the operating system.

KPIs Status Element	Description
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.

Message Processor (MP) KPIs

The KPI values associated with MP are available using **Main Menu** > **Status & Manage** > **KPIs**.

Table 14: MP KPIs

Variable	Description
Avg CPU Utilization	Percentage of CPU utilization by the Diameter process on a DA-MP server.
Offered Load (MPS)	Offered load on a DA-MP server, corresponding to the message rate before policing by capacity and congestion controls.
Accepted Load (MPS)	Accepted load on a DA-MP server, corresponding to the message rate after policing by capacity and congestion controls.
Messsage Processing Load (MPS)	Average message processing load (messages per second) on a MP server. The message processing load is the number of Diameter messages that are routed, including Reroute and MsgCopy.

Platform KPIs

The KPI values associated with Platform are available using **Main Menu** > **Status & Manage** > **KPIs**.

Table 15: Platform KPIs

Variable	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.

Variable	Description
Uptime	The total amount of time(days HH:MM:SS) the server has been running.

Process-based KPIs

Table 16: Process-based KPIs

Variable	Description
udr.Cpu	CPU usage of udr process
udr.MemHeap	Heap memory usage of udr process
udr.MemBasTotal	Memory usage of the udr process
udr.MemPerTotal	Percent memory usage of udr process
udrbe.Cpu	CPU usage of udrbe process
udrbe.MemHeap	Heap memory usage of udrbe process
udrbe.MemBasTotal	Memory usage of the udrbe process
udrbe.MemPerTotal	Percent memory usage of udrbe process
provimport.Cpu	CPU usage of provimport process
provimport.MemHeap	Heap memory usage of provimport process
provimport.MemBasTotal	Memory usage of the provimport process
provimport.MemPerTotal	Percent memory usage of provimport process
provexport.Cpu	CPU usage of provexport process
provexport.MemHeap	Heap memory usage of provexport process
provexport.MemBasTotal	Memory usage of the provexport process
provexport.MemPerTotal	Percent memory usage of provexport process
udrprov.Cpu	CPU usage of ras process
udrprov.MemHeap	Heap memory usage of ras process
udrprov.MemBasTotal	Memory usage of the ras process
udrprov.MemPerTotal	Percent memory usage of ras process
udrprov.Cpu	CPU usage of xsas process
udrprov.MemHeap	Heap memory usage of xsas process
udrprov.MemBasTotal	Memory usage of the xsas process
udrprov.MemPerTotal	Percent memory usage of xsas process
era.Cpu	CPU usage of era process

Variable	Description
era.MemHeap	Heap memory usage of era process
era.MemBasTotal	Memory usage of the era process
era.MemPerTotal	Percent memory usage of era process

SS7/Sigtran KPIs

Table 17: SS7/Sigtran KPIs

Variable	Description
SCCP Recv Msgs/Sec	SCCP messages received per second.
SCCP Xmit Msgs/Sec	SCCP messages transmitted per second.
SS7 Process CPU Utilization	The average percent of SS7 Process CPU utilization on an MP server.
Ingress Message Rate	The Ingress Message Rate is the number of non-SNM message that M3UA attempts to queue in the M3RL Stack Event Queue.
M3RL Xmit Msgs/Sec	M3RL DATA MSUs/Sec sent.
M3RL Recv Msgs/Sec	M3RL DATA MSUs/Sec received.

UDRBE KPIs

Table 18: UDRBE KPIs

Variable	Description
RxAeProvCreateMsgsRate	Number of requests received via the provisioning interface where the subscriber was unknown and auto-enrollment was triggered to create the subscriber per second
RxAeProvCreateSubSuccessRate	Number of auto-enrolled subscribers created while provisioning non-profile entity data per second
RxAeShCreateSubSuccessRate	Number of auto-enrolled subscribers created via the Sh interface per second
RxAeShDeleteSubMsgs	Number of unsubscribe requests received via the Sh interface that triggered the removal of an auto-enrolled subscriber per second
RxAeShDeleteSubSuccess	Number of auto-enrolled subscribers deleted via the Sh interface per second

Variable	Description
RxAeShPurCreateMsgsRate	Number of update requests received via the Sh interface where the subscriber was unknown and auto-enrollment was triggered to create the subscriber per second
RxAeShSnrCreateMsgsRate	Number of subscribe requests received via the Sh interface where the subscriber was unknown and auto-enrollment was triggered to create the subscriber per second
RxPsoRequestRate	Number of inter-NO requests received per second
RxUdrBeReadMsgsRate	Number of read requests (across all interfaces) that have been received per second
RxUdrBeUpdateMsgsRate	Number of update requests (across all interfaces) that have been received per second
RxUdrNmNotifAckAsAvailableRate	Number of notification requests (across all interfaces) that have been successfully sent to the AS per second
RxUdrNmNotifAckAsUnavailableRate	Number of notification requests (across all interfaces) that failed to be sent to the AS per second
RxUdrSmSubscribeMsgsRate	Number of subscribe requests (across all interfaces) that have been received per second
RxUdrSmUnsubscribeMsgsRate	Number of unsubscribe requests (across all interfaces) that have been received per second
SQRQuotaRowElementsResetRate	Number of Quota Row Elements currently being reset or updated
SQRRecordsExaminedRate	Number of Subscriber/Pool Records currently being examined
SQRRecordsFailedRate	Number of Subscriber/Pool Records currently failed to reset or updated
SQRRecordsResetRate	Number of Subscriber/Pool Records currently being reset or updated
TxPsoRequestRate	Number of inter-NO requests sent per second
TxUdrBeReadReqSuccessRate	The number of read requests (across all interfaces) that have been successfully processed per second
TxUdrBeUpdateReqSuccessRate	The number of update requests (across all interfaces) that have been successfully processed per second
TxUdrNmNotifSentRate	The number of notification requests (across all interfaces) that have been sent per second
TxUdrSmSubscribeReqSuccessRate	The number of subscribe requests (across all interfaces) that have been successfully processed per second

Variable	Description
TxUdrSmUnsubscribeReqSuccessRate	The number of unsubscribe requests (across all interfaces) that have been successfully processed per second

UDRFE KPIs

Table 19: UDRFE KPIs

Variable	Description
RxRequestAllRate	The number of signaling requests that have been received per second.
RxRequestFailedRate	The number of signaling requests that have failed to be processed due to errors and an error was returned per second.
RxRequestSuccessfulRate	The number of signaling requests that have been successfully processed and a Diameter Successful response (2001) was received per second.
RxResetRequestPURFailedRate	Number of PUR Reset messages failed to process at this time
RxResetRequestPURRate	Number of PUR Reset messages received by OCUDR currently
RxResetRequestPURSuccessfulRate	Number of PUR Reset messages processed successfully at this time
RxResponseAllRate	The number of signaling responses that have been received per second.
TxRequestAllRate	The number of signaling requests sent per second
TxRequestFailedAllRate	The number of requests that have not received successful responses per second.
TxRequestSuccessfulAllRate	The number of requests that have received successful responses per second.
TxResponseAllRate	The number of signaling responses sent per second.

UDR RAS and XSAS Provisioning Related KPIs

Table 20: Provisioning KPIs

Variable	Description
ProvMsgsImportedRate	The number of provisioning messages imported per second

Variable	Description
ProvTxnCommittedRate	The number of provisioning transactions that have been successfully committed per second to the database (memory and on disk) on the active server of the primary UDR cluster
RxRasDeleteReqReceivedRate	The number of REST DELETE requests that have been received on the provisioning interface per sec
RxRasGetReqReceivedRate	The number of REST GET requests that have been received on the provisioning interface per sec
RxRasPostReqReceivedRate	The number of REST POST requests that have been received on the provisioning interface per sec
RxRasProvConnection	The number of provisioning client connections currently established. A single connection includes a client successfully establishing a TCP/IP connection, sending a provisioning connect message, and receiving a successful response.
RxRasProvMsgsReceivedRate	The number of provisioning messages that have been received per second
RxRasProvMsgsSuccessfulRate	The number of provisioning messages that have been successfully processed per second
RxRasProvMsgsFailedRate	The number of provisioning messages that have failed to be processed due to errors per second
RxRasProvMsgsSentRate	The number of provisioning messages sent per second
RxRasProvMsgsDiscardedRate	The number of provisioning messages discarded per second. Provisioning messages are discarded because the connection is shut down, the server is shut down, the server role switches from active to standby, or the transaction does not become durable within the allowed amount of time.
RxRasPutReqReceivedRate	The number of REST PUT requests that have been received on the provisioning interface per sec
RxRasResetReqReceivedRate	The number of REST Reset requests that have been received on the provisioning interface per sec
RxXsasDeleteReqReceivedRate	The number of SOAP delete requests that have been received on the provisioning interface per sec
RxXsasInsertReqReceivedRate	The number of SOAP insert requests that have been received on the provisioning interface per sec
RxXsasOperationReqReceivedRate	The number of SOAP operation requests that have been received on the provisioning interface per sec
RxXsasProvConnection	The number of provisioning client connections currently established. A single connection includes a client having successfully established a TCP/IP connection, sent a

Variable	Description
	provisioning connect message, and having received a successful response.
RxXsasProvMsgsReceivedRate	The number of provisioning messages that have been received per second
RxXsasProvMsgsSuccessfulRate	The number of provisioning messages that have been successfully processed per second
RxXsasProvMsgsFailedRate	The number of provisioning messages that have failed to be processed due to errors per second
RxXsasProvMsgsSentRate	The number of provisioning messages sent per second
RxXsasProvMsgsDiscardedRate	The number of provisioning messages discarded per second. Provisioning messages are discarded because the connection is shut down, the server is shut down, the server role switches from active to standby, or the transaction does not become durable within the allowed amount of time.
RxXsasProvTxnTotalRate	The number of provisioning SOAP transactions received per second
RxXsasResetReqReceivedRate	The number of SOAP Reset requests that have been received on the provisioning interface per sec
RxXsasSelectReqReceivedRate	The number of SOAP select requests that have been received on the provisioning interface per sec
RxXsasUpdateReqReceivedRate	The number of SOAP update requests that have been received on the provisioning interface per sec
TxProvTxnAbortedRate	The number of provisioning transactions that were aborted due to retry limit per second
TxProvTxnFailedRate	The number of provisioning transactions that have failed to be started or committed due to errors per second
TxProvTxnNonDurable	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
TxXsasProvTxnAbortedRate	The number of provisioning SOAP transactions that were aborted due to retry limit per second
TxXsasProvTxnFailedRate	The number of provisioning SOAP transactions that have failed to be started or committed, due to errors per second
XsasProvTxnCommittedRate	The number of provisioning SOAP transactions that have been successfully committed per second to the database

Ud Client KPIs

Table 21: Provisioning KPIs

Variable	Description
TxUdSearchRate	The number of LDAP search requests sent per second
TxUdSearchInitialRate	The number of LDAP search requests sent when initially creating a subscriber sent per second
TxUdSearchReSearchRate	The number of LDAP search requests sent when performing a re-search per second
TxUdSubscribeRate	The number of SOAP subscribe requests sent per second
TxUdSubscribeInitialRate	The number of SOAP subscribe requests sent when initially creating a subscriber sent per second sent per second
TxUdSubscribeReSubscribeRate	The number of SOAP subscribe requests sent when performing a re-subscribe per second
RxUdNotifyRate	The number of SOAP notify requests received per second
RxUdShUdrRate	The number of Sh UDR requests that trigger the Ud creation of a subscriber received per second
RxUdShPurRate	The number of Sh PUR requests that trigger the Ud creation of a subscriber received per second
RxUdShSnrRate	The number of Sh SNR requests that trigger the Ud creation of a subscriber received per second

Chapter 5

Measurements

Topics:

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 and measurement-related GUI elements.

Measurements

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 (NOAM, 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 IDs

Measurement IDs are categorized using a prefix in the Measurement tag. Prefixes include:

- **Alarm**: The measurement is associated with the severity or state of alarms.
- **CA**: The measurement is associated with the exceptions and unexpected messages and events that are specific to the Communication Agent protocol.
- **Conn**: The measurement is related to Diameter Connection congestion states.

- **DAS**: This is a Diameter Application Server measurement that reflects the Message Copy performance.
- **EV**: The measurement is associated with a link timing out when waiting for an ASP-ACTIVE acknowledgment message to be received.
- **Routing**: The measurement is associated with messages processed by the Diameter Routing Layer (DRL).
- **Rx**: The measurement is associated with the processing of an incoming message event. This can be the actual count of a particular message received or an event associated with processing of an incoming message.
- **SCTP**: The measurement is associated with the SCTP transport.
- **System**: The measurement is associated with the OAM system.
- **Tm**: The measurement is associated with the time aspect of message processing.
- **Tx**: The measurement is associated with the processing of an outgoing message event. This can be the actual count of a particular message sent or an event associated with the outgoing message.
- **Tm**: The measurement is associated with the total duration of a particular condition or state during the measurement interval or the min/max/average duration of individual occurrences of a particular condition or state. All Tm measurement values are reported in microseconds.
- **Ev**: The measurement is associated with an event which is not predominantly associated with incoming or outgoing message processing.

List of measurements

This section of the document provides a list of all measurements available in the system. Measurements are summarized in tables (by type) with additional measurement details (when available) following each table.

Application Routing Rules measurements

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

Table 22: Application Routing Rule Measurements

Measurement Tag	Description	Collection Interval
RxApplRuleSelected	Number of times that an Application Routing Rule was selected to route a Request message	5 min
RxApplRuleFwdFailAll	Number of times that an Application Routing Rule was selected to route a Request message but the message was not successfully routed (all reasons)	5 min
RxApplRuleFwdFailUnavail	Number of times that an Application Routing Rule was selected to route a Request message but the message was not successfully routed	5 min

Measurement Tag	Description	Collection Interval
	because the DSR Application's Operational Status was Unavailable	
RxApplRuleDuplicatePriority	Number of times that the application routing rule was selected for routing a message but another application routing rule had the same priority and was ignored.	5 min
RxArtSelected	Number of times that an application routing rule from ART-X was selected for routing a Request message	5 min

RxApplRuleSelected

Measurement ID	10085
Measurement Group	Application Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Application Routing Rule ID)
Description	Number of times that the application routing rule was selected for routing a Request message.
Collection Interval	5 min
Peg Condition	When DRL selects an application routing rule for routing a message.
Measurement Scope	Server Group

Recovery

No action required.

RxApplRuleFwdFailAll

Measurement ID	10086
Measurement Group	Application Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Application Routing Rule ID)
Description	Number of times that the application routing rule was selected for routing a Request message and the message was not successfully routed for any reason.
Collection Interval	5 min
Peg Condition	When DRL selects an application routing rule to route a Request message and one of the following conditions is met: • The DSR Application's Operational Status is "Unavailable".

- The DSR Application's Operational Status is not "Unavailable" but the attempt to enqueue the message to the DSR Application failed.

Measurement Scope	Server Group

Recovery

No action required.

RxApplRuleFwdFailUnavail

Measurement ID	10087
Measurement Group	Application Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Application Routing Rule ID)
Description	Number of times that the application routing rule was selected for routing a Request message and the message was not successfully routed because DSR Application's Operational Status was "Unavailable".
Collection Interval	5 min
Peg Condition	When DRL selects an application routing rule to route a Request message and the DSR Application's Operational Status is "Unavailable".
Measurement Scope	Server Group

Recovery

No action required.

RxApplRuleDuplicatePriority

Measurement ID	10088
Measurement Group	Application Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Application Routing Rule ID)
Description	Number of times that the application routing rule was selected for routing a message but another application routing rule had the same priority and was ignored.
Collection Interval	5 min
Peg Condition	When DRL searches the ART and finds more than one highest priority application routing rule with the same priority that matches the search criteria. The measurement is associated with the application routing rule that is selected for routing.
Measurement Scope	Server Group

Recovery

Use GUI screen: **Main Menu** > **Diameter** > **Configuration** > **Application Routing Rules** to modify peer routing rule priorities.

At least two application routing rules with the same priority matched an ingress Request message. The system selected the first application routing rule found. Application routing rules must be unique for the same type of messages to avoid unexpected routing results.

RxArtSelected

Measurement ID	10074
Measurement Group	Application Routing Rules
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of times that an application routing rule from ART-X was selected for routing a Request message
Collection Interval	5 min
Peg Condition	When DRL selects an application routing rule from ART-X for routing a message
Measurement Scope	Server Group

Recovery

No action required.

Association Exception measurements

Table 23: Association Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxTrFarEndClose	Number of times the far end closed the SCTP connection.	30 min
EvTrManClose	The number of times the Transport was manually closed. This includes manual changes of the transport administrative state that caused the transport to transition from APP-UP to Disabled.	30 min
EvTrNoRespClose	The number of times the Transport was closed due to lack of response from the far end. This includes lack of response to any signaling sent on the transport.	30 min
EvTrCnxFail	The number of times the SCTP connection attempt failed on the transport. This includes only unsuccessful attempts to connect/accept SCTP connections. It does not include failure of	30 min

Measurement Tag	Description	Collection Interval
	established connections. The number of times an open attempt on UDP socket in Listen Mode failed on the Transport.	
TxTrSendFail	The number of times the SCTP/UDP sends failed for signaling on the transport. This includes sending of any messages on an established transport or UDP socket.	30 min
RxTrRcvFail	The number of times an SCTP receive attempt failed on the transport. Failure to receive message via SCTP might result in a message being discarded.	30 min
EvTrSockInitFail	Number of times the socket initialization failed.	30 min
RxM3uaERROR	The number of times an M3UA ERROR message is received by the MP server. M3UA ERROR message are sent to inform the originator of an M3UA message that the message cannot be processed due to some problem with the message syntax or semantics.	30 min
TmSingleTransQueueFull	The number of egress messages that were discarded because the single Transport Writer Queue was full.	30 min
EvAsnUpAckTO	Number of times the association timed out waiting for ASP-UP-ACK. ASP-UP-ACK is sent by the far-end in response to an ASP-UP message during association start-up (when the association is in the **Enabled** administrative state).	30 min
RxAsnUnsolDownAck	Number of unsolicited M3UA ASP-DOWN-ACK messages received on the association. Unsolicited ASP-DOWN-ACK messages can be sent by the SG to indicate that the SG cannot process traffic on the association.	30 min
RxAsnInvalidM3ua	Number invalid M3UA messages received on this association. An invalid M3UA message is a message that violates the M3UA protocol.	30 min
EvSctpAdjIPToDwn	Number of times configured IP Address of an Adjacent Node goes from Available to Unavailable.	30 min
EvSctpTransRej	Number of times SCTP Transport has been rejected due to remote IP addresses validation failure based on SCTP Multihoming mode. This is valid only for SCTP Transports.	30 min

RxAsnFarEndClose

Measurement ID	9128
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)
Description	Number of times the far end closed the SCTP connection
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time the far-end of the association closes the association by sending either SHUTDOWN or ABORT.
Measurement Scope	NE, Server

Recovery

1. If the closing of the association was expected, no further action is necessary, the association will be recovered as soon as the far-end is ready to connect again. If the closing of the association was not expected. You can view Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
2. Look in the event history from the GUI main menu under **Alarms & Events** > **View History** for Event ID 19224 to determine exactly when the far-end closed the association.
3. Look for other events for the association or MP server in the event history.
4. Verify that IP connectivity still exists between the MP server and the SG.
5. Verify whether the far-end of the association is undergoing maintenance.
6. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvAsnManClose

Measurement ID	9129
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)
Description	The number of times the association was manually closed. This includes manual changes of the association administrative state that cause the association to transition from ASP-UP to either ASP-DOWN or **Disabled**.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time a manual change is made to the association administrative state from **Enabled** to **Blocked** or from **Enabled** to **Disabled**, causing the association to transition out of ASP-UP protocol state.
Measurement Scope	NE, Server

Recovery

1. If the association is known to be under maintenance no further action is necessary. If the association was not known to be under maintenance, you can view the Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
2. View the event history from the GUI main menu under **Alarms & Events** > **View History** and look for Event ID 19228. Event ID 19228 shows the manual association state transitions and contains a time-stamp of when the change occurred.
3. View the security logs from the GUI main menu under **Security** > **Logs**. You can search the logs using the time-stamp from the event history log to determine which login performed the manual state change on the association.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvAsnNoRespClose

Measurement ID	9130
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	
Description	The number of times the association was closed due to lack of response from the far end. This includes lack of response to any signaling sent on the association or to SCTP heartbeating if enabled.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an established SCTP association is closed by the MP server due to lack of response at the SCTP level from the far-end of the association.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. If it has a non-zero value, the association has been closed due to the lack of response from the far-end. The MP server will begin periodic attempts to reconnect to the Signaling Gateway. You can view the Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
2. Look in the event history from the GUI main menu under **Alarms & Events** > **View History** for Event ID 19225.
3. Verify IP connectivity between the MP server and the Signaling Gateway.
4. Determine if the far-end of the association is congested, possibly causing slow response times on the association.
5. Check the IP network between the MP server and the Signaling Gateway for excessive retransmissions.
6. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvTrCnxFail

Measurement ID	9404
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of times the SCTP connection attempt failed on the association. This includes only unsuccessful attempts to connect to the Signaling Gateway. It does not include failure of established connections.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an SCTP connect attempt fails.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. A non-zero value indicates that the MP server has attempted to connect to the Signaling Gateway at least once and failed to establish the SCTP connection.You can view Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
2. Check the event history log from the GUI main menu under **Alarms & Events** > **View History**, looking for Event ID 19222. Event ID 19222 provides details about the cause of the failure.
3. Verify that the Adjacent server that represents the far-end of the association is configured with the correct IP address. You can view the Adjacent servers from the GUI main menu under **SS7/Sigtran** > **Configuration** > **Adjacent Servers**.
4. Verify that the remote port configured for the association correctly identifies the port that the Signaling Gateway is listening on for SCTP connections. You can view the configured port from the GUI main menu under **SS7/Sigtran** > **Configuration** > **Associations** > **Configure**.
5. Verify the IP network connectivity between the MP server and the Signaling Gateway.
6. If the Signaling Gateway must be configured to connect to the MP server's IP address and port, verify that the signaling gateway configuration matches the association configuration. You can view association data from the GUI main menu under **SS7/Sigtran** > **Configuration** > **Associations** > **Configure**.
7. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxAsnSendFail

Measurement ID	9133
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)
Description	The number of times the SCTP Send failed for non-DATA M3UA signaling on the association. The number includes the

	sending of any non-DATA messages on an established association.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an attempt to send M3UA signaling fails for any reason and the information being sent cannot be mapped to a specific link
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. A non-zero value indicates that an attempt to send a message to the far-end on this association using SCTP has failed. Normally this happens if the far-end cannot keep up with the rate of messages being sent from all links on the association. You can view Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
2. Look in the GUI main menu under **Alarms & Events** > **View History** in the event history log for Event ID 19233 - Failed to send non-DATA message. Refer to the *DSR Alarms and KPIs Reference* for details about this event and the cause of the failure to send.
3. Verify that the IP network between the MP server and the SG is functioning as expected.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxAsnRecvFailed

Measurement ID	9134
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)
Description	The number of times an SCTP/UDP receive attempt failed on the transport. Failure to receive message via SCTP may result in a message being discarded.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an SCTP receive fails when the far-end attempted to send data, but the data cannot be received due to an invalid message length.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. A non-zero value indicates that the far-end is sending data that is malformed. You can view Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
2. Look in the event history log from the GUI main menu under **Alarms & Events** > **View History** for Event ID 19223. Event ID 19223 gives more information about what caused the failure.
3. Try to bring the sockets back into alignment by manually **Disabling** and **Enabling** the association.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvTrSockInitFail

Measurement ID	9407
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of times the socket initialization failed. Socket initialization includes configuring the association according to the settings in the GUI under **SS7/Sigtran** > **Configuration** > **Associations** > **Configuration Sets**.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time one or more socket options cannot be set according to the settings in the association's configuration set.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. A non-zero value indicates a problem with the association setup prior to attempting to connect the association. If this occurs, look for Event ID 19221 in the GUI under **Alarms & Events** > **View History**. Event 19221 provides details about the configuration failure.
2. It is recommended to contact *My Oracle Support (MOS)* for further assistance.

RxAsnM3uaERROR

Measurement ID	9140
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)
Description	The number of M3UA ERROR messages received on the association. An M3UA ERROR message is sent by the far-end to complain about an invalid M3UA message that it received.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an M3UA ERROR message is received that cannot be mapped to a specific link.
Measurement Scope	NE, Server

Recovery

1. This measurement will have a value of zero. A non-zero value indicates a problem with M3UA signaling sent by the MP server.
2. Look for Event ID 19235 from the GUI main menu under **Alarms & Events** > **View History**. Event ID19235 provides more information about the receipt of the ERROR message.

3. If the ERROR reason in Event ID 19235 indicates a problem with the routing context (i.e., error code 0x19), verify that the MP server link set and the SG are configured to agree on the routing context values that each M3UA signaling link uses.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvAsnUpAckTO

Measurement ID	9141
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)
Description	The number of times the association timed out waiting for ASP-UP-ACK. ASP-UP-ACK is sent by the far-end in response to an ASP-UP message during the association start-up (when the association is in the **Enabled** administrative state).
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an ASP-UP has been sent and the M3UA State Management ACK Timer expires, but no ASP-UP-ACK has been received for the association.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. If the value is not zero, the association cannot be brought into the state necessary for M3UA ASPTM traffic because the far-end of the association is not responding by sending an ASP-UP-ACK prior to the timeout defined in the GUI under **SS7/Sigtran** > **Configuration** > **Options** > **M3UA**. The field that defines the timeout is the **State Management ACK Timer**.
2. You can view Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
3. Check the event history from the GUI main menu under **Alarms & Events** > **View History**, looking for Event ID 19226. Event ID 19226 will show when the timeout occurred.
4. Verify that the far-end of the association on the SG is not undergoing maintenance.
5. Verify that the **State Management ACK Timer** value is not set too short. This should not occur if the IP network is functioning correctly.
6. Verify that the IP network between the MP server and the SG is performing up to expectations.
7. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxAsnUnsolDownAck

Measurement ID	9142
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)

Description	The number of unsolicited M3UA ASP-DOWN-ACK messages received on the association. Unsolicited ASP-DOWN-ACK messages can be sent by the SG to indicate that the SG cannot process traffic on the association.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an unsolicited ASP-DOWN-ACK is received on the association.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. A non-zero value means that the far-end of the association has stopped processing M3UA signaling. You can view Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
2. Check the event history from the GUI main menu under **Alarms & Events** > **View History**, looking for Event ID 19227. **Event ID 19227** will show exactly when the unsolicited ASP-DOWN-ACK was received.
3. Verify whether the far-end of the association is undergoing maintenance.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxAsnInvalidM3ua

Measurement ID	9143
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)
Description	The number invalid M3UA messages received on this association. An invalid M3UA message is a message that violates the M3UA protocol.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an M3UA message is received on the association that is invalid due to any syntactic or semantic reason.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. In case of a non-zero value in this measurement, review the event history from the GUI main menu under **Alarms & Events** > **View History**, looking for Event 19231.
2. Event 19231 provides details about the reason for rejecting the M3UA message. If the error reason indicates a problem with routing context, verify that the routing context used for the association specified in Event 19231 is configured to match between the ASP and the SG.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmSingleTransQueueFull

Measurement ID	9415
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of egress messages that were discarded because the single Transport Writer Queue was full.
Collection Interval	30 min
Peg Condition	Check whether the single peers transmit data queue limit has reached its max limit (1000). If maximum limit is reached or exceeded, then peg the measurement and discard the low priority events.
Measurement Scope	NE, Server

Recovery

This measurement indicates that the Transport is backed up and messages might be discarded. If the value is above the defined critical threshold, an alarm (19408) is generated. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

EvSctpAdjPToDwn

Measurement ID	9424
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	Number of times configured IP Address of an Adjacent Node goes from Available to Unavailable.
Collection Interval	30 min
Peg Condition	This measurement shall be incremented by one each time reachability to a configured IP address of an Adjacent Node is lost, indicating a fault in the path to that address was detected. If all is well, the measurement will have a zero value. A non-zero value indicates that a path fault to that address was detected.
Measurement Scope	NE, Server

Recovery

1. Check the event history log at **Main Menu** > **Alarms & Events** > **View History**; look for event ID 19410. Event ID 19410 provides more details about the actual cause of the failure.
2. Verify that the Adjacent Node that represents the far-end of the association is configured with the correct IP address at **Main Menu** > **Transport Manager** > **Configuration** > **Adjacent Node**.
3. Verify IP network connectivity between the MP server and the Adjacent Nodes IP address using a ping or traceroute command.

4. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

EvSctpTransRej

Measurement ID	9425
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	Number of times SCTP Transport has been rejected due to remote IP addresses validation failure based on SCTP Multihoming mode. This is valid only for SCTP Transports.
Collection Interval	30 min
Peg Condition	This measurement shall be incremented by one each time the association has been rejected due to IP address validation in the SCTP INITs/INIT-ACKs transmitted by the Adjacent Node. If all is well, the measurement has a zero value. A non-zero value indicates that an Adjacent Node has attempted to connect to the Peer IP Address at least once, but the connection attempt was rejected because the IP address advertised by the Adjacent Node failed validation.
Measurement Scope	NE, Server

Recovery

1. Check the Transport history at **Main Menu** > **Transport Manager** > **Maintenance**.
2. Verify IP network connectivity between the MP server and the Adjacent Nodes IP address using a ping or traceroute command.
3. Verify that the SCTP validation mode is the one that is needed.
4. Verify that the Adjacent Node that represents the far-end of the association is configured with the correct IP address at **Main Menu** > **Transport Manager** > **Configuration** > **Adjacent Node**.
5. Verify that the remote port configured at **Main Menu** > **Transport Manager** > **Configuration** > **Transport** for the association correctly identifies the port that the Adjacent Node is listening on for SCTP connections.
6. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

Association Performance measurements

Table 24: Association Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
TxTrOctets	The number of octets sent on the SCTP/UDP Transport. It does not include SCTP, IP, or Ethernet headers.	30 min
RxTrOctets	The number of octets received on the SCTP/UDP Transport. It does not include SCTP, IP, or Ethernet headers.	30 min

Measurement Tag	Description	Collection Interval
SCTPAssocQueuePeak	The peak SCTP Single Association Writer Queue utilization (0-100%) measured during the collection interval.	30 min
SCTPAssocQueuePeak	The average SCTP Single Association Writer Queue utilization (0-100%) measured during the collection interval.	30 min

TxTrOctets

Measurement ID	9408
Measurement Group	Association Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of octets sent on the association. This includes octets for both DATA and non-DATA M3UA signaling. It does not include SCTP, IP, or Ethernet headers.
Collection Interval	30 min
Peg Condition	This measurement is incremented by the number of octets in the message each time a DATA/non-DATA message is successfully sent on the transport.
Measurement Scope	NE, Server

Recovery

No action required.

RxTrOctets

Measurement ID	9409
Measurement Group	Association Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of octets received on the SCTP/UDP Transport. It does not include SCTP, UDP, IP, or Ethernet headers.
Collection Interval	30 min
Peg Condition	This measurement shall be incremented by the number of octets in the message each time a DATA/non-DATA message is successfully received on the transport.
Measurement Scope	NE, Server

Recovery

No action required.

SCTPAssocQueuePeak

Measurement ID	9169
Measurement Group	Association Performance
Measurement Type	Max
Measurement Dimension	Arrayed
Description	The peak SCTP Single Association Writer Queue utilization (0-100%) measured during the collection interval.
Collection Interval	30 min
Peg Condition	Transport's queue is registered as a Stack Resource. The StackResourceManager thread monitors and updates the maximum Transport Queue utilization sample taken during the collection interval for affected Transport.
Measurement Scope	NE, Server

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum capacity of an MP over several collection intervals, then the number of MPs in the Network Element might need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element, then a MP-specific hardware, software, or configuration problem might exist.
3. See Alarm 19408 - Single Transport Egress-Queue Utilization (refer to the *DSR Alarms and KPIs Reference* for details about this alarm).
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

SCTPAssocQueueAvg

Measurement ID	9170
Measurement Group	Association Performance
Measurement Type	Average
Measurement Dimension	Arrayed
Description	The average SCTP Single Association Writer Queue utilization (0-100%) measured during the collection interval.
Collection Interval	30 min
Peg Condition	The average of all SCTP Single Association Writer Queue utilization samples taken during the collection interval.
Measurement Scope	NE, Server

Recovery

1. This measurement is a measure of how fast the Transport queue is processed and indicates the Average depth of queue over the monitored interval.

2. It is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.
3. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum capacity of an MP over several collection intervals, then the number of MPs in the Network Element might need to be increased.
4. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element, then a MP-specific hardware, software, or configuration problem might exist.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

Association Usage measurements

Table 25: Association Usage Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvTrCnxSuccess	The number of times the SCTP connection was successfully established on the transport. The number of times UDP socket in Listen Mode was opened successfully on the Transport.	30 min
TmAsnBlkNotDown	Number of seconds during the reporting interval during which the association was in the **Blocked** administrative state but was not in ASP-DOWN state. When the association is **Blocked**, the desired protocol state is ASP-DOWN. This measurement indicates the amount of time during the reporting interval for which the association was not in the desired protocol state.	30 min
RxTrOctets	The number of octets received on the SCTP/UDP Transport. It does not include SCTP, IP, or Ethernet headers.	30 min

EvAsnCnxSuccess

Measurement ID	9131
Measurement Group	Association Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per association)
Description	The number of times the SCTP connection was successfully established on the association.
Collection Interval	30 min
Peg Condition	This measurement shall be incremented by one each time the SCTP association reaches the ASP-DOWN protocol state (for example, the connection is successfully established).
Measurement Scope	NE, Server

Recovery

1. If the association is expected to have connected during the measurement reporting interval, no action is necessary. Otherwise, preform the following steps:
2. You can view the transport status can be viewed from the GUI main menu under **Transport Manager** > **Maintenance** > **Transport**.
3. Look in the event history from the GUI main menu under **Alarms & Events** > **View History**. Look for events related to the association or the MP server to determine what might have caused the association to fail.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmAsnBlkNotDown

Measurement ID	9138
Measurement Group	Association Usage
Measurement Type	Duration
Measurement Dimension	Arrayed (per association)
Description	The number of seconds during the reporting interval during which the association was in the **Blocked** administrative state but was not in ASP-DOWN state. When the association is **Blocked**, the desired protocol state is ASP-DOWN. This measurement indicates the amount of time during the reporting interval for which the association was not in the desired protocol state.
Collection Interval	30 min
Peg Condition	Time is accumulated for this measurement during the collection interval when all of the following are true: • The association is in the **Blocked** administrative state. • The association is not in the ASP-DOWN protocol state.
Measurement Scope	NE, Server

Recovery

1. The value of this measurement should be zero. A non-zero value indicates that the association was set to the **Blocked** administrative state, but was not able to reach the desired protocol state due to some problem. You can view the Association status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Associations**.
2. Verify the Adjacent server that represents the far-end of the association is configured with the correct IP address. You can check the configuration from the GUI main menu under **SS7/Sigtran** > **Configuration** > **Adjacent Servers**.
3. Verify he remote port configured for the association correctly identifies the port that the SG is listening on for SCTP connections. You can check the configuration from the GUI main menu under **SS7/Sigtran** > **Configuration** > **Associations** > **Configure**.
4. Verify the IP network connectivity between the MP server and the SG.
5. If the SG must be configured to connect to the MP server's IP address and port, verify that the SG configuration matches the association configuration. You can check the configuration from the GUI main menu under **SS7/Sigtran** > **Configuration** > **Associations** > **Configure**.
6. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmAsnEnaNotUp

Measurement ID	9139
Measurement Group	Association Usage
Measurement Type	Duration
Measurement Dimension	Arrayed (per association)
Description	The time that the association was enabled, but not in the ASP-UP state
Collection Interval	30 min
Peg Condition	Time shall be accumulated for this measurement during the collection interval when all of the following are true: • the association is in the Enabled administrative state • the association is not in the ASP-UP protocol state for any reason
Measurement Scope	NE, Server

Recovery

No action is required.

Communication Agent (ComAgent) Exception measurements

The Communication Agent Exception measurement group is a set of measurements that provide information about exceptions and unexpected messages and events that are specific to the Communication Agent protocol.

Table 26: Communication Agent Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
CADataFIFOQueueFul	StackEvents discarded due to ComAgent DataFIFO queue full condition.	30 min
CADSTxDscrdCong	Number of egress stack events discarded because the congestion level of the connection exceeded the stack events' priority level.	30 min
CAHSRsrcErr	Number of times that ComAgent receives in a heartbeat stack event status concerning a known Resource but an unknown Sub-Resource.	30 min
CAHSTxDscrdCongSR	Number of stack events discarded due to HA Service Sub-Resource congestion.	30 min
CAHSTxDscrdIntErrSR	Number of egress stack events destined to a known Sub-Resource that were discarded due to a ComAgent internal error.	30 min

Measurement Tag	Description	Collection Interval
CAHSTxDscrdUnavailSR	Number of stack events discarded because they were submitted to an Unavailable Sub-Resource of a given Resource.	30 min
CAHSTxDscrdUnknownSR	Number of egress stack events discarded because they referred to a known Resource and an unknown Sub-Resource.	30 min
CAHSTxDscrdUnkwnRsrc	Number of egress stack events discarded because they referred to an unknown Resource.	30 min
CAHSTxRsrc	Number of egress stack events that were routed to a known Resource.	30 min
CAMxFIFOQueueFul	StackEvents discarded due to ComAgent MxFIFO queue full condition.	30 min
CAPSTxDscrdCongPeer	Number of egress events discarded because Peer congestion.	30 min
CAPSTxDscrdUnavailGrp	Number of egress stack events discarded because they referred to a Peer Group which was unavailable.	30 min
CAPSTxDscrdUnkwnGrp	Number of egress stack events discarded because they referred to a Peer Group which was unknown.	30 min
CARsrcPoolFul	ComAgent internal resource pool exhaustion condition	30 min
CARSTxDscrdCong	Number of stack events discarded due to Routed Service congestion.	30 min
CARSTxDscrdSvcUnavail	Number of stack events discarded because they were submitted to an Unavailable Routed Service.	30 min
CARxDiscUnexpEvent	Number of ingress events discarded because it was unexpected in the connection operational state.	30 min
CARxDscrdBundle	Number of ingress bundled event discarded during de-serialization	30 min
CARxDscrdConnUnavail	Number of User Data ingress events discarded because connection was not in-service.	30 min
CARxDscrdDecodeFailed	Number of ingress events discarded because failed to deserialize (event not part of stack service language).	30 min
CARxDscrdIncompat	Number of ingress events discarded because an Incompatible header version is received.	30 min

Measurement Tag	Description	Collection Interval
CARxDscrdInternalErr	Number of ingress events discarded because of other unexpected internal processing error.	30 min
CARxDscrdLayerSendFail	Number of User Data ingress events discarded because layer's sendTo failed.	30 min
CARxDscrdMsgLenErr	Number of ingress events discarded as it doesn't contain enough bytes (less than event header bytes).	30 min
CARxDscrdUnkServer	Number of ingress events discarded because the origination server was unknown/not configured.	30 min
CARxDscrdUnkStkLyr	Number of User Data ingress events discarded because stack layer is not known.	30 min
CARxMsgUnknown	Number of ingress events discarded because stack event was unknown.	30 min
CAStackQueueFul	StackEvents discarded due to ComAgent task queue full condition.	30 min
CATransDscrdInvCorrId	Number of received stack events that were received and discarded because they did not correlate with a pending transaction.	30 min
CATransDscrdStaleErrRsp	Number of times that an error response was discarded because it contained a valid correlation ID value but its originating server was not the last server to which the request was sent.	30 min
CATransEndAbnorm	Number of reliable transactions that terminated abnormally.	30 min
CATransEndAbnormRateAvg	Average rate per second that ComAgent transactions ended abnormally during the collection interval.	30 min
CATransEndAbnormRateMax	Maximum rate per second that ComAgent transactions ended abnormally during the collection interval.	30 min
CATransEndAnsErr	Number of reliable transactions initiated by local User Layers that ended with an error response from a destination server.	30 min
CATransEndErr	Number of reliable transactions initiated by local User Layers that ended abnormally with an error response from a destination server.	30 min

Measurement Tag	Description	Collection Interval
CATransEndNoResources	Number of reliable transactions initiated by local User Layers that ended abnormally due to lack of resources.	30 min
CATransEndNoResponse	Number of reliable transactions initiated by local User Layers that ended abnormally due to a timeout waiting for a response.	30 min
CATransEndUnkwnSvc	Number of reliable transactions initiated by local User Layers that ended abnormally because they referred to an unknown service.	30 min
CATransEndUnregSvc	Number of reliable transactions initiated by local User Layers that ended abnormally because they referred to a known service that lacked a registered User Layer.	30 min
CATransNoReTxMaxTTL	Number of reliable transactions abnormally ended because of Max Time to live exceeded without any retransmits.	30 min
CATransRetx	Number of times stack events were retransmitted.	30 min
CATransReTxExceeded	Number of reliable transactions abnormally ended because of Max number of Retries exceeded.	30 min
CATransStaleSuccessRsp	Number of times that a success response was received from an unexpected server and was accepted to end a transaction.	30 min
CATransTTLExceeded	Number of reliable transactions abnormally ended because of Max Time to live exceeded.	30 min
CATxDscrdConnUnAvail	Number of User Data egress events discarded because connection was not in-service(down/blocked/not aligned).	30 min
CATxDscrdDestUserIncmpat	Number of User Data egress events discarded because the remote doesn't support requested capabilities (either it doesn't support stack or event library or event library version is incompatible)	30 min
CATxDscrdEncodeFail	Number of User Data egress events discarded because of serialization failures	30 min
CATxDscrdInternalErr	Number of egress events discarded because of other unexpected internal processing error.	30 min
CATxDscrdMxSendFail	Number of User Data egress events discarded because of failure reported by MxEndpoint	30 min

Measurement Tag	Description	Collection Interval
CATxDscrdUnknownSvc	Number of non-reliable and non-request (G=0 or R=0) egress stack events discarded because they refer to an unknown service.	30 min
CATxDscrdUnkServer	Number of egress events discarded because the destination server was unknown/not configured.	30 min
CATxDscrdUnregSvc	Number of egress stack events discarded because they reference a known service that has no registered User Layer.	30 min

CADataFIFOQueueFul

Measurement ID	9971
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	StackEvents discarded due to ComAgent DataFIFO queue full condition. This value provides a measure of how many messages are discarded by ComAgent due to ComAgent User Data FIFO Queue full condition.
Collection Interval	30 min
Peg Condition	For each User Data StackEvent that is discarded by ComAgent Stack, due to failure in attempting to put the messages in ComAgent User Data FIFO queue.
Measurement Scope	NE, Server

Recovery

1. This measurement is primarily intended to assist in evaluating the need for additional queue depth tuning or increase in processing capacity at a Network Element.

   If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the queue depth may need to be tuned.

   If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CADSTxDscrdCong

Measurement ID	9841
Measurement Group	ComAgent Exception
Measurement Type	Simple

Measurement Dimension	Single
Description	Number of egress stack events discarded because the congestion level of the connection exceeded the stack events' priority level.
Collection Interval	30 min
Peg Condition	When ComAgent receives a stack event from a local User Layer to be transferred via the direct service and the selected connection has a congestion level greater than the priority level of the stack event.
Measurement Scope	Server

Recovery

1. When this measurement is increasing, it is an indication that the product is experiencing overload. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine if the offered load is expected and exceeds the product's capacity.

   If the load is expected and exceeds the product's capacity, then the capacity should be increased so that the overload condition does not persist or reoccur.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAHSRsrcErr

Measurement ID	9875
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Resource ID)
Description	Number of times that ComAgent receives in a heartbeat stack event status concerning a known Resource but an unknown Sub-Resource.
Collection Interval	30 min
Peg Condition	When ComAgent stores an unexpected Sub-Resource entry in the local Resource Provider Table. An unexpected Sub-Resource involves a known Resource but an unknown Sub-Resource ID (SRID). This condition is associated with Alarm-ID 19848, and only the first instance of an unexpected Sub-Resource is counted, not the repeats caused by multiple unknown Sub-Resources and the periodic heartbeats containing the same information.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** to determine configuration problems.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAHSTxDscrdCongSR

Measurement ID	9872
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Resource ID)
Description	Number of stack events discarded due to HA Service Sub-Resource congestion. During normal operation, this measurement should not be increasing. When this measurement is increasing, it is an indication that the product is experiencing overload.
Collection Interval	30 min
Peg Condition	Stack event submitted to ComAgent by a local User Layer, and the stack event references an HA Service Sub-Resource that has a congestion level greater than the priority level of the stack event.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine if the offered load is expected and exceeds the product's capacity.

   If the load is expected and exceeds the product's capacity, then the capacity should be increased so that the overload condition does not persist or reoccur. If the load does not exceed the pproduct's capacity, then check the status of the servers hosting the Resource Providers to trouble-shoot the cause of the overload.

   This measurement may not indicate an error if the discarded stack event was a reliable request, the Reliable Transfer Function was able to re-attempt, and the subsequent attempt got through.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAHSTxDscrdIntErrSR

Measurement ID	9874
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Resource ID)
Description	Number of egress stack events destined to a known Sub-Resource that were discarded due to a ComAgent internal error.
Collection Interval	30 min
Peg Condition	User Layer submits to ComAgent an egress stack event destined to a known Sub-Resource and that is discarded due to a ComAgent internal error

Measurement Scope	Server

Recovery

1. Check other ComAgent measurements, alarms, and events to determine the source of the abnormality causing this measurement to arise.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

CAHSTxDscrdUnavailSR

Measurement ID	9871
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Resource ID)
Description	Number of stack events discarded because they were submitted to an Unavailable Sub-Resource of a given Resource. During normal operation, this measurement should not be increasing. Each count of this measurement indicates that a local application attempted to send a stack event to another server using an HA Service Sub-Resource, but the event was discarded due to the Sub-Resource being unavailable.
Collection Interval	30 min
Peg Condition	Stack event submitted to ComAgent by a local User Layer, and the stack event references an Unavailable Sub-Resource.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **HA Services Status** to diagnose the cause of routing failures.

   If a discarded stack event was a request from a reliable transaction and the routing failure was due to a temporary condition, then it is possible that the transaction completed successfully using one or more retransmit attempts.

   This measurement may not indicate an error if the discarded stack event was a reliable request, the Reliable Transfer Function was able to re-attempt, and the subsequent attempt got through.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAHSTxDscrdUnknownSR

Measurement ID	9870
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Resource ID)
Description	Number of egress stack events discarded because they referred to a known Resource and an unknown Sub-Resource. During

	normal operation this measurement should be 0. A non-zero value for this measurement indicates that ComAgent is improperly configured to support a local application.
Collection Interval	30 min
Peg Condition	User Layer submits to ComAgent an egress stack event that refers to an unknown Sub-Resource.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **HA Services Status** to verify that all HA Service Sub-Resources expected by local applications are present and operating.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAHSTxDscrdUnkwnRsrc

Measurement ID	9873
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of egress stack events discarded because they referred to an unknown Resource.
Collection Interval	30 min
Peg Condition	User Layer submits to ComAgent an egress stack event that refers to an unknown Resource.
Measurement Scope	Server

Recovery

1.
2. Use **Main Menu** > **Communication Agent** > **Maintenance** > **HA Services Status** to verify that all HA Service Sub-Resources expected by local applications are present and operating.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAHSTxRsrc

Measurement ID	9876
Measurement Group	ComAgent Performance, ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Resource ID)
Description	Number of egress stack events that were routed to a known Resource.
Collection Interval	30 min

Peg Condition	User Layer submits to ComAgent an egress stack event destined to a known Resource.
Measurement Scope	Server

Recovery

No action required.

CAMxFIFOQueueFul

Measurement ID	9970
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	StackEvents discarded due to ComAgent MxFIFO queue full condition. This value provides a measure of how many messages are discarded by ComAgent due to ComAgent internal connection MxFIFO Queue full condition.
Collection Interval	30 min
Peg Condition	For each User Data StackEvent that is discarded by ComAgent Stack, due to failure in attempting to put the messages in ComAgent internal connection MxFIFO queue.
Measurement Scope	NE, Server

Recovery

1. This measurement is primarily intended to assist in evaluating the need for additional queue depth tuning or increase in processing capacity at a Network Element.

   If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the queue depth may need to be tuned.

   If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAPSTxDscrdUnkwnGrp

Measurement ID	8013
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of egress stack events discarded because they referred to a Peer Group which was unknown
Collection Interval	30 min

Peg Condition	For each stack event submitted to ComAgent by a local User Layer and the stack event reference an Unknown Peer Group
Measurement Scope	Server

Recovery

1. A non-zero value of this measurement indicates that a local User Layer is malfunctioning and is attempting to use a Peer Group which it has not configured.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAPSTxDscrdUnavailGrp

Measurement ID	8014
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Group ID)
Description	The number of egress stack events discarded because they referred to a Peer Group which was unavailable
Collection Interval	30 min
Peg Condition	For each stack event submitted to ComAgent by a local User Layer and the stack event reference an Unavailable Peer Group
Measurement Scope	Server

Recovery

1. Each count of this measurement indicates that a local User Layer attempted to send a stack event to a remote server using ComAgent Peer Group Service, but the event was discarded due to the specified Peer Group being unavailable. The Peer Group may become unavailable due to:
   - Local User Layer performed maintenance action on the Peer Group that result in a loss of communication between servers.
   - Network problems that result in a loss of communication between servers.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAPSTxDscrdCongPeer

Measurement ID	8017
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Group ID)
Description	The number of egress stack events discarded because of Peer congestion.
Collection Interval	30 min

Peg Condition	For each stack event submitted to ComAgent by a local User Layer and the active Peer in the Peer Group has a congestion level greater than the priority level of the stack event.
Measurement Scope	Server

Recovery

1. Check the **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** screens to determine if the offered load is expected and exceeds the product's capacity.

   If the load is expected and exceeds the product's capacity, then the capacity should be increased so that the overload condition does not persist or reoccur.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CARsrcPoolFul

Measurement ID	9859
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	ComAgent internal resource pool exhaustion condition.
Collection Interval	30 min
Peg Condition	This is to track the measure of the internal resource (Ex: CommMessage Resource pool) exhaustion condition for a given interval. For each resource allocation/access attempt that result in resource pool manager returning an indication that the maximum resources reserved are allocated and are in-use. When this condition occurs ComAgent tries to allocate a new resource from heap and relists it after its life cycle (Ex: CommMessage objects required for user data traffic for MxEndpoint interface).
Measurement Scope	NE, Server

Recovery

This value provides a measure of how many times pre-allocated resources are exhausted in ComAgent interfaces.

This measurement is primarily intended for performance analysis and to assist in evaluating the need for any additional engineering processing capacity or tuning.

CARSTxDscrdCong

Measurement ID	9843
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)

Description	Number of stack events discarded due to Routed Service congestion.
Collection Interval	30 min
Peg Condition	Stack event submitted to ComAgent by a local User Layer, and the stack event references a Routed Service that has a congestion level greater than the priority level of the stack event.
Measurement Scope	Server

Recovery

1. Check the **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** screens to determine if the offered load is expected and exceeds the product's capacity.

   If the load is expected and exceeds the product's capacity, then the capacity should be increased so that the overload condition does not persist or reoccur.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CARSTxDscrdInternalErr

Measurement ID	9867
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of egress events discarded because of another Routed Service internal error
Collection Interval	30 min
Peg Condition	Each time an egress event is discarded because of another Router Service internal error
Measurement Scope	Server

Recovery

It is recommended to contact *My Oracle Support (MOS)* for assistance.

CARSTxDscrdSvcUnavail

Measurement ID	9830
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of stack events discarded because they were submitted to an Unavailable Routed Service.
Collection Interval	30 min

Peg Condition	Stack event submitted to ComAgent by a local User Layer, and the stack event references an Unavailable Routed Service. **Note:** Each count of this measurement indicates that a local application attempted to send a stack event to another server using a Routed Service, but the event was discarded due to the Routed Service being unavailable. Routing failures can occur due to: • Maintenance actions are performed that result in a loss of communication between servers. • Network problems result in a loss of communication between servers. • Server overload can result in routes becoming unavailable for some stack events.
Measurement Scope	Server

Recovery

1. Check the **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** screens to further diagnose the cause of routing failures.

   If a discarded stack event was a request from a reliable transaction and the routing failure was due to a temporary condition, then it is possible that the transaction completed successfully using one or more retransmit attempts.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CARxDiscUnexpEvent

Measurement ID	9826
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ingress events discarded because it was unexpected in the connection operational state
Collection Interval	30 min
Peg Condition	For each ingress StackEvent that is discarded by ComAgent Stack, due to StackEvent received in unexpected connection state.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many ingress messages are discarded by ComAgent due to message received in unexpected connection state.

CARxDscrdBundle

Measurement ID	9994
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ingress bundled event discarded during routing.
Collection Interval	30 min
Peg Condition	Each time an ingress bundled event is discarded during routing
Measurement Scope	Site

Recovery

No action required

CARxDscrdConnUnavail

Measurement ID	
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	
Description	Number of User Data ingress events discarded because connection was not in-service.
Collection Interval	30 min
Peg Condition	For each User Data ingress StackEvent received from configured service peer server with connection status not “in-service”.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data ingress messages are discarded by ComAgent for the data messages received in connection not in “in-service” state.

CARxDscrdDecodeFailed

Measurement ID	9810
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single

Description	Number of ingress events discarded because failed to deserialize (event not part of stack service language).
Collection Interval	30 min
Peg Condition	For each StackEvent received from a configured peer server that resulted in any decode failures within ComAgent Stack.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many ingress messages are discarded by ComAgent due to internal decode error condition.

CARxDscrdIncompat

Measurement ID	9825
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ingress events discarded because an Incompatible header version is received.
Collection Interval	30 min
Peg Condition	For each ingress StackEvent that is discarded by ComAgent Stack, due to unsupported base header version, as indicated in StackEvent.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many ingress messages are discarded by ComAgent due to incompatible base header version of base software event library.

CARxDscrdInternalErr

Measurement ID	9818
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ingress events discarded because of other unexpected internal processing error.
Collection Interval	30 min

Peg Condition	For each ingress StackEvent that is discarded by ComAgent Stack, due to internal processing errors for conditions not covered by other meas-pegs.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many ingress messages are discarded by ComAgent due to internal software processing errors for conditions not covered by other measurement pegs.

CARxDscrdLayerSendFail

Measurement ID	9812
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data ingress events discarded because layer's sendTo failed.
Collection Interval	30 min
Peg Condition	For each User Data StackEvent received from a configured service peer server and resulted in send failure to the destination stack layer.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data ingress messages are discarded by ComAgent due to internal send failure to destination stack layer.

CARxDscrdMsgLenErr

Measurement ID	9808
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ingress events discarded as it doesn't contain enough bytes (less than event header bytes).
Collection Interval	30 min
Peg Condition	For each StackEvent received from configured peer with message size less than the minimum required Header.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many ingress messages are discarded by Communication Agent due to message size error.

CARxDscrdUnkServer

Measurement ID	9820
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ingress events discarded because the origination server was unknown/not configured.
Collection Interval	30 min
Peg Condition	For each ingress StackEvent that is discarded by ComAgent Stack, due to unknown origination IP address contents in StackEvent.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many ingress messages are discarded by ComAgent due to unknown origination IP address in StackEvent.

CARxDscrdUnkStkLyr

Measurement ID	9811
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data ingress events discarded because stack layer is not known.
Collection Interval	30 min
Peg Condition	For each User Data ingress StackEvent received by Communication Agent Stack, for an unknown destination stack.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many ingress messages are discarded by Communication Agent , as the destination stack is not registered/known.

CARxMsgUnknown

Measurement ID	9809
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ingress events discarded because stack event was unknown.
Collection Interval	30 min
Peg Condition	For each undefined StackEvent received from one of the configured peer server.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many ingress messages are discarded by ComAgent as the message is not defined/known to ComAgent Stack.

CAStackQueueFul

Measurement ID	9829
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed
Description	StackEvents discarded due to ComAgent task queue full condition.
Collection Interval	30 min
Peg Condition	For each User Data egress StackEvent that is discarded by ComAgent Stack, due to failure in attempting to put the messages in ComAgent Egress Task Queue.
Measurement Scope	NE, Server

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransDscrdInvCorrId

Measurement ID	9832
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of received stack events that were received and discarded because they did not correlate with a pending transaction.
Collection Interval	30 min
Peg Condition	ComAgent receives a response stack event that contains a correlation ID that does not match a pending transaction record.
Measurement Scope	Server

Recovery

This measurement indicates that one or more destination servers are either responding to requests after a transaction has ended or are sending invalid responses. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransDscrdStaleErrRsp

Measurement ID	9833
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of times that an error response was discarded because it contained a valid correlation ID value but its originating server was not the last server to which the request was sent.
Collection Interval	30 min
Peg Condition	ComAgent receives an error response stack event that has a correlation ID for an existing pending transaction record but that is originated from a different server than to which the request was last sent. This measurement indicates that one or more servers are responding with errors to requests after the local ComAgent has retransmitted the requests to other destination servers. This could occur due to: • Network problems result in intermittent loss of communication between servers. • Server overload results in delayed responses
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to check the status of the far-end servers and look for signs of overload.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransEndAbnorm

Measurement ID	9834
Measurement Group	ComAgent Exception, ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions that terminated abnormally.
Collection Interval	30 min
Peg Condition	• Transaction times-out waiting for a response, and the maximum number of transmits has been reached. • Transaction time-to-live limit is exceeded. • Transaction terminated due to lack of resources. **Note:** This measurement is NOT pegged for these conditions: • Transaction involves an unknown service. • Transaction involves an unregistered Routed Service.
Measurement Scope	Server

Recovery

1. Check the ComAgent Exception report to further diagnose the reasons why transactions are failing.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransEndAbnormRateAvg

Measurement ID	9865
Measurement Group	ComAgent Performance, ComAgent Exception
Measurement Type	Average
Measurement Dimension	Arrayed (by Service ID)
Description	Average rate per second that ComAgent transactions ended abnormally during the collection interval.
Collection Interval	30 min
Peg Condition	Rate of transaction failures due to final timeouts. Failed Transaction Rate monitoring is an average rate using a sliding-metric algorithm. The average transaction failure rate is a running average, smoothed over approximately 10 seconds. This measurement provides the average rate per second that ComAgent transactions were started. This measurement is useful during troubleshooting when compared to other measurements.

Measurement Scope	Server

Recovery

No action necessary.

CATransEndAbnormRateMax

Measurement ID	9866
Measurement Group	ComAgent Performance, ComAgent Exception
Measurement Type	Max
Measurement Dimension	Arrayed (by Service ID)
Description	Maximum rate per second that ComAgent transactions ended abnormally during the collection interval.
Collection Interval	30 min
Peg Condition	Rate of transaction failures due to final timeouts. Failed Transaction Rate monitoring is an average rate using a sliding-metric algorithm. The average transaction failure rate is a running average, smoothed over approximately 10 seconds. This measurement provides the maximum rate per second that ComAgent transactions were started. This measurement is useful during troubleshooting when compared to other measurements.
Measurement Scope	Server

Recovery

No action necessary.

CATransEndAnsErr

Measurement ID	9845
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions initiated by local User Layers that ended with an error response from a destination server.
Collection Interval	30 min
Peg Condition	When a reliable response stack event (G=1, A=1, E=1) is received from a server to which a request was sent, and the response corresponds to a pending transaction record.
Measurement Scope	Server

Recovery

No action necessary.

This measurement has value when compared against other measurements. Server applications may respond with errors as part of normal operations, as seen by ComAgent.

CATransEndErr

Measurement ID	9846
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions initiated by local User Layers that ended abnormally with an error response from a destination server.
Collection Interval	30 min
Peg Condition	When a valid reliable response stack event (G=1, A=0, E=1) is received from a server to which a request was sent, and the response corresponds to a pending transaction record. This measurement indicates that one or more destination servers are unable to process reliable requests received from the local server. This can be caused due to maintenance actions, server overload, and unexpected conditions in software.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine network and server communications.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransEndNoResources

Measurement ID	9848
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions initiated by local User Layers that ended abnormally due to lack of resources.
Collection Interval	30 min
Peg Condition	ComAgent receives a reliable request (G=1, R=1) from a local User Layer and ComAgent is unable to allocate resources to process the transaction. This measurement indicates that the local server is exhausting its resources for processing reliable transactions. This can result when the combination of transaction rate and response delays exceeds engineered limits. High transaction rates can result from local server overload. Excess response delays can result from

	overloaded destination servers and problems in the network between servers.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine network and server communications.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransEndNoResponse

Measurement ID	9847
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions initiated by local User Layers that ended abnormally due to a timeout waiting for a response.
Collection Interval	30 min
Peg Condition	Limit on the number of retransmits is reached with no response and limit on the transaction time-to-live is exceeded. This measurement indicates that one or more destination servers are unable to process reliable requests received from the local server. This can be caused due to maintenance actions, server overload, and unexpected conditions in software.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine network and server communications.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransEndUnkwnSvc

Measurement ID	9842
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of reliable transactions initiated by local User Layers that ended abnormally because they referred to an unknown service.
Collection Interval	30 min

Peg Condition	ComAgent receives a reliable request (G=1, R=1) from a local User Layer that refers to an unknown service. This measurement indicates improper configuration of ComAgent and/or a User Layer application.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Configuration** > **Routed Services** to confirm that all services expected by local applications are present.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

CATransEndUnregSvc

Measurement ID	9861
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of reliable transactions initiated by local User Layers that ended abnormally because they referred to a known service that lacked a registered User Layer.
Collection Interval	30 min
Peg Condition	ComAgent receives a reliable request (G=1, R=1) from a local User Layer that refers to a known service that has no registered User Layer.
Measurement Scope	Server

Recovery

A non-zero value in this measurement indicates a software malfunction. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransNoReTxMaxTTL

Measurement ID	9895
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions abnormally ended because of Max Time to live exceeded without any retransmits.
Collection Interval	30 min
Peg Condition	Maximum Time To Live period exceeded with no retransmission attempts and no response received for the transaction. This measurement provides a measure of abnormal transactions due to maximum time to live period exceeded condition (Without any

	retransmits) and no response is received from remote. Such abnormal transactions can be due to: • Server overload that can result in delayed responses. • Unexpected conditions in software.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine network and server communications.
2. It is recommended to contact *My Oracle Support (MOS)* if assistance is needed

CATransRetx

Measurement ID	9831
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of times stack events were retransmitted.
Collection Interval	30 min
Peg Condition	ComAgent reliable transaction retransmit timer expires and the limit on the number of retransmits has not been reached. When this measurement is increasing, it indicates that communication between servers is experiencing unexpectedly high latency and/or packet loss. Retransmissions can occur due to: • Maintenance actions are performed that result in a loss of communication between servers. • Network problems result in a loss of communication between servers. • Server overload can result in delayed responses.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine network and server communications.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransReTxExceeded

Measurement ID	9894
Measurement Group	ComAgent Exception
Measurement Type	Simple

Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions abnormally ended because of Max number of Retries exceeded.
Collection Interval	30 min
Peg Condition	Number of retransmits limit is reached with no response received for the transaction. This measurement provides a measure of abnormal transactions due to maximum number of retransmission exceeded condition awaiting response from remote. Such abnormal transactions can be due to: • Maintenance actions performed that result in a loss of communication between servers. • Server overload that can result in delayed responses. • Unexpected conditions in software.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine network and server communications.
2. It is recommended to contact *My Oracle Support (MOS)* if assistance is needed

CATransStaleSuccessRsp

Measurement ID	9862
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of times that a success response was received from an unexpected server and was accepted to end a transaction.
Collection Interval	30 min
Peg Condition	ComAgent receives a success response stack event (G=1, A=1, E=1) that has a correlation ID for an existing pending transaction record but that is originated from a different server than to which the request was last sent. This measurement indicates that a Routed Service received a success response from an unexpected server. This most commonly occurs if a server is slow to respond, ComAgent retransmits a request to another server, and then the original server finally responds to the request.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to diagnose stale responses.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransTTLExceeded

Measurement ID	9893
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions abnormally ended because of Max Time to live exceeded.
Collection Interval	30 min
Peg Condition	Maximum Time To Live period exceeded with at least one retransmission attempted and no response received for the transaction. This measurement provides a measure of abnormal transactions due to maximum time to live period exceeded condition (Where at least one retransmission was also attempted) and no response is received from remote. Such abnormal transactions can be due to: • Maintenance actions performed that result in a loss of communication between servers. • Server overload that can result in delayed responses. • Unexpected conditions in software.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Maintenance** > **Routed Services Status** and **Main Menu** > **Communication Agent** > **Maintenance** > **Connection Status** to determine network and server communications.
2. It is recommended to contact *My Oracle Support (MOS)* if assistance is needed

CATxDscrdBundle

Measurement ID	9993
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of egress bundled event discarded during routing.
Collection Interval	30 min
Peg Condition	Each time an egress bundled event is discarded during routing
Measurement Scope	Site

Recovery

No action required

CATxDscrdConnUnAvail

Measurement ID	9802
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data egress events discarded because connection was not in-service(down/blocked/not aligned).
Collection Interval	30 min
Peg Condition	For each User Data egress StackEvent that is discarded by ComAgent Stack, due to connection status not being in-service.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data egress messages are discarded by ComAgent due to connection unavailability reasons.

CATxDscrdDestUserIncmpat

Measurement ID	9803
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data egress events discarded because the remote doesn't support requested capabilities (either it doesn't support stack or event library or event library version is incompatible).
Collection Interval	30 min
Peg Condition	For each User Data egress StackEvent that is discarded by Communication Agent Stack, due to incompatibility in requested library id/version and the one known by Communication Agent.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data egress messages are discarded by Communication Agent due to remote not supporting requested capabilities.

CATxDscrdEncodeFail

Measurement ID	9804
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data egress events discarded because of serialization failures.
Collection Interval	30 min
Peg Condition	For each User Data egress StackEvent that is discarded by Communication Agent Stack, due to any local encode failures.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data egress messages are discarded by Communication Agent due to local encode failure.

CATxDscrdInternalErr

Measurement ID	9817
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of egress events discarded because of other unexpected internal processing error.
Collection Interval	30 min
Peg Condition	For each egress StackEvent that is discarded by ComAgent Stack, due to internal processing errors for conditions not covered by other meas-pegs.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many egress messages are discarded by ComAgent due to internal software processing errors for conditions not covered by other measurement pegs.

CATxDscrdMxSendFail

Measurement ID	9805

Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data egress events discarded because of failure reported by MxEndpoint.
Collection Interval	30 min
Peg Condition	For each User Data egress StackEvent that is discarded by Communication Agent Stack, due to send failure as indicated by underlying transport.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data egress messages are discarded by Communication Agent due to transport reported error condition.

CATxDscrdUnknownSvc

Measurement ID	9849
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of non-reliable and non-request (G=0 or R=0) egress stack events discarded because they refer to an unknown service.This measurement indicates that ComAgent is improperly configured to support a local application.
Collection Interval	30 min
Peg Condition	User Layer submits to ComAgent a non-reliable or non-request (G=0 or R=0) egress stack event that refers to an unknown service.
Measurement Scope	Server

Recovery

1. Use **Main Menu** > **Communication Agent** > **Configuration** > **Routed Services** screen to verify that all Routed Services expected by local applications are properly configured.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATxDscrdUnkServer

Measurement ID	9819
Measurement Group	ComAgent Exception
Measurement Type	Simple

Measurement Dimension	Single
Description	Number of egress events discarded because the destination server was unknown/not configured.
Collection Interval	30 min
Peg Condition	For each egress StackEvent that is discarded by ComAgent Stack, due to unknown destination IP address contents in StackEvent.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many egress messages are discarded by ComAgent due to unknown destination IP address in StackEvent.

CATxDscrdUnregSvc

Measurement ID	9860
Measurement Group	ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of egress stack events discarded because they reference a known service that has no registered User Layer.
Collection Interval	30 min
Peg Condition	User Layer submits to ComAgent an egress stack event that refers to a known service that lacks a registered User Layer.
Measurement Scope	Server

Recovery

A non-zero measurement indicates that a local application is malfunctioning and is attempting to use a service for which it has not registered. It is recommended to contact *My Oracle Support (MOS)* for assistance.

Communication Agent (ComAgent) Performance measurements

The Communication Agent Performance measurement group is a set of measurements that provide performance information that is specific to the Communication Agent protocol. These measurements will allow the user to determine how many messages are successfully forwarded and received to and from each DSR Application.

Table 27: Communication Agent Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
CAAvgDataFIFOQueueUtil	Average percentage of ComAgent DataFIFO Queue Utilization	30 min
CAAvgMxFIFOQueueUtil	Average percentage of ComAgent MxFIFO Queue Utilization	30 min
CAAvgQueueUtil	Average percentage of Queue Utilization.	30 min
CAAvgRsrcPoolUtil	Average percentage of internal resource pool utilization	30 min
CAAvgRxStackEvents	Average Number of User Data ingress events received.	30 min
CAAvgTxStackEvents	Average Number of User Data egress events received from stacks to deliver it to remote.	30 min
CADSTx	Number of User Data egress events specifically for the default Direct Service.	30 min
CAHSTxRsrc	Number of egress stack events that were routed to a known Resource.	30 min
CAHSTxRsrcRateAvg	Average rate per second of egress stack events routed to a known Resource.	30 min
CAHSTxRsrcRateMax	Maximum rate per second of egress stack events routed to a known Resource	30 min
CAPeakDataFIF0QueueUtil	Maximum percentage of ComAgent DataFIFO Queue Utilization	30 min
CAPeakMxFIFOQueueUtil	Maximum percentage of ComAgent MxFIFO Queue Utilization	30 min
CAPeakQueueUtil	Maximum percentage of Queue Utilization.	30 min
CAPeakRsrcPoolUtil	Maximum percentage of internal resource pool utilization	30min
CAPeakRxStackEvents	Maximum Number of User Data ingress events received.	30 min
CAPeakTxStackEvents	Maximum Number of User Data egress events received from stacks to deliver it to remote.	30 min
CAPSTxGrpSuccess	Number of egress stack events successfully routed to a known Peer Group.	30 min

Measurement Tag	Description	Collection Interval
CAPSTxGrp	Number of egress stack events submitted to the PG Service to be routed to a known Peer Group.	30 min
CARSTx	Number of stack events submitted to a Routed Service for routing.	30 min
CARx	Number of User Data ingress events received from a peer server.	30 min
CARxSuccess	Number of User Data ingress events successfully routed to local layers.	30 min
CATransEndAbnorm	Number of reliable transactions that terminated abnormally.	30 min
CATransEndAbnormRateAvg	Average rate per second that ComAgent transactions ended abnormally during the collection interval.	30 min
CATransEndAbnormRateMax	Maximum rate per second that ComAgent transactions ended abnormally during the collection interval.	30 min
CATransEndNorm	Number of reliable transactions initiated by local User Layers that ended normally with a response from a destination server.	30 min
CATransPendingAvg	Average number of allocated pending transaction records over the collection interval.	30 min
CATransPendingMax	Maximum number of allocated pending transaction records.	30 min
CATransRateAvg	Average rate per second that ComAgent transactions were started during the collection interval.	30 min
CATransRateMax	Maximum rate per second that ComAgent transactions were started during the collection interval.	30 min
CATransStarted	Number of reliable transactions initiated by local User Layers.	30 min
CATransTimeAvg	Average transaction life-time in milliseconds.	30 min
CATransTimeMax	Maximum transaction life-time in milliseconds.	30 min
CATx	Number of User Data egress events received on Communication Agent task	30 min

Measurement Tag	Description	Collection Interval
	queue from local stacks to deliver it to a peer server.	
CATxSuccess	Number of User Data egress events successfully delivered to a peer server.	30 min

CAAvgDataFIFOQueueUtil

Measurement ID	9969
Measurement Group	ComAgent Performance
Measurement Type	Average
Measurement Dimension	Arrayed
Description	Average percentage of ComAgent DataFIFO Queue Utilization.
Collection Interval	30 min
Peg Condition	The average ComAgent connection DataFIFO Queue utilization sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

1. This measurement is primarily intended to assist in evaluating any issues with ComAgent User Data StackEvent processing and thread scheduling.

   If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the queue depth may need to be tuned.

   If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAAvgMxFIFOQueueUtil

Measurement ID	9967
Measurement Group	ComAgent Performance
Measurement Type	Average
Measurement Dimension	Arrayed
Description	Average percentage of ComAgent MxFIFO Queue Utilization.
Collection Interval	30 min
Peg Condition	The average ComAgent connection MxFIFO Queue utilization sample taken during the collection interval.

Measurement Scope	NE, Server

Recovery

1. This measurement is primarily intended to assist in evaluating any issues with internal StackEvent processing and thread scheduling.

   If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the queue depth may need to be tuned.

   If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAAvgQueueUtil

Measurement ID	9828
Measurement Group	ComAgent Performance
Measurement Type	Average
Measurement Dimension	Arrayed
Description	Average percentage of Queue Utilization.
Collection Interval	30 min
Peg Condition	The average ComAgent Egress Task Queue utilization sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAAvgRsrcPoolUtil

Measurement ID	9858
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Average percentage of internal resource pool utilization.
Collection Interval	30 min

Peg Condition	This is to track the measure of average usage of the internal resource (Ex: CommMessage Resource pool) for a given interval.
Measurement Scope	NE, Server

Recovery

This measurement is primarily intended to assist in evaluating the need for additional processing or performance capacity tuning on a node.

If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of a node over several collection intervals, then the internal engineering resource pool capacity or other dependent parameters may need to be tuned, so that it does not result in unaccounted latency.

CAAvgRxStackEvents

Measurement ID	9822
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Average Number of User Data ingress events received.
Collection Interval	30 min
Peg Condition	The average User Data ingress StackEvent sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of Average Value during the interval, for number of User Data messages received from remote.

CAAvgTxStackEvents

Measurement ID	9816
Measurement Group	ComAgent Performance
Measurement Type	Average
Measurement Dimension	Single
Description	Average Number of User Data egress events received from stacks to deliver it to remote.
Collection Interval	30 min

Peg Condition	The average User Data egress StackEvent sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of Average Value during the interval, for number of User Data messages transmitted to remote.

CADSTx

Measurement ID	9814
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data egress events specifically for the default Direct Service.
Collection Interval	30 min
Peg Condition	For each User Data egress StackEvent received specifically for the default Direct Service and processed by ComAgent Stack.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data egress messages are received by ComAgent to be transmitted from hosting server to destined remote server using default Direct "EventTransfer" Service.

CAHSTxRsrc

Measurement ID	9876
Measurement Group	ComAgent Performance, ComAgent Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Resource ID)
Description	Number of egress stack events that were routed to a known Resource.
Collection Interval	30 min
Peg Condition	User Layer submits to ComAgent an egress stack event destined to a known Resource.
Measurement Scope	Server

Recovery

No action required.

CAHSTxRsrcRateAvg

Measurement ID	9877
Measurement Group	ComAgent Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Resource ID)
Description	Average rate per second of egress stack events routed to a known Resource.
Collection Interval	30 min
Peg Condition	Based upon the SysMetric.
Measurement Scope	Server

Recovery

No action required.

CAHSTxRsrcRateMax

Measurement ID	9878
Measurement Group	ComAgent Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Resource ID)
Description	Maximum rate per second of egress stack events routed to a known Resource.
Collection Interval	30 min
Peg Condition	Based upon the SysMetric.
Measurement Scope	Server

Recovery

No action required.

CAPeakDataFIFOQueueUtil

Measurement ID	9968
Measurement Group	ComAgent Performance
Measurement Type	Max
Measurement Dimension	Arrayed
Description	Maximum percentage of ComAgent DataFIFO Queue Utilization.

Collection Interval	30 min
Peg Condition	The maximum ComAgent DataFIFO Queue utilization sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

1. This measurement is primarily intended to assist in evaluating any issues with ComAgent User Data StackEvent processing and thread scheduling.

   If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the queue depth may need to be tuned.

   If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAPeakMxFIFOQueueUtil

Measurement ID	9966
Measurement Group	ComAgent Performance
Measurement Type	Max
Measurement Dimension	Arrayed
Description	Maximum percentage of ComAgent MxFIFO Queue Utilization.
Collection Interval	30 min
Peg Condition	The maximum ComAgent connection MxFIFO Queue utilization sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

1. This measurement is primarily intended to assist in evaluating any issues with internal StackEvent processing and thread scheduling.

   If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the queue depth may need to be tuned.

   If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.

2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAPeakQueueUtil

Measurement ID	9827
Measurement Group	ComAgent Performance

Measurement Type	Simple
Measurement Dimension	Arrayed
Description	Maximum percentage of Queue Utilization.
Collection Interval	30 min
Peg Condition	The maximum ComAgent Egress Task Queue utilization sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CAPeakRsrcPoolUtil

Measurement ID	9857
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Maximum percentage of internal resource pool utilization.
Collection Interval	30 min
Peg Condition	This is to track the measure of maximum usage of the internal resource (Ex: CommMessage Resource pool) for a given interval.
Measurement Scope	NE, Server

Recovery

This measurement is primarily intended to assist in evaluating the need for additional processing or performance capacity tuning on a node.

If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of a node over several collection intervals, then the internal engineering resource pool capacity or other dependent parameters may need to be tuned, so that it does not result in unaccounted latency.

CAPeakRxStackEvents

Measurement ID	9821
Measurement Group	ComAgent Performance

Measurement Type	Simple
Measurement Dimension	Single
Description	Maximum Number of User Data ingress events received.
Collection Interval	30 min
Peg Condition	The maximum User Data ingress StackEvent sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of Peak Value during the interval, for number of User Data messages received from remote.

CAPeakTxStackEvents

Measurement ID	9815
Measurement Group	ComAgent Performance
Measurement Type	Max
Measurement Dimension	Single
Description	Maximum Number of User Data egress events received from stacks to deliver it to remote.
Collection Interval	30 min
Peg Condition	The maximum User Data egress StackEvent sample taken during the collection interval.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of Peak Value during the interval, for number of User Data messages transmitted to remote.

CAPSTxGrp

Measurement ID	8015
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Group ID)
Description	The number of egress stack events submitted to the Peer Group Service to be routed to a known Peer Group.

Collection Interval	30 min
Peg Condition	For each stack event submitted to ComAgent Peer Group Service by a local User Layer
Measurement Scope	Server

Recovery

No action required. This measurement is useful when compared with other Peer Group Service measurements.

CAPSTxGrpSuccess

Measurement ID	8016
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Group ID)
Description	The number of egress stack events successfully routed to a known Peer Group.
Collection Interval	30 min
Peg Condition	For each stack event submitted to ComAgent Peer Group Service by a local User Layer and successfully routed
Measurement Scope	Server

Recovery

No action required. This measurement is useful when compared with other Peer Group Service measurements.

CARSTx

Measurement ID	9844
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of stack events submitted to a Routed Service for routing.
Collection Interval	30 min
Peg Condition	Stack event submitted to ComAgent Routed Service by a local User Layer
Measurement Scope	Server

Recovery

No action necessary

CARx

Measurement ID	9806
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data ingress events received from a peer server.
Collection Interval	30 min
Peg Condition	For each User Data StackEvent received from one of the configured peer and processed by Communication Agent Stack.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data ingress messages are received by Communication Agent to be transmitted to local hosting stack. This measurement count should be equal to the summation of User Data ingress events success and all User Data ingress events discards measurement counts

CARxBundled

Measurement ID	9986
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ComAgent Bundled events received by ComAgent
Collection Interval	30 min
Peg Condition	Each time a ComAgent Bundled event is received by ComAgent
Measurement Scope	Site

Recovery

No action required

CARxEventsBundled

Measurement ID	9988
Measurement Group	ComAgent Performance

Measurement Type	Simple
Measurement Dimension	Single
Description	Number of stackevents received in ComAgent Bundled events
Collection Interval	30 min
Peg Condition	Each time a stackevent is received in ComAgent Bundled events
Measurement Scope	Site

Recovery

No action required

CARxSuccess

Measurement ID	9807
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data ingress events successfully routed to local layers.
Collection Interval	30 min
Peg Condition	For each User Data StackEvent received from a peer server and successfully transmitted to the local stack.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data ingress messages are received by Communication Agent and are successfully transmitted to local hosting stack.

CATransEndAbnorm

Measurement ID	9834
Measurement Group	ComAgent Exception, ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions that terminated abnormally.
Collection Interval	30 min
Peg Condition	• Transaction times-out waiting for a response, and the maximum number of transmits has been reached.

- Transaction time-to-live limit is exceeded.
- Transaction terminated due to lack of resources.

Note: This measurement is NOT pegged for these conditions:

- Transaction involves an unknown service.
- Transaction involves an unregistered Routed Service.

Measurement Scope	Server

Recovery

1. Check the ComAgent Exception report to further diagnose the reasons why transactions are failing.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

CATransEndAbnormRateAvg

Measurement ID	9865
Measurement Group	ComAgent Performance, ComAgent Exception
Measurement Type	Average
Measurement Dimension	Arrayed (by Service ID)
Description	Average rate per second that ComAgent transactions ended abnormally during the collection interval.
Collection Interval	30 min
Peg Condition	Rate of transaction failures due to final timeouts. Failed Transaction Rate monitoring is an average rate using a sliding-metric algorithm. The average transaction failure rate is a running average, smoothed over approximately 10 seconds. This measurement provides the average rate per second that ComAgent transactions were started. This measurement is useful during troubleshooting when compared to other measurements.
Measurement Scope	Server

Recovery

No action necessary.

CATransEndAbnormRateMax

Measurement ID	9866
Measurement Group	ComAgent Performance, ComAgent Exception
Measurement Type	Max
Measurement Dimension	Arrayed (by Service ID)
Description	Maximum rate per second that ComAgent transactions ended abnormally during the collection interval.
Collection Interval	30 min

Peg Condition	Rate of transaction failures due to final timeouts. Failed Transaction Rate monitoring is an average rate using a sliding-metric algorithm. The average transaction failure rate is a running average, smoothed over approximately 10 seconds. This measurement provides the maximum rate per second that ComAgent transactions were started. This measurement is useful during troubleshooting when compared to other measurements.
Measurement Scope	Server

Recovery

No action necessary.

CATransEndNorm

Measurement ID	9836
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions initiated by local User Layers that ended normally with a response from a destination server.
Collection Interval	30 min
Peg Condition	When a valid reliable response stack event (G=1, A=1) is received that corresponds to a pending transaction record.
Measurement Scope	Server

Recovery

No action necessary.

This measurement has value when compared against other measurements. If no new transactions are started, then during normal operation, this measurement should match *CATransStarted* .

CATransPendingAvg

Measurement ID	9838
Measurement Group	ComAgent Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Service ID)
Description	Average number of allocated pending transaction records over the collection interval.
Collection Interval	30 min
Peg Condition	Average number of allocated pending transaction records during the collection interval.

Measurement Scope	Server

Recovery

No action necessary.

CATransPendingMax

Measurement ID	9837
Measurement Group	ComAgent Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Service ID)
Description	Maximum number of allocated pending transaction records.
Collection Interval	30 min
Peg Condition	When a pending transaction record is allocated, and the total count of allocated pending transaction records exceeds the current peak.
Measurement Scope	Server

Recovery

No action necessary.

CATransRateAvg

Measurement ID	9863
Measurement Group	ComAgent Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Service ID)
Description	Average rate per second that ComAgent transactions were started during the collection interval.
Collection Interval	30 min
Peg Condition	Transaction rate monitoring is an average rate using a sliding-metric algorithm. The average transaction rate is a running average, smoothed over approximately 10 seconds. This measurement provides the average rate per second that ComAgent transactions were started. This measurement is useful during troubleshooting when compared to other measurements.
Measurement Scope	Server

Recovery

No action necessary.

CATransRateMax

Measurement ID	9864
Measurement Group	ComAgent Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Service ID)
Description	Maximum rate per second that ComAgent transactions were started during the collection interval.
Collection Interval	30 min
Peg Condition	Transaction rate monitoring is an average rate using a sliding-metric algorithm. The average transaction rate is a running average, smoothed over approximately 10 seconds. This measurement provides the maximum rate per second that ComAgent transactions were started. This measurement is useful during troubleshooting when compared to other measurements.
Measurement Scope	Server

Recovery

No action necessary.

CATransStarted

Measurement ID	9835
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Service ID)
Description	Number of reliable transactions initiated by local User Layers.
Collection Interval	30 min
Peg Condition	When a valid reliable request stack event (G=1, R=1) is received from a local User Layer.
Measurement Scope	Server

Recovery

No action necessary.

CATransTimeAvg

Measurement ID	9840
Measurement Group	ComAgent Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Service ID)

Description	Average transaction life-time in milliseconds.
Collection Interval	30 min
Peg Condition	Transaction ends either normally or abnormally.
Measurement Scope	Server

Recovery

No action necessary.

CATransTimeMax

Measurement ID	9839
Measurement Group	ComAgent Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Service ID)
Description	Maximum transaction life-time in milliseconds.
Collection Interval	30 min
Peg Condition	Transaction ends either normally or abnormally.
Measurement Scope	Server

Recovery

No action necessary.

CATx

Measurement ID	9800
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data egress events received on Communication Agent task queue from local stacks to deliver it to a peer server.
Collection Interval	30 min
Peg Condition	For each User Data egress StackEvent received and processed by Communication Agent Stack.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data egress messages are received by Communication Agent for direct or indirect routing service.

This measurement count should be equal to the summation of User Data egress events success and all User Data egress events discards measurement counts.

This measurement count should be equal to the summation of User Data egress events received by Communication Agent for each (Direct, Routed and HA) routing service.

CATxBundled

Measurement ID	9985
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of ComAgent Bundled events transmitted by ComAgent
Collection Interval	30 min
Peg Condition	Each time a ComAgent Bundled event is transmitted by ComAgent
Measurement Scope	Site

Recovery

No action required

CATxEventsBundled

Measurement ID	9987
Measurement Group	ComAgent Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of stackevents transmitted through ComAgent Bundled events
Collection Interval	30 min
Peg Condition	Each time a stackevent is transmitted through ComAgent Bundled events
Measurement Scope	Site

Recovery

No action required

CATxSuccess

Measurement ID	9801
Measurement Group	ComAgent Performance

Measurement Type	Simple
Measurement Dimension	Single
Description	Number of User Data egress events successfully delivered to a peer server.
Collection Interval	30 min
Peg Condition	For each User Data egress StackEvent transmitted to the peer server.
Measurement Scope	NE, Server

Recovery

No action required.

This value provides a measure of how many User Data messages are successfully transmitted from hosting server to destined remote server over “event transfer” static connection.

Connection Congestion measurements

The Connection Congestion measurement report contains per-connection measurements related to Diameter Connection congestion states. Measurements in this group include:

- Congestion Level-X time duration
- Number of times entered Congestion Level-X
- Number of times Remote Busy Congestion occurred

Table 28: Connection Congestion Measurement Report Fields

Measurement Tag	Description	Collection Interval
ConnOnsetCL1	The number of times the connection experienced the onset of CL1.	5 min
ConnOnsetCL2	The number of times the connection experienced the onset of CL2.	5 min
ConnOnsetCL3	The number of times the connection experienced the onset of CL3.	5 min
ConnOnsetCL4	The number of times the connection experienced the onset of CL4.	5 min
EvRemoteBusyCongestion	Number of times Remote Busy Congestion occurred.	5 min
EvSmoothedEmrPeak	Smoothed EMR Peak.	5 min
EvSmoothedEmrAvg	Smoothed EMR Average.	5 min
RxRejectedConn Congestion	Number of Request messages from a downstream peer rejected by a Local Node because of Diameter Connection Congestion.	5 min
TmConnInCL1	Total amount of time (in seconds) the connection experienced CL1.	5 min

Measurement Tag	Description	Collection Interval
TmConnInCL2	Total amount of time (in seconds) the connection experienced CL2.	5 min
TmConnInCL3	Total amount of time (in seconds) the connection experienced CL3.	5 min
TmConnInCL4	Total amount of time (in seconds) the connection experienced CL4.	5 min

RxRejectedConnCongestion

Measurement ID	10004
Measurement Group	Connection Congestion
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Number of Request messages from a downstream peer rejected by a Local Node because of Diameter Connection Congestion.
Collection Interval	5 min
Peg Condition	Each time an ingress transaction is abandoned and the Routing Option Set "Connection Congestion" action is invoked.
Measurement Scope	Site

Recovery

No action required.

Connection Exception measurements

The Connection Exception measurement report contains measurements that provide information about exceptions and unexpected messages and events for individual SCTP/TCP connections that are not specific to the Diameter protocol.

Table 29: Connection Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvConnCerValFail	The number of times a CER contained invalid or unsupported AVP or AVP value.	5 min
EvConnCexIpChkFail	The Host-IP-Address AVP(s) received in a CER or CEA message from the peer did not match the actual peer connection's IP address(es).	5 min

Measurement Tag	Description	Collection Interval
EvConnCnxFail	Number of times the transport connection attempt failed. This includes only unsuccessful attempts to connect to the peer; it does not include failure of established connections.	5 min
EvConnDnsFail	Number of times an attempt to resolve a peer's FQDN to an IP address via DNS failed.	5 min
EvConnFarEndClose	Number of times the far end closed the connection.	5 min
EvConnManClose	Number of times the connection was manually closed via administratively Disabling the connection locally.	5 min
EvConnPeerNumIpFail	The peer has advertised in the INIT/INIT_ACK chunk a number of IP addresses different from the number of IP addresses the peer has been configured with in the respective connection object.	5 min
EvConnRelease	The number of times the connection was terminated based on a connection release request from DRL	5 min
EvSockInitFail	Number of times the socket initialization failed.	5 min
EvConnTransFail	The number of times the connection was closed due to SCTP/TCP transport failure.	5 min
RxConnDupPkts	The number of duplicate packets received on the TCP connection.	5 min
RxConnDupTsns	The number of duplicate TSNs received on the SCTP connection.	5 min
RxConnGapAckBlocks	The number of gap acknowledgement blocks received on the SCTP connection.	5 min
TxConnRetrans DataChunks	The number of retransmitted data chunks sent on the SCTP connection.	5 min
TxConnRetransSegs	The number of retransmitted segments sent on the TCP connection.	5 min
TxConnSendFail	Number of times the transport send failed for any message on an established connection. When this occurs, the transport connection will NOT be disconnected.	5 min

EvRxException

Measurement ID	18008
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of connection ingress message processing exception events.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each EvRxException event, regardless of event reason or throttling.
Measurement Scope	Site

Recovery

No action required.

EvTxException

Measurement ID	18009
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection egress message processing exception events.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each EvTxException event, regardless of event reason or throttling.
Measurement Scope	Site

Recovery

No action required.

Connection Performance measurements

The Connection Performance measurement report contains measurements that provide performance information for individual SCTP/TCP connections that are not specific to the Diameter protocol.

Table 30: Connection Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvConnCnxSuccess	Number of times the transport connection was successfully established. In instances where two connections are established and one is disconnected after an election, both connection establishments are counted.	5 min
EvPerConnQueueCongestionChange	Number of times that the congestion level changed for a Connection.	5 min

Measurement Tag	Description	Collection Interval
IcDrop	The number of Connection ingress messages discarded or rejected by ingress control.	5 min
IcDropP0	The number of Connection ingress messages discarded or rejected by ingress control with priority 0.	5 min
IcDropP1	The number of Connection ingress messages discarded or rejected by ingress control with priority 1.	5 min
IcDropP2	The number of Connection ingress messages discarded or rejected by ingress control with priority 2.	5 min
IcDropP3	The number of Connection ingress messages discarded or rejected by ingress control with priority 3.	5 min
Irt	The number of Connection ingress messages on routing ingress.	5 min
RxConnAvgMPS	Exponentially smoothed average rate in MPS on the connection. Note: This measurement will be sampled periodically and reported in the Connections Maintenance GUI as a type of KPI.	5 min
RxConnMsgs	Number of messages received on the connection. This includes all Diameter messages, both routable and non-routable.	5 min
RxConnOctets	Number of octets received on the connection. This includes Diameter payload octets for all Diameter messages, both routable and non-routable.	5 min
RxConnPeakMPS	Peak rate of the exponentially smoothed average rate in MPS on the connection	5 min
RxConnRecvBufAvg	Average number of bytes in the SCTP/TCP receive buffer. The bytes in the receive buffer are those received from the peer but not yet read by the peer state machine.	5 min
RxConnRecvBufPeak	Peak number of bytes in the SCTP/TCP receive buffer. The bytes in the receive buffer are those received from the peer but not yet read by the peer state machine.	5 min
RxConnTotalDataChunks	The number of total data chunks received on the SCTP connection.	5 min
RxNgnPsAccepted	Connection ingress NGN-PS messages accepted.	5 min

Measurement Tag	Description	Collection Interval
RxNgnPsOffered	Connection ingress NGN-PS messages offered.	5 min
RxP4	The number of Connection ingress messages with priority 4.	5 min
RxSctpChunkMp	The number of SCTP data chunks received by the MP (excluding duplicates).	5 min
RxSctpPacketMp	The number of SCTP packets received by the MP (excluding duplicates).	5 min
TxConnMsgs	Number of messages sent on the connection. This includes all Diameter messages, both routable and non-routable.	5 min
TxConnOctets	Number of octets sent on the connection. This includes Diameter payload octets for all Diameter messages, both routable and non-routable.	5 min
TxConnSendBufAvg	Average number of bytes in the SCTP/TCP send buffer. The SCTP/TCP send buffer contains all bytes sent to the SCTP/TCP socket by the peer state machine which have not yet been sent to the peer or have been sent to the peer and have not been unacknowledged.	5 min
TxConnSendBufPeak	Peak number of bytes in the SCTP/TCP send buffer. The SCTP/TCP send buffer contains all bytes sent to the SCTP/TCP socket by the peer state machine which have not yet been sent to the peer or have been sent to the peer and have not been unacknowledged.	5 min
TxConnTotalDataChunks	The number of total data chunks sent on the SCTP connection.	5 min
TxP4	The number of Connection egress messages with priority 4.	5 min
TxPerConnQueueAvg	Per Connection Egress Message Queue Average Utilization.	5 min
TxPerConnQueuePeak	Per Connection Egress Message Queue Peak Utilization.	5 min

DclTxConnQueueAvg

Measurement ID 10224

Measurement Group Connection Performance

Measurement Type	Average
Measurement Dimension	Arrayed (Connection ID)
Description	DCL egress connection message queue utilization average.
Collection Interval	5 min
Peg Condition	Output measurement of the DclTxConnQueue metric.
Measurement Scope	Site

Recovery

No action required.

DclTxConnQueuePeak

Measurement ID	10223
Measurement Group	Connection Performance
Measurement Type	Max
Measurement Dimension	Arrayed (Connection ID)
Description	DCL egress connection message queue utilization peak.
Collection Interval	5 min
Peg Condition	Output measurement of the DclTxConnQueue metric.
Measurement Scope	Site

Recovery

No action required.

EcCL1

Measurement ID	10524
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection onset for egress message rate in congestion level 1.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each onset of CL1.
Measurement Scope	Site

Recovery

No action required.

EcCL2

Measurement ID	10525
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection onset for egress message rate in congestion level 2.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each onset of CL2.
Measurement Scope	Site

Recovery

No action required.

EcCL3

Measurement ID	10526
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection onset for egress message rate in congestion level 3.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each onset of CL3.
Measurement Scope	Site

Recovery

No action required.

EcCL98

Measurement ID	10527
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	Connection onset for egress message rate in congestion level 98.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each onset of CL98.
Measurement Scope	Site

Recovery

No action required.

EcRateAvg

Measurement ID	10193
Measurement Group	Connection Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection egress message rate average.
Collection Interval	5 min
Peg Condition	Output measurement of the EcRate metric.
Measurement Scope	Site

Recovery

No action required.

EcRatePeak

Measurement ID	10192
Measurement Group	Connection Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection egress message rate peak.
Collection Interval	5 min
Peg Condition	Output measurement of the EcRate metric.
Measurement Scope	Site

Recovery

No action required.

Ert

Measurement ID	18054

Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection egress messages on routing egress.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each egress message during the Egress Routing phase.
Measurement Scope	Site

Recovery

No action required.

ErtDrop

Measurement ID	18044
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of DA-MP egress messages discarded or rejected by routing egress.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each egress message dropped during the Routing Egress phase. The associated reasons can be found in this table:

Layer	Event	Reason
CSL	EvFsmOpState	StateChange (TransportCongestion)
	EvTxException	ConnUnavailable
DCL	EvTxException	DclTxConnQueueCongested
		DtlsMsgOversized
RCL	MpEvTxException	RclTxTaskQueueCongested
		EtrPoolCongested
		RadiusMsgPoolCongested
		SharedSecretUnavailable
		RadiusIdPoolCongested
	EvTxException	MsgAttrLenUnsupported
		MsgTypeUnsupported

Layer	Event	Reason
		MsgLenInvalid
		AnsOnClientConn
		ReqDuplicate

Measurement Scope Site

Recovery

No action required.

Ic

Measurement ID 18053

Measurement Group Connection Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of Connection ingress messages.

Collection Interval 5 min

Peg Condition This measurement is incremented for each ingress message during the Ingress Control phase.

Measurement Scope Site

Recovery

No action required.

IcDrop

Measurement ID 18041

Measurement Group Connection Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of Connection ingress messages discarded or rejected by ingress control.

Collection Interval 5 min

Peg Condition This measurement is incremented for each ingress message dropped during the Ingress Control phase.

The associated reasons can be found in this table:

Layer	Event	Reason
CSL	EvRxException	MaxMpsExceeded

Measurement Scope Site

Recovery

No action required.

IcDropP0

Measurement ID 18063

Measurement Group Connection Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description Connection ingress messages discarded or rejected by ingress control with priority 0.

Collection Interval 5 min

Peg Condition This measurement is incremented for each ingress message dropped during the Ingress Control phase with priority 0.

The associated reasons can be found in this table:

Layer	Event	Reason
CSL	EvRxException	MaxMpsExceeded

Measurement Scope Site

Recovery

No action required.

IcDropP1

Measurement ID 18064

Measurement Group Connection Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description Connection ingress messages discarded or rejected by ingress control with priority 1.

Collection Interval 5 min

Peg Condition This measurement is incremented for each ingress message dropped during the Ingress Control phase with priority 1.

The associated reasons can be found in this table:

Layer	Event	Reason
CSL	EvRxException	MaxMpsExceeded

Measurement Scope Site

Recovery

No action required.

IcDropP2

Measurement ID 18065

Measurement Group Connection Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description Connection ingress messages discarded or rejected by ingress control with priority 2.

Collection Interval 5 min

Peg Condition This measurement is incremented for each ingress message dropped during the Ingress Control phase with priority 2.

The associated reasons can be found in this table:

Layer	Event	Reason
CSL	EvRxException	MaxMpsExceeded

Measurement Scope Site

Recovery

No action required.

IcDropP3

Measurement ID 18066

Measurement Group Connection Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description Connection ingress messages discarded or rejected by ingress control with priority 3.

Collection Interval 5 min

Peg Condition This measurement is incremented for each ingress message dropped during the Ingress Control phase with priority 3.

The associated reasons can be found in this table:

Layer	Event	Reason
CSL	EvRxException	MaxMpsExceeded

Measurement Scope	Site

Recovery

No action required.

IcRateAvg

Measurement ID	10500
Measurement Group	Connection Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection ingress message rate average.
Collection Interval	5 min
Peg Condition	Output measurement of the IcRate metric.
Measurement Scope	Site

Recovery

No action required.

IcRatePeak

Measurement ID	10501
Measurement Group	Connection Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection ingress message rate peak.
Collection Interval	5 min
Peg Condition	Output measurement of the IcRate metric.
Measurement Scope	Site

Recovery

No action required.

Irt

Measurement ID	18067
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection ingress messages on routing ingress.
Collection Interval	5 min

Peg Condition	This measurement is incremented for each ingress message during the Ingress Routing phase.
Measurement Scope	Site

Recovery

No action required.

IrtDrop

Measurement ID	18043
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection ingress messages discarded or rejected by routing ingress.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress message dropped during the Routing Ingress phase. The associated reasons can be found in this table:

Layer	Event	Reason
CSL	MpEvRxException	DiamMsgPoolCongested
		SigEvPoolCongested
		DstMpUnknown
		DstMpCongested
		DrlReqQueueCongested
		DrlAnsQueueCongested
		ComAgentCongested
RCL	MpEvRxException	RadiusMsgPoolCongested
		RclRxTaskQueueCongested
		RclSigEvPoolCongested
		SharedSecretUnavailable
		ItrPoolCongested
	EvRxException	MsgAttrLenInvalid
		MsgAttrLenUnsupported
		AnsOrphaned
		AccessAuthMissing

Layer	Event	Reason
		StatusAuthMissing
		MsgAuthInvalid
		ReqAuthInvalid
		AnsAuthInvalid
		MsgAttrAstUnsupported
		ReqDuplicate
		MsgTypeMissingMccs
		ConnUnavailable

Measurement Scope Site

Recovery

No action required.

OcDrop

Measurement ID 18042

Measurement Group Connection Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of Connection ingress messages discarded or rejected by overload control.

Collection Interval 5 min

Peg Condition This measurement is incremented for each ingress message dropped during the Overload Control phase.

The associated reasons can be found in this table:

Layer	Event	Reason
CSL	MpEvRxException	CpuCongested

Measurement Scope Site

Recovery

No action required.

RadiusXactionFailAvg

Measurement ID 18234

Measurement Group Connection Performance

Measurement Type	Average
Measurement Dimension	Single
Description	RADIUS connection transaction failure rate average.
Collection Interval	5 min
Peg Condition	The average RADIUS connection transaction failure rate sample taken during the collection interval.
Measurement Scope	Site

Recovery

No action required.

RxAll

Measurement ID	10104
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of connection ingress messages (routable and peer-to-peer).
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress message during the Rx phase (routable and peer-to-peer).
Measurement Scope	Site

Recovery

No action required.

RxAllDrop

Measurement ID	10171
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection ingress messages dropped (routable and peer-to-peer).
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress message dropped during the Rx phase (routable and peer-to-peer). The associated reasons can be found in this table:

Layer	Event	Reason
DCL	EvRxException	MsgInvalid
RCL	EvRxException	MsgTypeUnsupported

Measurement Scope Site

Recovery

No action required.

RxAllLenAvg

Measurement ID 18036

Measurement Group Connection Performance

Measurement Type Average

Measurement Dimension Arrayed (by Connection ID)

Description Connection ingress message length average (routable and peer-to-peer).

Collection Interval 5 min

Peg Condition This measurement is updated for each ingress message during the Rx phase (routable and peer-to-peer).

Measurement Scope Site

Recovery

No action required.

RxAllLenPeak

Measurement ID 18037

Measurement Group Connection Performance

Measurement Type Max

Measurement Dimension Arrayed (by Connection ID)

Description Connection ingress message length peak (routable and peer-to-peer).

Collection Interval 5 min

Peg Condition This measurement is updated for each ingress message during the Rx phase (routable and peer-to-peer).

Measurement Scope Site

Recovery

No action required.

RxNgnPsAccepted

Measurement ID	18059
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection ingress NGN-PS messages accepted.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress NGN-PS message accepted during the Message Priority phase.
Measurement Scope	Site

Recovery

No action required.

RxNgnPsOffered

Measurement ID	18058
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection ingress NGN-PS messages offered.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress NGN-PS message offered during the Message Priority phase.
Measurement Scope	Site

Recovery

No action required.

RxP0

Measurement ID	18038
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection ingress messages with priority 0.
Collection Interval	5 min

Peg Condition	This measurement is incremented for each ingress message with priority 0 during the Message Priority phase.
Measurement Scope	Site

Recovery

No action required.

RxP1

Measurement ID	18039
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection ingress messages with priority 1.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress message with priority 1 during the Message Priority phase.
Measurement Scope	Site

Recovery

No action required.

RxP2

Measurement ID	18040
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection ingress messages with priority 2.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress message with priority 2 during the Message Priority phase.
Measurement Scope	Site

Recovery

No action required.

RxP3

Measurement ID	10152
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection ingress messages with priority 3.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress message with priority 3 during the Message Priority phase.
Measurement Scope	Site

Recovery

No action required.

RxP4

Measurement ID	18062
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection ingress messages with priority 4.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress message with priority 4 during the Message Priority phase.
Measurement Scope	Site

Recovery

No action required.

RxSctpChunkMp

Measurement ID	10516
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of SCTP data chunks received by the MP (excluding duplicates).

Collection Interval	5 min
Peg Condition	SCTP statistics polling.
Measurement Scope	Server Group

Recovery

No action required.

RxSctpPacketMp

Measurement ID	
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of SCTP packets received by the MP (excluding duplicates).
Collection Interval	5 min
Peg Condition	SCTP statistics polling.
Measurement Scope	Server Group

Recovery

No action required.

TmEcCL1

Measurement ID	10520
Measurement Group	Connection Performance
Measurement Type	Timer
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection timer for egress message rate in congestion level 1.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each millisecond the connection is in CL1.
Measurement Scope	Site

Recovery

No action required.

TmEcCL2

Measurement ID	10521
Measurement Group	Connection Performance

Measurement Type	Timer
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection timer for egress message rate in congestion level 2.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each millisecond the connection is in CL2.
Measurement Scope	Site

Recovery

No action required.

TmEcCL3

Measurement ID	10522
Measurement Group	Connection Performance
Measurement Type	Timer
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection timer for egress message rate in congestion level 3.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each millisecond the connection is in CL3.
Measurement Scope	Site

Recovery

No action required.

TmEcCL98

Measurement ID	10523
Measurement Group	Connection Performance
Measurement Type	Timer
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection timer for egress message rate in congestion level 98.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each millisecond the connection is in CL98.
Measurement Scope	Site

Recovery

No action required.

TxAll

Measurement ID	10100
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection egress messages (routable and peer-to-peer).
Collection Interval	5 min
Peg Condition	This measurement is incremented for each egress message during the Tx phase (routable and peer-to-peer).
Measurement Scope	Site

Recovery

No action required.

TxAllDrop

Measurement ID	18050
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection egress messages dropped (routable and peer-to-peer).
Collection Interval	5 min
Peg Condition	This measurement is incremented for each egress message dropped during the Tx phase (routable and peer-to-peer). The associated reasons can be found in this table:

Layer	Event	Reason
CSL	EvFsmOpState	StateChange (TransportCongestion)
	EvTxException	ConnUnavailable
RCL	EvTxException	WriteFailure

Measurement Scope	Site

Recovery

No action required.

TxAllLenAvg

Measurement ID	18048
Measurement Group	Connection Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection egress message length average (routable and peer-to-peer).
Collection Interval	5 min
Peg Condition	This measurement is updated for each egress message during the Tx phase (routable and peer-to-peer).
Measurement Scope	Site

Recovery

No action required.

TxAllLenPeak

Measurement ID	18049
Measurement Group	Connection Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection egress message length peak (routable and peer-to-peer).
Collection Interval	5 min
Peg Condition	This measurement is updated for each egress message during the Tx phase (routable and peer-to-peer).
Measurement Scope	Site

Recovery

No action required.

TxConnTotalDataChunks

Measurement ID	10507
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of total data chunks sent on the SCTP connection.
Collection Interval	5 min
Peg Condition	When data chunks are transmitted on the SCTP connection.
Measurement Scope	Server Group

Recovery

No action required.

TxP0

Measurement ID	18038
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection ingress messages with priority 0.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each ingress message with priority 0 during the Message Priority phase.
Measurement Scope	Site

Recovery

No action required.

TxP1

Measurement ID	18046
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection egress messages with priority 1.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each egress message with priority 1 during the Tx phase.
Measurement Scope	Site

Recovery

No action required.

TxP2

Measurement ID	18047
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection egress messages with priority 2.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each egress message with priority 2 during the Tx phase.
Measurement Scope	Site

Recovery

No action required.

TxP3

Measurement ID	10154
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection egress messages with priority 3.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each egress message with priority 3 during the Tx phase.
Measurement Scope	Site

Recovery

No action required.

TxP4

Measurement ID	18068
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection egress messages with priority 4.
Collection Interval	5 min

Peg Condition	This measurement is incremented for each egress message with priority 4 during the Tx phase.
Measurement Scope	Site

Recovery

No action required.

Connection Service measurements

Table 31: Connection Service Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvException	The number of connection exception events.	5 min
EvFsmAdState	The number of Connection FSM administrative state change events.	5 min
EvFsmException	The number of Connection FSM exception events.	5 min
EvFsmOpState	The number of Connection FSM operational state change events.	5 min
TmFsmOpStateAvailable	Connection timer for operational state available.	5 min
TmFsmOpStateDegraded	Connection timer for operational state degraded.	5 min
TmFsmOpStateUnavailable	Connection timer for operational state unavailable.	5 min

EvException

Measurement ID	18007
Measurement Group	Connection Service
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection exception events.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each EvException event, regardless of event reason or throttling.
Measurement Scope	Site

Recovery

No action required.

EvFsmAdState

Measurement ID	18004
Measurement Group	Connection Service
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection FSM administrative state change events.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each EvFsmAdState event, regardless of event reason or throttling.
Measurement Scope	Site

Recovery

No action required.

EvFsmException

Measurement ID	18006
Measurement Group	Connection Service
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection FSM exception events.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each EvFsmException event, regardless of event reason or throttling.
Measurement Scope	Site

Recovery

No action required.

EvFsmOpState

Measurement ID	18005
Measurement Group	Connection Service
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of Connection FSM operational state change events.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each EvFsmOpState event, regardless of event reason or throttling.
Measurement Scope	Site

Recovery

No action required.

TmFsmOpStateAvailable

Measurement ID	10150
Measurement Group	Connection Service
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection timer for operational state available.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each millisecond the connection is operationally available.
Measurement Scope	Site

Recovery

No action required.

TmFsmOpStateDegraded

Measurement ID	10183
Measurement Group	Connection Service
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection timer for operational state degraded.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each millisecond the connection is operationally degraded.
Measurement Scope	Site

Recovery

No action required.

TmFsmOpStateUnavailable

Measurement ID	10182
Measurement Group	Connection Service
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection timer for operational state unavailable.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each millisecond the connection is operationally unavailable.
Measurement Scope	Site

Recovery

No action required.

Connection Transport measurements

The Connection Transport measurement report contains measurements that provide performance information that is specific to the DCL at the connection level.

Table 32: Connection Transport Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxBufAvg	Connection ingress buffer utilization average.	5 min
RxBufPeak	Connection ingress buffer utilization peak.	5 min
RxOctets	Connection ingress octets.	5 min
RxSctpChunk	SCTP total chunks on ingress.	5 min
RxSctpDupTsn	The number of SCTP duplicate TSNs on ingress.	5 min
RxSctpGapAck	SCTP gap acknowledgments on ingress.	5 min
RxTcpDupPkt	The number of TCP duplicate packets on ingress.	5 min
TxBufAvg	Connection egress buffer utilization average.	5 min
TxBufPeak	Connection egress buffer utilization peak.	5 min
TxOctets	Connection egress octets.	5 min

Measurement Tag	Description	Collection Interval
TxSctpChunk	SCTP total chunks on egress.	5 min
TxSctpRtxChunk	SCTP retransmitted chunks on egress.	5 min
TxTcpRtxSeg	TCP retransmitted segments on egress.	5 min

RxBufAvg

Measurement ID	10106
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection ingress buffer utilization average.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

RxBufPeak

Measurement ID	10107
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection ingress buffer utilization peak.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

RxOctets

Measurement ID	10105
Measurement Group	Connection Transport

Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection ingress octets.
Collection Interval	5 min
Peg Condition	This measurement is updated for each ingress message during the Rx phase (routable and peer-to-peer).
Measurement Scope	Site

Recovery

No action required.

RxSctpChunk

Measurement ID	10516
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	SCTP total chunks on ingress.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

RxSctpDupTsn

Measurement ID	10504
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	SCTP duplicate TSNs on ingress.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

RxSctpGapAck

Measurement ID	10505
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	SCTP gap acknowledgement on ingress.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

RxTcpDupPkt

Measurement ID	10508
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	TCP duplicate packets on ingress.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

TxBufAvg

Measurement ID	10102
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection egress buffer utilization average.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack. **Note:** This measurement is not supported (always zero) for SCTP connections.

Measurement Scope	Site

Recovery

No action required.

TxBufPeak

Measurement ID	10103
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Connection egress buffer utilization peak.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack. **Note:** This measurement is not supported (always zero) for SCTP connections.
Measurement Scope	Site

Recovery

No action required.

TxOctets

Measurement ID	10101
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Connection egress octets.
Collection Interval	5 min
Peg Condition	This measurement is updated for each egress message during the Tx phase (routable and peer-to-peer).
Measurement Scope	Site

Recovery

No action required.

TxSctpChunk

Measurement ID	10507
Measurement Group	Connection Transport
Measurement Type	Simple

Measurement Dimension	Arrayed (by Connection ID)
Description	SCTP total chunks on egress.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

TxSctpRtxChunk

Measurement ID	10506
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	SCTP retransmitted chunks on egress.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

TxTcpRtxSeg

Measurement ID	10509
Measurement Group	Connection Transport
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	TCP retransmitted segments on egress.
Collection Interval	5 min
Peg Condition	Output from Linux networking stack.
Measurement Scope	Site

Recovery

No action required.

Diameter Egress Transaction measurements

The Diameter Egress Transaction measurement report contains measurements providing information about Diameter peer-to-peer transactions forwarded to upstream peers.

Table 33: Diameter Egress Transaction Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxAnswerExpectedAll	Number of valid Answer messages received from an upstream peer that were associated with a pending transaction.	5 min
RxAnswerMsgQueueFullDiscard	Number of ingress Diameter Answer messages that were discarded because the Answer Message Queue was full.	5 min
RxRedirectHostNotRouted	Number of Redirect Host Notifications received for which a Redirected Request was not submitted for rerouting.	5 min
RxRedirectHostRouted	Number of Redirect Host Notifications received for which the Redirect-Host AVP has been updated and submitted for rerouting.	5 min
RxRedirectRealmNotRouted	Number of Redirect Realm Notifications received for which a Redirected Request was not submitted for rerouting.	5 min
RxRedirectRealmRouted	Number of Redirect Realm Notifications received for which the Redirect-Host AVP has been updated and submitted for rerouting.	5 min
TxAnswerTimeout	Number of times that an Answer response was not received from a peer before the maximum allowed time defined by the "Pending Answer Timer" value.	5 min
TxConnAnswerMsgs	Number of routable Answer messages successfully sent on the connection.	5 min
TxConnectionFailed	Egress peer-to-peer transactions aborted by a Local Node - connection failure.	5 min
TxConnRequestMsgs	Number of routable Request messages successfully sent on the connection.	5 min
TxRequestSuccessAllConn	Number of Request messages successfully routed to a peer.	5 min

RxAnswerExpectedAll

Measurement ID	10040
Measurement Group	Diameter Egress Transaction, Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of valid Answer messages received from an upstream peer that were associated with a pending transaction.
Collection Interval	5 min
Peg Condition	When the DSR receives an Answer message event with a valid transport connection ID for which a pending transaction is found. The connection measurement is associated with the connection from which the Answer message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxAnswerMsgQueueFullDiscard

Measurement ID	10232
Measurement Group	Diameter Egress Transaction, Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Diameter Answer messages that were discarded because the Answer Message Queue was full.
Collection Interval	5 min
Peg Condition	For each Answer message discarded because the Answer Message Queue was full. The connection measurement is associated with the connection from which the message was received.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist or a Diameter peer and/or DNS routing mis-configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxRedirectHostNotRouted

Measurement ID	14071
Measurement Group	Diameter Egress Transaction
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of Redirect Host Notifications received for which a Redirected Request was not submitted for rerouting.
Collection Interval	5 min
Peg Condition	When DRL, for any reason, does not submit the Redirected Request message for routing. The connection measurement is associated with the connection from which the Redirect Notification was received.
Measurement Scope	Site

Recovery

No action required.

RxRedirectHostRouted

Measurement ID	14070
Measurement Group	Diameter Egress Transaction
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Redirect Host Notifications received for which the Redirect-Host AVP has been updated and submitted for rerouting.
Collection Interval	5 min
Peg Condition	When DRL successfully queues a Redirected Request message for routing. The connection measurement is associated with the Connection from which the Redirect Notification was received.
Measurement Scope	Site

Recovery

No action required.

RxRedirectRealmNotRouted

Measurement ID	14073
Measurement Group	Diameter Egress Transaction
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Redirect Realm Notifications received for which a Redirected Request was not submitted for rerouting.
Collection Interval	5 min

Peg Condition	When DRL, for any reason, does not submit the Redirected Request message for routing. The connection measurement is associated with the connection from which the Redirect Notification was received.
Measurement Scope	Site

Recovery

No action required.

RxRedirectRealmRouted

Measurement ID	14072
Measurement Group	Diameter Egress Transaction
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Redirect Realm Notifications received for which the Redirect-Host AVP has been updated and submitted for rerouting.
Collection Interval	5 min
Peg Condition	When DRL successfully queues a Redirected Request message for routing. The connection measurement is associated with the connection from which the Redirect Notification was received.
Measurement Scope	Site

Recovery

No action required.

TxAnswerTimeout

Measurement ID	10044
Measurement Group	Diameter Egress Transaction
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times that an Answer response was not received from a peer before the maximum allowed time defined by the "Pending Answer Timer" value. Answer timeouts can be caused by a variety of reasons: • The peer associated with this connection may be experiencing congestion, causing delays in sending the Answer response. • IP Network congestion.

- If the peer associated with this connection is a Diameter Relay Agent, then an upstream node from the peer may be experiencing congestion, causing delays in sending the Answer response.

Collection Interval	5 min
Peg Condition	When timer PENDING-ANSWER-TIMER expires. The connection measurement is associated with the connection from which the corresponding Request message was sent.
Measurement Scope	Server Group

Recovery

1. If the user-configurable answer response timer is set too low it can cause the timer to expire before a Answer response is received. The user-configurable value is set using the page **Diameter** > **Configuration** > **System Options**.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxAnswerTimeoutAllMp

Measurement ID	14075
Measurement Group	Diameter Egress Transaction
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times that an Answer response was not received from a peer before the maximum allowed time defined by the "Pending Answer Timer" value.
Collection Interval	5 min
Peg Condition	When timer PENDING-ANSWER-TIMER expires. The connection measurement is associated with the connection from which the corresponding Request message was sent. **Note:** This measurement is the DA-MP equivalent to the "per connection" measurement *TxAnswerTimeout*.
Measurement Scope	Site

Recovery

1. If the user-configurable answer response timer is set too low it can cause the timer to expire before a Answer response is received. The user-configurable value is set using the page **Diameter** > **Configuration** > **System Options**.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxAnswerTimeoutMp

Measurement ID	14075
Measurement Group	Diameter Egress Transaction

Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times that an Answer response was not received from a peer before the maximum allowed time defined by the "Pending Answer Timer" value.
Collection Interval	5 min
Peg Condition	When timer PENDING-ANSWER-TIMER expires. The connection measurement is associated with the connection from which the corresponding Request message was sent. **Note:** This is the DA-MP equivalent to the "per connection" measurement, *TxAnswerTimeout*.
Measurement Scope	Site

Recovery

1. If the user-configurable answer response timer is set too low it can cause the timer to expire before an Answer response is received. The user-configurable value is set using the page **Diameter** > **Configuration** > **System Options**.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxConnectionFailed

Measurement ID	10046
Measurement Group	Diameter Egress Transaction
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times that a pending peer-to-peer transaction was abandoned due to a transport connection failure.
Collection Interval	5 min
Peg Condition	When a pending transaction is rerouted due to a transport connection failure. This connection measurement is associated with the connection to which the corresponding Request message was sent.
Measurement Scope	Server Group

Recovery

1. Connection status can be monitored using the **Diameter** > **Maintenance** > **Connections** page.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxConnAnswerMsgs

Measurement ID	10154
Measurement Group	Diameter Egress Transaction, Diameter Performance

Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of routable Answer messages successfully sent on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter Answer message is sent to the peer.
Measurement Scope	Server Group

Recovery

No action required.

TxConnRequestMsgs

Measurement ID	10153
Measurement Group	Diameter Egress Transaction, Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of routable Request messages successfully sent on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter request message is sent to the peer.
Measurement Scope	Server Group

Recovery

No action required.

TxRequestSuccessAllConn

Measurement ID	10043
Measurement Group	Diameter Egress Transaction
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages successfully routed to a peer.
Collection Interval	5 min
Peg Condition	When the DSR successfully queues a Request message to the DCL. The connection measurement is associated with the connection to which the Request message was sent.

Measurement Scope Server Group

Recovery

No action required.

Diameter Exception measurements

The Diameter Exception measurement report contains measurements that provide information about exceptions and unexpected messages and events that are specific to the Diameter protocol.

Table 34: Diameter Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvApplIdListInconsistency	Number of times that the supported Application IDs received from the Peer were Inconsistent with another Transport Connection	5 min
EvConnCeaIdValFail	Number of times the connection was closed due to CEA Realm/Host validation for locally initiated connections. **Note:** CER Realm/Host validation failures are tracked via the EvConnCerIdValFail measurement and are NOT included in this measurement.	5 min
EvConnCexTO	Number of times the connection timed out waiting for the peer to send a CER or CEA.	5 min
EvConnDpaTO	Number of times the connection timed out waiting for the peer to send a DPA.	5 min
EvConnNoComnApps	Number of times the connection was closed due to there being no common application IDs existing between the local and peer nodes.	5 min
EvConnPrvFail	Number of times the connection was closed after failing to successfully complete the proving phase.	5 min
EvConnRejected	Number of times the connection was rejected. Reasons include IP addresss validation failure, the connection already established, and connection Administratively Disabled.	5 min
EvConnRejInsufficientIngressMps	Number of times DA-MP rejected a Diameter connection due to insufficient Ingress MPS on the DA-MP to support the Reserved Ingress MPS configured for the connection.	5 min
EvConnRejMaxConnExceeded	Number of times DA-MP rejected a Diameter connection due to the DA-MP exceeding its	5 min

Measurement Tag	Description	Collection Interval
	maximum number of supported Diameter connections.	
EvConnWdFail	Number of times the Diameter Watchdog algorithm closed the connection due to no traffic received from the peer within Tw*2 time after a DWR was sent.	5 min
EvConnWdSuspect	Number of times the Diameter Watchdog algorithm declared the connection suspect due to no traffic received from the peer within Tw time after a DWR was sent.	5 min
EvMpCerIdValFail	Number of times the connection was closed due to CER Realm/Host validation for peer initiated connections.	5 min
EvTransLifetimeExceededMp	Number of transaction failures because "Transaction Lifetime" exceeded.	5 min
RxAnswerMsgQueueFullDiscard	Number of ingress Diameter Answer messages that were discarded because the Answer Message Queue was full.	5 min
RxAnswerUnexpected	Number of valid Answer messages received from an upstream peer that could not be associated with a pending transaction	5 min
RxConnCeaError	Number of CEA error messages received on the connection.	5 min
RxConnFailMalfMsg	Number of messages received on the connection which were malformed. Malformed messages cause the connection to be closed.	5 min
RxConnInvalidMsg	Number of messages received on the connection which had a semantic error. Messages with semantic errors are discarded.	5 min
RxConnMpCongestion AnswerRsp	Number of ingress messages that were rejected with an error response because of local congestion.	5 min
RxConnUnexpCex	Number of unexpected CER/CEA messages received on the connection.	5 min
RxConnUnexpDpx	Number of unexpected DPR/DPA messages received on the connection.	5 min
RxConnUnexpDwx	Number of unexpected DWR/DWA messages received on the connection.	5 min
RxMaxMpsAnswerRsp	The number of ingress Diameter messages that were discarded because of the MP Maximum	5 min

Measurement Tag	Description	Collection Interval
	MPS limitation and an Answer response was sent.	
RxMaxMpsRejectMp	The number of ingress Diameter messages that were rejected because of MP Maximum MPS limitation and an Answer response was sent.	5 min
RxMpCongestionDiscardMp	The number of ingress Diameter Request messages received that were discarded or rejected because of local DA-MP CPU congestion.	5 min
RxMpCongestionRejectMp	The number of ingress Diameter messages that were discarded because of Local MP Congestion and an Answer response was sent.	5 min
RxMsgsOCGreenPri0DiscardMp	The number of Green ingress Priority 0 messages discarded by the DA-MP Overload Control component.	5 min
RxMsgsOCYellowPri0DiscardMp	The number of Yellow ingress Priority 0 messages discarded by the DA-MP Overload Control component.	5 min
RxMsgsOCGreenPri1DiscardMp	The number of Green ingress Priority 1 messages discarded by the DA-MP Overload Control component.	5 min
RxMsgsOCYellowPri1DiscardMp	The number of Yellow ingress Priority 1 messages discarded by the DA-MP Overload Control component.	5 min
RxMsgsOCGreenPri2DiscardMp	The number of Green ingress Priority 2 messages discarded by the DA-MP Overload Control component.	5 min
RxMsgsOCYellowPri2DiscardMp	The number of Yellow ingress Priority 2 messages discarded by the DA-MP Overload Control component.	5 min
RxPduPoolEmptyDiscard	The number of Diameter messages that were discarded because no PDU Buffers were available.	5 min
RxRoutableRejectMsgsMp	The number of ingress Diameter Request messages received that are rejected by MP with Error Answer due to MP Overload Control or Maximum IMR Limitation.	5 min
TmConnDegraded	Total time (in seconds) during the reporting period that the connection state was in the Degraded state.	5 min

Measurement Tag	Description	Collection Interval
TmConnEnabledNotAvail	Total time (in seconds) during the reporting period that the connection state was Administratively Enabled and the connection state was not Available.	5 min
TxAllConnQueueFull AnswerDiscard	The number of egress Diameter Answer messages that were discarded because the All-Connections Event Queue was full and an Answer response was sent.	5 min
TxAllConnQueueFullDiscard	Number of egress Diameter messages that were discarded because the All-Connections Event Queue was full.	5 min
TxConnCeaError	Number of CEA error messages sent on the connection.	5 min
TxConnUnavailDiscard	Number of egress Diameter messages that were discarded by DCL because the egress connection was Unavailable.	5 min
TxReqMsgApplMismatch	Number of times message routing detected application mismatch	5 min
TxReqMsgPerConnPtrMax	Number of times message routing bypassed the connection because the maximum allowed pending transactions was exceeded	5 min
TxRequestEgressLoop	Outgoing message loops detected	5 min

EvApplIdListInconsistency

Measurement ID	10009
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Number of times that the supported Application IDs received from the peer were inconsistent with another transport connection.
Collection Interval	5 min
Peg Condition	If the Application ID list received from the DSR for a peer's transport connection is not identical to the Application ID list for at least one of the transport connections for a peer that has an Operation Status state of Available.
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. If no additional congestion alarms are asserted, the DSR may be experiencing a problem preventing it from processing events from its All-Connections Event Queue. The alarm log should be examined using the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

EvTransLifetimeExceededMp

Measurement ID	10098
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of transaction failures because “Transaction Lifetime” exceeded.
Collection Interval	5 min
Peg Condition	When the DRL was prevented from rerouting a Request message because the “Transaction Lifetime” was exceeded.
Measurement Scope	Site

Recovery

No action required.

EvTransRejectedByExternalNode

Measurement ID	14068
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of transactions rejected by an external node with a non-2xxx Result-Code value.
Collection Interval	5 min
Peg Condition	When DSR successfully relays an answer response received from an upstream external node to a downstream external node

	and the answer contains a failure response (i.e., a Result-Code AVP value not in the range of 2000-2099) **Note:** This measurement is not pegged for answer generated by application.
Measurement Scope	Server Group

Recovery

No action required.

RxAnswerMsgQueueFullDiscard

Measurement ID	10232
Measurement Group	Diameter Egress Transaction, Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Diameter Answer messages that were discarded because the Answer Message Queue was full.
Collection Interval	5 min
Peg Condition	For each Answer message discarded because the Answer Message Queue was full. The connection measurement is associated with the connection from which the message was received.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist or a Diameter peer and/or DNS routing mis-configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxAnswerUnexpected

Measurement ID	10008
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of valid Answer messages received from an upstream peer that were associated with a pending transaction.
Collection Interval	5 min

Peg Condition	When the DRL receives an Answer message event from DCL/RCL with a valid transport connection ID for which a pending transaction is found. The connection measurement is associated with the connection from which the Answer message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxAnswerUnexpectedAllMp

Measurement ID	14064
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Answer messages received from an upstream peer that could not be associated with a pending transaction.
Collection Interval	5 min
Peg Condition	When DRL receives an answer message event from DCL/RCL with a valid Diameter Connection ID for which a pending transaction cannot be found The connection measurement is associated with the connection from which the Answer message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxDOCRejectMp

Measurement ID	10251
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress messages that were rejected with error answer due to local DA-MP danger of CPU congestion.
Collection Interval	5 min
Peg Condition	Pegged for each message discarded with a DIAMETER (Error) Answer due to DA-MP danger of CPU congestion.

Measurement Scope	Server Group

Recovery

1. The DA-MP is approaching or exceeding its maximum configured MPS limitation. If this value is not set to the MP's engineered traffic handling capacity, then the maximum MPS capacity allowed may need to be changed.
2. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. DA-MP server status can be monitored from the **Status & Manage** > **Server** page.
3. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each DA-MP can be monitored from the **Status & Manage** > **KPIs** page. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
4. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each DA-MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
5. The Diameter process may be experiencing problems. The alarm log should be examined using the **Alarms & Events** page.
6. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxMsgsOCGreenPri0DiscardMp

Measurement ID	10276
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Green ingress Priority 0 messages discarded by the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 0 Diameter Request message marked "Green" arrives at the DA-MP Overload Control component
Measurement Scope	Site

Recovery

1. If one or more MPss in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. Monitor the DA-MP server status from **Main Menu** > **Status & Manage** > **Server Status**.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.

4. The Diameter Process may be experiencing problems. Examine the alarm log from **Main Menu** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxMsgsOCYellowPri0DiscardMp

Measurement ID	10277
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Yellow ingress Priority 0 messages discarded by the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 0 Diameter Request message marked "Yellow" arrives at the DA-MP Overload Control component
Measurement Scope	Site

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. Monitor the DA-MP server status from **Main Menu** > **Status & Manage** > **Server Status**.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. Examine the alarm log from **Main Menu** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxMsgsOCGreenPri1DiscardMp

Measurement ID	10278
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Green ingress Priority 1 messages discarded by the DA-MP Overload Control component.
Collection Interval	5 min

Peg Condition	Each time a Priority 1 Diameter Request message marked "Green" arrives at the DA-MP Overload Control component
Measurement Scope	Site

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. Monitor the DA-MP server status from **Main Menu** > **Status & Manage** > **Server Status**.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. Examine the alarm log from **Main Menu** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxMsgsOCYellowPri1DiscardMp

Measurement ID	10279
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Yellow ingress Priority 1 messages discarded by the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 1 Diameter Request message marked "Yellow" arrives at the DA-MP Overload Control component
Measurement Scope	Site

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. Monitor the DA-MP server status from **Main Menu** > **Status & Manage** > **Server Status**.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.

4. The Diameter Process may be experiencing problems. Examine the alarm log from **Main Menu** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxMsgsOCGreenPri2DiscardMp

Measurement ID	10280
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Green ingress Priority 2 messages discarded by the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 2 Diameter Request message marked "Green" arrives at the DA-MP Overload Control component
Measurement Scope	Site

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. Monitor the DA-MP server status from **Main Menu** > **Status & Manage** > **Server Status**.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. Examine the alarm log from **Main Menu** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxMsgsOCYellowPri2DiscardMp

Measurement ID	10281
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Yellow ingress Priority 2 messages discarded by the DA-MP Overload Control component.
Collection Interval	5 min

Peg Condition	Each time a Priority 2 Diameter Request message marked "Yellow" arrives at the DA-MP Overload Control component
Measurement Scope	Site

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. Monitor the DA-MP server status from **Main Menu** > **Status & Manage** > **Server Status**.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. Monitor the ingress traffic rate of each DA-MP from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. Examine the alarm log from **Main Menu** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

TmConnDegraded

Measurement ID	10183
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Total time (in seconds) during the reporting period that the connection state was in the Degraded state.
Collection Interval	5 min
Peg Condition	Pegging started when a peer enters the Degraded state. Pegging stopped when the peer enters the Available or Unavailable state. A peer may be degraded for short periods of time (< 30 seconds) due to being in a proving period or during a graceful disconnect; degraded conditions lasting longer periods of time are most likely due to local congestion.
Measurement Scope	Server Group

Recovery

1. If this measurement indicates an excessive amount of time spent in the degraded state, examine the Alarm History to determine the cause of the degraded condition.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmConnEnabledNotAvail

Measurement ID	10182
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Total time (in seconds) during the reporting period that the connection state was administratively enabled and the connection state was not Available.
Collection Interval	5 min
Peg Condition	Pegging is started when a peer is enabled or when a peer disconnects. Pegging is stopped when the peer connects and completes capabilities exchange, or when the connection is disabled.
Measurement Scope	Server Group

Recovery

1. Examine the Alarm History to determine if the connection is being rejected by either end, and for notification of local congestion.
2. Make sure the peer is running.
3. If the connection is configured as a Responder connection, make sure that the peer is attempting to initiate a connection.
4. If the connection is an Initiator connection, make sure that the peer is listening on the configured port.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxDtlsOversizedDiscard

Measurement ID	10515
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of oversized egress messages discarded on the DTLS connection.
Collection Interval	5 min
Peg Condition	When the message size to be sent on the DTLS connection is greater than 16K (16384) bytes.
Measurement Scope	Server Group

Recovery

No action required.

TxReqMsgPerConnPtrMax

Measurement ID	10007
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times message routing bypassed the connection because the maximum allowed pending transactions was exceeded.
Collection Interval	5 min
Peg Condition	Each time the DSR bypasses a transport connection during route selection because the maximum number of pending transactions allowed for the connection was exceeded. The connection measurement is pegged against the egress connection with the maximum number of pending transactions condition which prevented message routing.
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. If no additional congestion alarms are asserted, the DSR may be experiencing a problem preventing it from processing messages from its Request Message Queue. The alarm log should be examined from the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

TxRequestEgressLoop

Measurement ID	10005
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times that a selected route associated with an egress peer was not selected because a forwarding loop would occur (i.e., the upstream peer has already processed the Request message as determined by the Route-Record AVPs).

Collection Interval	5 min
Peg Condition	Each time the DSR bypasses a peer during route selection because the peer's FQDN matches one of the FQDNs in the message's Route-Record AVPs. The connection measurement is associated with the first connection assigned to the peer. **Note:** This failure is associated with the peer, not any particular connection. The measurement should always be pegged against the same peer connection, i.e., the first one assigned to the peer.
Measurement Scope	Server Group

Recovery

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

Diameter Ingress Transaction Exception measurements

The Diameter Ingress Transaction Exception report group contains measurements providing information about exceptions associated with the routing of Diameter transactions received from downstream peers.

Table 35: Diameter Ingress Transaction Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxArtRuleRejection	Number of Request messages from a downstream peer rejected by a Local Node because a application routing rule Action is set to "Send Answer" or "Abandon".	5 min
RxDecodeFailure	Number of Request messages rejected from a downstream peer because the message could not be decoded.	5 min
RxDOCDiscardMp	The number of ingress Diameter Request messages received on a connection that were discarded due to local DA-MP danger of CPU congestion.	5 min
RxMessageLooping	Number of Request messages from a downstream peer rejected by a Local Node because message looping was detected (FQDN of the Local Node associated with the ingress transport connection matched an FQDN in the messages' Route-Record AVPs).	5 min
RxNoRoutesFound	Number of Request messages from a downstream peer rejected by a Local Node because no routes were available for routing the message.	5 min

Measurement Tag	Description	Collection Interval
RxNoRulesFailure	Number of Request messages from a downstream peer rejected by a Local Node because no Peer Routing Rule was found.	5 min
RxPrtRuleRejection	Number of Request messages from a downstream peer rejected by a Local Node because a peer routing rule ACTION is set to "Send Answer".	5 min
RxRejectedAll	Number of Request messages rejected from a downstream peer by a Local Node (all reasons).	5 min
RxRejectedOther	Number of Request messages from a downstream peer rejected by a Local Node for any reason other than those identified by other measurements.	5 min
RxRequestMsgQueueFullDiscard	Number of ingress Diameter Request messages that were discarded because the Request Message Queue was full.	5 min
RxTransactionTimeout	Number of Request messages from a downstream peer rejected by a Local Node because maximum message reroutes exceeded.	5 min
TxLongTimeoutPtrListEmpty	Number of ingress Diameter Request messages that were discarded because no Long Timeout PTR Buffers were available.	5 min
TxPerConnQueueFullDiscard	Number of egress messages that were discarded because the "Per Connection Egress Message Queue" was full.	5 min
TxPtrListEmpty	Number of ingress Diameter Request messages that were discarded because no PTR Buffers were available.	5 min
TxRerouteQueueFullReject	Number of egress Diameter Request messages that were rejected because the Reroute Queue was full.	5 min
TxSockFullDiscard	Number of egress Diameter messages that were discarded because the socket was not writable.	5 min

RxArtRuleRejection

Measurement ID 14067

Measurement Group Diameter Ingress Transaction Exception

Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of Request messages from a downstream peer rejected by a local node because an application routing rule Action is set to 'Send Answer" or "Abandon with No Answer".
Collection Interval	5 min
Peg Condition	Each time a Request message from a downstream peer is rejected by a Local node because an application routing rule Action is set to "Send Answer". **Note:** The "connection measurement" is associated with the Diameter Connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action necessary

RxDecodeFailure

Measurement ID	10031
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Number of Request messages rejected from a downstream peer because the message could not be decoded.
Collection Interval	5 min
Peg Condition	Request message from a downstream peer is rejected by a Local Node because it could not be decoded. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

1. These protocol violations are caused by the originator of the message (identified by the Origin-Host AVP in the message) or the peer that forwarded the message to this node (identified by the peer name) and cannot be fixed using the application.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxDOCDiscardMp

Measurement ID	10252
Measurement Group	Diameter Ingress Transaction Exception

Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress messages that were discarded due to local DA-MP danger of CPU congestion.
Collection Interval	5 min
Peg Condition	Pegged for each message discarded due to DA-MP danger of CPU congestion.
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. DA-MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each DA-MP can be monitored from the **Status & Manage** > **KPIs** page. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each DA-MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. The alarm log should be examined using the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxMessageLooping

Measurement ID	10032
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages from a downstream peer rejected by a Local Node because message looping was detected (FQDN of the Local Node associated with the ingress transport connection matched a FQDN in the messages' Route-Record AVPs).
Collection Interval	5 min
Peg Condition	Request message from a downstream peer is rejected by a Local Node with Result-Code 3005 (DIAMETER_LOOP_DETECTED). The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

1. An excessive amount of Request message rerouting may have been triggered by either connection failures or Answer timeouts. The status of connections should be examined from the **Diameter** > **Maintenance** > **Connections** page.
2. If no additional congestion alarms are asserted, the routing Answer task may be experiencing a problem preventing it from processing messages from its Answer Message Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxNoRoutesFound

Measurement ID	10035
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Number of Request messages from a downstream peer rejected by a Local Node because no routes were available for routing the message.
Collection Interval	5 min
Peg Condition	Request message from a downstream peer is rejected by a Local Node because no routes were available for routing the message. A No Routes Available condition occurs when: • A Route List was selected via a Peer Routing Rule or implicit routing but its Operational Status was Unavailable • Implicit routing was invoked and the peer's Operational Status was not Available and an alternate implicit route was not provisioned for the peer The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

1. If the message matched a Peer Routing Rule but none of the peers in the Route List were eligible for routing the message because either their operation state was Unavailable, the Application ID in the Request message did not match an application ID supported by the peer, or the peer had previously processed the message as defined by the Route-Record AVPs in the message:
   a) Verify that IP network connectivity exists between the MP server and the peers.
   b) Check the event history logs for additional DIAM events or alarms from this MP server.
   c) Verify that the peers in the Route List are not under maintenance. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.
2. If the message was addressed to a peer directly connected to the Local Node via the Destination-Host AVP but the peer's operational status was Unavailable or the alternate path to the peer, designated by the peer's alternate implicit route was either not provisioned or was Unavailable:
   a) Verify that IP network connectivity exists between the MP server and the adjacent servers.
   b) Check the event history logs for additional DIAM events or alarms from this MP server.
   c) Verify that the peer is not under maintenance.

3. If the message was addressed to a peer directly connected to the Local Node via the Destination-Host AVP but the application ID in the Request message did not match an Application ID supported by the peer:
   a) The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
   b) There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
   c) A software defect may exist resulting in PTR buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined from the **Alarms & Events** page.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxNoRulesFailure

Measurement ID	10034
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages from a downstream peer rejected by a Local Node because no Peer Routing Rule was found.
Collection Interval	5 min
Peg Condition	Request message from a downstream peer is rejected by a Local Node because no Peer Routing Rules were found in the peer routing table and the message was not addressed to a peer (either Destination-Host AVP was absent or Destination-Host AVP was present but was not a peer's FQDN) or a configured Realm/Application-Id (via the Realm Route Table). The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.

4. If no additional congestion alarms are asserted, the Routing Answer Task may be experiencing a problem preventing it from processing messages from its Answer Message Queue. The alarm log should be examined from the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxPrtRuleRejection

Measurement ID	10037
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages from a downstream peer rejected by a Local Node because a Peer Routing Rule action is set to "Send Answer" or "Abandon with No Answer".
Collection Interval	5 min
Peg Condition	Request message from a downstream peer rejected by a Local Node because a Peer Routing Rule action is set to "Send Answer" or "Abandon with No Answer". The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Site

Recovery

No action required.

RxRejectedAll

Measurement ID	10030
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages rejected from a downstream peer by a Local Node (all reasons).
Collection Interval	5 min
Peg Condition	When measurement ID *RxRejectedConnCongestion*, *RxDecodeFailure*, *RxMessageLooping*, *RxAllDrop*, *RxNoRulesFailure*, *RxNoRoutesFound*, *RxTransactionTimeout*, *RxPrtRuleRejection*, or *RxRejectedOther* is pegged.
Measurement Scope	Server Group

Recovery

No action required.

RxRejectedOther

Measurement ID	10038
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages from a downstream peer rejected by a Local Node for any reason other than those identified by measurements *RxDecodeFailure*, *RxMessageLooping*, *RxAllDrop*, *RxNoRulesFailure*, *RxNoRoutesFound*, *RxTransactionTimeout*, *RxArtRuleRejection*, or *RxPrtRuleRejection*.
Collection Interval	5 min
Peg Condition	Request message from a downstream peer rejected by a Local Node for any reason other than those identified by measurements *RxDecodeFailure*, *RxMessageLooping*, *RxAllDrop*, *RxNoRulesFailure*, *RxNoRoutesFound*, *RxTransactionTimeout*, *RxArtRuleRejection*, or *RxPrtRuleRejection*. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxRequestMsgQueueFullDiscard

Measurement ID	10231
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Diameter Request messages that were discarded because the Request Message Queue was full.
Collection Interval	5 min
Peg Condition	For each Request message discarded because the Request Message Queue was full. The connection measurement is associated with the connection from which the message was received.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist or a Diameter peer and/or DNS routing mis-configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxTransactionTimeout

Measurement ID	10036
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages from a downstream peer rejected by a Local Node because maximum message reroutes are exceeded.
Collection Interval	5 min
Peg Condition	Request message from a downstream peer is rejected by a Local Node because maximum number of message reroutes was exceeded. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

1. If the maximum number of message reroutes is set too low (e.g., zero) then any failure trigger message reroute will fail. The user-configurable value is set using the **Diameter** > **Configuration** > **System Options** page.
2. If the user-configurable answer response timer is set too low the timer expires before an Answer response is received. The user-configurable value is set using the **Diameter** > **Configuration** > **System Options** page.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxLongTimeoutPtrListEmpty

Measurement ID	10296
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Diameter Request messages that were discarded because no Long Timeout PTR Buffers were available.
Collection Interval	5 min

Peg Condition	When any DRL thread within the Diameter Process needs to allocate a Long Timeout PTR Buffer from the Long Timeout PTR Buffer Pool and the number of allocated Long Timeout PTRs from a Long Timeout PTR Buffer Pool is less than the maximum configured capacity of Long Timeout PTR Buffers then: • A Long Timeout PTR Buffer shall be allocated from the Long Timeout PTR Buffer Pool • The count for the number of allocated Long Timeout PTRs from a Long Timeout PTR Buffer Pool shall be incremented by one.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurements for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP when the Ingress Message Rate and/or Diameter Process CPU Utilization measurements are below the recommended maximum engineered capacity of an MP, then a network (IP or Diameter) problem may exist. Looking at these measurements on a time of day basis may provide additional insight into potential network problems.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific software problem may exist (e.g., a buffer pool leak).
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

TxPtrListEmpty

Measurement ID	10228
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Diameter Request messages that were discarded because no PTR Buffers were available.
Collection Interval	5 min
Peg Condition	When any DRL thread within the Diameter Process needs to allocate a PTR Buffer from the PTR Buffer Pool and the number of allocated PTRs from a PTR Buffer Pool is less than the maximum configured capacity of PTR Buffers then: • A PTR Buffer shall be allocated from the PTR Buffer Pool • The count for the number of allocated PTRs from a PTR Buffer Pool shall be incremented by one.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurements for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP when the Ingress Message Rate and/or Diameter Process CPU Utilization measurements are below the recommended maximum engineered capacity of an MP, then a network (IP or Diameter) problem may exist.

Looking at these measurements on a time of day basis may provide additional insight into potential network problems.

2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific software problem may exist (e.g., a buffer pool leak).
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxRerouteQueueFullReject

Measurement ID	10241
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of egress Diameter Request messages that were rejected because the Reroute Queue was full.
Collection Interval	5 min
Peg Condition	For each Request message rejected because the Reroute Queue was full. The connection measurement is associated with the connection the Request message was received from.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist or a Diameter peer and/or DNS routing mis-configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

Diameter Ingress Transaction Performance measurements

The Diameter Ingress Transaction Performance measurement report contains measurements providing information about the outcome of Diameter transactions received from downstream peers.

Table 36: Diameter Ingress Transaction Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxConnRequestMsgs	Number of routable Request messages received on the connection	5 min
TxAnswer1xxx	Ingress Answer messages from peers successfully routed - Result-Code value 1xxx (Informational)	5 min

Measurement Tag	Description	Collection Interval
TxAnswer2xxx	Answer messages from upstream peers successfully routed to downstream peers - Result-Code value 2xxx (Success)	5 min
TxAnswer3xxx	Answer messages from upstream peers successfully routed to downstream peers - Result-Code value 3xxx (Protocol Error)	5 min
TxAnswer4xxx	Answer messages from upstream peers successfully routed to downstream peers - Result-Code value 4xxx (Transient Failure)	5 min
TxAnswer5xxx	Answer messages from upstream peers successfully routed to downstream peers - Result-Code value 5xxx (Permanent Failure)	5 min
TxAnswerFailure	Expected Answer responses from a peer or Answer responses created by a Local Node which were not successfully routed to a downstream peer (for any reason).	5 min
TxAnswerLocalNode	Answer messages created by Local Node successfully routed to downstream peers (all Result-Code values)	5 min
TxAnswerOther	Answer messages from upstream peers successfully routed to downstream peers - Result-Code value not 1000-5999	5 min

RxConnRequestMsgs

Measurement ID 10151

Measurement Group Diameter Ingress Transaction Performance, Diameter Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of routable Request messages received on the connection.

Collection Interval 5 min

Peg Condition Pegged when a Diameter request message is received from the peer.

Measurement Scope Server Group

Recovery

No action required.

TxAnswer1xxx

Measurement ID	10020
Measurement Group	Diameter Ingress Transaction Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Answer responses from peers that were successfully routed to a downstream peer with a Result-Code value 1xxx.
Collection Interval	5 min
Peg Condition	Answer message received from a peer that was successfully sent to the DCL/RCL with a Result-Code value in the range of 1000 - 1999. The connection measurement is associated with the connection to which the message was routed.
Measurement Scope	Server Group

Recovery

No action required.

TxAnswer2xxx

Measurement ID	10021
Measurement Group	Diameter Ingress Transaction Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Answer responses from peers that were successfully routed to a downstream peer with a Result-Code value 2xxx.
Collection Interval	5 min
Peg Condition	Answer message received from a peer that was successfully sent to the DCL/RCL with a Result-Code value in the range of 2000 - 2999. The connection measurement is associated with the connection to which the message was routed.
Measurement Scope	Server Group

Recovery

No action required.

TxAnswer3xxx

Measurement ID	10022
Measurement Group	Diameter Ingress Transaction Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Answer responses from peers that were successfully routed to a downstream peer with a Result-Code value 3xxx (Protocol Error).
Collection Interval	5 min
Peg Condition	Answer message received from a peer that was successfully sent to the DCL//RCL with a Result-Code value in the range of 3000 - 3999. The connection measurement is associated with the connection to which the message was routed.
Measurement Scope	Server Group

Recovery

No action required.

TxAnswer4xxx

Measurement ID	10023
Measurement Group	Diameter Ingress Transaction Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Answer responses from peers that were successfully routed to a downstream peer with a Result-Code value 4xxx (Transient Failure).
Collection Interval	5 min
Peg Condition	Answer message received from a peer that was successfully sent to the DCL/RCL with a Result-Code value in the range of 4000 - 4999. The connection measurement is associated with the connection to which the message was routed.
Measurement Scope	Server Group

Recovery

No action required.

TxAnswer5xxx

Measurement ID	10024
Measurement Group	Diameter Ingress Transaction Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Answer responses from peers that were successfully routed to a downstream peer with a Result-Code value 5xxx (Permanent Failure).
Collection Interval	5 min
Peg Condition	Answer message received from a peer that was successfully sent to the DCL/RCL with a Result-Code value in the range of 5000 - 5999. The connection measurement is associated with the connection to which the message was routed.
Measurement Scope	Server Group

Recovery

No action required.

TxAnswerFailure

Measurement ID	10027
Measurement Group	Diameter Ingress Transaction Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of (expected) Answer responses from a peer and Answer responses created by a Local Node which were not successfully routed to a downstream peer (for any reason). **Note:** An expected Answer response from a peer is an Answer response for which a pending transaction existed.
Collection Interval	5 min
Peg Condition	Any time the DCL/RCL fails to queue an Answer response. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

TxAnswerLocalNode

Measurement ID	10026
Measurement Group	Diameter Ingress Transaction Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Answer responses from a Local Node that were successfully routed to a downstream peer (all Result-Code values).
Collection Interval	5 min
Peg Condition	Any time the DCL/RCL successfully creates and queues an Answer response to DCL in response to a Request message received from a downstream peer. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

TxAnswerOther

Measurement ID	10025
Measurement Group	Diameter Ingress Transaction Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Answer responses from peers that were successfully routed to a downstream peer with a Result-Code value not in the range of 1000-5999.
Collection Interval	5 min
Peg Condition	Answer message received from a peer which was successfully sent to the DCL/RCL with either a Result-Code value not in the range of 1000 - 5999 or without a Result-Code AVP. The connection measurement is associated with the connection to which the message was routed.
Measurement Scope	Server Group

Recovery

No action required.

Diameter Performance measurements

The Diameter Performance measurement report contains measurements that provide performance information that is specific to the Diameter protocol.

Table 37: Diameter Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvPerConnPtrQueueAvg	The average length of the PTR queue for a connection during the collection interval.	5 min
EvPerConnPtrQueuePeak	The maximum length of the PTR queue for a connection during the collection interval	5 min
EvRemoteBusy	Number of times that a connection's Remote Busy State changed from "Not Busy" to "Busy".	5 min
EvTransSuccessByExternalNode	Number of transactions where an external node sends success (2xxx) Answer to Diameter Node.	5 min
MpEvRadiusRoutedMsgs	Number of ingress RADIUS messages processed by DRL, including Rerouting and Message Copy.	5 min
RoutingMsgs	The number of messages processed by DRL , including Rerouting and Message Copy.	5 min
RxAnswerExpectedAll	Number of valid Answer messages received from an upstream peer that were associated with a pending transaction.	5 min
RxAnswerExpectedAllMp	Number of valid Answer messages received from an upstream peer that were associated with a pending transaction.	5 min
RxAnswerExpectedRoutedMP	Number of valid Answer messages received from an upstream peer that were successfully routed to a downstream peer.	5 min
RxConnRequestMsgs	Number of routable Request messages received on the connection.	5 min

Measurement Tag	Description	Collection Interval
RxDiam2DiamTransactionsCount	Total number of Diameter to Diameter transactions.	5 min
RxRequestMsgsMp	Number of Request messages received.	5 min
RxRequestNoErrors	Transactions successfully processed on one routing attempt.	5 min
RxRequestNoErrorsMp	Number of transactions successfully processed on one routing attempt.	5 min
TmConnAvail	Total time in seconds that the connection state was AVAILABLE during the measurement period.	5 min
TmResponseTimeDownstream	Average downstream transaction response time.	5 min
TmResponseTimeDownstreamMp	Average time (in milliseconds) from when routing receives a Request message from a downstream peer to the time that an Answer response is sent to that downstream peer.	5 min
TmResponseTimeUpstream	Average upstream transaction response time.	5 min
TxConnAnswerMsgs	Number of routable Answer messages successfully sent on the connection.	5 min
TxConnRequestMsgs	Number of routable Request messages successfully sent on the connection.	5 min
TxRequestSuccessAllMp	Number of Request messages successfully routed to a peer.	5 min

EvPerConnPtrQueueAvg

Measurement ID	10240
Measurement Group	Diameter Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	The average length of the PTR queue for a connection during the collection interval.
Collection Interval	5 min

Peg Condition	Each time a PTR is dequeued or enqueued on the connection's PTR queue, the average queue length is calculated using the COMCOL average measurement type method.
Measurement Scope	Server Group

Recovery

No action required.

EvPerConnPtrQueuePeak

Measurement ID	10239
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Connection ID)
Description	The maximum length of the PTR queue for a connection during the collection interval.
Collection Interval	5 min
Peg Condition	Each time a PTR is dequeued or enqueued on the connection's PTR queue, the maximum queue length is calculated using the COMCOL maximum measurement type method.
Measurement Scope	Server Group

Recovery

No action required.

EvRemoteBusy

Measurement ID	
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	
Description	Number of times that a connection’s Remote Busy State changed from “Not Busy” to “Busy”.
Collection Interval	5 min
Peg Condition	Each time that DRL changes the connection’s “Remote Busy State” to “Busy”.
Measurement Scope	Server Group

Recovery

1. Use **Main Menu** > **Diameter** > **Configuration** > **Connections** to examine and modify the “Remote Busy Abatement Timeout” attribute setting for the connection.

If the total duration that the connection is congested is small (as defined by TmRemoteBusy), then the user-configurable "Remote Busy Abatement Timeout" attribute for the connection may be set too small.

2. The ingress message rate to the connection is excessive.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvTransSuccessByExternalNode

Measurement ID	14069
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of transactions where an external node sends success (2xxx) Answer to Diameter Node.
Collection Interval	5 min
Peg Condition	When DSR successfully relays an answer response received from upstream external node to a downstream external node and the answer contains a success response (i.e. a Result-Code AVP value in the range of 2000-2999)
Measurement Scope	Server Group

Recovery

No action required.

MpEvRadiusRoutedMsgs

Measurement ID	14074
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress RADIUS messages processed by DRL, including Rerouting and Message Copy.
Collection Interval	5 min
Peg Condition	This measurement should be incremented as per the following conditions. • Ingress RADIUS Request processing resulting in a Request being routed upstream (with or without local DSR application processing of the Request) • Ingress RADIUS Response processing resulting in forwarding of Answer/Response downstream (with or without local DSR application processing of the Response)

- Ingress Request processing resulting in Answer message sent by DSR to originator (with or without local DSR application processing of the Request)
- Ingress RADIUS Request discarded due to validation error or overload
- Ingress RADIUS Response discarded due to validation error
- Initial copy and transmit of a RADIUS Request to a DAS
- Ingress RADIUS Response triggering reroute of the pending Request message (including Answers from DAS for copied RADIUS Requests)
- RADIUS Request reroute due to connection failure or Answer/Response timeout (including reroute of copied Requests to DAS for same reasons)
- Ingress Answer from a DAS terminated by DSR due to RADIUS Request copy completion or termination

Note: This is the functional equivalent to *RoutingMsgs* but for ingress RADIUS (only) messages. Measurement *RoutingMsgs* measures all ingress equivalent messages (Diameter and RADIUS).

Measurement Scope Network

Recovery

No action required.

RoutingMsgs

Measurement ID 10243

Measurement Group Diameter Performance

Measurement Type Simple

Measurement Dimension Single

Description The number of Diameter and RADIUS messages processed by DRL, including Rerouting and Message Copy.

Collection Interval 5 min

Peg Condition This measurement should be incremented as per the following conditions.

- Ingress RADIUS Request processing resulting in a Request being routed upstream (with or without local DSR application processing of the Request)
- Ingress RADIUS Response processing resulting in forwarding of Answer/Response downstream (with or without local DSR application processing of the Response)
- Ingress Request processing resulting in Answer message sent by DSR to originator (with or without local DSR application processing of the Request)
- Ingress RADIUS Request discarded due to validation error or overload
- Ingress RADIUS Response discarded due to validation error
- Initial copy and transmit of a RADIUS Request to a DAS
- Ingress RADIUS Response triggering reroute of the pending Request message (including Answers from DAS for copied RADIUS Requests)

- RADIUS Request reroute due to connection failure or Answer/Response timeout (including reroute of copied Requests to DAS for same reasons)
- Ingress Answer from a DAS terminated by DSR due to RADIUS Request copy completion or termination

Measurement Scope Network

Recovery

No action required.

RxAnswerExpectedAll

Measurement ID	10040
Measurement Group	Diameter Egress Transaction, Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of valid Answer messages received from an upstream peer that were associated with a pending transaction.
Collection Interval	5 min
Peg Condition	When the DSR receives an Answer message event with a valid transport connection ID for which a pending transaction is found. The connection measurement is associated with the connection from which the Answer message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxAnswerExpectedAllMp

Measurement ID	10091
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of valid Answer messages received from an upstream peer that were associated with a pending transaction.
Collection Interval	5 min
Peg Condition	When the DSR receives an Answer message event with a valid transport connection ID for which a pending transaction is found. The connection measurement is associated with the connection from which the Answer message was received.

Measurement Scope	Server Group

Recovery

No action required.

RxAnswerExpectedRoutedMp

Measurement ID	10092
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of valid Answer messages received from an upstream peer that were successfully routed to a downstream peer.
Collection Interval	5 min
Peg Condition	
Measurement Scope	Server Group

Recovery

No action required.

RxConnRequestMsgs

Measurement ID	10151
Measurement Group	Diameter Ingress Transaction Performance, Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of routable Request messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter request message is received from the peer.
Measurement Scope	Server Group

Recovery

No action required.

RxDiam2DiamTransactionsCount

Measurement ID	14065
Measurement Group	Diameter Performance

Measurement Type	Simple
Measurement Dimension	Single
Description	The total number of Diameter to Diameter transactions
Collection Interval	5 min
Peg Condition	When an answer message is received from an upstream peer or an answer message is generated by DRL to downstream peer for which pending transaction record has been allocated previously
Measurement Scope	Server Group

Recovery

No action required.

RxRequestMsgsMp

Measurement ID	10131
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Request messages received.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter request message received is from the peer. This measurement is pegged for all requests accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.
Measurement Scope	Server Group

Recovery

No action required.

RxRequestNoErrors

Measurement ID	10003
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of transactions successfully processed on one routing attempt.
Collection Interval	5 min
Peg Condition	When an Answer response from a peer is successfully queued to the DCL/RCL for a transaction and the total number of times

	that the corresponding Request message has been forwarded to a peer equals "1". The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required

RxRequestNoErrorsMp

Measurement ID	10094
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of transactions successfully processed on one routing attempt.
Collection Interval	5 min
Peg Condition	When an Answer response from a peer is successfully queued to the DSR for a transaction and the total number of times that the corresponding Request message has been forwarded to a peer equals "1". The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

TmConnAvail

Measurement ID	10150
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Total time in seconds that the connection state was available during the measurement period.
Collection Interval	5 min
Peg Condition	Pegging started when the connection state is Available. Pegging stopped when the connection state is Unavailable or Degraded.
Measurement Scope	Server Group

Recovery

1. If this measurement varies significantly from the total time in the collection period, examine the Alarm History to determine the reason(s) that the connection was Unavailable or Degraded.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmHoldTimeDownstreamMp

Measurement ID	14066
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The time (in milliseconds) from when a pending transaction record is allocated by DRL and until DRL stops processing the transaction and deallocates the PTR.
Collection Interval	5 min
Peg Condition	• The time interval for each transaction starts when DRL allocates and stores PTR for an ingress Request message from a downstream peer • The time interval for each transaction when DRL stops processing and the transaction deallocates the PTR and sends an answer response to DCL This includes Answer messages received from an upstream peers and those generated by DRL.
Measurement Scope	Server Group

Recovery

No action required.

TmRemoteBusy

Measurement ID	10042
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed
Description	Total time (in milliseconds) that a connection's "Remote Busy State" was "Busy".
Collection Interval	5 min
Peg Condition	Each time that DRL changes the connection's "Remote Busy State" to "Busy". Each time interval stops when DRL changes the connection's "Remote Busy State" to "Not Busy"
Measurement Scope	Server Group

Recovery

1. The ingress message rate to the connection is excessive.

   Under normal circumstancea, TmRemoteBusy should be very small. If it is large, then the ingress message traffic to the connection may be exceeding the ability of the peer to process the traffic from this connection. The following measurements may be useful in evaluating the ingress traffic for this connection:

   - TxAll - measures the total routable and non-routable measurements which were sent on the connection.
   - TxRequestSuccessAllConn - measures the total number of Request messages forwarded to the connection.

   a) An excessive number of messages may have been rerouted to this connection. Examine Measurement-IDs 10050-10054.
   b) Route Group configurable options can be viewed and modified using **Main Menu** > **Diameter** > **Configuration** > **Route Groups**.

      The connection may be a member of one or more Route Groups whose peer or connection "weight" may be mis-configured or need modification.

   c) Use **Main Menu** > **Diameter** > **Configuration** > **Route Groups** to examine Connection status.

      The connection may be a member of one or more Route Groups containing failed connections. When this occurs, the traffic will be routed to the remaining connections in those route groups.

   d) The peer node or this particular connection to the peer node may be under-engineered for the ingress traffic load.
   e) The total offered load to this connection may have peaked during a short time duration due to larger than normal network usage patterns. This measurement should be view over multiple measurement intervals to look for trends.

2. Use **Main Menu** > **Diameter** > **Configuration** > **Connections** to examine and modify the "Remote Busy Abatement Timeout" attribute setting for the connection.

   If the total duration that the connection is congested is small (as defined by TmRemoteBusy), then the user-configurable "Remote Busy Abatement Timeout" attribute for the connection may be set too small.

3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmResponseTimeDownstream

Measurement ID	10001
Measurement Group	Diameter Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	Average time (in milliseconds) from when routing receives a Request message from a downstream peer to the time that an Answer response is sent to that downstream peer.
Collection Interval	5 min

Peg Condition	Time interval for each transaction starts when the DRL successfully decodes an ingress Request message from a downstream peer. Time interval for each transaction stops when the DRL attempts to send an Answer response to the DCL/RCL. This includes Answer messages received from upstream peers and those generated by the DRL. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

1. If the average is significantly larger than what is considered normal, then additional measurements, such as measurement *TmResponseTimeUpstream*, should be consulted to assist in determining the source of the delay.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmResponseTimeDownstreamMp

Measurement ID	10093
Measurement Group	Diameter Performance
Measurement Type	Average
Measurement Dimension	Single
Description	Average time (in milliseconds) from when routing receives a Request message from a downstream peer to the time that an Answer response is sent to that downstream peer.
Collection Interval	5 min
Peg Condition	Time interval for each transaction starts when the DSR successfully decodes an ingress Request message from a downstream peer. Time interval for each transaction stops when the DSR attempts to send an Answer response. This includes Answer messages received from upstream peers and those generated by the DSR. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

TmResponseTimeUpstream

Measurement ID	10002
Measurement Group	Diameter Performance
Measurement Type	Average

Measurement Dimension	Arrayed (by Connection ID)
Description	Average time (in milliseconds) from when routing forwards a Request message to an upstream peer to the time that an Answer response is received.
Collection Interval	5 min
Peg Condition	Time interval for each transaction starts when the DRL successfully queues a Request message to the DCL/RCL. Time interval for each transaction stops when the DRL receives an Answer response for the pending transaction associated with the forwarded Request message. The connection measurement is associated with the connection the Request message is sent to. **Note:** This measurement excludes transactions which are aborted due to a failure (e.g., timer PENDING-ANSWER-TIMER or PENDING-TRANSACTION-TIMER expiration or transport connection failure).
Measurement Scope	Server Group

Recovery

It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxConnAnswerMsgs

Measurement ID	10154
Measurement Group	Diameter Egress Transaction, Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of routable Answer messages successfully sent on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter Answer message is sent to the peer.
Measurement Scope	Server Group

Recovery

No action required.

TxConnRequestMsgs

Measurement ID	10153
Measurement Group	Diameter Egress Transaction, Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of routable Request messages successfully sent on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter request message is sent to the peer.
Measurement Scope	Server Group

Recovery

No action required.

TxRequestSuccessAllMP

Measurement ID	10090
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Request messages successfully routed to a peer.
Collection Interval	5 min
Peg Condition	When the DSR successfully queues a Request message. The connection measurement is associated with the connection to which the Request message was sent.
Measurement Scope	Server Group

Recovery

No action required.

Diameter Rerouting measurements

The Diameter Rerouting measurement report is a set of measurements which allows the user to evaluate the amount of message rerouting attempts which are occurring, the reasons for why message rerouting is occurring, and the success rate of message rerouting attempts.

Table 38: Diameter Rerouting Measurement Report Fields

Measurement Tag	Description	Collection Interval
MpRerouteToRequestRatio	Ratio of Request reroutes due to Answer Result-Code or Answer timeout to Total Requests routed by DSR.	5 min
RxRerouteAnswerRsp	Answer messages received associated with rerouted Request messages	5 min

Measurement Tag	Description	Collection Interval
RxRerouteAnswerRspMp	Number of valid Answer messages received from an upstream peer that were associated with a pending rerouted transaction.	5 min
TxRerouteAnswerResponse	Number of message rerouting attempts triggered by the receipt of an Answer response Result-Code value which is a candidate for message rerouting.	5 min
TxRerouteAnswerTimeout	Rerouting attempts triggered by a timeout on the Answer response.	5 min
TxRerouteAttempts	Total number of message rerouting attempts.	5 min
TxRerouteConnFailure	Rerouting attempts triggered by a connection failure.	5 min
TxRerouteSuccessSent	Message rerouting attempts that were successfully rerouted.	5 min

MpRerouteToRequestRatio

Measurement ID
14014

Measurement Group
Diameter Rerouting

Measurement Type
Average

Measurement Dimension
Single

Description
Ratio of Request reroutes due to Answer Result-Code and/or Answer timeout to Total Requests routed by DSR.

Collection Interval
5 min

Peg Condition
The numerator of this measurement is pegged when request message reroute is triggered under these conditions:

- When DRL does not receive an answer from an upstream Peer Node within the PAT expiry.
- When DRL receives an Answer response from an upstream Peer Node and it finds a match in the Reroute on Answer table.

The denominator of this measurement is pegged under these scenarios:

- First attempt of Request routing
- First attempt of Message Copy Request routing

Measurement Scope
Site

Recovery
No action required.

RxRerouteAnswerRsp

Measurement ID	10054
Measurement Group	Diameter Rerouting
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of valid Answer messages received from an upstream peer that were associated with a pending rerouted transaction.
Collection Interval	5 min
Peg Condition	When the DSR receives an Answer message event with a valid transport connection ID for which a pending transaction associated with a rerouted message is found. The connection measurement is associated with the connection from which the Answer message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxRerouteAnswerRspMp

Measurement ID	10095
Measurement Group	Diameter Rerouting
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of valid Answer messages received from an upstream peer that were associated with a pending rerouted transaction.
Collection Interval	5 min
Peg Condition	When the DSR receives an Answer message event with a valid Transport Connection ID for which a pending transaction associated with a rerouted message is found. The connection measurement is associated with the connection from which the Answer message was received.
Measurement Scope	Server Group

Recovery

No action required.

TxRerouteAnswerResponse

Measurement ID	10055

Measurement Group	Diameter Rerouting
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of message rerouting attempts triggered by the receipt of an Answer response Result-Code value that is a candidate for message rerouting.
Collection Interval	5 min
Peg Condition	When the DSR receives an Answer response with a Result-Code value that is a candidate for message rerouting. The connection measurement is associated with the upstream connection from which the Answer response was received.
Measurement Scope	Server Group

Recovery

No action required.

TxRerouteAnswerTimeout

Measurement ID	10052
Measurement Group	Diameter Rerouting
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of message rerouting attempts triggered by a timeout (PENDING-ANSWER-TIMER) on the Answer response.
Collection Interval	5 min
Peg Condition	When timer PENDING-ANSWER-TIMER expires and the DSR attempts to reroute a Request message.
Measurement Scope	Server Group

Recovery

1. If the user-configurable answer response timer is set too low it can cause the timer to expire before a Answer response is received. The user-configurable value is set from the **Diameter** > **Configuration** > **System Options** page.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxRerouteAttempts

Measurement ID	10050
Measurement Group	Diameter Rerouting
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	Total number of message rerouting attempts.
Collection Interval	5 min
Peg Condition	When the DSR attempts to reroute a Request message routed via a Route List for one of the following reasons: • Transport connection fails • PENDING-ANSWER-TIMER expires • Answer response Result-Code plus application ID matches user-defined values for message rerouting This measurement will be pegged when any of the following measurement IDs are pegged: *TxRerouteConnFailure*, *TxRerouteAnswerTimeout*, *TxRerouteAnswerResponse*. The connection measurement is associated with the upstream connection from which rerouting was triggered.
Measurement Scope	

Recovery

1. If the user-configurable answer response timer is set too low it can cause the timer to expire before an Answer response is received. The user-configurable value is set from the **Diameter** > **Configuration** > **System Options** page.
2. Connection status can be monitored from the **Diameter** > **Maintenance** > **Connections** page.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxRerouteConnFailure

Measurement ID	10051
Measurement Group	Diameter Rerouting
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of message rerouting attempts triggered by a connection failure.
Collection Interval	5 min
Peg Condition	For each Request message rerouting attempt invoked by the receipt of a valid Connection Down event notification from the DSR.
Measurement Scope	Server Group

Recovery

1. Connection status can be monitored from the **Diameter** > **Maintenance** > **Connections** page.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxRerouteSuccessSent

Measurement ID	10053

Measurement Group	Diameter Rerouting
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of message rerouting attempts that were successfully rerouted.
Collection Interval	5 min
Peg Condition	When the DSR successfully reroutes a Request message. The connection measurement is associated with the upstream connection from which rerouting was triggered.
Measurement Scope	Server Group

Recovery

No action required.

Link Exception measurements

Table 39: Link Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvLnkActAckTO	Number of times the link timed out waiting for ASP-ACTIVE-ACK. ASP-ACTIVE-ACK is sent by the SG in response to an ASP-ACTIVE message on the link. The link is not available for M3UA data signaling until ASP-ACTIVE-ACK is received.	30 min
RxLnkUnsolInactAck	Number of times an unsolicited ASP-INACTIVE-ACK was received on the link. ASP-INACTIVE-ACK may be sent unsolicited by the SG to indicate that the specified link is no longer able to process M3UA data signaling. The MP server will begin attempts to bring the link back into the signaling state matching its administrative state. For example, if the link is **Enabled**, the MP server will attempt to restore M3UA data signaling on the link by sending an ASP-ACTIVE and waiting for an ASP-ACTIVE-ACK.	30 min
RxLnkM3uaERROR	Number of times an M3UA ERROR message was received for the link. M3UA ERROR message are sent to indicate invalid M3UA signaling.	30 min
RxLnkInvalidM3ua	Number of invalid M3UA messages received on the link. Invalid M3UA messages are messages that violate the M3UA protocol, but which can be attributed to a specific link (i.e., a valid routing context exists, or no routing context is necessary).	30 min

EvLnkActAckTO

Measurement ID	9120
Measurement Group	Link Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per link)
Description	The number of times the link timed out waiting for ASP-ACTIVE-ACK. An ASP-ACTIVE-ACK is sent by the SG in response to an ASP-ACTIVE message on the link. The link is not available for M3UA data signaling until the ASP-ACTIVE-ACK is received.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an ASP-ACTIVE has been sent for the link and the M3UA State Management ACK timer has expired, but no ASP-ACTIVE-ACK was received for the link.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. You can view Link status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Links**.
2. Check the event history log from the GUI main menu under **Alarms & Events** > **View History**. Look for Event ID 19229, which shows when the ASP-ACTIVE-ACK timeout occurs.
3. Verify that the far-end of the link on the SG is not undergoing maintenance.
4. Verify that the **State Management ACK Timer** period is not set too short.
5. Verify that the IP network between the MP server and the SG is performing up to expectations.
6. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxLnkUnsolInactAck

Measurement ID	9121
Measurement Group	Link Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per link)
Description	The number of times an unsolicited ASP-INACTIVE-ACK was received on the link. ASP-INACTIVE-ACK may be sent unsolicited by the SG to indicate that the specified link is no longer able to process M3UA data signaling. The MP server will begin attempts to bring the link back into the signaling state matching its administrative state. For example, if the link is **Enabled**, the MP server will attempt to restore M3UA data signaling on the link by sending an ASP-ACTIVE and waiting for an ASP-ACTIVE-ACK.
Collection Interval	30 min

Peg Condition	This measurement is incremented by one each time an unsolicited ASP-INACTIVE-ACK is received on the link.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a zero value. A non-zero value means that the far-end of the link has stopped processing M3UA data. You can view Link status from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Links**.
2. Check the event history log from the GUI main menu under **Alarms & Events** > **View History**, looking for Event ID 19230. Event ID 19230 will show when the unsolicited ASP-INACTIVE-ACK was received.
3. Verify whether the far-end of the link is undergoing maintenance.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxLnkM3uaERROR

Measurement ID	9123
Measurement Group	Link Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per link)
Description	The number of times an M3UA ERROR message was received for the link. M3UA ERROR message are sent to indicate invalid M3UA signaling.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an M3UA ERROR message is received and that ERROR message can be attributed to a specific link (i.e., the ERROR message contains a valid routing context, or no routing context is needed).
Measurement Scope	NE, Server

Recovery

1. This measurement should have a value of zero. A non-zero value indicates a problem with the M3UA signaling sent by the MP server.
2. Look for Event ID 19235 from the GUI main menu under **Alarms & Events** > **View History**. **Event ID 19235** provides information on the reason for the receipt of the ERROR message.
3. If the ERROR reason in Event ID 19235 indicates a problem with routing context (i.e., error code 0x19), verify that the MP server link set and the SG are configured to agree on the routing context values that each M3UA signaling link uses.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxLnkInvalidM3ua

Measurement ID	9144
Measurement Group	Link Exception

Measurement Type	Simple
Measurement Dimension	Arrayed (per link)
Description	The number of invalid M3UA messages received on the link. Invalid M3UA messages are messages that violate the M3UA protocol, but which can be attributed to a specific link (i.e., a valid routing context exists or no routing context is necessary).
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an invalid M3UA message is received for the link.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a value of zero. A non-zero value indicates a problem with the M3UA signaling received by the MP server.
2. Look for Event ID 19231 from the GUI main menu under **Alarms & Events** > **View History**. Event ID 19231 provides information on the reason the M3UA message was rejected.
3. If the ERROR reason in Event ID 19231 indicates a problem with the routing context (i.e., error code 0x19), verify that the MP server link set and the SG are configured to agree on the routing context values that each M3UA signaling link uses.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

Link Performance measurements

Note: ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are not counted in these measurement.

Table 40: Link Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
TxLnkMSU	Number of MSUs sent on the link. MSUs includes all M3UA messages, both DATA and non-DATA.	30 min
RxLnkMSU	Number of MSUs received on the link. MSUs includes all M3UA messages, both DATA and non-DATA.	30 min
TxLnkMSUOctets	Number of MSU octets sent on the link. MSU octets includes all M3UA messages, both DATA and non-DATA.	30 min
RxLnkMSUOctets	Number of MSU octets received on the link. MSU octets includes all M3UA messages, both DATA and non-DATA.	30 min

TxLnkMSU

Measurement ID	9113
Measurement Group	Link Performance

Measurement Type	Simple
Measurement Dimension	Arrayed (per link)
Description	The number of MSUs sent on the link, including all M3UA messages, both DATA and non-DATA. **Note:** ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are therefore not counted in this measurement.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an M3UA message is sent on the link.
Measurement Scope	NE, Server

Recovery

No action required

RxLnkMSU

Measurement ID	9114
Measurement Group	Link Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per link)
Description	The number of MSUs received on the link. MSUs includes all M3UA messages, both DATA and non-DATA. Note: ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are therefore not counted in this measurement.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an M3UA message is received on the link.
Measurement Scope	NE, Server

Recovery

No action required.

TxLnkMSUOctets

Measurement ID	9115
Measurement Group	Link Performance
Measurement Type	Arrayed (per link)
Measurement Dimension	Simple

Description	The number of MSU octets sent on the link, including all M3UA messages, both DATA and non-DATA. **Note:** ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are therefore not counted in this measurement.
Collection Interval	30 min
Peg Condition	This measurement is incremented by the number of octets in the MSU (not including SCTP, IP, or Ethernet headers) each time an M3UA message is sent on the link.
Measurement Scope	NE, Server

Recovery

No action required.

RxLnkMSUOctets

Measurement ID	9116
Measurement Group	Link Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per link)
Description	The number of MSU octets received on the link – MSU octets includes all M3UA messages, both DATA and non-DATA. Note: ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are therefore not counted in this measurement.
Collection Interval	30 min
Peg Condition	This measurement is incremented by the number of octets in the MSU (not including SCTP, IP, or Ethernet headers) each time an M3UA message is received on the link.
Measurement Scope	NE, Server

Recovery

No action required.

Link Set Performance measurements

Table 41: Link Set Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
TxLnkSetMSU	Number of MSUs sent on the link set. MSUs includes all M3UA DATA messages sent on all links in the link set.	30 min

Measurement Tag	Description	Collection Interval
RxLnkSetMSU	Number of MSUs received on the link set. MSUs includes all M3UA DATA messages received on all links in the link set.	30 min
TxLnkSetMSUOctets	Number of MSU octets sent on the link set. MSU octets includes all M3UA DATA octets sent on all links in the link set. Octets for SCTP, IP, and Ethernet headers are not included.	30 min
RxLnkSetMSUOctets	Number of MSU octets received on the link set. MSU octets includes all M3UA DATA octets received on all links in the link set. Octets for SCTP, IP, and Ethernet headers are not included.	30 min

TxLnkSetMSU

Measurement ID	9124
Measurement Group	Link Set Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per link set)
Description	The number of MSUs sent on the link set , including all M3UA DATA messages sent on all links in the link set.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an M3UA DATA message is sent on a link in the link set.
Measurement Scope	NE, Server

Recovery

No action required.

RxLnkSetMSU

Measurement ID	9125
Measurement Group	Link Set Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per link set)
Description	The number of MSUs sent on the link set, including all M3UA DATA messages received on all links in the link set.
Collection Interval	30 min
Peg Condition	This measurement is incremented by one each time an M3UA DATA message is received on a link in the link set.

Measurement Scope	NE, Server

Recovery

No action required.

TxLnkSetMSUOctets

Measurement ID	9126
Measurement Group	Link Set Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per link set)
Description	The number of MSU octets sent on the link set, including all M3UA DATA octets sent on all links in the link set. Octets for SCTP, IP, and Ethernet headers are not included.
Collection Interval	30 min
Peg Condition	This measurement is incremented by the number of octets in the M3UA DATA message each time an M3UA DATA message is sent on a link in the link set.
Measurement Scope	NE, Server

Recovery

No action required.

RxLnkSetMSUOctets

Measurement ID	9127
Measurement Group	Link Set Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per link set)
Description	The number of MSU octets received on the link set, including all M3UA DATA octets received on all links in the link set. Octets for SCTP, IP, and Ethernet headers are not included.
Collection Interval	30 min
Peg Condition	This measurement is incremented by the number of octets in the M3UA DATA message each time an M3UA DATA message is received on a link in the link set.
Measurement Scope	NE, Server

Recovery

No action required.

Link Set Usage measurements

Table 42: Link Set Usage Measurement Report Fields

Measurement Tag	Description	Collection Interval
TmM3RLLinksetUnavail	Total time (in seconds) that all links in the link set were unavailable to M3RL during the measurement interval, regardless of whether the links were automatically or manually made unavailable.	30 min

TmM3RLLinksetUnavail

Measurement ID 9090

Measurement Group Link Set Usage

Measurement Type Duration

Measurement Dimension Arrayed (by Linkset)

Description Total time (in seconds) that all links in the link set were unavailable to M3RL during the measurement interval, regardless of whether the links were automatically or manually made unavailable.

Collection Interval 30 min

Peg Condition M3RL must maintain an accurate time and measurement of the number of seconds during the collection period that the Link Set's state is **Unavailable**. This measurement is associated with the duration (in seconds) that Alarm 19202 - Link Set Unavailable (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted during the collection period.

Start of duration measurement for Link Set "X" criteria:

1. Alarm 19202 is asserted for Link Set "X."
2. Start of new collection period AND Alarm 19202 for Linkset "X" is already asserted (during a previous collection interval).

Stop of duration measurement for Link Set "X" criteria:

1. Alarm 19202 for Linkset "X" is cleared (i.e, Link Set becomes **Available**).
2. End of collection interval.

Measurement Scope

Recovery

This value provides a measure of the availability of a Link Set. No action required.

Link Usage measurements

Table 43: Link Usage Measurement Report Fields

Measurement Tag	Description	Collection Interval
TmLnkMOOS	Number of seconds the link is manual out of service during the reporting period. A link is manual out of service when the link is in the **Disabled** administrative state.	30 min
TmLnkOOS	Number of seconds the link is out of service for any reason during the reporting period. A link may be out of service due to: • Maintenance activity: link is **Disabled** or the link's association is **Disabled** or **Blocked**. • Failure of the link to receive ASP-ACTIVE-ACK. • Receipt of unsolicited ASP-INACTIVE-ACK from the SG. • A link's association is not in the **Normal** status: failed to establish SCTP connection, failed to receive ASP-UP-ACK, received unsolicited ASP-DOWN-ACK.	30 min
TmLnkAvailable	Number of seconds the link is in service during the reporting period. The link is considered to be in service if the link's status reason is **Normal**. An in-service link is available for M3UA DATA signaling.	30 min
EvLnkManClose	Number of times a link was closed due to manual action. This count indicates the number of times that a link transitioned from ASP-ACTIVE to ASP-INACTIVE as a direct result of someone changing the link administrative state from **Enabled** to **Disabled**.	30 min

TmLnkMOOS

Measurement ID	9117
Measurement Group	Link Usage
Measurement Type	Duration
Measurement Dimension	Arrayed (per link)
Description	The number of seconds the link is manual out of service during the reporting period. A link is manual out of service when the link is in the **Disabled** administrative state.

Collection Interval	Time is accumulated for this measurement when the link administrative state is set to **Disabled**. **Note:** The link is not considered to be manually out of service if the link is in the **Enabled** administrative state even if the association that hosts the link is manually out of service.
Peg Condition	30 min
Measurement Scope	NE, Server

Recovery

1. If a non-zero value in this field is unexpected (i.e., no link maintenance is known to have occurred), the link status can be viewed from the GUI under **SS7/Sigtran** > **Maintenance** > **Links**.
2. Also, look in the GUI main menu under **Alarms & Events** > **View History** in the event history for Event 19234 - Local link maintenance state change (refer to the *DSR Alarms and KPIs Reference* for details about this event). Event 19234 records each change in the link's administrative state. If the link was known to be under maintenance, this value represents the number of seconds during the reporting period that the link was in the **Disabled** administrative state.

TmLnkOOS

Measurement ID	9118
Measurement Group	Link Usage
Measurement Type	Duration
Measurement Dimension	Arrayed (per link)
Description	The number of seconds the link is out of service for any reason during the reporting period. A link may be out of service due to the following conditions: • Maintenance activity – link is **Disabled** or link's association is **Disabled** or **Blocked**. • Failure of the link to receive ASP-ACTIVE-ACK. • Receipt of unsolicited ASP-INACTIVE-ACK from the SG. • The link's association is not in the **Normal** status – failed to establish SCTP connection, failed to receive ASP-UP-ACK, received unsolicited ASP-DOWN-ACK
Collection Interval	30 min
Peg Condition	Time is accumulated for this measurement when the link status reason is not **Normal**.
Measurement Scope	NE, Server

Recovery

1. This measurement should have a value of zero. If the link or the link's association is known to be under maintenance, then a non-zero value in this measurement is expected.
2. Otherwise, the link status can be viewed from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Links**.

3. Also look in the event history from the GUI main menu under **Alarms & Events** > **View History** for events related to this link or the link's association.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmLnkAvailable

Measurement ID	9119
Measurement Group	Link Usage
Measurement Type	Duration
Measurement Dimension	Arrayed (per link)
Description	The number of seconds the link is in service during the reporting period. The link is considered to be in service if the link's status reason is **Normal**. An in-service link is available for M3UA DATA signaling.
Collection Interval	30 min
Peg Condition	Time is accumulated for this measurement when the link status reason is **Normal**.
Measurement Scope	NE, Server

Recovery

1. If all is well, this value should equal the length of the reporting period, meaning that the link was active for the entire reporting period. If the link-available time is not equal to the reporting period, it could be due to one of the following conditions:
   - Link maintenance. The measurements **TmLnkMOOS** and **TmLnkOOS** should have a non-zero values. See the actions for *TmLnkMOOS*.
   - Link failure. The measurement **TmLnkOOS** should have a non-zero value. See the actions for*TmLnkOOS*.
   - The link was added during the reporting period. The report indicates that the data is incomplete for the reporting period.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvLnkManClose

Measurement ID	9145
Measurement Group	Link Usage
Measurement Type	Simple
Measurement Dimension	
Description	The number of times a link was closed due to manual action. This count indicates the number of times that a link transitioned from ASP-ACTIVE to ASP-INACTIVE as a direct result of someone changing the link administrative state from **Enabled** to **Disabled**
Collection Interval	30 min

Peg Condition	This measurement is incremented by one each time the link administrative state is changed from **Enabled** to **Disabled**, causing a protocol state transition from ASP-ACTIVE to ASP-INACTIVE.
Measurement Scope	NE, Server

Recovery

1. If the link is known to be under maintenance, then no further action is necessary. If the link was not known to be under maintenance, then link status can be viewed from the GUI main menu under **SS7/Sigtran** > **Maintenance** > **Links**.
2. View the event history from the GUI main menu under **Alarms & Events** > **View History** looking for **Event ID 19234**. **Event ID 19234** shows the manual link state transitions and contains a time-stamp of when the change occurred.
3. The security logs from the GUI main menu under **Security Logs** can be searched using the time-stamp from the event history log to determine which login performed the manual state change on the link.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

Message Copy measurements

The Diameter Application Server (DAS) measurements reflect the Message Copy performance. These measurements allow the user to monitor the amount of traffic being copied and the percentage of times that messages were successfully (or unsuccessfully) copied. Measurements such as the following are included in this group:

- Number of messages being copied
- Number of errors in transmitting those copies (i.e., retransmits)
- Number of times a copy transaction failed
- Tx and Message Copy queue utilization

Table 44: Message Copy Measurement Report Fields

Measurement Tag	Description	Collection Interval
DASCopyAnswerRx	Total number of DAS Copy Answers received.	5 min
DASCopyDiscarded	Total number of Message Copy failures because of any error (no Answer received, the result code in the Answer didn't match provisioning).	5 min
DASCopyFailureMCCSNotProvisioned	Total amount of DAS Copy failures due to the copied message not finding a provisioned MCCS.	5 min
DASCopyFailureMPCong	Total number of DAS Copy Failures because the MP was congested.	5 min

Measurement Tag	Description	Collection Interval
DASCopyFailurePeerApplIdUnsup	Total amount of DAS Copy Failures because the Diameter Application Layer has specified a route list with no peer for the application ID in the message.	5 min
DASCopyFailureRLNotProv	Total number of DAS Copy Failures because the route list is not provisioned.	5 min
DASCopyFailureSizeExceeded	Total amount of DAS Copy failures due to the copied message size configured for the system.	5 min
DASCopyRetransmits	Total number of DAS Copy retransmits.	5 min
DASCopyRetransmitsExceeded	Total number of times the DAS Copy retransmits exceeded the configured max number of retransmits.	5 min
DASCopyTx	Total number of DAS Copies forwarded.	5 min
DASCopyValidAnswer	Total number of DAS Copy transactions completed (a Copy Pending Transaction has been paired with a qualified Answer from the DAS peer).	5 min
TxMsgCopyQueueAve	Average Message Copy Queue utilization (0-100%) measured during the collection interval.	5 min
TxMsgCopyQueueFullDiscard	Total number of DAS Request messages discarded because the Message Copy queue was full.	5 min
TxMsgCopyQueuePeak	Peak Message Copy Queue utilization (0-100%) measured during the collection interval.	5 min

DASCopyAnswerRx

Measurement ID	10065
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single
Description	The total number of DAS Copy Answers received.

Collection Interval	5 min
Peg Condition	This measurement is incremented each time an Answer response is received from a DAS peer.
Measurement Scope	Server Group

Recovery

No action required.

This measurement is an indication of the Message Copy response traffic load being processed by the MP.

DASCopyDiscarded

Measurement ID	10069
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single
Description	Total number of Message Copy failures because of any error (no Answer received, the result code in the Answer didn't match provisioning).
Collection Interval	5 min
Peg Condition	This measurement is incremented each time a DAS Copy fails for any reason. Some failure reasons include (but are not limited to): no answer from peer, Application ID not supported at the peer, result code in the Answer incorrect/doesn't match provisioning.
Measurement Scope	Server Group

Recovery

1. Verify proper routing to the intended DAS peer is configured and in service (route list is properly configured), Diameter application is selecting intended route list.
2. Verify intended DAS peer is properly configured to receive the intended traffic and traffic load.
3. Verify no network issues exist between the MP and intended DAS peer.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

DASCopyFailureMCCSNotProvisioned

Measurement ID	10089
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single
Description	Total amount of DAS Copy failures due to the copied message not finding a provisioned MCCS.

Collection Interval	5 min
Peg Condition	This measurement is incremented each time the Copy Pending Transaction is discarded because the original message does not contain a valid MCCS, thus causing the copy action to fail.
Measurement Scope	Server Group

Recovery

1. Verify the MCCS configured with the trigger points and ensure proper provisioning.
2. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

DASCopyFailureMPCong

Measurement ID	10068
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single
Description	Total number of DAS Copy Failures because the MP was congested.
Collection Interval	5 min
Peg Condition	When the MP declares congestion (declared CL1-CL3), the Message Copy function is disabled. Original messages marked for copy and held as a Pending Transactions are not copied and increment this measurement. If the Copy has been sent to the DAS peer, the Copy transaction will be allowed to complete. If the Copy transaction fails, another measurement will be incremented. Either the MP is receiving traffic in excess of its rated capacity or the intended DAS peer is not responding in a timely fashion.
Measurement Scope	Server Group

Recovery

1. Reduce traffic being received by the MP.
2. Verify there are no network issues between the MP and the intended DAS peer.
3. Ensure the intended DAS peer has sufficient capacity to process the traffic being directed to it by the MP
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

DASCopyFailurePeerApplIdUnsup

Measurement ID	10059
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single

Description	Total amount of DAS Copy Failures because the Diameter Application Layer has specified a route list with no peer for the application ID in the message.
Collection Interval	5 min
Peg Condition	This measurement is incremented each time the Copy Pending Transaction is discarded because a Diameter Request has been marked for copy by the application, but no connection in the provided Route List supports the Application ID in the request, causing the copy action to fail.
Measurement Scope	Server Group

Recovery

1. Verify the route list provisioning points to the intended DAS peer, and the intended DAS peer is responding with the desired Application ID.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

DASCopyFailureSizeExceeded

Measurement ID	10058
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single
Description	Total amount of DAS Copy failures due to the copied message size exceeding the maximum message size configured for the system.
Collection Interval	5 min
Peg Condition	This measurement is incremented each time the Copy Pending Transaction is discarded because a the message being copied to the DAS exceeded the system set maximum message size, thus causing the copy action to fail.
Measurement Scope	Server Group

Recovery

1. Verify the maximum message size set system wide is sufficient for handling the messages being processed.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance.

DASCopyFailureRLNotProv

Measurement ID	10067
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single

Description	Total number of DAS Copy Failures because the route list is not provisioned.
Collection Interval	5 min
Peg Condition	This measurement is incremented each time the Copy Pending Transaction fails because the indicated route list contained in the Diameter request does not match what has been provisioned as a system option or other provisioned route lists.
Measurement Scope	Server Group

Recovery

1. Review local provisioning that connections to intended DAS peer server(s) are in service and that no network issues exist in the path(s) to intended DAS peer server(s).
2. Review DAS peer provisioning to insure proper configuration.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance.

DASCopyRetransmits

Measurement ID	10056
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single
Description	Total number of DAS Copy retransmits.
Collection Interval	5 min
Peg Condition	This measurement is incremented each time any Copied Message is retransmitted to a DAS peer because a qualified Diameter Answer response has not been received within the Pending Answer Timer's timeout value to complete the pending transaction.
Measurement Scope	Server Group

Recovery

1. Verify proper routing to the intended DAS peer is configured and in service (route list is properly configured), Diameter application is selecting intended route list.
2. Verify intended DAS peer is properly configured to receive the intended traffic and traffic load.
3. Verify no network issues exist between the MP and intended DAS peer.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

DASCopyRetransmitsExceeded

Measurement ID	10057
Measurement Group	DAS
Measurement Type	Simple

Measurement Dimension	Single
Description	Total number of times the DAS Copy retransmits exceeded the configured max number of retransmits.
Collection Interval	5 min
Peg Condition	This measurement is incremented each time a Copy Pending Transaction is discarded because the Copied Request has been retransmitted the configured number of times without receiving an Answer response from the DAS peer.
Measurement Scope	Server Group

Recovery

1. Verify proper routing to the intended DAS peer is configured and in service (route list is properly configured), Diameter application is selecting intended route list.
2. Verify intended DAS peer is properly configured to receive the intended traffic and traffic load.
3. Verify no network issues exist between the MP and intended DAS peer.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

DASCopyTx

Measurement ID	10064
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single
Description	The total number of DAS Copies forwarded.
Collection Interval	5 min
Peg Condition	This measurement is incremented each time a Message Copy is transmitted to a DAS peer.
Measurement Scope	Server Group

Recovery

No action required.

This measurement is an indication of the Message Copy traffic load being processed by the MP.

DASCopyValidAnswer

Measurement ID	10066
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single

Description	The total number of DAS Copy transactions completed (a Copy Pending Transaction has been paired with a qualified Answer from the DAS peer).
Collection Interval	5 min
Peg Condition	This measurement is incremented each time a Copy Pending Transaction is completed because a Diameter Copy Pending Transaction has been paired with a qualified Answer received from a DAS peer, completing the transaction.
Measurement Scope	Server Group

Recovery

1. Verify proper routing to the intended DAS peer is selected and in service.
2. desired answer result code is provisioned in the **Diameter** > **System Options**.
3. desired DAS peer is configured to return the answer result code provisioned in the **Diameter** > **System Options**.
4. It is recommended to contact *My Oracle Support (MOS)* for assistance.

TxMsgCopyQueueAve

Measurement ID	10048
Measurement Group	DAS
Measurement Type	Average
Measurement Dimension	Single
Description	The average Message Copy Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	This measurement is pegged when a new Message Copy SysMetric sample is collected, then divided by the number of samples collected in the collection period.
Measurement Scope	Server Group

Recovery

No action required.

This is a diagnostic indicator of the amount of traffic load being processed by the Message Copy feature.

TxMsgCopyQueueFullDiscard

Measurement ID	10084
Measurement Group	DAS
Measurement Type	Simple
Measurement Dimension	Single

Description	Total number of DAS Request messages discarded because the Message Copy queue was full.
Collection Interval	5 min
Peg Condition	This measurement is incremented each time a DAS Request is discarded because the Message Copy Tx queue was full, thus preventing a new DAS Request from being queued for transmit.
Measurement Scope	Server Group

Recovery

No action required.

This is a diagnostic indicator of the amount of traffic load being processed by the Message Copy feature.

TxMsgCopyQueuePeak

Measurement ID	10047
Measurement Group	DAS
Measurement Type	Max
Measurement Dimension	Single
Description	The peak Message Copy Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	This measurement is pegged when a new Message Copy SysMetric sample is collected and the sample exceeds the previously saved peak for the collection period. When a new collection period is begun, the peak is reset to 0.
Measurement Scope	Server Group

Recovery

No action required.

This is a diagnostic indicator of the amount of traffic load being processed by the Message Copy feature.

Message Priority measurements

The Message Priority measurement group contains measurements that provide information on message priority assigned to ingress Diameter messages. Measurements such as these are included in this group.

- Totals for the number of Request messages set to priority “X” when received from a peer.
- Totals for the number of Request messages set to priority “X” as a result of PRT processing.

Table 45: Message Priority Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvConnPeerUnsuppMp	The number of times an ingress Request was received on a connection configured to read message priority from the ingress message, and the peer did not support the UCMP feature. **Note:** In this case, DSR assigns the default priority of 0 to all such requests.	5 min
EvConnUnexpMp	The number of times an ingress Request message was received with a priority of “3”, when the peer supports UCMP feature.	5 min
RxMsgPri0ApplRule	Number of Request messages set to priority "0" as a result of ART processing.	5 min
RxMsgPri0Ingress	Total number of ingress messages assigned message priority 0.	5 min
RxMsgPri0PeerRule	Number of Request messages set to priority “0” as a result of PRT processing.	5 min
RxMsgPri1ApplRule	Number of Request messages set to priority "1" as a result of ART processing.	5 min
RxMsgPri1Ingress	Total number of ingress messages assigned message priority 1.	5 min
RxMsgPri1PeerRule	Number of Request messages set to priority “1” as a result of PRT processing.	5 min
RxMsgPri2ApplRule	Number of Request messages set to priority "2" as a result of ART processing.	5 min
RxMsgPri2Ingress	Total number of ingress messages assigned message priority 2.	5 min
RxMsgPri2PeerRule	Number of Request messages set to priority “2” as a result of PRT processing.	5 min

RxMsgPri0ApplRule

Measurement ID	10039
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of Request messages set to priority "0" as a result of ART processing
Collection Interval	5 min

Peg Condition	Each time DRL selects an application routing rule for routing a Request message, the rule action is set to "Route to Application", and a Message Priority of "0" is assigned to the application routing rule
Measurement Scope	Server Group

Recovery

No action required.

RxMsgPri0PeerRule

Measurement ID	10028
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of Request messages set to priority “0” as a result of PRT processing.
Collection Interval	5 min
Peg Condition	Each time DRL selects a peer routing rule for routing a Request message, the rule action is set to “Route to Peer”, and a Message Priority of “0” is assigned to the peer routing rule.
Measurement Scope	Server Group

Recovery

No action necessary.

RxMsgPri1ApplRule

Measurement ID	10045
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of Request messages set to priority "1" as a result of ART processing
Collection Interval	5 min
Peg Condition	Each time DRL selects an application routing rule for routing a Request message, the rule action is set to "Route to Application", and a Message Priority of "1" is assigned to the application routing rule
Measurement Scope	Server Group

Recovery

No action required.

RxMsgPri1PeerRule

Measurement ID	10029
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of Request messages set to priority “1” as a result of PRT processing.
Collection Interval	5 min
Peg Condition	Each time DRL selects a peer routing rule for routing a Request message, the rule action is set to “Route to Peer”, and a Message Priority of “1” is assigned to the peer routing rule.
Measurement Scope	Server Group

Recovery

No action necessary.

RxMsgPri2ApplRule

Measurement ID	10049
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Single
Description	Number of Request messages set to priority "2" as a result of ART processing
Collection Interval	5 min
Peg Condition	Each time DRL selects an application routing rule for routing a Request message, the rule action is set to "Route to Application", and a Message Priority of "2" is assigned to the application routing rule
Measurement Scope	Server Group

Recovery

No action required.

RxMsgPri2PeerRule

Measurement ID	10033
Measurement Group	Message Priority

Measurement Type	Simple
Measurement Dimension	Single
Description	Number of Request messages set to priority "2" as a result of PRT processing.
Collection Interval	5 min
Peg Condition	Each time DRL selects a peer routing rule for routing a Request message, the rule action is set to "Route to Peer", and a Message Priority of "2" is assigned to the peer routing rule.
Measurement Scope	Server Group

Recovery

No action necessary.

Message Processor (MP) Performance measurements

The MP Performance measurement report contains measurements that provide performance information for an MP server.

Table 46: MP Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvDiameterProcessAvg	The average Diameter process CPU utilization (0-100%) measured during the collection interval. The Diameter process is responsible for all Diameter-related processing.	5 min
EvDiameterProcessPeak	The peak Diameter process CPU utilization (0-100%) measured during the collection interval. The Diameter process is responsible for all Diameter-related processing.	5 min
EvLongTimeoutPtrPoolAvg	The average Diameter Long Timeout PTR Buffer Pool utilization (0-100%) measured during the collection interval.	5 min
EvLongTimeoutPtrPoolPeak	The peak Diameter Long Timeout PTR Buffer Pool utilization (0-100%) measured during the collection interval.	5 min
EvMemoryCongestion Level1Entered	The number of times that the DA-MP entered memory congestion level 1.	5 min
EvMemoryCongestion Level2Entered	The number of times that the DA-MP entered memory congestion level 2.	5 min
EvMemoryCongestion Level3Entered	The number of times that the DA-MP entered memory congestion level 3.	5 min

Measurement Tag	Description	Collection Interval
EvMpCongestionLevel1Entered	The number of times that the local DA-MP entered CPU congestion level 1.	5 min
EvMpCongestionLevel2Entered	The number of times that the local DA-MP entered CPU congestion level 2.	5 min
EvMpCongestionLevel3Entered	The number of times that the local DA-MP entered CPU congestion level 3.	5 min
EvPduPoolAvg	The average Diameter PDU Buffer Pool utilization (0-100%) measured during the collection interval.	5 min
EvPduPoolPeak	The peak Diameter PDU Buffer Pool utilization (0-100%) measured during the collection interval.	5 min
EvPtrListAvg	The average Diameter PTR Buffer Pool utilization (0-100%) measured during the collection interval.	5 min
EvPtrListPeak	The peak Diameter PTR Buffer Pool utilization (0-100%) measured during the collection interval.	5 min
EvStasisModeMaxConnections	The number of times DA-MP requested to cease distributing Diameter connections to the DA-MP due to the maximum number of connections on the DA-MP.	5 min
EvStasisModeMpCongestion	The number of times DA-MP requested to cease distributing Diameter connections to the DA-MP due to MP Congestion.	5 min
MpEvRadiusRoutedMsgs	The number of ingress RADIUS messages processed by DRL, including Rerouting and Message Copy.	5 min
RxAnswerMsgQueueAvg	The average Answer Message Queue utilization (0-100%) measured during the collection interval.	5 min
RxAnswerMsgQueuePeak	The peak Answer Message Queue utilization (0-100%) measured during the collection interval.	5 min
RxMsgRateAvgMp	The average MP ingress message rate (in messages per second) measured during the collection interval. The ingress message rate is the number of ingress Diameter messages that are targeted for Relay Agent routing (non-zero application ID).	5 min
RxMsgRatePeakMp	The peak Ingress message rate (in messages per second) measured during the collection interval. The ingress message rate is the number of ingress Diameter messages that are targeted for Relay Agent routing (non-zero application ID).	5 min
RxRequestMsgQueueAvg	The average Request Message Queue utilization (0-100%) measured during the collection interval.	5 min

Measurement Tag	Description	Collection Interval
RxRequestMsgQueuePeak	The peak Request Message Queue utilization (0-100%) measured during the collection interval.	5 min
TmAnswerTimeAvg	Average time (in microseconds) to process an Answer message. This is the time from when a Diameter Answer message is read from the ingress peer's SCTP/TCP socket until it is sent to the egress peer's SCTP/TCP socket.	5 min
TmAnswerTimePeak	Peak time (in microseconds) to process an Answer message. This is the time from when a Diameter Answer message is read from the ingress peer's SCTP/TCP socket until it is sent to the egress peer's SCTP/TCP socket.	5 min
TmMemoryCongestionLevel1	The total time (in milliseconds) the local DA-MP was in memory congestion level 1. This will appear as an aggregate value retrieved from all DA-MPs in a Network Element.	5 min
TmMemoryCongestionLevel2	The total time (in milliseconds) the local DA-MP was in memory congestion level 2. This will appear as an aggregate value retrieved from all DA-MPs in a Network Element.	5 min
TmMemoryCongestionLevel3	The total time (in milliseconds) the local DA-MP was in memory congestion level 3. This will appear as an aggregate value retrieved from all DA-MPs in a Network Element.	5 min
TmMpCongestionLevel1	The total time (in milliseconds) the local DA-MP was in CPU congestion level 1. This value will appear as an aggregate value retrieved from all DA-MPs in a Network Element.	5 min
TmMpCongestionLevel2	The total time (in milliseconds) the local DA-MP was in CPU congestion level 2. This value will appear as an aggregate value retrieved from all DA-MPs in a Network Element.	5 min
TmMpCongestionLevel3	The total time (in milliseconds) the local DA-MP was in CPU congestion level 3. This value will appear as an aggregate value retrieved from all DA-MPs in a Network Element.	5 min
TmRequestTimeAvg	Average time (in microseconds) to process a Request message. This is the time from when a Diameter Request message is read from the ingress peer's SCTP/TCP socket until it is sent to the egress peer's SCTP/TCP socket.	5 min
TmRequestTimePeak	Peak time (in microseconds) to process a Request message. This is the time from when a Diameter	5 min

Measurement Tag	Description	Collection Interval
	Request message is read from the ingress peer's SCTP/TCP socket until it is sent to the egress peer's SCTP/TCP socket.	
TxAllConnQueueAvg	The average All-Connections Event Queue utilization (0-100%) measured during the collection interval.	5 min
TxAllConnQueuePeak	The peak All-Connections Event Queue utilization (0-100%) measured during the collection interval.	5 min
TxRerouteQueueAvg	The average Reroute Queue utilization (0-100%) measured during the collection interval.	5 min
TxRerouteQueuePeak	The peak Reroute Queue utilization (0-100%) measured during the collection interval.	5 min

EvLongTimeoutPtrPoolAvg

Measurement ID	10295
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single
Description	The average Diameter Long Timeout PTR Buffer Pool utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The average of all Diameter Long Timeout PTR Buffer Pool utilization samples taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurements for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP, then a Diameter problem may exist that is causing excessive Long Timeout traffic to be delivered to the MP. Looking at these measurements on a time of day basis may provide additional insight into potential network problems.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific software problem may exist (e.g., a buffer pool leak).
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

EvLongTimeoutPtrPoolPeak

Measurement ID	10294

Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak Diameter Long Timeout PTR Buffer Pool utilization (0-100%) measured during the collection interval. A Long Timeout PTR is allocated for each Request message with a Pending Answer Timer value greater than 10 seconds that is forwarded to an upstream peer and is de-allocated when an Answer response is received and routed to a downstream peer. This measurement is useful for evaluating whether excessive traffic levels are being assigned to the Long Timeout pool. Assignment of traffic to this pool should be limited to Requests that are expected to have long response times.
Collection Interval	5 min
Peg Condition	The maximum Diameter Long Timeout PTR Buffer Pool utilization sample taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurements for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP, then a Diameter problem may exist that is causing excessive Long Timeout traffic to be delivered to the MP. Looking at these measurements on a time of day basis may provide additional insight into potential network problems.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific software problem may exist (e.g., a buffer pool leak).
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

EvMpCongestionLevel1Entered

Measurement ID	10285
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times that the local DA-MP entered CPU congestion level 1.
Collection Interval	5 min
Peg Condition	Each time Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) transitions from "cleared" or asserted with severity "Info" to asserted with severity "Minor".
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. DA-MP server status can be monitored from **Main Menu** > **Status & Manage** > **Server Status**.
2. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. The alarm log be examined from **Main Menu** > **Status & Manage** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

EvMpCongestionLevel2Entered

Measurement ID	10287
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times that the local DA-MP entered CPU congestion level 2.
Collection Interval	5 min
Peg Condition	Each time Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) transitions from "cleared" or asserted with severity "Info" or "Minor" to asserted with severity "Major".
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. DA-MP server status can be monitored from **Main Menu** > **Status & Manage** > **Server Status**.
2. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. The alarm log be examined from **Main Menu** > **Status & Manage** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

EvMpCongestionLevel3Entered

Measurement ID	10289
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times that the local DA-MP entered CPU congestion level 3.
Collection Interval	5 min
Peg Condition	Each time Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) transitions from "cleared" or asserted with severity "Info", "Minor", or "Major" to asserted with severity "Critical".
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. DA-MP server status can be monitored from **Main Menu** > **Status & Manage** > **Server Status**.
2. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. The alarm log be examined from **Main Menu** > **Status & Manage** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

EvPtrListAvg

Measurement ID	10211
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single
Description	The average Diameter PTR Buffer Pool utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The average of all Diameter PTR Buffer Pool utilization samples taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurements for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP when the ingress message rate and/or Diameter process CPU utilization measurements are below the recommended maximum engineered capacity of an MP, then a network (IP or Diameter) problem may exist. Looking at these measurements on a time of day basis may provide additional insight into potential network problems.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific software problem may exist (e.g., a buffer pool leak).
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvPtrListPeak

Measurement ID	10210
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak Diameter PTR Buffer Pool utilization (0-100%) measured during the collection interval. A PTR is allocated for each Request message that is forwarded to an upstream peer and is de-allocated when an Answer response is received and routed to a downstream peer. This measurement is useful for evaluating whether persistent network or upstream server problems exist. In general, PTR buffers are engineered to match the processing capacity of the MP. If network or upstream server problems exist, delaying pending transactions in the MP, then PTRs (and associated messages/PDUs) will sit in internal Diameter queues.
Collection Interval	5 min
Peg Condition	The maximum Diameter PTR Buffer Pool utilization sample taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurements for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP when the ingress message rate and/or Diameter process CPU utilization measurements are below the recommended maximum engineered capacity of an MP, then a network (IP or Diameter) problem may exist. Looking at these measurements on a time of day basis may provide additional insight into potential network problems.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific software problem may exist (e.g., a buffer pool leak).
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

MpEvRadiusRoutedMsgs

Measurement ID	14074
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress RADIUS messages processed by DRL, including Rerouting and Message Copy.
Collection Interval	5 min
Peg Condition	This measurement should be incremented as per the following conditions. • Ingress RADIUS Request processing resulting in a Request being routed upstream (with or without local DSR application processing of the Request) • Ingress RADIUS Response processing resulting in forwarding of Answer/Response downstream (with or without local DSR application processing of the Response) • Ingress Request processing resulting in Answer message sent by DSR to originator (with or without local DSR application processing of the Request) • Ingress RADIUS Request discarded due to validation error or overload • Ingress RADIUS Response discarded due to validation error • Initial copy and transmit of a RADIUS Request to a DAS • Ingress RADIUS Response triggering reroute of the pending Request message (including Answers from DAS for copied RADIUS Requests) • RADIUS Request reroute due to connection failure or Answer/Response timeout (including reroute of copied Requests to DAS for same reasons) • Ingress Answer from a DAS terminated by DSR due to RADIUS Request copy completion or termination **Note:** This is the functional equivalent to *RoutingMsgs* but for ingress RADIUS (only) messages. Measurement *RoutingMsgs* measures all ingress equivalent messages (Diameter and RADIUS).
Measurement Scope	Network

Recovery

No action required.

RxAnswerMsgQueueAvg

Measurement ID	10215
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single

Description	The average Answer Message Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The average of all Answer Message Queue utilization samples taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist or a Diameter peer and/or DNS routing mis-configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxAnswerMsgQueuePeak

Measurement ID	10214
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak Answer Message Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The maximum Answer Message Queue utilization sample taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist or a Diameter peer and/or DNS routing mis-configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxRequestMsgQueueAvg

Measurement ID	10213
Measurement Group	MP Performance
Measurement Type	Average

Measurement Dimension	Single
Description	The average Request Message Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The average of all Request Message Queue utilization samples taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist or a Diameter peer and/or DNS routing mis-configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxRequestMsgQueuePeak

Measurement ID	10212
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak Request Message Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The maximum Request Message Queue utilization sample taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist or a Diameter peer and/or DNS routing mis-configuration problem may exist.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmMpCongestionLevel1

Measurement ID	10284
Measurement Group	MP Performance

Measurement Type	Simple
Measurement Dimension	Single
Description	The total time (in milliseconds) the local DA-MP was in CPU congestion level 1. This value will appear as an aggregate value retrieved from all DA-MPs in a Network Element.
Collection Interval	5 min
Peg Condition	The "time interval" starts when one of the following conditions occur: • A new "collection interval" for the measurement begins and Alarm 2220 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Minor". • Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted with severity "Minor" (onset of local DA-MP CPU congestion level 1 or abatement of local DA-MP CPU congestion levels 2 or 3). The "time interval" stops when one of the following conditions occur: • The "collection interval" for the measurement ends and Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Minor". • Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is no longer asserted with severity "Minor" (abatement of local DA-MP CPU congestion level 1 or onset of local DA-MP CPU congestion levels 2 or 3). When the "time interval" completes, the time measured is added to the measurement value.
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. DA-MP server status can be monitored from **Main Menu** > **Status & Manage** > **Server Status**.
2. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. The alarm log be examined from **Main Menu** > **Status & Manage** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

TmMpCongestionLevel2

Measurement ID	10286

Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The total time (in milliseconds) the local DA-MP was in CPU congestion level 2. This value will appear as an aggregate value retrieved from all DA-MPs in a Network Element.
Collection Interval	5 min
Peg Condition	The "time interval" starts when one of the following conditions occur: • A new "collection interval" for the measurement begins and Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Major". • Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted with severity "Major" (onset of local DA-MP CPU congestion level 2 or abatement of local DA-MP CPU congestion levels 3). The "time interval" stops when one of the following conditions occur: • The "collection interval" for the measurement ends and Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Major". • Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is no longer asserted with severity "Major" (abatement of local DA-MP CPU congestion level 2 or onset of local DA-MP CPU congestion levels 3). When the "time interval" completes, the time measured is added to the measurement value.
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. DA-MP server status can be monitored from **Main Menu** > **Status & Manage** > **Server Status**.
2. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. The alarm log be examined from **Main Menu** > **Status & Manage** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

TmMpCongestionLevel3

Measurement ID	10288
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The total time (in milliseconds) the local DA-MP was in CPU congestion level 3. This value will appear as an aggregate value retrieved from all DA-MPs in a Network Element.
Collection Interval	5 min
Peg Condition	The "time interval" starts when one of the following conditions occur: • A new "collection interval" for the measurement begins and Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Critical". • Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted with severity "Critical" (onset of local DA-MP CPU congestion level 3). The "time interval" stops when one of the following conditions occur: • The "collection interval" for the measurement ends and Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Critical". • Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is no longer asserted with severity "Critical" (abatement of local DA-MP CPU congestion level 3). When the "time interval" completes, the time measured is added to the measurement value.
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. DA-MP server status can be monitored from **Main Menu** > **Status & Manage** > **Server Status**.
2. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. Each DA-MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each DA-MP can be monitored from **Main Menu** > **Status & Manage** > **KPIs**. If all MPs are in a congestion state, then the offered load to the server site is exceeding its capacity.
4. The Diameter Process may be experiencing problems. The alarm log be examined from **Main Menu** > **Status & Manage** > **Alarms & Events**.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

TxRerouteQueueAvg

Measurement ID	10219
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single
Description	The average Reroute Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The average of all Reroute Queue utilization samples taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. An excessive amount of Request message rerouting may have been triggered by either connection failures or Answer timeouts. The status of connections should be examined from the **Diameter** > **Maintenance** > **Connections** page.
2. If no additional congestion alarms are asserted, the routing answer task may be experiencing a problem, preventing it from processing messages from its Reroute Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

TxRerouteQueuePeak

Measurement ID	
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak Reroute Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The maximum Reroute Queue utilization sample taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. An excessive amount of Request message rerouting may have been triggered by either connection failures or Answer timeouts. The status of connections should be examined from the **Diameter** > **Maintenance** > **Connections** page.
2. If no additional congestion alarms are asserted, the routing answer task may be experiencing a problem, preventing it from processing messages from its Reroute Queue. The alarm log should be examined using the **Alarms & Events** page.

3. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

OAM.ALARM measurements

Table 47: 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 48: 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% if the kernel has committed more resources than provided by physical RAM, in which case, swapping will occur.	5 minutes
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	5 minutes

Measurement Tag	Description	Collection Interval
	committed more resources than provided by physical RAM, in which case, swapping will occur.	
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 showing the utilization of each core.	5 minutes
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

Peer Node Performance measurements

The "Peer Node" measurement group is a set of measurements that provide performance information that is specific to a Peer Node. These measurements will allow you to determine how many messages are successfully forwarded and received to/from each Peer Node. Measurements such as the following are included in this group.

Table 49: Peer Routing Rules Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxPeerAnswers	Number of routable Answer messages received from Peer-X	5 min
RxPeerRequests	Number of routable Request messages received from Peer-X	5 min
TxPeerAnswers	Number of routable Answer messages sent to Peer-X	5 min
TxPeerRequests	Number of routable Request messages sent to Peer-X	5 min

EvPeerAvpDeleted

Measurement ID 14077

Measurement Group Peer Node Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Peer Node ID)

Description The number of Diameter AVPs deleted by an AVP Removal List.

Collection Interval 5 min

Peg Condition When DRL deletes one instance of an AVP from either a Request or Answer message based upon an AVP Removal List assigned to the Peer Node.

Measurement Scope Site

Recovery

No action required.

RxPeerAnswers

Measurement ID 10078

Measurement Group Peer Node Performance

Measurement Type Simple

Measurement Dimension Arrayed (by Peer Node ID)

Description Number of routable Answer messages received from Peer-X.

Collection Interval 5 min

Peg Condition When DRL receives an Answer message event from DCL with a valid Transport Connection ID owned by Peer-X.

Measurement Scope Server Group

Recovery

No action required.

RxPeerRequests

Measurement ID	10077
Measurement Group	Peer Node Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Node ID)
Description	Number of routable Request messages received from Peer-X.
Collection Interval	5 min
Peg Condition	When DRL receives a Request message event from DCL with a valid Transport Connection ID owned by Peer-X.
Measurement Scope	Server Group

Recovery

No action required.

TxPeerAnswers

Measurement ID	10076
Measurement Group	Peer Node Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Node ID)
Description	Number of routable Answer messages sent to Peer-X.
Collection Interval	5 min
Peg Condition	When DRL successfully queues an Answer message for Peer-X to DCL.
Measurement Scope	Server Group

Recovery

No action required.

TxPeerRequests

Measurement ID	10075
Measurement Group	Peer Node Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Node ID)
Description	Number of routable Request messages sent to Peer-X.

Collection Interval	5 min
Peg Condition	When DRL successfully queues a Request message for Peer-X to DCL.
Measurement Scope	Server Group

Recovery

No action required.

Peer Routing Rules measurements

The Peer Routing Rules measurement report is a set of measurements associated with the usage of Peer Routing Rules. These measurements allow you to determine which Peer Routing Rules are most commonly used and the percentage of times that messages were successfully (or unsuccessfully) routed using the Route List.

Table 50: Peer Routing Rules Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxPrtSelected	Number of times that a peer routing rule from PRT-X was selected for routing a Request message.	5 min
RxRuleDuplicatePriority	Number of times that the Peer Routing Rule was selected for routing a message but another Peer Routing Rule had the same priority and was ignored.	5 min
RxRuleFwdFailAction SendAns	Number of times that the Peer Routing Rule was selected for routing a Request message and the message was not successfully routed because the Peer Routing Rule's Action is "Send Answer".	5 min
RxRuleFwdFailAll	Number of times that the Peer Routing Rule was selected for routing a Request message and the message was not successfully routed for any reason.	5 min
RxRuleSelected	Number of times that the Peer Routing Rule was selected for routing a Request message.	5 min
TxMsgPrtMarkedForCpy	Number of Request Messages set to a valid MCCS and marked for Message Copy	5 min

RxPrtSelected

Measurement ID	10079
Measurement Group	Peer Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (PRT ID)

Description	Number of times that a peer routing rule from PRT-X was selected for routing a Request message.
Collection Interval	5 min
Peg Condition	When the DRL selects a peer routing rule from PRT-X for routing a message.
Measurement Scope	Site

Recovery

No action required.

RxRuleDuplicatePriority

Measurement ID	10083
Measurement Group	Peer Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Routing Rule ID)
Description	The number of times that the Peer Routing Rule was selected for routing a message but another Peer Routing Rule had the same priority and was ignored.
Collection Interval	5 min
Peg Condition	When the DSR searches the Peer Routing Rules and finds more than one highest priority Peer Routing Rule with the same priority that matches the search criteria. The measurement is associated with the Peer Routing Rule that is selected for routing.
Measurement Scope	Server Group

Recovery

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage** > **Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage** > **KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. A software defect may exist resulting in PDU buffers not being deallocated to the pool. This alarm should not normally occur when no other congestion alarms are asserted. The alarm log should be examined using the **Alarms & Events** page.
5. If the problem persists, it is recommended to contact *My Oracle Support (MOS)*.

RxRuleFwdFailActionSendAns

Measurement ID	10082
Measurement Group	Peer Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Routing Rule ID)
Description	The number of times that the Peer Routing Rule was selected for routing a Request message and the message was not successfully routed because the Peer Routing Rule's action is Send Answer.
Collection Interval	5 min
Peg Condition	When the DSR selects a Peer Routing Rule to route a Request message and the Peer Routing Rule's action is Send Answer.
Measurement Scope	Server Group

Recovery

No action required.

RxRuleFwdFailAll

Measurement ID	10081
Measurement Group	Peer Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Routing Rule ID)
Description	The number of times that the Peer Routing Rule was selected for routing a Request message and the message was not successfully routed for any reason other than "Send Answer" and "Abandon with No Answer".
Collection Interval	5 min
Peg Condition	When the DSR selects a Peer Routing Rule to route a Request message and one of the following conditions are met: **1.** The Peer Routing Rule's action is Send Answer. **2.** The Route List associated with the Peer Routing Rule has an Operational Status of Unavailable. **3.** The DSR attempts to route the call but exhausts all routes associated with the Route List and sends an Answer response 3002 (DIAMETER_UNABLE_TO_DELIVER) . The Route List measurement is associated with the Route List selected for routing.
Measurement Scope	Site

Recovery

1. If a Peer Routing Rule has been configured with the action Send Answer, then every time this Peer Routing Rule is selected for routing a message, this measurement will be incremented. A Peer Routing Rule's action can be viewed using the **Diameter** > **Configuration** > **Peer Routing Rules** page.
2. If a Peer Routing Rule has been configured with the action Route to Peer, then every time this Peer Routing Rule is selected for routing a message, the Route List associated with this Peer Routing Rule will be used for routing the message. The Peer Routing Rule's Route List can be viewed using the **Diameter** > **Configuration** > **Peer Routing Rules** page.

RxRuleSelected

Measurement ID	10080
Measurement Group	Peer Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Routing Rule ID)
Description	The number of times that the Peer Routing Rule was selected for routing a Request message.
Collection Interval	5 min
Peg Condition	When the DSR selects a Peer Routing Rule for routing a message.
Measurement Scope	Server Group

Recovery

No action required.

TxMsgPrtMarkedForCpy

Measurement ID	14013
Measurement Group	Peer Routing Rules
Measurement Type	Simple
Measurement Dimension	Arrayed (by Peer Routing Rule ID)
Description	The number of Request messages set to a valid MCCS and marked for Message Copy
Collection Interval	5 min
Peg Condition	Each time DRL selects a peer routing rule for routing a Request message, the rule action is set to "Route to Peer" and a MCCS is assigned to the peer routing rule.
Measurement Scope	

Recovery

No action required.

Route List measurements

The Route List measurement report is a set of measurements associated with the usage of Route Lists. These measurements will allow the user to determine which Route Lists are most commonly used and the percentage of times that messages were successfully (or unsuccessfully) routed using the Route List.

Table 51: Route List Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxRouteListFailure	Number of times that a Route List was selected for routing a Request message and the DSR was unable to successfully route the message.	5 min
RxRouteListSelected	Number of times the Route List was selected for routing a Request message.	5 min
RxRouteListUnavailable	Number of Request messages from a downstream peer that were rejected by a Local Node because the Route List selected had an "Operational Status" of "Unavailable".	5 min
TmRouteListOutage	Time duration that the Route List was unavailable during the measurement interval.	5 min

RxRouteListFailure

Measurement ID	10071
Measurement Group	Route List
Measurement Type	Simple
Measurement Dimension	Arrayed (by Route List ID)
Description	The number of times that a Route List was selected for routing a Request message and the DSR was unable to successfully route the message. There are several reasons why a message cannot be routed using a Route List: • The Operational Status of the Route List is Unavailable • The peers in the active Route Group do not support the Application ID in the Request message • The Answer response timer is expiring for messages routed through the active Route Group • Message loop detection is being detected for the peers in the active Route Group
Collection Interval	5 min
Peg Condition	When the DSR selects a Route List to route a Request message and either the Route List's Operational Status is Unavailable or the DSR attempts

	to route the call but exhausts all routesassociated with the Route List and sends an Answer response 3002 (DIAMETER_UNABLE_TO_DELIVER). The Route List measurement is associated with the Route List selected for routing.
Measurement Scope	Server Group

Recovery

1. Check the Route List settings using the **Diameter** > **Configuration** > **Route Lists** page.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxRouteListSelected

Measurement ID	10070
Measurement Group	Route List
Measurement Type	Simple
Measurement Dimension	Arrayed (by Route List ID)
Description	Number of times that Route List was selected for routing a Request message.
Collection Interval	5 min
Peg Condition	When the DSR selects a Route List for routing a message. The Route List measurement is associated with the Route List selected for routing.
Measurement Scope	Server Group

Recovery

No action required.

RxRouteListUnavailable

Measurement ID	10072
Measurement Group	Route List
Measurement Type	Simple
Measurement Dimension	Arrayed (by Route List ID)
Description	The number of Request messages from a downstream peer that were rejected by a Local Node because the selected Route List had an Operational Status of Unavailable.
Collection Interval	5 min
Peg Condition	Request message from a downstream peer is rejected by a Local Node because the selected Route List had an Operational Status of Unavailable. This occurs when the Route List was selected via

	a Peer Routing Rule or implicit routing but its Operational Status was Unavailable.
Measurement Scope	Server Group

Recovery

1. The operation status of the Route List should be verified using the **Diameter** > **Maintenance** > **Route Lists** page.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmRouteListOutage

Measurement ID	10073
Measurement Group	Route List
Measurement Type	Simple
Measurement Dimension	Arrayed (by Route List ID)
Time (in seconds) that the Route List was unavailable. This will appear as an aggregate value retrieved from all DA-MPs in a Network Element.Description	
Collection Interval	5 min
Peg Condition	The time duration interval starts when one of the following conditions occurs: 1. A new collection interval for the measurement begins and Alarm 22053 - Route List Unavailable (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted. 2. Alarm 22053 - Route List Unavailable (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted. The time duration interval stops when one of the following conditions occurs: 1. The current collection interval for the measurement ends and Alarm 22053 - Route List Unavailable (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted. 2. Alarm 22053 - Route List Unavailable (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is cleared. When a time duration interval completes, the time measured is added to the total measurement value.
Measurement Scope	

Recovery

1. The operation status of the Route List should be verified using the **Diameter** > **Maintenance** > **Route Lists** page.
2. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

Routing Usage measurements

The Routing Usage measurement report allows you to evaluate how ingress Request messages are being routed internally within the Relay Agent.

Table 52: Routing Usage Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxRoutedIntraMPAttempt	Number of attempts to route an ingress request message via intra-MP routing.	5 min
RxRoutedPeerDirect	Number of Request messages implicitly routed directly to a peer.	5 min
RxRoutedPeerRouteList	Number of Request messages implicitly routed to a peer via its alternate implicit route.	5 min
RxRoutedPrt	Number of Request messages routed using Peer Routing Rules.	5 min

RxRoutedImplicitRealm

Measurement ID	14076
Measurement Group	Routing Usage
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages routed via Destination-Realm Implicit Routing.
Collection Interval	5 min
Peg Condition	The request message is routed using Destination-Realm Implicit Routing. The "connection measurement" is associated with the Connection from whom the Request message was received.
Measurement Scope	Site

Recovery

No action required.

RxRoutedIntraMPAttempt

Measurement ID	10063
Measurement Group	Routing Usage
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of attempts to route an ingress request message via intra-MP routing.
Collection Interval	5 min
Peg Condition	When the DSR selects a transport connection controlled by the local MP and successfully queues the Request message on the local message queue. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxRoutedPeerDirect

Measurement ID	10061
Measurement Group	Routing Usage
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages implicitly routed directly to a peer.
Collection Interval	5 min
Peg Condition	When the DSR does not find a Peer Routing Rule that matches message content, the Destination-Host AVP is present and its value matches a FQDN of a peer, and the peer is available for egress routing. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxRoutedPeerRouteList

Measurement ID	10062
Measurement Group	Routing Usage
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages implicitly routed to a peer via its alternate implicit route.
Collection Interval	5 min

Peg Condition	When the DSR does not find a Peer Routing Rule that matches message content, the Destination-Host AVP is present and its value matches a FQDN of a peer, the peer is Unavailable for egress routing, and the user-defined alternate implicit route for the peer contains a valid Route List. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

RxRoutedPrt

Measurement ID	10060
Measurement Group	Routing Usage
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of Request messages routed using Peer Routing Rules.
Collection Interval	5 min
Peg Condition	When the DSR selects the highest priority Peer Routing Rule which matches message content. The connection measurement is associated with the connection from which the Request message was received.
Measurement Scope	Server Group

Recovery

No action required.

SBR Session Exception measurements

The Session Binding Repository (SBR) Session Exception measurement report contains measurements that provide performance information specific to the SBR Session Database.

Table 53: SBR Session Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
SbrCreateSessDbErr	Number of errors creating a session record	5 min
SbrRefreshSessDbErr	Number of errors refreshing a session record	5 min
SbrRemSessDbErr	Number of errors terminating a session record	5 min
SbrFindSessDbErr	Number of errors when encountered for finding a session record	5 min

Measurement Tag	Description	Collection Interval
SbrRemSessRarAttempts	Number of sessions removed as a result of no response being received in 8 consecutive attempts to query the policy client for existence of the session	5 min
SbrCreateOcSessionDbErr	Number of Online Charging session creation errors	5 min
SbrFindOcSessionDbErr	Number of Online Charging session query errors	5 min
SbrOcSessionNotFound	Number of Online Charging sessions not found	5 min
SbrRefreshOcSessionDbErr	Number of Online Charging session refresh errors	5 min
SbrRemoveOcSessionDbErr	Number of Online Charging session removal errors	5 min
TxPendingRarDeleted ExceedMax	Number of pending RARs(Query or Release) that have been removed due to exceeding the maximum send attempts allowed per Query or Release RAR.	5 min

SbrCreateSessDbErr

Measurement ID	10850
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of errors creating a session record.
Collection Interval	5 min
Peg Condition	This peg is updated whenever there is an error in creating a session record.
Measurement Scope	All

Recovery

No action necessary.

SbrRefreshSessDbErr

Measurement ID	10851
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single

Description	The number of errors refreshing a session record.
Collection Interval	5 min
Peg Condition	This peg is updated whenever there is an error in refreshing a session record.
Measurement Scope	All

Recovery

No action necessary.

SbrRemSessDbErr

Measurement ID	10852
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of errors terminating a session record.
Collection Interval	5 min
Peg Condition	This peg is updated whenever there is an error in terminating a session record.
Measurement Scope	All

Recovery

No action necessary.

SbrFindSessDbErr

Measurement ID	10879
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of errors when encountered for finding a session record.
Collection Interval	5 min
Peg Condition	This peg is updated whenever there is an error in finding a session record.
Measurement Scope	All

Recovery

No action necessary.

SbrRemSessRarAttempts

Measurement ID	11301
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of sessions removed as a result of no response being received in 8 consecutive attempts to query the policy client for existence of the session.
Collection Interval	5 min
Peg Condition	This peg is incremented by one each time a session is removed due to lack of response after the maximum number of attempts to query the policy client have been attempted.
Measurement Scope	Network

Recovery

1. A non-zero value in this field may indicate that a policy client has become inaccessible after creating Diameter sessions on the Policy DRA.
2. If a policy client was purposely removed from service, please disregard this measurement.

SbrCreateOcSessionDbErr

Measurement ID	11387
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Online Charging session creation errors.
Collection Interval	5 min
Peg Condition	Each time a failure is encountered in creating an Online Charging Session record in the SBR Session database. Online Charging Session record failures include: • Online Charging Session record already exists (i.e. retransmission) • Database Access Failure
Measurement Scope	All

Recovery

No action necessary.

SbrFindOcSessionDbErr

Measurement ID	11388

Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Online Charging session query errors.
Collection Interval	5 min
Peg Condition	Each time a failure is encountered in finding an Online Charging Session record in the SBR Session database.
Measurement Scope	All

Recovery

No action necessary.

SbrOcSessionNotFound

Measurement ID	11389
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Online Charging sessions not found.
Collection Interval	5 min
Peg Condition	Each time an Online Charging session record is not found in the SBR Session database.
Measurement Scope	All

Recovery

No action necessary.

SbrRefreshOcSessionDbErr

Measurement ID	11390
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Online Charging session refresh errors.
Collection Interval	5 min
Peg Condition	Each time there is a failure in refreshing an Online Charging session record in the SBR Session database.
Measurement Scope	All

Recovery

No action necessary.

SbrRemoveOcSessionDbErr

Measurement ID	11391
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Online Charging session removal errors.
Collection Interval	5 min
Peg Condition	Each time there is a failure in deleting an Online Charging Session record from the SBR Session database.
Measurement Scope	All

Recovery

No action necessary.

TxPendingRarDeletedExceedMax

Measurement ID	12158
Measurement Group	SBR Session Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Query, Release, and Total)
Description	The number of pending RARs (Query or Release) that have been removed due to exceeding the maximum send attempts allowed per Query or Release RAR.
Collection Interval	5 min
Peg Condition	Each time a RAR entry in the queue/table is removed for exceeding the maximum attempts value. This measurement is incremented by one for each Query or Release RAR entry removed due to exceeding the maximum Send Attempts per Query or Release RAR value.
Measurement Scope	All

Recovery

Modify the "Maximum Attempts Per Query RAR" or "Maximum Attempts Per Release RAR" in **Policy and Charging** > **Configuration** > **Policy DRA** > **Network-Wide Options**.

Transport Exception measurements

The Transport Exception measurement group contains measurements that provide information about exceptions and unexpected events related to the Transport Manager.

Measurement Tag	Description	Collection Interval
RxTrFarEndClose	Number of times the far-end closed the association	30 min
EvTrManClose	Number of times the Trasnport was manually closed. This includes manual changes of the transport administrative state that cause the transport to transition from APP-UP to Disabled.	30 min
EvTrNoRespClose	Number of times the Transport was closed due to lack of response from the far-end. This includes lack of response to any signaling sent on the transport.	30 min
EvTrCnxFail	The number of times the SCTP connection attempt failed on the transport. This includes only unsuccessful attempts to connect/accept SCTP connections. It does not include failure of established connections. The number of times open attempt on UDP socket in Listen Mode failed on the Transport.	30 min
TxTrSendFail	The number of times the SCTP/UDP send failed for signaling on the transport. This includes sending of any messages on an established transport or UDP socket.	30 min
RxTrRcvFailed	The number of times an SCTP receive attempt failed on the transport. Failure to receive message via SCTP may result in a message being discarded.	30 min
EvTrSockInitFail	Number of times the socket initialization failed	30 min
TmSingleTransQueueFull	The number of egress messages that were discarded because the singleTransport Writer Queue was full.	30 min
EvSctpAdjIPToDwn	Number of times configured IP Address of an Adjacent Node goes from Available to Unavailable.	30 min
EvSctpTransRej	Number of times SCTP Transport has been rejected due to remote IP addresses validation failure based on SCTP Multihoming mode. This is valid only for SCTP Transports.	30 min

RxTrFarEndClose

Measurement ID	9400
Measurement Group	Transport Exception

Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of times the far end closed the SCTP connection
Collection Interval	30 min
Peg Condition	Each time the far-end of the association closes the association by sending either SHUTDOWN or ABORT
Measurement Scope	NE, Server

Recovery

1. If the closing of the association was expected, no further action is necessary - the association will be recovered as soon as the far-end is ready to connect again.
2. If the closing of the association was not expected:
   a) Transport status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
   b) Look in the event history at **Main Menu** > **Alarms & Events** > **View History** Event 19404 - Far-end closed the Transport to determine exactly when the far-end closed the association.
   c) Look for other events for the association or MP server in the event history.
   d) Verify that IP connectivity still exists between the MP server and the SG.
   e) Verify whether the far-end of the association is undergoing maintenance.

EvTrManClose

Measurement ID	9401
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of times the Transport was manually closed. This includes manual changes of the transport administrative state that cause the transport to transition from APP-UP to Disabled.
Collection Interval	30 min
Peg Condition	Each time a manual change is made to the transport administrative state from Enabled to Blocked or from Enabled to Disabled, causing the transport to transition our of APP-UP protocol state. **Note:** This condition has a special meaning for SS7/M3UA where it is linked with ASP-UP.
Measurement Scope	NE, Server

Recovery

1. If the transport is known to be under maintenance, then no further action is necessary.
2. If the closing of the association was not expected:

a) Transport status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
b) Look in the event history at **Main Menu** > **Alarms & Events** > **View History** Event 19406 - Local Transport maintenance state change, which shows the manual transport state transitions and contains a time-stamp of when the change occurred.
c) The security logs at **Main Menu** > **Log Files** > **Security Logs History** can be searched using the time-stamp from the event history log to determine which login performed the manual state change on the association.
d) It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvTrNoRespClose

Measurement ID	9402
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of times the transport was closed due to lack of response from the far end, including lack of response to any signaling sent on the transport.
Collection Interval	30 min
Peg Condition	Each time an established Transport is closed by the MP server due to lack of response at the SCTP level from the far-end of the association.
Measurement Scope	NE, Server

Recovery

1. If all is well, this measurement should have a zero value. If non-zero, the association has been closed due to lack of response from the far-end. The MP server will begin periodic attempts to reconnect to the SG.
2. Otherwise:
   a) Transport status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
   b) Look in the event history at **Main Menu** > **Alarms & Events** > **View History** Event 19405 - Transport closed due to a lack of response (refer to the *DSR Alarms and KPIs Reference* for details about this event.
   c) Verify IP connectivity between the MP server and the SG.
   d) Determine if the far-end of the association is congested, possibly causing slow response times on the association.
   e) Check the IP network between the MP server and the SG for excessive retransmissions.
   f) It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvTrCnxFail

Measurement ID	9404
Measurement Group	Transport Exception

Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	• The number of times the SCTP connection attempt failed on the transport. This includes only unsuccessful attempts to connect/accept SCTP connections. It does not include failure of established connections. • The number of times open attempt on UDP socket in Listen Mode failed on the Transport.
Collection Interval	30 min
Peg Condition	• Each time an SCTP connect attempt fails • Each time an UDP open attempt in Listen mode fails • Each time an SCTP open attempt in Listen mode fails
Measurement Scope	NE, Server

Recovery

1. If all is well, this measurement should have a zero value. A non-zero value indicates that the MP server has attempted to connect to the Peer IP Address at least once and failed to establish the SCTP connection.
2. Otherwise:
   a) Transport status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
   b) Look in the event history at **Main Menu** > **Alarms & Events** > **View History** Event 19402 - Failed to connect Transport, which provides more details as to the actual cause of the failure.
   c) Verify that the Adjacent Node that represents the far-end of the association is configured with the correct IP address at **Main Menu** > **Transport Manager** > **Configuration** > **Adjacent Node**.
   d) Verify that the remote port configured at **Main Menu** > **Transport Manager** > **Configuration** > **Transport** for the association correctly identifies the port that the Adjacent Node is listening on for SCTP connections.
   e) Verify the IP network connectivity between the MP server and the Adjacent Node.
   f) If the SG must be configured to connect to the MP server's IP address and port, verify that the SG configuration matches the association configuration at **Main Menu** > **Transport Manager** > **Configuration** > **Transport**.
   g) It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TxTrSendFail

Measurement ID	9405
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of times the SCTP/UDP send failed for signaling on the transport. This includes sending of any messages on an established transport or UDP socket.

Collection Interval	30 min
Peg Condition	Each time an attempt to send signaling DATA fails for any reason and the information being sent cannot be mapped to a specific transport
Measurement Scope	NE, Server

Recovery

1. If all is well, this measurement should have a zero value. A non-zero value indicates that an attempt to send a message to the far-end on this Transport has failed. Normally this happens if the far-end cannot keep up with the rate of messages being sent from all links on the association.
2. Otherwise:
   a) Transport status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
   b) Look in the event history at **Main Menu** > **Alarms & Events** > **View History** Event 19407 - Failed to send Transport DATA Message, which gives more information about exactly what caused the failure to send.
   c) Verify that the IP network between the MP server and the Adjacent Node is functioning as expected.
   d) It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxTrRecvFailed

Measurement ID	9406
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of times an SCTP/UDP receive attempt failed on the transport. Failure to receive message via SCTP may result in a message being discarded
Collection Interval	30 min
Peg Condition	Each time an SCTP receive fails when the far-end attempted to send data, but the data cannot be received due to an invalid message length
Measurement Scope	NE, Server

Recovery

1. If all is well, this measurement should have a zero value. A non-zero value indicates that the far-end is sending data that is malformed.
2. Otherwise:
   a) Transport status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
   b) Look in the event history at **Main Menu** > **Alarms & Events** > **View History** Event 19403 - received malformed SCTP message (invalid length), which gives more information about exactly what caused the failure.

c) Try to bring the sockets back into alignment by manually Disabling and Enabling the Transport.
d) It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvTrSockInitFail

Measurement ID	9407
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of times the socket initialization failed.
Collection Interval	30 min
Peg Condition	Each time one or more socket options cannot be set according to the settings in the transport's configuration set
Measurement Scope	NE, Server

Recovery

1. If all is well, this measurement should have a zero value. A non-zero value indicates some problem with association setup prior to attempting to connect the association.
2. If this issue occurs, look in **Main Menu** > **Alarms & Events** > **View History** for Event 19401 - Failed to configure Transport, which provides details about exactly what part of the configuration failed.
3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmSingleTransQueueFull

Measurement ID	9415
Measurement Group	Transport Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of egress messages that were discarded because the single Transport Writer Queue was full.
Collection Interval	30 min
Peg Condition	Check whether the single peers transmit data queue limit has reached its max limit (1000). If max limit is reached or exceeded then peg the measurement and discard the low priority events.
Measurement Scope	NE, Server

Recovery

1. This measurements indicates that the Transport is backed up and there could be messages that will get discarded. If it's above the defined critical threshold, it results in generating Alarm 19408 - Single Transport Egress-Queue Utilization (refer to the *DSR Alarms and KPIs Reference* for details about this alarm).

2. The percent utilization of the MP's Transport Writer Queue is approaching its maximum capacity. If this problem persists and the queue reaches 100% utilization, all new egress messages from the Transport will be discarded.

   This alarm should not normally occur when no other congestion alarms are asserted. This may occur for a variety of reasons:

   1. An IP network or Adjacent node problem may exist preventing SCTP from transmitting messages into the network at the same pace that messages are being received form the network.
   2. The SCTP Association Writer process may be experiencing a problem preventing it from processing events from its event queue. The alarm log should be examined form **Main Menu** > **Alarms & Events**.
   3. If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining MPs in the server site. MP server status can be monitored form **Main Menu** > **Status & Control** > **Server Status**.
   4. The mis-configuration of Adjacent Node IP routing may result in too much traffic being distributed to the MP. Each MP in the server site should be receiving approximately the same ingress transaction per second.
   5. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from **Main Menu** > **Status & Control** > **KPI Display**. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.

3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvSctpAdjPToDwn

Measurement ID	9424
Measurement Group	Transport Exception
Measurement Type	Max
Measurement Dimension	Arrayed (per Transport)
Description	The number of times a configured IP Address of an Adjacent Node goes from Available to Unavailable.
Collection Interval	30 min
Peg Condition	Each time reachability to a configured IP address of an Adjacent Node is lost, indicating a fault in the path to that address was detected.
Measurement Scope	NE, Server

Recovery

1. If all is well, this measurement should have a zero value. A non-zero value indicates a path fault to that address was detected.
2. Otherwise:

   1. Check the event history log at **Main Menu** > **Alarms & Events** > **View History**, looking for Event 19409 - Message Rejected by ACL Filtering which provide more details as to the actual cause of the failure.

2. Verify the Adjacent Node that represents the far-end of the association is configured with the correct address at **Main Menu** > **Transport Manager** > **Configuration** > **Adjacent Node**.
3. Verify the IP network connectivity between the MP server and the Adjacent Node's IP address using a ping or traceroute command

3. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

EvSctpTransRej

Measurement ID	9425
Measurement Group	Transport Exception
Measurement Type	Max
Measurement Dimension	Arrayed (per Transport)
Description	The number of times SCTP Transport has been rejected due to remote IP addresses validation failure based on SCTP Multihoming mode. This is valid only for SCTP Transports.
Collection Interval	30 min
Peg Condition	Each time the association has been rejected due to IP address validation failure in the SCTP INITs/INIT-ACKs transmitted by the Adjacent Node.
Measurement Scope	NE, Server

Recovery

1.
2. If all is well, this measurement should have a zero value. A non-zero value indicates that the Adjacent Node has attempted to connect to the Peer IP Address at least once and but the connection attempt was rejected because the IP addresses advertised by the Adjacent Node failed validation.
3. Otherwise:
    1. Transport status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
    2. Check the event history log at **Main Menu** > **Alarms & Events** > **View History**, looking for Events 19411 - SCTP Transport closed due to failure of multihoming validation or 19412 - SCTP Transport Transport Configuration Mismatch which provide more details as to the actual cause of the failure.
    3. Verify that the SCTP validation mode is as desired.
    4. Verify that the Adjacent Node that represents the far-end of the association is configured with the correct address at **Main Menu** > **Transport Manager** > **Configuration** > **Adjacent Node**.
    5. Verify that the remote port configured at **Main Menu** > **Transport Manager** > **Configuration** > **Transport** for the association correctly identifies the port that the Adjacent node is listening on for SCTOp connections.
    6. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

Transport Usage measurements

The Transport Usage measurement group contains measurements that provide information about the usage of the Transport Manager.

Measurement Tag	Description	Collection Interval
EvTrCnxSuccess	The number of times the SCTP connection was successfully established on the Transport. The number of times the UDP socket in Listen Mode was opened successfully on the Transport.	30 min
TmTrEnaNotUp	The number of seconds during the reporting interval during which the transport was in the Enabled administrative state but was not in APP-UP protocol state. When the transport is Enabled, the desired protocol state is APP-UP. This measurement indicates the amount of time during the reporting interval for which the association was not in the desired protocol state.	30 min
RxTmSctpBufAvg	The Average Value of the number of bytes in SCTP RX Window.	5 min
RxTmSctpBufPeak	The Peak Value of the number of bytes in SCTP RX Window	5 min

EvTrCnxSuccess

Measurement ID	9403
Measurement Group	Transport Usage
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	• The number of times the SCTP connection was successfully established on the transport. • The number of times the UDP socket in Listen Mode was opened successfully on the transport.
Collection Interval	30 min
Peg Condition	• Each time the SCTP association reaches the APP-UP protocol state (i.e. the connection is successfully ESTABLISHED) • Each time the UDP socket in Listen Mode was opened successfully
Measurement Scope	NE, Server

Recovery

1. If the association is expected to have connected during the measurement reporting interval, no action is necessary.

2. Otherwise:
   a) Transport status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
   b) Look in the event history at **Main Menu** > **Alarms & Events** > **View History** events related to the association or the MP server to determine what may have caused the Transport to fail.
   c) It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmTrEnaNotUp

Measurement ID	9410
Measurement Group	Transport Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (per Transport)
Description	The number of seconds during the reporting interval during which the transport was in the Enabled administrative state but was not in APP-UP protocol state. When the transport is Enabled, the desired protocol state is APP-UP. This measurement indicates the amount of time during the reporting interval for which the association was not in the desired protocol state.
Collection Interval	30 min
Peg Condition	Time shall be accumulated for this measurement during the collection interval when all of the following are true: • the association is in the ENABLED administrative state • the association is not in the ASP-UP protocol state for M3UA and APP-UP for other Plugins
Measurement Scope	NE, Server

Recovery

1. If all is well, this measurement should have a zero value. A non-zero value indicates that the MP server has attempted to connect to the Peer IP Address at least once and failed to establish the SCTP connection.
2. Otherwise:
   a) Association status can be viewed at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
   b) Verify that the Adjacent server that represents the far-end of the association is configured with the correct IP address at **Main Menu** > **Transport Manager** > **Configuration** > **Adjacent Node**.
   c) Verify that the remote port configured at **Main Menu** > **Transport Manager** > **Configuration** > **Transport** for the association correctly identifies the port that the SG is listening on for SCTP connections.
   d) Verify the IP network connectivity between the MP server and the SG.
   e) If the Adjacent Node must be configured to connect to the MP server's IP address and port, verify that the Adjacent Node configuration matches the association configuration at **Main Menu** > **Transport Manager** > **Maintenance** > **Transport**.
   f) It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

RxTmSctpBufAvg

Measurement ID	9411
Measurement Group	Transport Usage
Measurement Type	Average
Measurement Dimension	Arrayed (per Transport)
Description	The Average Value of the number of bytes in SCTP RX Window
Collection Interval	5 min
Peg Condition	Every Second, retrieve the Rx socket buffer occupancy by using the "getsockopt" functions and then calculates and peg the Average buffer occupancy, during the last 5 min window. To calculate the current RX Buffer Occupancy, we subtract the number of unused bytes in the buffer from the initial default RX buffer size set during setsockopt at the time of socket creation.
Measurement Scope	NE, Server

Recovery

No action required. This is debug statistical information retrieved from getsockopt (SO_RCVBUF) interface.

RxTmSctpBufPeak

Measurement ID	9412
Measurement Group	Transport Usage
Measurement Type	Max
Measurement Dimension	Arrayed (per Transport)
Description	The Peak Value of the number of bytes in SCTP RX Window
Collection Interval	5 min
Peg Condition	Every Second, retrieve the Rx socket buffer occupancy by using the "getsockopt" functions and then calculates and peg the Maximum buffer occupancy during the last 5 min window. To calculate the current RX Buffer Occupancy, we subtract the number of unused bytes in the buffer from the initial default RX buffer size set during setsockopt at the time of socket creation.
Measurement Scope	

Recovery

No action required. This is debug statistical information retrieved from getsockopt (SO_RCVBUF) interface.

Transport Performance measurements

The Transport Performance measurement group contains measurements that provide information about performance related measurements for the Transport Manager.

Measurement Tag	Description	Collection Interval
TxTrOctets	The number of octets sent on the SCTP/UDP Transport. It does not include SCTP, IP, or Ethernet headers.	30 min
RxTrOctets	The number of octets received on the SCTP/UDP Transport. It does not include SCTP, IP, or Ethernet headers.	30 min
TmSingleTransQueuePeak	The peak single Transport Writer Queue utilization (0-100%) measured during the collection interval	30 min
TmSingleTransQueueAvg	The average single Transport Writer Queue utilization (0-100%) measured during the collection interval	30 min
SctpTransPeerCWNDPeak	The peak value of congestion window size recorded for the peer of a SCTP transport during the collection interval.	30 min
SctpTransPeerCWNDAvg	The average of congestion window size recorded for the peer of a SCTP transport during the collection interval.	30 min
SctpTransPeerSRTTPeak	The peak value of smoothed round trip time for the SCTP Transport address during the collection interval.	30 min
SctpTransPeerSRTTAvg	The average value of smoothed round trip time for the SCTP Transport address during the collection interval.	30 min
SctpTransUnAckedDataPeak	The peak number of unacknowledged DATA chunks pending for the peer of a SCTP Transport address during the collection interval.	30 min
SctpTransUnAckedDataAvg	The average number of unacknowledged DATA chunks pending for the peer of a SCTP Transport address during the collection interval.	30 min
SctpTransRTOPeak	The peak value of retransmission timeout in use for the SCTP Transport address	30 min
SctpTransRTOAvg	The average value of retransmission timeout in use for the SCTP Transport address	30 min

TxTrOctets

Measurement ID	9408
Measurement Group	Transport Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Transport)
Description	The number of octets sent on the SCTP/UDP Transport. It does not include SCTP, UDP, IP, or Ethernet headers
Collection Interval	30 min
Peg Condition	Each time a DATA/non-DATA message is successfully sent on the transport (incremented by the number of octets in the message)
Measurement Scope	NE, Server

Recovery

No action required. This measurement indicates the level of signaling octets that have been sent over the association during the reporting interval.

RxTrOctets

Measurement ID	9409
Measurement Group	Transport Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Transport)
Description	The number of octets sent on the SCTP/UDP Transport. It does not include SCTP, UDP, IP, or Ethernet headers
Collection Interval	30 min
Peg Condition	Each time a DATA/non-DATA message is successfully received on the transport (incremented by the number of octets in the message)
Measurement Scope	NE, Server

Recovery

No action required. This measurement indicates the level of signaling octets that have been sent over the association during the reporting interval.

TmSingleTransQueuePeak

Measurement ID	9413
Measurement Group	Transport Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Transport)

Description	The peak single Transport Writer Queue utilization (0-100%) measured during the collection interval (averaged over 2 sec)
Collection Interval	5 min
Peg Condition	Transport's Queue is registered as a Stack Resource, StackResourceManager thread monitors and updates the maximum Transport Queue utilization sample taken during the collection interval for affected Transport
Measurement Scope	NE, Server

Recovery

1. Transport single queue utilization depicts the SCTP or UDP Transport Writer Queues utilization. This is a measure of how fast the Transport queue is being processed. It indicates the maximum depth of queue over the monitored interval. It is primarily intended to assist in evaluating the needed for additional MP processing capacity at a Network Element.
2. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
3. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
4. The percent utilization of the MP's Transport Writer Queue is approaching its maximum capacity. If this problem persists and the queue reaches 100% utilization, all new egress messages from the Transport will be discarded.
   a) An IP network or Adjacent node problem may exist preventing SCTP from transmitting messages into the network at the same pace that messages are being received form the network.
   b) The SCTP Association Writer process may be experiencing a problem preventing it from processing events from its event queue. The alarm log should be examined from **Main Menu** > **Alarms & Events**.
   c) If one or more MPs in a server site have failed, the traffic will be distributed amongst the remaining Mps in the server site. MP server status can be monitored from **Main Menu** > **Status & Control** > **Server Status**.
   d) The mis-configuration of Adjacent Node IP routing may result in too much traffic being distributed to the MP. Each MP in the server site should be receiving approximately the same ingress transaction per second.
   e) There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from **Main Menu** > **Status & Control** > **KPI Display**. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
5. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

TmSingleTransQueueAvg

Measurement ID	9414
Measurement Group	Transport Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Transport)

Description	The average single Transport (SCTP/UDP) Writer Queue utilization (0-100%) measured during the collection interval (averaged over 2 sec)
Collection Interval	5 min
Peg Condition	Transport's Queue is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Average value for affected Transport
Measurement Scope	NE, Server

Recovery

1. This is a measure of how fast the Transport queue is being processed. It indicates the Average depth of queue over the monitored interval. It is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.
2. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased
3. If the peak and average for an individual MP are significantly different than other MPs in the same Network Element, then an MP-specific hardware, software, or configuration problem may exist
4. It is recommended to contact *My Oracle Support (MOS)* for assistance if needed.

SctpTransPeerCWNDPeak

Measurement ID	9416
Measurement Group	Transport Performance
Measurement Type	Max
Measurement Dimension	Arrayed (per Transport)
Description	The peak value of congestion window size recorded for the peer of a SCTP transport during the collection interval
Collection Interval	30 min
Peg Condition	This Metric is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Peak value for affected Transport. SCTP status information will be retrieved from socket option "SCTP_STATUS" through sctp_opt_info API.
Measurement Scope	NE, Server

Recovery

This is debug information, which is retrieved from sctp socket option (SCTP_STATUS), It indicates Peak of congestion window recorded for the peer address.

SctpTransPeerCWNDAvg

Measurement ID	9417
Measurement Group	Transport Exception

Measurement Type	Average
Measurement Dimension	Arrayed (per Transport)
Description	The average of congestion window size recorded for the peer of a SCTP transport during the collection interval.
Collection Interval	30 min
Peg Condition	This Metric is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Average value for affected Transport. SCTP status information will be retrieved from socket option "SCTP_STATUS" through sctp_opt_info API.
Measurement Scope	

Recovery

This is debug information, which is retrieved from sctp socket option (SCTP_STATUS); It indicates Average of congestion window recorded for the peer address.

SctpTransPeerSRTTPeak

Measurement ID	9418
Measurement Group	Transport Performance
Measurement Type	Max
Measurement Dimension	Arrayed (per Transport)
Description	The peak value of smoothed round trip time for the SCTP Transport address during the collection interval
Collection Interval	30 min
Peg Condition	This Metric is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Peak value for affected Transport. SCTP status information will be retrieved from socket option "SCTP_STATUS" through sctp_opt_info API.
Measurement Scope	NE, Server

Recovery

This is debug information, which is retrieved from sctp socket option (SCTP_STATUS).

SctpTransPeerSRTTAvg

Measurement ID	9419
Measurement Group	Transport Performance
Measurement Type	Average
Measurement Dimension	Arrayed (per Transport)

Description	The average value of smoothed round trip time for the SCTP Transport address during the collection interval.
Collection Interval	30 min
Peg Condition	This Metric is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Peak value for affected Transport. SCTP status information will be retrieved from socket option "SCTP_STATUS" through sctp_opt_info API.
Measurement Scope	NE, Server

Recovery

This is debug information, which is retrieved from sctp socket option (SCTP_STATUS).

SctpTransUnAckedDataPeak

Measurement ID	9420
Measurement Group	Transport Performance
Measurement Type	Max
Measurement Dimension	Arrayed (per Transport)
Description	The peak number of unacknowledged DATA chunks pending for the peer of a SCTP Transport address during the collection interval.
Collection Interval	30 min
Peg Condition	This Metric is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Peak value for affected Transport. SCTP status information will be retrieved from socket option "SCTP_STATUS" through sctp_opt_info API.
Measurement Scope	NE, Server

Recovery

This is debug information, which is retrieved from sctp socket option (SCTP_STATUS).

SctpTransUnAckedDataAvg

Measurement ID	9421
Measurement Group	Transport Performance
Measurement Type	Average
Measurement Dimension	Arrayed (per Transport)
Description	The average number of unacknowledged DATA chunks pending for the peer of a SCTP Transport address during the collection interval
Collection Interval	30 min

Peg Condition	This Metric is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Average value for affected Transport. SCTP status information will be retrieved from socket option "SCTP_STATUS" through sctp_opt_info API
Measurement Scope	NE, Server

Recovery

This is debug information, which is retrieved from sctp socket option (SCTP_STATUS).

SctpTransRTOPeak

Measurement ID	9423
Measurement Group	Transport Performance
Measurement Type	Average
Measurement Dimension	Arrayed (per Transport)
Description	The average value of retransmission timeout in use for the SCTP Transport address
Collection Interval	30
Peg Condition	This Metric is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Average value for affected Transport. SCTP status information will be retrieved from socket option "SCTP_STATUS" through sctp_opt_info API
Measurement Scope	NE, Server

Recovery

This is debug information, which is retrieved from sctp socket option (SCTP_STATUS).

SctpTransRTOAvg

Measurement ID	9423
Measurement Group	Transport Performance
Measurement Type	Average
Measurement Dimension	Arrayed (per Transport)
Description	The average value of retransmission timeout in use for the SCTP Transport address
Collection Interval	30 min
Peg Condition	This Metric is registered as a Stack Resource, StackResourceManager thread monitors and updates the metric Average value for affected Transport. SCTP status information will be retrieved from socket option "SCTP_STATUS" through sctp_opt_info API

Measurement Scope NE, Server

Recovery

This is debug information, which is retrieved from sctp socket option (SCTP_STATUS).

Topology Hiding Performance measurements

The Topology Hiding Performance measurement report contains measurements providing information on the number of messages that the various topology hiding methods were applied.

Measurement Tag	Description	Collection Interval
TxPathTopology	Number of messages given path topology hiding treatment on messages routed to an Untrusted Network.	5 min
RxPathTopology	Number of messages given path topology hiding treatment on messages received from an Untrusted Network.	5 min
EvHssTopology	Number of messages given S6a/S6d HSS topology hiding treatment.	5 min
EvMmeTopology	Number of messages given MME/SGSN topology hiding treatment.	5 min
EvMmeTopologyException	Number of messages given exception treatment while applying MME/SGSN topology hiding treatment.	5 min
EvHssTopologyException	Number of messages given exception treatment while applying S6a/S6d HSS topology hiding treatment.	5 min
EvAfTopologyException	Number of messages given exception treatment while applying S9 AF/pCSCF topology hiding treatment.	5 min
EvAfTopologyExceptionMp	Number of messages given exception treatment while applying S9 AF/pCSCF topology hiding treatment.	5 min
EvAfTopologyMp	Number of messages given S9 AF/pCSCF topology hiding treatment.	5 min
EvAfTopology	Number of messages given S9 AF/pCSCF topology hiding treatment.	5 min
EvPcrfTopologyException	Number of messages given exception treatment while applying S9 PCRF topology hiding treatment.	5 min

Measurement Tag	Description	Collection Interval
EvPcrfTopologyExceptionMp	Number of messages given exception treatment while applying S9 PCRF topology hiding treatment.	5 min
EvPcrfTopologyMp	Number of messages given S9 PCRF topology hiding treatment.	5 min
EvPcrfTopology	Number of messages given S9 PCRF topology hiding treatment.	5 min
TxPathTopologyMp	Number of messages given path topology hiding treatment on messages routed to an Untrusted Network.	5 min
RxPathTopologyMp	Number of messages given path topology hiding treatment on messages received from an Untrusted Network.	5 min
EvHssTopologyMp	Number of messages given S6a/S6d HSS topology hiding treatment.	5 min
EvMmeTopologyMp	Number of messages given MME/SGSN topology hiding treatment.	5 min
EvMmeTopologyMpException	Number of messages given exception treatment while applying MME/SGSN topology hiding treatment.	5 min
EvHssTopologyMpException	Number of messages given exception treatment while applying S6a/S6d HSS topology hiding treatment.	5 min

TxPathTopology

Measurement ID	14020
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Number of messages given path topology hiding treatment on messages routed to an Untrusted Network
Collection Interval	5 min
Peg Condition	Each time Path TH treatment is applied to either a Request or Answer message at TH trigger points RTH and ATH respectively
Measurement Scope	Site

Recovery

No action required.

RxPathTopology

Measurement ID	14021
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Number of messages given path topology hiding treatment on messages received from an Untrusted Network
Collection Interval	5 min
Peg Condition	Each time Path TH treatment is applied to either a Request or Answer message at TH trigger points RTR and ATR respectively
Measurement Scope	Site

Recovery

No action required.

EvHssTopology

Measurement ID	14022
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Number of messages given S6a/S6d HSS topology hiding treatment
Collection Interval	5 min
Peg Condition	Each time S6a/S6d HSS TH treatment is applied to either a Request or Answer message at TH trigger points RTH, RTR, ATH, and ATR **Note:** If S6a/S6d HSS TH treatment is applied to more than one AVP in a message, the counter is only incremented once
Measurement Scope	Site

Recovery

No action required.

EvMmeTopology

Measurement ID	14023
Measurement Group	Topology Hiding Performance
Measurement Type	Simple

Measurement Dimension	Arrayed (by Connection ID)
Description	Number of messages given MME/SGSN topology hiding treatment
Collection Interval	5 min
Peg Condition	Each time MME/SGSN TH treatment is applied to either a Request or Answer message at TH trigger points RTH, RTR, ATH, and ATR **Note:** If MME/SGSN TH treatment is applied to more than one AVP in a message, the counter is only incremented once
Measurement Scope	Site

Recovery

No action required.

EvMmeTopologyException

Measurement ID	14029
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of messages given exception treatment while applying MME/SGSN topology hiding treatment
Collection Interval	5 min
Peg Condition	When MME/SGSN TH exception treatment is applied to either a Request or Answer message at TH trigger points RTH and ATH
Measurement Scope	Site

Recovery

Ensure that all MME/SGSN hostnames to be hidden are present in the MME/SGSN Configuration Set

EvHssTopologyException

Measurement ID	14031
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of messages given exception treatment while applying S6a/S6d HSS topology hiding treatment
Collection Interval	5 min

Peg Condition	When S6a/S6d HSS TH exception treatment is applied to a Request message at TH trigger point RTH
Measurement Scope	Site

Recovery

Check the HSS Vendor and request the vendor to be RFC 6733 Compliant

EvPcrfTopology

Measurement ID	14034
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of messages given S9 PCRF topology hiding treatment
Collection Interval	5 min
Peg Condition	When S9 PCRF TH treatment is applied to either a Request or Answer message TH trigger points RTH, RTR, ATH, and ATR
Measurement Scope	Site

Recovery

No action required.

EvPcrfTopologyMp

Measurement ID	14035
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given S9 PCRF topology hiding treatment
Collection Interval	5 min
Peg Condition	When S9 PCRF TH treatment is applied to either a Request or Answer message TH trigger points RTH, RTR, ATH, and ATR
Measurement Scope	Site

Recovery

No action required.

EvPcrfTopologyExceptionMp

Measurement ID	14036
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given exception treatment while applying S9 PCRF topology hiding treatment
Collection Interval	5 min
Peg Condition	When S9 PCRF TH treatment is applied to either a Request or Answer message at RTH, RTR, or ATH trigger points and "PCRF Actual Name Not Found" Action is invoked
Measurement Scope	Site

Recovery

1. Check with the PCRF Vendor and request them to be RFC 6733 Compliant if the format of the Session-ID AVP is not RFC 6733 compliant.
2. Check the configuration of TH Host Names and ensure that all PCRF host names to hidden are present in the S9 PCRF TH Configuration Set

EvPcrfTopologyException

Measurement ID	14037
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of messages given exception treatment while applying S9 PCRF topology hiding treatment
Collection Interval	5 min
Peg Condition	When S9 PCRF TH treatment is applied to either a Request or Answer message at RTH, RTR, or ATH trigger points and "PCRF Actual Name Not Found" Action is invoked
Measurement Scope	Site

Recovery

1. Check with the PCRF Vendor and request them to be RFC 6733 Compliant if the format of the Session-ID AVP is not RFC 6733 compliant.
2. Check the configuration of TH Host Names and ensure that all PCRF host names to hidden are present in the S9 PCRF TH Configuration Set

EvAfTopology

Measurement ID	14038

Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of messages given S9 AF/pCSCF topology hiding treatment
Collection Interval	5 min
Peg Condition	When S9 AF/pCSCF TH treatment is applied to either a Request or Answer message at TH trigger points RTH, RTR, ATH, and ATR **Note:** If S9 AF/pCSCF TH treatment is applied to more than one AVP in a message, the counter is only incremented once
Measurement Scope	Site

Recovery

No action required.

EvAfTopologyMp

Measurement ID	14039
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given S9 AF/pCSCF topology hiding treatment
Collection Interval	5 min
Peg Condition	When S9 AF/pCSCF TH treatment is applied to either a Request or Answer message at TH trigger points RTH, RTR, ATH, and ATR **Note:** If S9 AF/pCSCF TH treatment is applied to more than one AVP in a message, the counter is only incremented once
Measurement Scope	Site

Recovery

No action required.

EvAfTopologyExceptionMp

Measurement ID	14040
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single

Description	The number of messages given exception treatment while applying S9 AF/pCSCF topology hiding treatment
Collection Interval	5 min
Peg Condition	When S9 AF/pCSCF TH treatment is applied to either a Request or Answer message at TH trigger points RTH, RTR, or ATH and "AF/pCSCF Actual Name Not Found" Action is invoked
Measurement Scope	Site

Recovery

No action required.

EvAfTopologyException

Measurement ID	14041
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given exception treatment while applying S9 AF/pCSCF topology hiding treatment
Collection Interval	5 min
Peg Condition	When S9 AF/pCSCF TH treatment is applied to either a Request or Answer message at TH trigger points RTH, RTR, or ATH and "AF/pCSCF Actual Name Not Found" Action is invoked
Measurement Scope	Site

Recovery

No action required.

TxPathTopologyMp

Measurement ID	14024
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given path topology hiding treatment on messages routed to an Untrusted Network
Collection Interval	5 min
Peg Condition	Each time Path TH treatment is applied to either a Request or Answer message at TH trigger points RTH and ATH respectively

Measurement Scope	Site

Recovery

No action required.

RxPathTopologyMp

Measurement ID	14025
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given path topology hiding treatment on messages routed from an Untrusted Network
Collection Interval	5 min
Peg Condition	Each time Path TH treatment is applied to either a Request or Answer message at TH trigger points RTH and ATH respectively
Measurement Scope	Site

Recovery

No action required.

EvHssTopologyMp

Measurement ID	14026
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of messages given S6a/S6d HSS topology hiding treatment
Collection Interval	5 min
Peg Condition	Each time S6a/S6d HSS TH treatment is applied to either a Request or Answer message a TH trigger points RTH, RTR, ATH, and ATR **Note:** If S6a/S6d HSS TH treatment is applied to more than one AVP in a message, the counter is only incremented once
Measurement Scope	Site

Recovery

No action required.

EvMmeTopologyMp

Measurement ID	14027
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given MME/SGSN topology hiding treatment
Collection Interval	5 min
Peg Condition	Each time MME/SGSN TH treatment is applied to either a Request or Answer message a TH trigger points RTH, RTR, ATH, and ATR **Note:** If MME/SGSN TH treatment is applied to more than one AVP in a message, the counter is only incremented once
Measurement Scope	Site

Recovery

No action required.

EvMmeTopologyExceptionMp

Measurement ID	14028
Measurement Group	Topology Hiding Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given exception treatment while applying MME/SGSN topology hiding treatment
Collection Interval	5 min
Peg Condition	Each time MME/SGSN TH treatment is applied to either a Request or Answer message a TH trigger points RTH and ATH trigger points
Measurement Scope	Site

Recovery

Ensure that all MME/SGSN hostnames to be hidden are present in the MME/SGSN Configuration Set

EvHssTopologyExceptionMp

Measurement ID	14030
Measurement Group	Topology Hiding Performance

Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages given exception treatment while applying S6a/S6d HSS topology hiding treatment
Collection Interval	5 min
Peg Condition	When S6a/S6d HSS TH excpetion treatment is applied to Request at RTH trigger point
Measurement Scope	Site

Recovery

Check with the HSS Vendor and request the vendor to be RFC 6733 Compliant.

ESPR Measurements

Table 54: ESPR Measurements

Measurement Tag	Description	Collection Interval
EvAeConvertToProvSubFailed	Total number of failed attempts to convert an auto-enrolled subscriber to a provisioned subscriber	5 minutes
EvAeProvCreateSubFailed	Total number of failed attempts to create an auto-enrolled subscriber via the provisioning interface	5 minutes
EvAeShCreateSubFailed	Total number of failed attempts to create an auto-enrolled subscriber via the Sh interface	5 minutes
EvAeShDeleteSubFailed	Total number of failed attempts to delete an auto-enrolled subscriber via the Sh interface	5 minutes
RxAeConvertToProvSubSuccess	Total number of auto-enrolled subscribers converted to provisioned subscribers	5 minutes
RxAeProvCreateMsgs	Total number of requests received via the provisioning interface where the subscriber was unknown and auto-enrollment was triggered to create the subscriber	5 minutes
RxAeProvCreateSubSuccess	Total number of auto-enrolled subscribers created via the provisioning interface	5 minutes
RxAeShCreateSubSuccess	Total number of auto-enrolled subscribers created via the Sh interface	5 minutes
RxAeShDeleteSubMsgs	Total number of unsubscribe requests received via the Sh interface that triggered the removal of an auto-enrolled subscriber	5 minutes

Measurement Tag	Description	Collection Interval
RxAeShDeleteSubSuccess	Total number of auto-enrolled subscribers deleted via the Sh Interface	5 minutes
RxAeShPurCreateMsgs	Total number of update requests received via the Sh interface where the subscriber was unknown and auto-enrollment was triggered to create the subscriber	5 minutes
RxAeShSnrCreateMsgs	Total number of subscribe requests received via the Sh interface where the subscriber was unknown and auto-enrollment was triggered to create the subscriber	5 minutes
RxAeSnrCreateSubSuccess	Total number of auto-enrolled subscribers successfully created via the Sh interface	5 minutes
RxUdrBePnNonPooledEntity	Total number of update requests that generated notification(s) for non-pooled entity(s)	5 minutes
RxUdrBePnPooledEntity	Total number of update requests that generated notifications(s) for pooled entity(s)	5 minutes
RxUdrBeReadMsgs	Total number of read requests received	5 minutes
RxUdrBeUpdateMsgs	Total number of update requests received	5 minutes
RxUdrNmNotifAck	Total number of notification delivery responses received	5 minutes
RxUdrNmNotifAckAsAvailable	Total number of notifications successfully sent to the AS (the AS received the notification)	5 minutes
RxUdrNmNotifAckAsUnavailable	Total number of notifications that failed to be sent to the AS (the AS did not receive the notification)	5 minutes
RxUdrNmNotifAckLateResponse	Total number of notification delivery responses received after the delivery timeout period expired	5 minutes
RxUdrNmNotifAckNotSubscribed	Total number of notification delivery responses received that indicated the AS was not subscribed to the subscriber	5 minutes
RxUdrNmNotifAckTimeout	Total number of notification delivery requests sent where a response was not received within the configured timeout interval	5 minutes
RxUdrSmSubscribeMsgs	Total number of subscribe requests received	5 minutes
RxUdrSmSubscribeSnoFull	Total number of times when adding a new subscription that the subscription (SNO)	5 minutes

Measurement Tag	Description	Collection Interval
	record for the subscriber exceeded the maximum number of allowed subscriptions and caused a subscription(s) to be removed	
RxUdrSmUnsubscribeMsgs	Total number of unsubscribe requests received	5 minutes
RxUdrSmUnsubscribeNsNotFound	Total number of unsubscribe requests where the subscriber exists but the desired notification subscription does not exist	5 minutes
SQRQuotaRowElementsReset	Total number of Quota Row Elements got reset or the value of the nextResetTime element has been updated. (Pools+Subscribers)	5 minutes
SQRRecordsExamined	Total number of Records scanned by the Quota Reset Tasks (Pools+Subscribers)	5 minutes
SQRRecordsFailed	Total number of Records on which Quota Resets or nextResetTime update has Failed (Pools+Subscribers)	5 minutes
SQRRecordsReset	Total number of Records in which Quota Entities have been reset or the value of the nextResetTime Row Field Element has been updated. (Pools+Subscribers)	5 minutes
TxUdrBeReadReqFailed	Total number of failed read requests	5 minutes
TxUdrBeReadReqSuccess	Total number of successful read requests	5 minutes
TxUdrBeReadTooMuchData	Total number of read requests could not be processed because user data size exceeds maximum size	5 minutes
TxUdrBeReadUnkSubscriber	Total number of read requests received where the subscriber was unknown	5 minutes
TxUdrBeUpdateInvalidEntity	Total number of update requests received where an unknown entity was encountered	5 minutes
TxUdrBeUpdateNotPoolMember	Total number of update requests received where a pooled entity was being updated, but the subscriber was not a member of a pool	5 minutes
TxUdrBeUpdateOutOfSync	Total number of update requests received where the incorrect sequence number to perform was supplied	5 minutes
TxUdrBeUpdateReqFailed	Total number of failed update requests	5 minutes
TxUdrBeUpdateReqSuccess	Total number of successful update requests	5 minutes

Measurement Tag	Description	Collection Interval
TxUdrBeUpdateTooBusy	Total number of update requests which could not be processed because of congestion	5 minutes
TxUdrBeUpdateUnkSubscriber	Total number of update requests received where the subscriber was unknown	5 minutes
TxUdrNmNotifComAgentError	Total number of notification delivery requests sent that resulted in a ComAgent delivery failure of the notification delivery request	5 minutes
TxUdrNmNotifDeletedTableFull	Total number of notifications that were deleted because the maximum configured number of outstanding notifications allowed had been exceeded	5 minutes
TxUdrNmNotifExceededMaxDel	Total number of notifications that exceeded the maximum configured number of delivery attempts allowed	5 minutes
TxUdrNmNotifExceededMaxTtl	Total number of notifications that exceeded the maximum configured time to live	5 minutes
TxUdrNmNotifNoValidEntity	Total number of notifications to be sent that did not consist of any valid entities	5 minutes
TxUdrNmNotifSent	Total number of notification delivery requests sent	5 minutes
TxUdrNmNotifTooMuchData	Total number of unsubscribe requests which could not be processed because UserData size exceeds maximum size	
TxUdrSmSubscribeReqFailed	Total number of failed subscribe requests	5 minutes
TxUdrSmSubscribeReqSuccess	Total number of successful subscribe requests	5 minutes
TxUdrSmSubscribeTooMuchData	Total number of subscribe requests which could not be processed because UserData size exceeds maximum size	
TxUdrSmSubscribeUnkSubscriber	Total number of subscribe requests received where the subscriber was unknown and was not added via auto-enrollment	5 minutes
TxUdrSmUnsubscribeReqFailed	Total number of failed unsubscribe requests	5 minutes
TxUdrSmUnsubscribeReqSuccess	Total number of successful unsubscribe requests	5 minutes
TxUdrSmUnsubscribeTooMuchData	Total number of notifications to be sent for which user data size exceeds maximum size	5 minutes

Measurement Tag	Description	Collection Interval
TxUdrSmUnsubscribeUnkSubscriber	Total number of unsubscribe requests received where the subscriber was unknown	5 minutes

EvAeConvertToProvSubFailed

Measurement Group: UDRBE Exceptions

Measurement Type: Simple

Description: Total number of failed attempts to convert an auto-enrolled subscriber to a provisioned subscriber

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an auto-enrolled subscriber cannot be converted to a provisioned subscriber due to a failure.

Measurement Scope: All

Recovery:

No action required.

EvAeProvCreateSubFailed

Measurement Group: UDRBE Exceptions

Measurement Type: Simple

Description: Total number of failed attempts to create an auto-enrolled subscriber via the provisioning interface

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time there is a failed attempt to create an Auto-Enrolled or Provisioned subscriber.

Measurement Scope: All

Recovery:

No action required.

EvAeShCreateSubFailed

Measurement Group: UDRBE Exceptions

Measurement Type: Simple

Description: Total number of failed attempts to create an auto-enrolled subscriber via the provisioning interface

Collection Interval: 5 min

Peg Condition:	This measurement is incremented each time an attempt to create an auto-enrolled subscriber via an Sh interface request fails.
Measurement Scope:	All

Recovery:

No action required.

EvAeShDeleteSubFailed

Measurement Group:	UDRBE Exceptions
Measurement Type:	Simple
Description:	Total number of failed attempts to delete an auto-enrolled subscriber via the Sh interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an auto-enrolled subscriber cannot be deleted via the Sh interface due to a failure.
Measurement Scope:	All

Recovery:

No action required.

RxAeConvertToProvSubSuccess

Measurement Group:	Auto Enrollment
Measurement Type:	Simple
Description:	Total number of auto-enrolled subscribers converted to provisioned subscribers
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an auto-enrolled subscriber is converted to a provisioned subscriber. This conversion is done when the provisioning system adds or updates profile entity data or when the subscriber is added to a pool.
Measurement Scope:	All

Recovery:

No action required.

RxAeProvCreateMsgs

Measurement Group:	Auto Enrollment
Measurement Type:	Simple

Description:	Total number of requests received via the provisioning interface where the subscriber was unknown, and auto-enrollment was triggered to create the subscriber
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End processes a provisioning interface request, the subscriber user identity is not found in the index, the update request matches auto-enrollment requirements, and auto-enrollment for provisioning is enabled.
Measurement Scope:	All

Recovery:

No action required.

RxAeProvCreateSubSuccess

Measurement Group:	Auto Enrollment
Measurement Type:	Simple
Description:	Total number of auto-enrolled subscribers successfully created via the provisioning interface
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a subscriber is successfully created via the provisioning interface.
Measurement Scope:	All

Recovery:

No action required.

RxAeShCreateSubSuccess

Measurement Group:	Auto Enrollment
Measurement Type:	Simple
Description:	Total number of auto-enrolled subscribers created via the Sh interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an auto-enrolled subscriber is successfully created.
Measurement Scope:	All

Recovery:

No action required.

RxAeShDeleteSubMsgs

Measurement Group:	Auto Enrollment
Measurement Type:	Simple
Description:	Total number of unsubscribe requests received via the Sh interface that triggered the removal of an auto-enrolled subscriber
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an auto-enrolled subscriber is deleted.
Measurement Scope:	All

Recovery:

No action required.

RxAeShDeleteSubSuccess

Measurement Group:	Auto Enrollment
Measurement Type:	Simple
Description:	Total number of auto-enrolled subscribers successfully deleted via the Sh interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a subscriber is successfully deleted via the Sh interface.
Measurement Scope:	All

Recovery:

No action required.

RxAeShPurCreateMsgs

Measurement Group:	Auto Enrollment
Measurement Type:	Simple
Description:	Total number of update requests received via the Sh interface where the subscriber was unknown and auto-enrollment was triggered to create the subscriber
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager processes an update request, the subscriber user identity is not found in the index, the subscribe request matches auto-enrollment requirements, and auto-enrollment for PUR is enabled.
Measurement Scope:	All

Recovery:

No action required.

RxAeShSnrCreateMsgs

Measurement Group:	Auto Enrollment
Measurement Type:	Simple
Description:	Total number of subscribe requests received via the Sh interface where the subscriber was unknown and auto-enrollment was triggered to create the subscriber
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager processes a subscribe request, the subscriber user identity is not found in the index, the subscribe request matches auto-enrollment requirements, and auto-enrollment for SNR is enabled.
Measurement Scope:	All

Recovery:

No action required.

RxAeSnrCreateSubSuccess

Measurement Group:	Auto Enrollment
Measurement Type:	Simple
Description:	Total number of auto-enrolled subscribers successfully created via the Sh interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a subscriber is successfully created via the Sh interface.
Measurement Scope:	All

Recovery:

No action required.

RxUdrBePnNonPooledEntity

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of update requests that generated notification(s) for non-pooled entity(s)
Collection Interval:	5 min

Peg Condition: This measurement is incremented each time the UDR Back End performs an update of subscriber (non-pool) related data, and one or more subscriptions are found that result in a notification(s) being generated.

Measurement Scope: All

Recovery:

No action required.

RxUdrBePnPooledEntity

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Total number of update requests that generated notification(s) for pooled entity(s)

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the UDR Back End performs an update of pool related data, and one or more subscriptions are found that result in a notification(s) being generated.

Measurement Scope: All

Recovery:

Recovery:

No action required.

RxUdrBeReadMsgs

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Total number of read requests received

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the UDR Back End receives a 'read' stack event.

Measurement Scope: All

Recovery:

No action required.

RxUdrBeUpdateMsgs

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description:	Total number of update requests received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End receives an 'update' stack event.
Measurement Scope:	All

Recovery:

No action required.

RxUdrNmNotifAck

Measurement Group:	Notification Management
Measurement Type:	Simple
Description:	Total number of notification delivery responses received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager receives a 'notifyAck' stack event.
Measurement Scope:	All

Recovery:

No action required.

RxUdrNmNotifAckAsAvailable

Measurement Group:	Notification Management
Measurement Type:	Simple
Description:	Total number of notifications successfully sent to the AS (i.e. the AS received the notification).
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager receives a ‘notifyAck’ stack event with a status of other than 'RecipientUnavailable' or 'ResponseTimeout'.
Measurement Scope:	All

Recovery:

No action required.

RxUdrNmNotifAckAsUnavailable

Measurement Group:	Notification Management
Measurement Type:	Simple
Description:	Total number of notification delivery responses that indicated that the AS was unavailable

Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager receives a ‘notifyAck’ stack event with the status 'RecipientUnavailable'.
Measurement Scope:	All

Recovery:

No action required.

RxUdrNmNotifAckLateResponse

Measurement Group:	UDRBE Exceptions
Measurement Type:	Simple
Description:	Total number of notification delivery responses received after the delivery timeout period expired
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager receives a ‘notifyAck’ stack event relating to a notification for which a delivery attempt has been made at least once, the last delivery attempt has already been detected as timed out, and the notification is awaiting a delivery retry.
Measurement Scope:	All

Recovery:

No action required.

RxUdrNmNotifAckNotSubscribed

Measurement Group:	Notification Management
Measurement Type:	Simple
Description:	Total number of notification delivery responses received that indicate the AS was not subscribed to the subscriber
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager receives a ‘notifyAck’ stack event with the status 'NoSubscriptionToData'.
Measurement Scope:	All

Recovery:

No action required.

RxUdrNmNotifAckTimeout

Measurement Group:	Notification Management

Measurement Type:	Simple
Description:	Total number of notification delivery requests sent where a response was not received within the configured timeout interval
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager sends a 'notify' stack event, does not receive a response, and times out.
Measurement Scope:	All

Recovery:

No action required.

RxUdrSmSubscribeMsgs

Measurement Group:	Subscription Management
Measurement Type:	Simple
Description:	Total number of subscribe requests received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager receives a ‘subscribe’ stack event that does not request that the data subscribed to be read and returned in the response.
Measurement Scope:	All

Recovery:

No action required.

RxUdrSmSubscribeSnoFull

Measurement Group:	UDRBE Exceptions
Measurement Type:	Simple
Description:	Total number of times that when adding a new subscription, the SNO record for the subscriber exceeded the maximum number of allowed subscriptions and caused a subscription(s) to be removed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager attempts to add a new (non duplicate) subscription into the SNO record for a subscriber and finds that the SNO record already contains at least the maximum number of subscriptions allowed, per the Maximum Subscriptions per Subscriber configuration option.
Measurement Scope:	All

Recovery:

No action required.

RxUdrSmUnSubscribeMsgs

Measurement Group:	Subscription Management
Measurement Type:	Simple
Description:	Total number of unsubscribe requests received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager receives an 'unsubscribe' stack event that does not request that the data subscribed to be read and returned in the response.
Measurement Scope:	All

Recovery:

No action required.

RxUdrSmUnsubscribeNsNotFound

Measurement Group:	Subscription Management
Measurement Type:	Simple
Description:	Total number of unsubscribe requests where the subscriber exists but the desired notification subscription does not exist
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager processes an unsubscribe request, the subscriber user identity is found in the index, and the notification subscription (NS) to which the unsubscribe request was made is not found in the SNO record for the subscriber.
Measurement Scope:	All

Recovery:

No action required.

SQRQuotaRowElementsReset

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of quota row elements reset by the quota reset tasks (pools and subscribers)
Collection Interval:	5 min
Peg Condition:	This measurement is incremented when a PUR Reset message arrives at Sh Interface.

Measurement Scope:	All

Recovery:

No action required.

SQRRecordsExamined

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of records scanned by the quota reset tasks (Pools+Subscribers)
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time quota reset scheduler examines a subscriber or pool record.
Measurement Scope:	All

Recovery:

No action required.

SQRRecordsFailed

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of Database Records on which Quota Reset Operations have Failed (Pools+Subscribers)
Collection Interval:	5 min
Peg Condition:	This measurement is incremented when a Quota Reset execution fails in a Subscriber or Pool Record. It is incremented only once irrespective of the number of Quota Row Elements failed in the Subscriber or Pool Record.
Measurement Scope:	All

Recovery:

No action required.

SQRRecordsReset

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of Records in which at least one Quota Row Elements have been reset (Pools+Subscribers)
Collection Interval:	5 min

Peg Condition: This measurement is incremented when Quota Reset Scheduler resets one or more Quota Row Elements in a Subscriber or Pool Record. It is incremented only once, irrespective of the number of Quota Row Elements reset in a Subscriber or Pool Record.

Measurement Scope: All

Recovery:

No action required.

TxUdrBeReadReqFailed

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Total number of failed read requests

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the UDR Back End processes a read request, and sends a status other than 'Success' in the ‘readAck’ stack event in response.

Measurement Scope: All

Recovery:

No action required.

TxUdrBeReadReqSuccess

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Total number of successful read requests

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the UDR Back End processes a read request, and sends a 'Success' status in the ‘readAck’ stack event in response.

Measurement Scope: All

Recovery:

No action required.

TxUdrBeReadTooMuchData

Measurement Group: UDRBE Exceptions

Measurement Type: Simple

Description: Total number of read requests could not be processed because user data size exceeds maximum size.

Collection Interval:	5 min
Peg Condition:	The measurement shall be incremented each time the UDR back end received a read request with user data which exceeds maximum size.
Measurement Scope:	All

Recovery:

No action required.

TxUdrBeReadUnkSubscriber

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of read requests received where the subscriber was unknown
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End processes a read request, and the subscriber user identity is not found in the index.
Measurement Scope:	All

Recovery:

No action required.

TxUdrBeUpdateInvalidEntity

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of update requests received where an unknown entity was encountered
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End processes an update request, and an entity being updated is not found in the SEC.
Measurement Scope:	All

Recovery:

No action required.

TxUdrBeUpdateNotPoolMember

Measurement Group:	UDRBE Performance
Measurement Type:	Simple

Description:	Total number of update requests received where a pooled entity was being updated, but the subscriber was not a member of a pool
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End processes an update request for a pooled entity, and the subscriber is not currently a member of a pool.
Measurement Scope:	All

Recovery:

No action required.

TxUdrBeUpdateOutOfSync

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of update requests received where the incorrect sequence number to perform was supplied
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End processes an update request and the sequence number supplied for one of the entities is not valid.
Measurement Scope:	All

Recovery:

No action required.

TxUdrBeUpdateReqFailed

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of failed update requests
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End processes an update request, and sends a status other than 'Success' in the ‘updateAck’ stack event in response.
Measurement Scope:	All

Recovery:

No action required.

TxUdrBeUpdateReqSuccess

Measurement Group:	UDRBE Performance

Measurement Type:	Simple
Description:	Total number of successful update requests
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End processes an update request, and sends a 'Success' status in the ‘updateAck’ stack event in response.
Measurement Scope:	All

Recovery:

No action required.

TxUdrBeUpdateTooBusy

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of update requests which could not be processed because of congestion
Collection Interval:	5 min
Peg Condition:	The measurement shall be incremented each time the UDR Back End processes fails to process an update request because of congestion, and sends a status other than *Success* in the *updateAck* stack event in response.
Measurement Scope:	All

Recovery:

No action required.

TxUdrBeUpdateUnkSubscriber

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of update requests received where the subscriber was unknown
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR Back End processes an update request, and the subscriber user identity is not found in the index.
Measurement Scope:	All

Recovery:

No action required.

TxUdrNmNotifComAgentError

Measurement Group:	UDRBE Exceptions
Measurement Type:	Simple
Description:	Total number of notification delivery requests sent that resulted in a ComAgent delivery failure of the notification delivery request
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager attempts to send a 'notify' stack event and encounters a ComAgent error, resulting in the 'notify' stack event not being successfully sent.
Measurement Scope:	All

Recovery:

No action required.

TxUdrNmNotifDeletedTableFull

Measurement Group:	UDRBE Exceptions
Measurement Type:	Simple
Description:	Total number of notifications that were deleted because the maximum configured number of outstanding notifications allowed was exceeded
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager deletes an outstanding notification due to the maximum configured number of outstanding notifications being exceeded.
Measurement Scope:	All

Recovery:

No action required.

TxUdrNmNotifExceededMaxDel

Measurement Group:	Notification Management
Measurement Type:	Simple
Description:	Total number of notifications that exceeded the maximum configured number of delivery attempts allowed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager processes a notification (i.e. a PN) to be sent, checks the number of delivery attempts that have already been made for the notification, and discovers that another delivery attempt would

exceed the configured Notification Maximum Delivery Attempts value.

Measurement Scope: All

Recovery:

No action required.

TxUdrNmNotifExceededMaxTtl

Measurement Group: Notification Management

Measurement Type: Simple

Description: Total number of notifications that exceeded the maximum configured time to live

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the Notification Manager processes a notification (i.e. a PN) to be sent, checks the time difference between when the notification was created and the current date/time, and discovers that the difference is greater than the configured Notification Maximum Time To Live value.

Measurement Scope: All

Recovery:

No action required.

TxUdrNmNotifNoValidEntity

Measurement Group: UDRBE Exceptions

Measurement Type: Simple

Description: Total number of notifications to be sent that do not consist of any valid entities

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the Notification Manager processes a notification (PN), and every entity to be sent in the 'notify' stack event is not valid (i.e. does not exist, or does not contain entity alias information for the interface through which the notification is to be sent).

Measurement Scope: All

Recovery:

No action required.

TxUdrNmNotifSent

Measurement Group: Notification Management

Measurement Type:	Simple
Description:	Total number of notification delivery requests sent
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Notification Manager sends a 'notify' stack event.
Measurement Scope:	All

Recovery:

No action required.

TxUdrNmNotifTooMuchData

Measurement Group:	UDRBE Exceptions
Measurement Type:	Simple
Description:	Total number of notifications to be sent for which user data size exceeds maximum size.
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR back end has user data to be sent in notify event and the size of user data exceeds maximum size.
Measurement Scope:	All

Recovery:

No action required.

TxUdrSmSubscribeReqFailed

Measurement Group:	Subscription Management
Measurement Type:	Simple
Description:	Total number of failed subscribe requests
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager processes a subscribe request and sends a status other than 'Success' in the 'subscribeAck' stack event in response.
Measurement Scope:	All

Recovery:

No action required.

TxUdrSmSubscribeReqSuccess

Measurement Group:	Subscription Management

Measurement Type:	Simple
Description:	Total number of successful subscribe requests
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager processes a subscribe request and sends a 'Success' status in the 'subscribeAck' stack event in response.
Measurement Scope:	All

Recovery:

No action required.

TxUdrSmSubscribeTooMuchData

Measurement Group:	UDRBE Exceptions
Measurement Type:	Simple
Description:	Total number of subscribe requests which could not be processed because user data size exceeds maximum size.
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR back end has user data to be sent in subscribe response and the size of user data exceeds maximum size.
Measurement Scope:	All

Recovery:

No action required.

TxUdrSmSubscribeUnkSubscriber

Measurement Group:	Subscription Management
Measurement Type:	Simple
Description:	Total number of subscribe requests received where the subscriber was unknown and was not added via auto-enrollment
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager processes a subscribe request, the subscriber user identity is not found in the index, and the subscribe request does not match auto-enrollment requirements.
Measurement Scope:	All

Recovery:

No action required.

TxUdrSmUnSubscribeReqFailed

Measurement Group:	Subscription Management
Measurement Type:	Simple
Description:	Total number of failed unsubscribe requests
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager processes an unsubscribe request and sends a status other than 'Success' in the ‘unsubscribeAck’ stack event in response.
Measurement Scope:	All

Recovery:

No action required.

TxUdrSmUnSubscribeReqSuccess

Measurement Group:	Subscription Management
Measurement Type:	Simple
Description:	Total number of successful unsubscribe requests
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Subscription Manager processes an unsubscribe request and sends a 'Success' status in the ‘unsubscribeAck’ stack event in response.
Measurement Scope:	All

Recovery:

No action required.

TxUdrSmUnsubscribeTooMuchData

Measurement Group:	UDRBE Exceptions
Measurement Type:	Simple
Description:	Total number of unsubscribe requests which could not be processed because user data size exceeds maximum size.
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDR back end has user data to be sent in unsubscribe response and the size of user data exceeds maximum size.
Measurement Scope:	All

Recovery:

No action required.

TxUdrSmUnSubscribeUnkSubscriber

Measurement Group: Subscription Management

Measurement Type: Simple

Description: Total number of unsubscribe requests received where the subscriber was unknown

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the Subscription Manager processes an unsubscribe request, the subscriber user identity is not found in the index.

Measurement Scope: All

Recovery:

No action required.

Pool Spanning Measurements

Table 55: Pool Spanning Measurements

Measurement Tag	Description	Collection Interval
PSO Inter-NO Traffic measurements (Remote Pool Member Host Read Request)		
TxUdrBePsoReadMsgs	Total number of PSO read requests sent due to a read request.	5 min
RxUdrBePsoReadSuccess	Total number of PSO read responses received indicating success.	5 min
RxUdrBePsoReadUnkPool	Total number of PSO read responses received where the pool did not exist.	5 min
RxUdrBePsoReadFailed	Total number of PSO read responses received that failed.	5 min
PSO Inter-NO Traffic measurements (Remote Pool Member Host Subscribe with Read Request)		
TxUdrSmPsoReadMsgs	Total number of PSO read requests sent due to a subscribe request.	5 min
RxUdrSmPsoReadSuccess	Total number of PSO read responses received due to a subscribe request indicating success.	5 min
RxUdrSmPsoReadUnkPool	Total number of PSO read responses received due to a subscribe request where the pool did not exist.	5 min

Measurement Tag	Description	Collection Interval
RxUdrSmPsoReadFailed	Total number of PSO read responses received due to a subscribe request that failed.	5 min
PSO Inter-NO Traffic measurements (Remote Pool Host Read Request)		
RxUdrBePsoReadMsgs	Total number of PSO read requests received.	5 min
TxUdrBePsoReadSuccess	Total number of PSO read requests processed.	5 min
TxUdrBePsoReadUnkPool	Total number of PSO read requests that could not be processed because the pool did not exist.	5 min
TxUdrBePsoReadFailed	Total number of PSO read responses processed that failed.	5 min
PSO Inter-NO Traffic measurements (Remote Pool Member Host Update Request)		
TxUdrBePsoUpdateMsgs	Total number of PSO update requests sent.	5 min
RxUdrBePsoUpdateSuccess	Total number of PSO update responses received.	5 min
RxUdrBePsoUpdateUnkPool	Total number of PSO update responses received where the pool did not exist.	5 min
PSO Inter-NO Traffic measurements (Remote Pool Member Host Update Request)		
RxUdrBePsoUpdateOutOfSync	Total number of PSO update responses received where the incorrect sequence number was supplied.	5 min
RxUdrBePsoUpdateInvalidEntity	Total number of PSO update responses received where an unknown entity was encountered.	5 min
RxUdrBePsoUpdateTooBusy	Total number of PSO update responses received where the request could not be processed because of congestion.	5 min
RxUdrBePsoUpdateFailed	Total number of PSO update responses received that failed.	5 min
PSO Inter-NO Traffic measurements (Remote Pool Host Update Request)		
RxUdrBePsoUpdateMsgs	Total number of PSO update requests received.	5 min
TxUdrBePsoUpdateSuccess	Total number of PSO update responses sent.	5 min
TxUdrBePsoUpdateUnkPool	Total number of PSO update messages that could not be processed because the pool did not exist.	5 min

Measurement Tag	Description	Collection Interval
TxUdrBePsoUpdateOutOfSync	Total number of PSO update messages where the incorrect sequence number was supplied.	5 min
TxUdrBePsoUpdateInvalidEntity	Total number of PSO update messages where an unknown entity was encountered.	5 min
TxUdrBePsoUpdateTooBusy	Total number of PSO update messages where the request could not be processed because of congestion.	5 min
TxUdrBePsoUpdateFailed	Total number of PSO update messages processed that failed.	5 min
PSO Inter-NO Traffic measurements (Remote Pool Host Notify Processing)		
TxUdrBePsoNotifyMsgs	Total number of PSO notify messages sent.	5 min
RxUdrBePsoNotifySuccess	Total number of PSO notify response messages received.	5 min
RxUdrBePsoNotifyNoMembers	Total number of PSO notify response messages received where no local members were found in the pool.	5 min
RxUdrBePsoNotifyPoolNotExist	Total number of PSO notify response messages received where the pool did not exist.	5 min
PSO Inter-NO Traffic measurements (Remote Pool Member Host Notify Processing)		
RxUdrBePsoNotifyMsgs	Total number of PSO notify messages received.	5 min
TxUdrBePsoNotifySuccess	Total number of PSO notify response messages sent.	5 min
TxUdrBePsoNotifyNoMembers	Total number of PSO notify response messages sent where no local members were found in the pool.	5 min
TxUdrBePsoNotifyPoolNotExist	Total number of PSO notify response messages sent where the pool did not exist.	5 min
PSO Inter-NO Traffic measurements (Get PSO Pool Membership Processing)		
RxUdrBePsoGetMembersMsgs	Total number of PSO get members requests received.	5 min
RxUdrBePsoGetMembersSuccess	Total number of PSO get members responses received indicating success.	5 min
RxUdrBePsoGetMembersFailed	Total number of PSO get members responses received that failed.	5 min

Measurement Tag	Description	Collection Interval
RxUdrBePsoGetMembersUnkPool	Total number of PSO get members responses received where the pool did not exist.	5 min
TxUdrBePsoGetMembersMsgs	Total number of PSO get members messages sent due to a provisioning GetAllPoolMembers request.	5 min
TxUdrBePsoGetMembersSuccess	Total number of PSO get members responses processed.	5 min
TxUdrBePsoGetMembersUnkPool	Total number of PSO get members requests that could not be processed because the pool did not exist.	5 min
PSO Inter-NO Traffic measurements (Exception Measurements)		
RxUdrBePsoReadTimeOut	Total number of PSO read requests that timed out.	5 min
RxUdrSmPsoReadTimeOut	Total number of PSO read requests due to a subscribe request that timed out.	5 min
RxUdrBePsoUpdateTimeOut	Total number of PSO update requests that timed out.	5 min
RxUdrBePsoNotifyTimeOut	Total number of PSO notify messages that timed out.	5 min
RxUdrBePsoGetMembersTimeOut	Total number of PSO get members requests sent for which a timely response was not received.	5 min
Failures of update, read and subscribe requests due to the PSO request failing		
TxUdrBeUpdateReqPsoFailed	Total number of update requests where the PSO update request failed.	5 min
TxUdrBeReadReqPsoFailed	Total number of read requests where the PSO read request failed.	5 min
TxUdrSmSubscribeReqPsoFailed	Total number of subscribe requests where the PSO read request failed.	5 min
TxUdrBePsoGetMembersFailed	Total number of PSO get members responses processed that failed.	5 min
PSO Summary Measurements (for KPIs)		
TxUdrBePsoRequest	Total number of PSO events sent.	5 min
RxUdrBePsoRequest	Total number of PSO events received.	5 min
PSO Request Latency		
UdrBePsoTransTimeMax	Maximum PSO transaction life-time in milliseconds.	5 min

Measurement Tag	Description	Collection Interval
UdrBePsoTransTimeAvg	Average PSO transaction life-time in milliseconds.	5 min

RxUdrBePsoGetMembersFailed

Measurement Group: PSO Performance

Measurement Type: Simple

Description: Total number of PSO get members responses received that failed

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a get members response fails.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdrBePsoGetMembersMsgs

Measurement Group: PSO Performance

Measurement Type: Simple

Description: Total number of PSO get member requests received

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PSO get members request is received.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdrBePsoGetMembersSuccess

Measurement Group: PSO Performance

Measurement Type: Simple

Description: Total number of PSO get members responses received indicating success

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PSO get members response received is successful.

Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoGetMembersTimeOut

Measurement Group:	UDRBE Exception
Measurement Type:	Simple
Description:	Total number of PSO get members requests sent for which a timely response was not received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a get members request times out.
Measurement Scope:	Server Group

Recovery:

Investigate the reason for the request timing out. The ComAgent links may be down due to network problems. If not, the network latency may be preventing the responses from being delivered before timing out.

RxUdrBePsoGetMembersUnkPool

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO get members responses received where the pool did not exist
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the PSO read response is received where the pool did not exist.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoNotifyMsgs

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO notify messages received
Collection Interval:	5 min

Peg Condition:	This measurement is incremented each time a PSO notify message is received.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoNotifyNoMembers

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO notify response messages received where no local members were found in the pool
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO notify response is received and no local members are found in the pool.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoNotifyPoolNotExist

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO notify response messages received where the pool did not exist
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO notify response message is received and the related pool does not exist.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoNotifySuccess

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO notify response messages sent

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PSO notify response message is sent.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdrBePsoNotifyTimeout

Measurement Group: UDRBE Exception

Measurement Type: Simple

Description: Total number of PSO notify messages that timed out

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PSO notify message times out

Measurement Scope: Server Group

Recovery:

No action required.

RxUdrBePsoReadFailed

Measurement Group: PSO Performance

Measurement Type: Simple

Description: Total number of PSO read responses received that failed

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the PSO reads a message.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdrBePsoReadMsgs

Measurement Group: PSO Performance

Measurement Type: Simple

Description: Total number of PSO read requests received

Collection Interval: 5 min

Peg Condition:	This measurement is incremented each time a PSO read request is received.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoReadSuccess

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO read responses received indicating success
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a successful PSO read response is received.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoReadTimeOut

Measurement Group:	UDRBE Exception
Measurement Type:	Simple
Description:	Total number of PSO read requests that timed out
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO read request times out.
Measurement Scope:	Server Group

Recovery:

Investigate the reason for the request timing out. The ComAgent links may be down due to network problems. If not, the network latency may be preventing the responses from being delivered before timing out.

RxUdrBePsoReadUnkPool

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO read responses received where the pool did not exist

Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the PSO read response is received where the pool did not exist.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoRequest

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of PSO events received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the UDRBE receives a request from another user data repository in the pool network.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoUpdateFailed

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update responses received that failed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the PSO reads a message.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoUpdateInvalidEntity

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update responses received where an unknown entity was encountered

Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update response is received that contains an unknown entity.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoUpdateMsgs

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update requests received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update request is received.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoUpdateOutOfSync

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update responses received where the incorrect sequence number was supplied
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update response is received that contains an incorrect sequence number.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoUpdateSuccess

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update responses received
Collection Interval:	5 min

Peg Condition:	This measurement is incremented each time a PSO update response is received.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoUpdateTimeOut

Measurement Group:	UDRBE Exception
Measurement Type:	Simple
Description:	Total number of PSO update requests that timed out
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update request times out.
Measurement Scope:	Server Group

Recovery:

Investigate the reason for the request timing out. The ComAgent links may be down due to network problems. If not, the network latency may be preventing the responses from being delivered before timing out.

RxUdrBePsoUpdateTooBusy

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update responses received where the request could not be processed because of congestion
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update response is received and cannot be processed because of congestion.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBePsoUpdateUnkPool

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update responses received where the pool did not exist

Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update response containing a nonexistent pool is encountered.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrSmPsoReadFailed

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO read responses received due to a subscribe request that failed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO read response is received due to a subscribe request that fails.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrSmPsoReadSuccess

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO read responses received due to a subscribe request indicating success
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a successful PSO read response is received for subscriber request.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrSmPsoReadTimeOut

Measurement Group:	UDRBE Exception
Measurement Type:	Simple
Description:	Total number of PSO read requests due to a subscribe request that timed out

Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO read request due to a subscribe request times out.
Measurement Scope:	Server Group

Recovery:

Investigate the reason for the request timing out. The ComAgent links may be down due to network problems. If not, the network latency may be preventing the responses from being delivered before timing out.

RxUdrSmPsoReadUnkPool

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO read responses received due to a subscribe request where the pool did not exist
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO read response is received due to a subscribe request containing a nonexistent pool.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoGetMembersFailed

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of PSO get members responses processed that failed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO get-members response fails to be processed.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoGetMembersMsgs

Measurement Group:	PSO Performance
Measurement Type:	Simple

Description:	Total number of PSO get members messages sent due to a provisioning GetAllPoolMembers request
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO get members message is sent due to a GetAllPoolMembers request. This request is sent to obtain the pool membership data stored on any other system in the PSO network.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoGetMembersSuccess

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO get members responses processed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO get members request is processed.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoGetMembersUnkPool

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO get members requests that could not be processed because the pool did not exist
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a members request cannot be processed because the pool does not exist.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoNotifyMsgs

Measurement Group:	PSO Performance

Measurement Type:	Simple
Description:	Total number of PSO notify messages sent
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO notify message is sent.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoNotifyNoMembers

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO notify response messages sent where no local members were found in the pool
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time no members are found for the pool and the UDR stores, updates, or deletes the pool register locally, returning an error response to the remote pool host indicating that no members exist in the pool.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoNotifyPoolNotExist

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO notify response messages sent where the pool did not exist
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an error response occurs when a PSO notify response message is sent and the related pool does not exist on the local host.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoNotifySuccess

Measurement Group: PSO Performance

Measurement Type: Simple

Description: Total number of PSO notify response messages sent

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a notify response message is sent.

Measurement Scope: Server Group

Recovery:

No action required.

TxUdrBePsoReadFailed

Measurement Group: PSO Performance

Measurement Type: Simple

Description: Total number of PSO read responses processed that failed

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PSO read response fails to be processed.

Measurement Scope: Server Group

Recovery:

No action required.

TxUdrBePsoReadMsgs

Measurement Group: PSO Performance

Measurement Type: Simple

Description: Total number of PSO read requests sent due to a read request

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PSO read request is sent because of a read request.

Measurement Scope: Server Group

Recovery:

No action required.

TxUdrBePsoReadSuccess

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO read requests processed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the PSO successfully processes a message.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoReadUnkPool

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO read requests that could not be processed because the pool did not exist
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO read request could not be processed because it contains a nonexistent pool.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoRequest

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of PSO events sent
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a request is sent to another system in the pool network.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoUpdateFailed

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update messages processed that failed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update message fails.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoUpdateInvalidEntity

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update messages where an unknown entity was encountered
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update message with an unknown entity is encountered.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoUpdateMsgs

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update requests sent
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update request is sent.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoUpdateOutOfSync

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update messages where the incorrect sequence number was supplied
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update message is encountered with an incorrect sequence number.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoUpdateSuccess

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update responses sent
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update response is sent.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoUpdateTooBusy

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update messages where the request could not be processed because of congestion
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update message could not be processed due to congestion.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBePsoUpdateUnkPool

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO update messages that could not be processed because the pool did not exist
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO update message cannot be processed because the referenced pool does not exist.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBeReadReqPsoFailed

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of read requests where the PSO read request failed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a read request sent to a remote pool does not complete successfully.
Measurement Scope:	Server Group

Recovery:

The read request from the MP failed because the read request sent to a remote pool host did not complete successfully. Investigate the cause of the failure on the remote pool host.

TxUdrBeUpdateReqPsoFailed

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of update requests where the PSO update request failed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an update request is sent to a remote pool host and does not complete successfully.
Measurement Scope:	Server Group

Recovery:

The update request from the MP failed because the update request sent to a remote pool host did not complete successfully. Investigate the cause of the failure on the remote pool host.

TxUdrSmPsoReadMsgs

Measurement Group:	PSO Performance
Measurement Type:	Simple
Description:	Total number of PSO read requests sent due to a subscribe request
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO read request is sent due to a subscribe request.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrSmSubscribeReqPsoFailed

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Total number of subscribe requests where the PSO read request failed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the PSO reads a message.
Measurement Scope:	Server Group

Recovery:

The subscribe (with read) request from the MP failed because the read request sent to a remote pool host did not complete successfully. Investigate the cause of the failure on the remote pool host.

UdrBePsoTransTimeAvg

Measurement Group:	UDRBE Performance
Measurement Type:	Simple
Description:	Average PSO transaction life-time in milliseconds
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PSO transaction ends.

Measurement Scope: Server Group

Recovery:

No action required.

UdrBePsoTransTimeMax

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Maximum PSO transaction life-time in milliseconds

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PSO transaction ends.

Measurement Scope: Server Group

Recovery:

No action required.

TTG Performance measurements

Table 56: TTG Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
TtgMaxLossExceeded	The number of request messages that were not routed to the TTG because the maximum loss rate for the Route Group in the Route List was exceeded.	5 min
TtgSelectedP0	The number of messages routed to the TTG with message priority 0.	5 min
TtgSelectedP1	The number of messages routed to the TTG with message priority 1.	5 min
TtgSelectedP2	The number of messages routed to the TTG with message priority 2.	5 min
TtgSelectedPrimaryTtg	The number of request messages routed to the TTG where the TTG is associated with the primary Route Group in the Route List.	5 min
TtgSelectedSecondaryTtg	The number of request messages routed to the TTG where the TTG is associated with a secondary Route Group in the Route List.	5 min
TtgTmLossRateRange1	Duration of TTG Loss Percent Range1	5 min
TtgTmLossRateRange2	Duration of TTG Loss Percent Range2	5 min

Measurement Tag	Description	Collection Interval
TtgTmLossRateRange3	Duration of TTG Loss Percent Range3	5 min
TtgTmLossRateRange4	Duration of TTG Loss Percent Range4	5 min

TtgMaxLossExceeded

Measurement ID 14349

Measurement Group TTG Performance

Measurement Type Simple

Measurement Dimension Arrayed (by TTG ID)

Description The number of request messages that were not routed to the TTG because the maximum loss rate for the Route Group in the Route List was exceeded.

Collection Interval 5 min

Peg Condition This measurement is updated when a Route Group is selected from a Route List and these criteria are met:

- TTG is assigned to the Route Group within the Route List
- TTG is owned by the local DSR Node
- Request message's Application-Id matches the Application-Id assigned to the local TTG
- TTG's Admin State = Enabled
- TTG's Current Loss Percent is greater than the TTG Max Loss Percent Threshold attribute value assigned to the Route Group within the Route List

Measurement Scope Site

Recovery

No action required.

TtgSelectedP0

Measurement ID 14344

Measurement Group TTG Performance

Measurement Type Simple

Measurement Dimension Arrayed (by TTG ID)

Description The number of messages routed to the TTG with message priority 0.

Collection Interval 5 min

Peg Condition	This measurement is updated when a Route Group is selected from a Route List and these criteria are met: • TTG is assigned to the Route Group within the Route List • TTG is owned by the local DSR Node • Request message's Application-Id matches the Application-Id assigned to the local TTG • TTG's Admin State = Enabled • TTG's Current Loss Percent is less than or equal to the TTG Max Loss Percent Threshold attribute value assigned to the Route Group within the Route List • Message Priority = 0
Measurement Scope	Site

Recovery

No action required.

TtgSelectedP1

Measurement ID	14345
Measurement Group	TTG Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTG ID)
Description	The number of messages routed to the TTG with message priority 1.
Collection Interval	5 min
Peg Condition	This measurement is updated when a Route Group is selected from a Route List and these criteria are met: • TTG is assigned to the Route Group within the Route List • TTG is owned by the local DSR Node • Request message's Application-Id matches the Application-Id assigned to the local TTG • TTG's Admin State = Enabled • TTG's Current Loss Percent is less than or equal to the TTG Max Loss Percent Threshold attribute value assigned to the Route Group within the Route List • Message Priority = 1
Measurement Scope	Site

Recovery

No action required.

TtgSelectedP2

Measurement ID	14346

Measurement Group	TTG Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTG ID)
Description	The number of messages routed to the TTG with message priority 2.
Collection Interval	5 min
Peg Condition	This measurement is updated when a Route Group is selected from a Route List and these criteria are met: • TTG is assigned to the Route Group within the Route List • TTG is owned by the local DSR Node • Request message's Application-Id matches the Application-Id assigned to the local TTG • TTG's Admin State = Enabled • TTG's Current Loss Percent is less than or equal to the TTG Max Loss Percent Threshold attribute value assigned to the Route Group within the Route List • Message Priority = 2
Measurement Scope	Site

Recovery

No action required.

TtgSelectedPrimaryTtg

Measurement ID	14347
Measurement Group	TTG Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTG ID)
Description	The number of request messages routed to the TTG where the TTG is associated with the primary Route Group in the Route List.
Collection Interval	5 min
Peg Condition	This measurement is updated when a Route Group is selected from a Route List and these criteria are met: • TTG is assigned to the Route Group within the Route List • TTG is owned by the local DSR Node • Request message's Application-Id matches the Application-Id assigned to the local TTG • TTG's Admin State = Enabled • TTG's Current Loss Percent is less than or equal to the TTG Max Loss Percent Threshold attribute value assigned to the Route Group within the Route List

- Route Group within Route List is the current Active Route Group for the Route List

Measurement Scope	Site

Recovery

No action required.

TtgSelectedSecondaryTtg

Measurement ID	14348
Measurement Group	TTG Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTG ID)
Description	The number of request messages routed to the TTG where the TTG is associated with a secondary Route Group in the Route List.
Collection Interval	5 min
Peg Condition	This measurement is updated when a Route Group is selected from a Route List and these criteria are met: • TTG is assigned to the Route Group within the Route List • TTG is owned by the local DSR Node • Request message's Application-Id matches the Application-Id assigned to the local TTG • TTG's Admin State = Enabled • TTG's Current Loss Percent is less than or equal to the TTG Max Loss Percent Threshold attribute value assigned to the Route Group within the Route List • Route Group within Route List is not the current Active Route Group for the Route List
Measurement Scope	Site

Recovery

No action required.

TtgTmLossRateRange1

Measurement ID	14340
Measurement Group	TTG Performance
Measurement Type	Duration
Measurement Dimension	Arrayed (by TTG ID)
Description	Duration of TTG Loss Percent Range1
Collection Interval	5 min

Peg Condition	When the DRL changes a local TTG's Current Loss Percent value, it shall:
	• Save the time of the event in the TTG's RT-DB record called "Loss Start Time"
	• Save the new Current Loss Percent value in the TTG's RT-DB record
	• If the TTG's old Current Loss Percent value is not equal to 0, then:
	  • Calculate the duration of the time that the TTG's Current Loss Percent was set to the previous value based upon "Loss Start Time" and the current time
	  • Determine which TtgTmLossRateRange-X measurement to update based upon the previous TTG Current Loss Percent value and the system-wide LossRateMax1, LossRateMax2, and LossRateMax3 values
	  • Update the selected TtgTmLossRateRange-X measurement with the calculated duration of time

Measurement Scope	Site

Recovery

No action required.

TtgTmLossRateRange2

Measurement ID	14341
Measurement Group	TTG Performance
Measurement Type	Duration
Measurement Dimension	Arrayed (by TTG ID)
Description	Duration of TTG Loss Percent Range2
Collection Interval	5 min

Peg Condition	When the DRL changes a local TTG's Current Loss Percent value, it shall:
	• Save the time of the event in the TTG's RT-DB record called "Loss Start Time"
	• Save the new Current Loss Percent value in the TTG's RT-DB record
	• If the TTG's old Current Loss Percent value is not equal to 0, then:
	  • Calculate the duration of the time that the TTG's Current Loss Percent was set to the previous value based upon "Loss Start Time" and the current time
	  • Determine which TtgTmLossRateRange-X measurement to update based upon the previous TTG Current Loss Percent value and the system-wide LossRateMax1, LossRateMax2, and LossRateMax3 values
	  • Update the selected TtgTmLossRateRange-X measurement with the calculated duration of time

Measurement Scope	Site

Recovery

No action required.

TtgTmLossRateRange3

Measurement ID	14342
Measurement Group	TTG Performance
Measurement Type	Duration
Measurement Dimension	Arrayed (by TTG ID)
Description	Duration of TTG Loss Percent Range3
Collection Interval	5 min

Peg Condition	When the DRL changes a local TTG's Current Loss Percent value, it shall:
	• Save the time of the event in the TTG's RT-DB record called "Loss Start Time"
	• Save the new Current Loss Percent value in the TTG's RT-DB record
	• If the TTG's old Current Loss Percent value is not equal to 0, then:
	  • Calculate the duration of the time that the TTG's Current Loss Percent was set to the previous value based upon "Loss Start Time" and the current time
	  • Determine which TtgTmLossRateRange-X measurement to update based upon the previous TTG Current Loss Percent value and the system-wide LossRateMax1, LossRateMax2, and LossRateMax3 values
	  • Update the selected TtgTmLossRateRange-X measurement with the calculated duration of time

Measurement Scope	Site

Recovery

No action required.

TtgTmLossRateRange4

Measurement ID	14343
Measurement Group	TTG Performance
Measurement Type	Duration
Measurement Dimension	Arrayed (by TTG ID)
Description	Duration of TTG Loss Percent Range4
Collection Interval	5 min

Peg Condition

When the DRL changes a local TTG's Current Loss Percent value, it shall:

- Save the time of the event in the TTG's RT-DB record called "Loss Start Time"
- Save the new Current Loss Percent value in the TTG's RT-DB record
- If the TTG's old Current Loss Percent value is not equal to 0, then:
  - Calculate the duration of the time that the TTG's Current Loss Percent was set to the previous value based upon "Loss Start Time" and the current time
  - Determine which TtgTmLossRateRange-X measurement to update based upon the previous TTG Current Loss Percent value and the system-wide LossRateMax1, LossRateMax2, and LossRateMax3 values
  - Update the selected TtgTmLossRateRange-X measurement with the calculated duration of time

Measurement Scope

Site

Recovery

No action required.

TTP Performance measurements

Table 57: TTP Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
TtpDivertedInP0G	The number of request messages routed to TTP which were diverted from another TTP, with message priority 0 and color green.	5 min
TtpDivertedInP0Y	The number of request messages routed to TTP which were diverted from another TTP, with message priority 0 and color yellow.	5 min
TtpDivertedInP1G	The number of request messages routed to TTP which were diverted from another TTP, with message priority 1 and color green.	5 min
TtpDivertedInP1Y	The number of request messages routed to TTP which were diverted from another TTP, with message priority 1 and color yellow.	5 min
TtpDivertedInP2G	The number of request messages routed to TTP which were diverted from another TTP, with message priority 2 and color green.	5 min

Measurement Tag	Description	Collection Interval
TtpDivertedInP2Y	The number of request messages routed to TTP which were diverted from another TTP, with message priority 2 and color yellow.	5 min
TtpDivertedOutP0G	The number of request messages routed to TTP which were throttled/diverted, with message priority 0 and color green.	5 min
TtpDivertedOutP0Y	The number of request messages routed to TTP which were throttled/diverted, with message priority 0 and color yellow.	5 min
TtpDivertedOutP1G	The number of request messages routed to TTP which were throttled/diverted, with message priority 1 and color green.	5 min
TtpDivertedOutP1Y	The number of request messages routed to TTP which were throttled/diverted, with message priority 1 and color yellow.	5 min
TtpDivertedOutP2G	The number of request messages routed to TTP which were throttled/diverted, with message priority 2 and color green.	5 min
TtpDivertedOutP2Y	The number of request messages routed to TTP which were throttled/diverted, with message priority 2 and color yellow.	5 min
TtpDoicException	The number of DOIC Protocol Errors.	5 min
TtpDropP0G	The number of transactions abandoned due to TTP throttling/diversion, with message priority 0 and color green.	5 min
TtpDropP0Y	The number of transactions abandoned due to TTP throttling/diversion, with message priority 0 and color yellow.	5 min
TtpDropP1G	The number of transactions abandoned due to TTP throttling/diversion, with message priority 1 and color green.	5 min
TtpDropP1Y	The number of transactions abandoned due to TTP throttling/diversion, with message priority 1 and color yellow.	5 min
TtpDropP2G	The number of transactions abandoned due to TTP throttling/diversion, with message priority 2 and color green.	5 min
TtpDropP2Y	The number of transactions abandoned due to TTP throttling/diversion, with message priority 2 and color yellow.	5 min

Measurement Tag	Description	Collection Interval
TtpHandledDoicOverrideFlag	The number of request messages routed to TTP which were not diverted due to priority override.	5 min
TtpHandledP0G	The number of request messages routed to TTP which were not throttled, with message priority 0 and color green.	5 min
TtpHandledP0Y	The number of request messages routed to TTP which were not throttled, with message priority 0 and color yellow.	5 min
TtpHandledP1G	The number of request messages routed to TTP which were not throttled, with message priority 1 and color green.	5 min
TtpHandledP1Y	The number of request messages routed to TTP which were not throttled, with message priority 1 and color yellow.	5 min
TtpHandledP2G	The number of request messages routed to TTP which were not throttled, with message priority 2 and color green.	5 min
TtpHandledP2Y	The number of request messages routed to TTP which were not throttled, with message priority 2 and color yellow.	5 min
TtpHandledP4G	The number of request messages routed to TTP which were not throttled, with message priority 4 and color green.	5 min
TtpHandledP4Y	The number of request messages routed to TTP which were not throttled, with message priority 4 and color yellow.	5 min
TtpHandledRateAvg	Average TTP request message routing rate (messages per second).	5 min
TtpHandledRatePeak	Peak TTP request message routing rate (messages per second)	5 min
TtpSelected	The number of request messages routed to TTP.	5 min
TtpTmLossRateRange1	The duration of TTP Loss Percent Range1.	5 min
TtpTmLossRateRange2	The duration of TTP Loss Percent Range2.	5 min
TtpTmLossRateRange3	The duration of TTP Loss Percent Range3.	5 min
TtpTmLossRateRange4	The duration of TTP Loss Percent Range4.	5 min
TtpTmStaticThrottling	The duration of time (in seconds) that TTP Static Throttling was being applied.	5 min
TtpUniqueOLRs	The number of unique DOIC OLRs successfully processed.	5 min

TtpDivertedInP0G

Measurement ID	14328
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were diverted from another TTP, with message priority 0 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction is marked as "TTP Diverted" in its PTR • Message Priority = 0 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpDivertedInP0Y

Measurement ID	14331
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were diverted from another TTP, with message priority 0 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction is marked as "TTP Diverted" in its PTR • Message Priority = 0 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpDivertedInP1G

Measurement ID	14329
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were diverted from another TTP, with message priority 1 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction is marked as "TTP Diverted" in its PTR • Message Priority = 1 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpDivertedInP1Y

Measurement ID	14332
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were diverted from another TTP, with message priority 1 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction is marked as "TTP Diverted" in its PTR • Message Priority = 1 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpDivertedInP2G

Measurement ID	14330
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were diverted from another TTP, with message priority 2 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction is marked as "TTP Diverted" in its PTR • Message Priority = 2 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpDivertedInP2Y

Measurement ID	14333
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were diverted from another TTP, with message priority 2 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction is marked as "TTP Diverted" in its PTR • Message Priority = 2 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpDivertedOutP0G

Measurement ID	14316
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were throttled/diverted, with message priority 0 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was diverted • Message Priority = 0 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpDivertedOutP0Y

Measurement ID	14319
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were throttled/diverted, with message priority 0 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was diverted • Message Priority = 0 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpDivertedOutP1G

Measurement ID	14317

Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were throttled/diverted, with message priority 1 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was diverted • Message Priority = 1 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpDivertedOutP1Y

Measurement ID	14320
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were throttled/diverted, with message priority 1 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was diverted • Message Priority = 1 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpDivertedOutP2G

Measurement ID	14318
Measurement Group	TTP Performance
Measurement Type	Simple

Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were throttled/diverted, with message priority 2 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was diverted • Message Priority = 2 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpDivertedOutP2Y

Measurement ID	14321
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were throttled/diverted, with message priority 2 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was diverted • Message Priority = 2 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpDoicException

Measurement ID	14300
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of DOIC Protocol Errors.

Collection Interval	5 min
Peg Condition	This measurement is incremented whenever event TtpEvDoicException is generated.
Measurement Scope	Site

Recovery

No action required.

TtpDropP0G

Measurement ID	14322
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of transactions abandoned due to TTP throttling/diversion, with message priority 0 and color green.
Collection Interval	5 min
Peg Condition	The DRL abandoned routing of a transaction and all of these criteria are met: • Last routing failure encountered was due to TTP diversion • Message Priority = 0 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpDropP0Y

Measurement ID	14325
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of transactions abandoned due to TTP throttling/diversion, with message priority 0 and color yellow.
Collection Interval	5 min
Peg Condition	The DRL abandoned routing of a transaction and all of these criteria are met: • Last routing failure encountered was due to TTP diversion • Message Priority = 0

- Message Color = Yellow

Measurement Scope Site

Recovery

No action required.

TtpDropP1G

Measurement ID 14323

Measurement Group TTP Performance

Measurement Type Simple

Measurement Dimension Arrayed (by TTP ID)

Description The number of transactions abandoned due to TTP throttling/diversion, with message priority 1 and color green.

Collection Interval 5 min

Peg Condition The DRL abandoned routing of a transaction and all of these criteria are met:

- Last routing failure encountered was due to TTP diversion
- Message Priority = 1
- Message Color = Green

Measurement Scope Site

Recovery

No action required.

TtpDropP1Y

Measurement ID 14326

Measurement Group TTP Performance

Measurement Type Simple

Measurement Dimension Arrayed (by TTP ID)

Description The number of transactions abandoned due to TTP throttling/diversion, with message priority 1 and color yellow.

Collection Interval 5 min

Peg Condition The DRL abandoned routing of a transaction and all of these criteria are met:

- Last routing failure encountered was due to TTP diversion
- Message Priority = 1
- Message Color = Yellow

Measurement Scope Site

Recovery

No action required.

TtpDropP2G

Measurement ID	14324
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of transactions abandoned due to TTP throttling/diversion, with message priority 2 and color green.
Collection Interval	5 min
Peg Condition	The DRL abandoned routing of a transaction and all of these criteria are met: • Last routing failure encountered was due to TTP diversion • Message Priority = 2 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpDropP2Y

Measurement ID	14327
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of transactions abandoned due to TTP throttling/diversion, with message priority 2 and color yellow.
Collection Interval	5 min
Peg Condition	The DRL abandoned routing of a transaction and all of these criteria are met: • Last routing failure encountered was due to TTP diversion • Message Priority = 2 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpHandledDoicOverrideFlag

Measurement ID	14309
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were not diverted due to priority override.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and the transaction was not diverted because the Request message priority is greater than or equal to the TTP's Override Message Priority Threshold attribute value.
Measurement Scope	Site

Recovery

No action required.

TtpHandledP0G

Measurement ID	14310
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were not throttled, with message priority 0 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was not diverted • Message Priority = 0 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpHandledP0Y

Measurement ID	14313
Measurement Group	TTP Performance

Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were not throttled, with message priority 0 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was not diverted • Message Priority = 0 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpHandledP1G

Measurement ID	14314
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were not throttled, with message priority 1 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was not diverted • Message Priority = 1 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpHandledP1Y

Measurement ID	14314
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)

Description	The number of request messages routed to TTP which were not throttled, with message priority 1 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was not diverted • Message Priority = 1 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpHandledP2G

Measurement ID	14312
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were not throttled, with message priority 2 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was not diverted • Message Priority = 2 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpHandledP2Y

Measurement ID	14315
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were not throttled, with message priority 2 and color yellow.
Collection Interval	5 min

Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was not diverted • Message Priority = 2 • Message Color = Yellow
Measurement Scope	Site

Recovery

No action required.

TtpHandledP4G

Measurement ID	14335
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were not throttled, with message priority 4 and color green.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was not diverted • Message Priority = 4 • Message Color = Green
Measurement Scope	Site

Recovery

No action required.

TtpHandledP4Y

Measurement ID	14336
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP which were not throttled, with message priority 4 and color yellow.
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and all of these criteria are met: • Transaction was not diverted

- Message Priority = 4
- Message Color = Yellow

Measurement Scope Site

Recovery

No action required.

TtpHandledRateAvg

Measurement ID	14307
Measurement Group	TTP Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by TTP ID)
Description	Average TTP request message routing rate (messages per second).
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and the transaction was not diverted.
Measurement Scope	Site

Recovery

No action required.

TtpHandledRatePeak

Measurement ID	14306
Measurement Group	TTP Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by TTP ID)
Description	Peak TTP request message routing rate (messages per second).
Collection Interval	5 min
Peg Condition	The TTP was selected as defined by the peg condition criteria defined for *TtpSelected* and the transaction was not diverted.
Measurement Scope	Site

Recovery

No action required.

TtpSelected

Measurement ID	14305
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of request messages routed to TTP.
Collection Interval	5 min
Peg Condition	This measurement is updated when a Peer Node or Connection is selected from a Route Group (or a Peer Node is selected or Destination-Host Implicit Routing) which has an active TTP associated with the transaction meeting the following criteria: • Request message's Application-Id matches the Application-Id assigned to the TTP • FQDN assigned to the selected Peer Node/Connection matches the FQDN of the Peer Node assigned to the TTP • TTP's Throttling Admin State = Enabled
Measurement Scope	Site

Recovery

No action required.

TtpTmLossRateRange1

Measurement ID	14301
Measurement Group	TTP Performance
Measurement Type	Duration
Measurement Dimension	Arrayed (by TTP ID)
Description	The duration of TTP Loss Percent Range1.
Collection Interval	5 min

Peg Condition	When the DRL changes a local TTG's Current Loss Percent value, it shall:
	• Save the time of the event in the TTG's RT-DB record called "Loss Start Time"
	• Save the new Current Loss Percent value in the TTG's RT-DB record
	• If the TTG's old Current Loss Percent value is not equal to 0, then:
	  • Calculate the duration of time that the TTG's Current Loss Percent was set to the previous value based upon "Loss Start Time" and the current time
	  • Determine which TtgTmLossRateRange-X measurement to update based upon the previous TTG Current Loss Percent value

and the system-wide LossRateMax1, LossRateMax2, and LossRateMax3 values
- Update the selected TtgTmLossRateRange-X measurement with the calculated duration of time

Measurement Scope	Site

Recovery

No action required.

TtpTmLossRateRange2

Measurement ID	14302
Measurement Group	TTP Performance
Measurement Type	Duration
Measurement Dimension	Arrayed (by TTP ID)
Description	The duration of TTP Loss Percent Range2.
Collection Interval	5 min

Peg Condition	When the DRL changes a local TTG's Current Loss Percent value, it shall:
	• Save the time of the event in the TTG's RT-DB record called "Loss Start Time"
	• Save the new Current Loss Percent value in the TTG's RT-DB record
	• If the TTG's old Current Loss Percent value is not equal to 0, then:
	  • Calculate the duration of time that the TTG's Current Loss Percent was set to the previous value based upon "Loss Start Time" and the current time
	  • Determine which TtgTmLossRateRange-X measurement to update based upon the previous TTG Current Loss Percent value and the system-wide LossRateMax1, LossRateMax2, and LossRateMax3 values
	  • Update the selected TtgTmLossRateRange-X measurement with the calculated duration of time

Measurement Scope	Site

Recovery

No action required.

TtpTmLossRateRange3

Measurement ID	14303
Measurement Group	TTP Performance
Measurement Type	Duration

Measurement Dimension	Arrayed (by TTP ID)
Description	The duration of TTP Loss Percent Range3.
Collection Interval	5 min

Peg Condition	When the DRL changes a local TTG's Current Loss Percent value, it shall:
	• Save the time of the event in the TTG's RT-DB record called "Loss Start Time"
	• Save the new Current Loss Percent value in the TTG's RT-DB record
	• If the TTG's old Current Loss Percent value is not equal to 0, then:
	  • Calculate the duration of time that the TTG's Current Loss Percent was set to the previous value based upon "Loss Start Time" and the current time
	  • Determine which TtgTmLossRateRange-X measurement to update based upon the previous TTG Current Loss Percent value and the system-wide LossRateMax1, LossRateMax2, and LossRateMax3 values
	  • Update the selected TtgTmLossRateRange-X measurement with the calculated duration of time

Measurement Scope	Site

Recovery

No action required.

TtpTmLossRateRange4

Measurement ID	14304
Measurement Group	TTP Performance
Measurement Type	Duration
Measurement Dimension	Arrayed (by TTP ID)
Description	The duration of TTP Loss Percent Range4.
Collection Interval	5 min

Peg Condition	When the DRL changes a local TTG's Current Loss Percent value, it shall:
	• Save the time of the event in the TTG's RT-DB record called "Loss Start Time"
	• Save the new Current Loss Percent value in the TTG's RT-DB record
	• If the TTG's old Current Loss Percent value is not equal to 0, then:
	  • Calculate the duration of time that the TTG's Current Loss Percent was set to the previous value based upon "Loss Start Time" and the current time
	  • Determine which TtgTmLossRateRange-X measurement to update based upon the previous TTG Current Loss Percent value

and the system-wide LossRateMax1, LossRateMax2, and LossRateMax3 values
- Update the selected TtgTmLossRateRange-X measurement with the calculated duration of time

Measurement Scope	Site

Recovery

No action required.

TtpTmStaticThrottling

Measurement ID	14334
Measurement Group	TTP Performance
Measurement Type	Duration
Measurement Dimension	Arrayed (by TTP ID)
Description	The duration of time (in seconds) that TTP Static Throttling was being applied.
Collection Interval	5 min
Peg Condition	The time duration interval starts when any of these events occur: • The TTP's Operational Reason is changed to "Static Rate Limit Exceeded" • A new measurement collection interval begins and the TTP's Operational Reason is "Static Rate Limit Exceeded" The time duration interval stops when any of these events occur: • The TTP's Operational Reason is changed from "Static Rate Limit Exceeded" to any other value • The current measurement collection interval ends When a time duration interval completes, the time measured is added to the total measurement value.
Measurement Scope	Site

Recovery

No action required.

TtpUniqueOLRs

Measurement ID	14308
Measurement Group	TTP Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by TTP ID)
Description	The number of unique DOIC OLRs successfully processed.

Collection Interval	5 min
Peg Condition	This measurement is updated when a DOIC OLR is accepted, applied to the associated TTP and the OLR's Sequence Number is greater than the TTP's Sequence Number.
Measurement Scope	Site

Recovery

No action required.

UDRFE Measurements

Table 58: UDRFE Measurements

Measurement Tag	Description	Collection Interval
RxInvalidDataRefValue	Total number of SNR requests that contained an invalid DataReference AVP value	5 minutes
RxInvalidDelete	Total number of PUR requests that contained a delete request with a sequence number of 0	5 minutes
RxInvalidExpTimeValue	Total number of SNR requests that contained an invalid ExpiryTime AVP value	5 minutes
RxRequestAll	Total number of requests received	5 minutes
RxRequestDiscarded	Total number of requests that were discarded due to the signaling connection being shut down, server being shut down, or transaction not becoming durable within the allowed amount of time	5 minutes
RxRequestFailedAll	Total number of requests that failed to be processed due to errors	5 minutes
RxRequestFailedPUR	Total number of PUR requests that failed to be processed due to errors	5 minutes
RxRequestFailedSNR	Total number of SNR requests that failed to be processed due to errors	5 minutes
RxRequestFailedUDR	Total number of UDR requests that failed to be processed due to errors	5 minutes
RxRequestPUR	Total number of PUR requests received	5 minutes

Measurement Tag	Description	Collection Interval
RxRequestRejectedComAgentError	Total Number of Requests which cannot be processed due to ComAgent errors	5 minutes
RxRequestRejectedInvalidServiceInd	Total number of requests that cannot be processed due to invalid service indication	5 minutes
RxRequestRejectedMessageDecodingFailed	Total number of requests that cannot be processed due to message decoding failure	5 minutes
RxRequestRejectedPermissionsNotPresent	Total number of requests that cannot be processed because the host does not have the permissions to execute the operation.	5 minutes
RxRequestRejectedUnknownApplicationId	Total number of requests that cannot be processed due to unknown application ID	5 minutes
RxRequestRejectedUnknownUser	Total number of requests that cannot be processed due to unknown user	5 minutes
RxRequestSNR	Total number of SNR requests received	5 minutes
RxRequestSuccessfulAll	Total number of requests successfully processed	5 minutes
RxRequestSuccessfulPUR	Total number of PUR successfully processed	5 minutes
RxRequestSuccessfulSNR	Total number of SNR successfully processed	5 minutes
RxRequestSuccessfulUDR	Total number of UDR requests successfully processed	5 minutes
RxRequestUDR	Total number of UDR received	5 minutes
RxResetRequestPUR	Total number of PUR Quota Reset Request Messages Received	5 minutes
RxResetRequestPURFailed	Total number of PUR Quota Reset Requests failed	5 minutes
RxResetRequestPURSuccessful	Total number of PUR Quota Reset Request Messages successfully processed	5 minutes
RxResponseAll	Total Number of Responses received	5 minutes
RxResponsePNA	Total number of PNA received	5 minutes
RxResponseRejectedComAgentError	Total number of responses that cannot be processed due to ComAgent connection errors	5 minutes

Measurement Tag	Description	Collection Interval
RxResponseRejectedMessageDecodingFailed	Total number of responses which cannot be processed due to message decoding failure	5 minutes
RxResponseRejectedUnknownApplicationId	Total number of responses which cannot be processed due to unknown application ID	5 minutes
RxTooMuchData	Total number of PUR requests that contained too much data to process	5 minutes
TmRemotePeerOrphanResponse	Response is received from Remote Diameter Peer for which no pending request event is found	5 minutes
TmPNAReceiveTimeOut	PNR is sent but transaction is timed out as PNA is not received in configured time	5 minutes
TmRemotePeerOrphanResponse	Response is received from Remote Diameter Peer for which no pending request event is found	5 minutes
TmResponseEventTimeOut	Request event is sent to UDRBE but transaction is timed out as UDRBE response event is not received in configured time	5 minutes
TmResponseTimeSPR	Average time from request to response	5 minutes
TmUdrAnsAvgQ	Average UDR answer queue utilization	5 minutes
TmUdrAnsPeakQ	Maximum UDR answer queue size utilization	5 minutes
TmUdrAvgStkEventQ	Average UDR stack event queue utilization	5 minutes
TmUdrbeOrphanResponse	Response event is received from UDRBE for which no pending request event is found	5 minutes
TmUdrPeakStkEventQ	Maximum UDR stack event queue size utilization	5 minutes
TmUdrReqAvgQ	Average UDR request queue utilization	5 minutes
TmUdrReqPeakQ	Maximum UDR request queue utilization	
TxPnaAsUnavailable	Total number of PNA responses received that indicate an AS is unavailable	5 minutes
TxPnrCreateFailed	Total number of PNR requests that failed to build	5 minutes
TxRequestAll	Total Number of Requests sent	5 minutes

Measurement Tag	Description	Collection Interval
TxRequestFailedAll	Total number of Requests that have failed to be processed due to errors	5 minutes
TxRequestFailedPNR	Total number of PNR requests that failed to be processed due to errors	5 minutes
TxRequestPNR	Total number of PNR sent to PCRF	5 minutes
TxRequestSuccessfulAll	Total Number of Requests successfully processed	5 minutes
TxRequestSuccessfulPNR	Total number of PNR requests successfully processed	5 minutes
TxResponseAll	Total number of responses sent	5 minutes
TxResponsePUA	Total number of PUA sent to PCRF	5 minutes
TxResponseSNA	Total number of SNA sent to PCRF	5 minutes
TxResponseUDA	Total number of UDA sent to PCRF	5 minutes

RxInvalidDataRefValue

Measurement Group: Sh Exceptions

Measurement Type: Simple

Description: Total number of SNR requests that contained an invalid DataReference AVP value.

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an SNR request is received that contains an invalid DataReference AVP value.

Measurement Scope: All

Recovery:

No action required.

RxInvalidDelete

Measurement Group: Sh Exceptions

Measurement Type: Simple

Description: Total number of PUR requests that contained a delete request with a sequence number of 0

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PUR request contains a delete request with a sequence number of 0.

Measurement Scope: All

Recovery:

No action required.

RxInvalidExpTimeValue

Measurement Group: Sh Exceptions

Measurement Type: Simple

Description: Total number of SNR requests that contained an invalid ExpiryTime AVP value

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an SNR request is received that contains an invalid ExpiryTime AVP value.

Measurement Scope: All

Recovery:

No action required.

RxRequestAll

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Total number of requests received

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an Sh request is received.

Measurement Scope: All

Recovery:

No action required.

RxRequestDiscarded

Measurement Group: UDRFE Exception

Measurement Type: Simple

Description: Total number of requests that have been discarded due to the signaling connection being shut down, server being shut down, or transaction not becoming durable within the allowed amount of time

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a request is discarded due to the signaling connection being shut down, server being shut

down, or transaction not becoming durable within the allowed amount of time.

Measurement Scope: All

Recovery:

No action required.

RxRequestFailedAll

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of requests that have failed to be processed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a request fails to be processed due to errors.

Measurement Scope: All

Recovery:

No action required.

RxRequestFailedPUR

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of PUR requests that have failed to be processed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PUR request fails to be processed due to errors.

Measurement Scope: All

Recovery:

No action required.

RxRequestFailedSNR

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of SNR requests that have failed to be processed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an SNR request fails to be processed due to errors.

Measurement Scope: All

Recovery:

No action required.

RxRequestFailedUDR

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of UDR requests that have failed to be processed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a UDR request fails to be processed due to errors.

Measurement Scope: All

Recovery:

No action required.

RxRequestPUR

Measurement Group: Sh Performance

Measurement Type: Simple

Description: Total number of PUR requests received

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PUR request is received.

Measurement Scope: All

Recovery:

No action required.

RxRequestRejectedComAgentError

Measurement Group: Sh Exceptions

Measurement Type: Simple

Description: Total number of requests that cannot be processed due to ComAgent connection errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a request cannot be processed due to ComAgent connection errors.

Measurement Scope:	All

Recovery:

No action required.

RxRequestRejectedInvalidServiceInd

Measurement Group:	Sh Performance
Measurement Type:	Simple
Description:	Total number of requests that cannot be processed due to invalid service indication
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a request cannot be processed due to invalid service indication.
Measurement Scope:	All

Recovery:

No action required.

RxRequestRejectedMessageDecodingFailed

Measurement Group:	UDRFE Performance
Measurement Type:	Simple
Description:	Total number of requests that cannot be processed due to message decoding failure
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a request cannot be processed due to message decoding failure.
Measurement Scope:	All

Recovery:

No action required.

RxRequestRejectedPermissionsNotPresent

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Total number of requests that cannot be processed because the host does not have the permissions to execute the operation
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a request cannot be processed because the host does not have the permissions to execute the operation.

Measurement Scope: All

Recovery:

No action required.

RxRequestRejectedUnknownApplicationId

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Total number of requests that cannot be processed because of an unknown application ID
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a request cannot be processed because of an unknown application ID.
Measurement Scope:	All

Recovery:

No action required.

RxRequestRejectedUnknownUser

Measurement Group:	UDRFE Performance
Measurement Type:	Simple
Description:	Total number of requests that cannot be processed because of an unknown user
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a request cannot be processed because of an unknown user.
Measurement Scope:	All

Recovery:

No action required.

RxRequestSNR

Measurement Group:	Sh Performance
Measurement Type:	Simple
Description:	Total number of SNR requests received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an SNR request is received.
Measurement Scope:	All

Recovery:

No action required.

RxRequestSuccessfulAll

Measurement Group:	UDRFE Performance
Measurement Type:	Simple
Description:	Total number of requests successfully processed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a request is successfully processed.
Measurement Scope:	All

Recovery:

No action required.

RxRequestSuccessfulPUR

Measurement Group:	UDRFE Performance
Measurement Type:	Simple
Description:	Total number of PUR requests successfully processed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PUR request is successfully processed.
Measurement Scope:	All

Recovery:

No action required.

RxRequestSuccessfulSNR

Measurement Group:	UDRFE Performance
Measurement Type:	Simple
Description:	Total number of SNR requests successfully processed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an SNR request is successfully processed.
Measurement Scope:	All

Recovery:

No action required.

RxRequestSuccessfulUDR

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of UDR requests successfully processed

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a UDR request is successfully processed.

Measurement Scope: All

Recovery:

No action required.

RxRequestUDR

Measurement Group: Sh Performance

Measurement Type: Simple

Description: Total number of UDR requests received

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a UDR request is received.

Measurement Scope: All

Recovery:

No action required.

RxResetRequestPUR

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Total number of PUR Quota Reset Request Messages Received

Collection Interval: 5 min

Peg Condition: This measurement is incremented when a PUR Reset message arrives at Sh Interface.

Measurement Scope: All

Recovery:

No action required.

RxResetRequestPURFailed

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Total number of PUR quota reset requests failed

Collection Interval: 5 min

Peg Condition: This measurement is incremented when a PUR reset request fails.

Measurement Scope: All

Recovery:

No action required.

RxResetRequestPURSuccessful

Measurement Group: UDRBE Performance

Measurement Type: Simple

Description: Total number of PUR quota reset request messages successfully processed

Collection Interval: 5 min

Peg Condition: This measurement is incremented when a PUR reset request completes successfully and a response is sent.

Measurement Scope: All

Recovery:

No action required.

RxResponseAll

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total Number of Responses received

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an Sh response is received.

Measurement Scope: All

Recovery:

No action required.

RxResponsePNA

Measurement Group:	Sh Performance
Measurement Type:	Simple
Description:	Total number of PNA responses received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PNA response is received.
Measurement Scope:	All

Recovery:

No action required.

RxResponseRejectedComAgentError

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Total number of responses that cannot be processed due to ComAgent connection errors
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a response cannot be processed due to ComAgent connection errors.
Measurement Scope:	All

Recovery:

No action required.

RxResponseRejectedMessageDecodingFailed

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Total number of responses that cannot be processed due to message decoding failure
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a response cannot be processed due to message decoding failure.
Measurement Scope:	All

Recovery:

No action required.

RxResponseRejectedUnknownApplicationId

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Total number of responses that cannot be processed due to an unknown application ID
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a response cannot be processed due to an unknown application ID.
Measurement Scope:	All

Recovery:

No action required.

RxTooMuchData

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Total number of PUR requests that contain too much data to process
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PUR request contains too much data to process.
Measurement Scope:	All

Recovery:

No action required.

TmRemotePeerOrphanResponse

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Response event is received from Remote Diameter Peer for which no pending request event is found
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a response event is received from Remote Diameter Peer for which no pending request event is found.
Measurement Scope:	All

Recovery:

No action required.

TmPNAReceiveTimeOut

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	A PNR is sent but the transaction is timed out because a PNA is not received in configured time.
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a PNR is sent but the transaction is timed out because a PNA is not received in configured time.
Measurement Scope:	All

Recovery:

No action required.

TmRemotePeerOrphanResponse

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Response event is received from Remote Diameter Peer for which no pending request event is found
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a response event is received from Remote Diameter Peer for which no pending request event is found.
Measurement Scope:	All

Recovery:

No action required.

TmResponseEventTimeOut

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	A request event is sent to UDRBE but the transaction is timed out because a UDRBE response event is not received in configured time
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a request event is sent to UDRBE but the transaction is timed out because a UDRBE response event is not received in configured time.
Measurement Scope:	All

Recovery:

No action required.

TmResponseTimeSPR

Measurement Group:	UDRFE Performance
Measurement Type:	Average
Description:	Average time from request to response
Collection Interval:	5 min
Peg Condition:	This measurement maintains the average time from request to response for Sh messages received.
Measurement Scope:	All

Recovery:

No action required.

TmUdrAnsAvgQ

Measurement Group:	UDRFE Performance
Measurement Type:	Single
Description:	Average UDR answer task event queue utilization
Collection Interval:	5 min
Peg Condition:	This measurement maintains the average UDR answer task event queue size utilization.
Measurement Scope:	All

Recovery:

No action required.

TmUdrAnsPeakQ

Measurement Group:	UDRFE Exceptions
Measurement Type:	Single
Description:	Maximum UDR Answer queue utilization
Collection Interval:	5 min
Peg Condition:	This measurement maintains the maximum UDR answer task event queue size utilization.
Measurement Scope:	All

Recovery:

No action required.

TmUdrAvgStkEventQ

Measurement Group:	UDRFE Performance
Measurement Type:	Average
Description:	Average UDR stack event queue utilization
Collection Interval:	5 min
Peg Condition:	This measurement maintains the average UDR stack event queue utilization.
Measurement Scope:	All

Recovery:

No action required.

TmUdrbeOrphanResponse

Measurement Group:	Sh Exceptions
Measurement Type:	Simple
Description:	Response event is received from UDRBE for which no pending request event is found
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a response event is received from UDRBE for which no pending request event is found.
Measurement Scope:	All

Recovery:

No action required.

TmUdrPeakStkEventQ

Measurement Group:	UDRFE Performance
Measurement Type:	Maximum
Description:	Maximum UDR stack event queue size utilization
Collection Interval:	5 min
Peg Condition:	This measurement maintains the maximum UDR stack event queue size utilization.
Measurement Scope:	All

Recovery:

No action required.

TmUdrReqAvgQ

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Average UDR request task event queue utilization

Collection Interval: 5 min

Peg Condition: This measurement maintains the average UDR request task event queue size utilization.

Measurement Scope: All

Recovery:

No action required.

TmUdrReqPeakQ

Measurement Group: UDRFE Exceptions

Measurement Type: Simple

Description: Maximum UDR request task event queue utilization

Collection Interval: 5 min

Peg Condition: This measurement maintains the maximum UDR request task event queue size utilization.

Measurement Scope: All

Recovery:

No action required.

TxPnaAsUnavailable

Measurement Group: Sh Exceptions

Measurement Type: Simple

Description: Total number of PNA responses received that indicate an AS is unavailable

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a received PNA response indicates that an AS is unavailable.

Measurement Scope: All

Recovery:

No action required.

TxPnrCreateFailed

Measurement Group: Sh Exceptions

Measurement Type: Simple

Description: Total number of PNR requests that failed to build

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PNR request fails to be built.

Measurement Scope: All

Recovery:

No action required.

TxRequestAll

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total Number of Requests sent

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an Sh request is sent.

Measurement Scope: All

Recovery:

No action required.

TxRequestFailedAll

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of Requests that have failed to be processed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a request has failed to be processed due to errors.

Measurement Scope: All

Recovery:

No action required.

TxRequestPNR

Measurement Group: Sh Performance

Measurement Type: Simple

Description: Total number of PNR requests that failed to be processed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PNR request is sent.

Measurement Scope: All

Recovery:

No action required.

TxRequestFailedPNR

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of PNR requests that failed to be processed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PNR request fails to be processed due to errors.

Measurement Scope: All

Recovery:

No action required.

TxRequestSuccessfulAll

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of requests successfully processed

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an Sh request is successfully processed.

Measurement Scope: All

Recovery:

No action required.

TxRequestSuccessfulPNR

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of PNR requests successfully processed

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PNR request is successfully processed.

Measurement Scope: All

Recovery:

No action required.

TxResponseAll

Measurement Group: UDRFE Performance

Measurement Type: Simple

Description: Total number of responses sent

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an Sh response is sent.

Measurement Scope: All

Recovery:

No action required.

TxResponsePUA

Measurement Group: Sh Performance

Measurement Type: Simple

Description: Total number of PUA responses sent to the PCRF

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a PUA response is sent.

Measurement Scope: All

Recovery:

No action required.

TxResponseSNA

Measurement Group: Sh Performance

Measurement Type: Simple

Description: Total number of SNA responses sent to the PCRF

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an SNA response is sent.

Measurement Scope: All

Recovery:

No action required.

TxResponseUDA

Measurement Group: Sh Performance

Measurement Type: Simple

Description: Total number of UDA responses sent to the PCRF

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a UDA response is sent.

Measurement Scope: All

Recovery:

No action required.

UDR RAS and XSAS Provisioning Interface Measurements

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

Table 59: UDR RAS and XSAS Provisioning Related Measurements

Measurement Tag	Description	Collection Interval
ProvTxnCommitted	Total number of transactions successfully committed to the database (memory and on disk) on the active server of the primary site	5 min
RxCmdLogExportExecuted	Total number of Command Log Export tasks executed	5 min
RxProvExportCmds	Total number of commands exported	5 min
RxProvExportRequested	Total number of exports requested	5 min

Measurement Tag	Description	Collection Interval
RxProvExportsFailed	Total number of XML export requests that failed due to errors	5 min
RxProvExportsSuccessful	Total number of successful XML export requests	5 min
RxProvImportCmdsFailed	Total number of commands that failed import	5 min
RxProvImportCmdsSuccessful	Total number of commands that imported successfully	5 min
RxProvImportFilesFailed	Total number of files that failed to be imported due to errors	5 min
RxProvImportFilesReceived	Total number of provisioning files received from an import operation	5 min
RxProvImportFilesSuccessful	Total number of files imported successfully	5 min
RxRasDeleteReqReceived	Total number of REST DELETE requests that have been received on the provisioning interface	5 min
RxRasGetReqReceived	Total number of REST GET requests that have been received on the provisioning interface	5 min
RxRasPostReqReceived	Total number of REST POST requests that have been received on the provisioning interface	5 min
RxRasProvConnectionIdleTimeouts	Total number of connections that timed out and terminated due to idleness	5 min
RxRasProvConnectsAccepted	Total number of client initiated connect attempts that were accepted	5 min
RxRasProvConnectsAttempted	Total number of client initiated connect attempts to establish a connection with the server	5 min
RxRasProvConnectsDenied	Total number of client initiated connect attempts denied because clients were not running on an authorized server, or the maximum number of allowed connections was already established	5 min
RxRasProvMsgsDiscarded	Total number of provisioning messages discarded because the connection was shut down, the server was shut down, the server role switched from active to standby, or the transaction did not become durable within the allowed amount of time	5 min

Measurement Tag	Description	Collection Interval
RxRasProvMsgsFailed	Total number of provisioning messages that failed to be processed due to errors	5 min
RxRasProvMsgsReceived	Total number of provisioning messages received	5 min
RxRasProvMsgsSent	Total number of provisioning messages sent	5 min
RxRasProvMsgsSuccessful	Total number of provisioning messages successfully processed	5 min
RxRasPutReqReceived	Total number of REST PUT requests that have been received on the provisioning interface	5 min
RxRasResetReqReceivedRate	Total number of REST reset requests that have been received on the provisioning interface	5 min
RxXsasDeleteReqReceived	Total number of SOAP delete requests that have been received on the provisioning interface	5 min
RxXsasInsertReqReceived	The total number of SOAP insert requests that have been received on the provisioning interface.	5 min
RxXsasOperationReqReceived	Total number of SOAP operation requests that have been received on the provisioning interface	5 min
RxXsasProvConnectionIdleTimeouts	Total number of connections that timed out and terminated due to idleness	5 min
RxXsasProvConnectsAccepted	Total number of client initiated connect attempts that were accepted	5 min
RxXsasProvConnectsAttempted	Total number of client initiated connect attempts to establish a connection with the server	5 min
RxXsasProvConnectsDenied	Total number of client initiated connect attempts denied because the clients were not running on an authorized server, or the maximum number of allowed connections was already established	5 min
RxXsasProvConnectsFailed	Total number of client initiated connect attempts that failed due to errors during initialization	5 min
RxXsasProvMsgsDiscarded	Total number of provisioning messages discarded because the connection was shut down, the server was shutdown, the server	5 min

Measurement Tag	Description	Collection Interval
	role switched from active to standby, or the transaction did not become durable within the allowed amount of time	
RxXsasProvMsgsFailed	Total number of provisioning messages that failed to be processed due to errors	5 min
RxXsasProvMsgsReceived	Total number of provisioning messages received	5 min
RxXsasProvMsgsSent	Total number of provisioning messages sent	5 min
RxXsasProvMsgsSuccessful	Total number of provisioning messages that were successfully processed	5 min
RxXsasProvTxnRequestsDiscarded	Total number of SOAP transactions that have been discarded 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
RxXsasProvTxnTotal	Total number of SOAP Transactions that have been attempted	5 min
RxXsasResetReqReceived	Total number of SOAP reset requests that have been received on the provisioning interface	5 min
RxXsasSelectReqReceived	Total number of SOAP select requests that have been received on the provisioning interface	5 min
RxXsasUpdateReqReceived	Total number of SOAP update requests that have been received on the provisioning interface	5 min
TotalPoolCount	The total number of pools in a 30-minute period	30 min
TotalSubscriberCount	The total number of subscribers in a 30-minute period	30 min
TxProvImportResultFilesTransferred	Total number of result files transferred	5 min
TxProvTxnAborted	Total number of transactions that were successfully aborted after a configured number of retries	5 min
TxProvTxnDurabilityTimeouts	Total number of committed, non-durable transactions that failed to become durable within the amount of time specified by Transaction Durability Timeout	5 min

Measurement Tag	Description	Collection Interval
TxProvTxnFailed	Total number of transactions that failed to be started or committed or were aborted due to errors	5 min
TxProvTxnTotal	Total number of transactions that were attempted (the sum of R_ProvTxnCommitted, R_ProvTxnTimeouts, R_ProvTxnAborted, and R_ProvTxnFailed counters)	5 min
TxXsasProvTxnAborted	Total number ofSOAPtransactions that have been aborted after configured number of retries	5 min
TxXsasProvTxnFailed	Total number of SOAP transactions that have failed to be started or committed	5 min
XsasProvTxnCommitted	Total number of Soap transactions that have been successfully committed to the database	5 min

ProvTxnCommitted

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of transactions that were successfully committed to the database (memory and on disk) on the active server of the primary site

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a transaction is successfully committed to the database (memory and on disk) on the active server of the primary site.

Measurement Scope: All

Recovery:

No action required.

RxCmdLogExportExecuted

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of Command Log Export tasks executed

Collection Interval: 5 min

Peg Condition: This measurement is incremented every time the Command Log export is initiated.

Measurement Scope: All

Recovery:

No action required.

RxProvExportCmds

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of commands exported

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a command is exported.

Measurement Scope: All

Recovery:

No action required.

RxProvExportRequested

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of exports requested.

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an export is requested.

Measurement Scope: All

Recovery:

No action required.

RxProvExportsFailed

Measurement Group: Provisioning Exceptions

Measurement Type: Simple

Description: Total number of XML export requests that failed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an XML export request fails due to errors.

Measurement Scope: All

Recovery:

No action required.

RxProvExportsSuccessful

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of successful XML export requests
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time there is a successful XML export request.
Measurement Scope:	All

Recovery:

No action required.

RxProvImportCmdsFailed

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of commands that failed import
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a command import fails.
Measurement Scope:	All

Recovery:

No action required.

RxProvImportCmdsSuccessful

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of provisioning commands that imported successfully
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a provisioning command is imported successfully.
Measurement Scope:	All

Recovery:

No action required.

RxProvImportFilesFailed

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of files that failed to be imported due to errors
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a file import fails due to errors.
Measurement Scope:	All

Recovery:

No action required.

RxProvImportFilesReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of provisioning files received from an import operation
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a provisioning file is received from an import operation.
Measurement Scope:	All

Recovery:

No action required.

RxProvImportFilesSuccessful

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of files imported successfully
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a file is imported successfully.
Measurement Scope:	All

Recovery:

No action required.

RxProvImportResultFilesTransferred

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of import result files transferred
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a import result file is transferred successfully.
Measurement Scope:	All

Recovery:

No action required.

RxRasDeleteReqReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of REST DELETE requests that have been received on the provisioning interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Provisioning Front End receives a DELETE request on the REST provisioning interface.
Measurement Scope:	All

Recovery:

No action required.

RxRasGetReqReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of REST GET requests that have been received on the provisioning interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Provisioning Front End receives a GET request on the REST provisioning interface.
Measurement Scope:	All

Recovery:

No action required.

RxRasPostReqReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of REST POST requests that have been received on the provisioning interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Provisioning Front End receives a POST request on the REST provisioning interface.
Measurement Scope:	All

Recovery:

No action required.

RxRasProvConnectionIdleTimeouts

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of connections that timed out and terminated due to idleness
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an RAS connection times out due to being idle too long.
Measurement Scope:	All

Recovery:

No action required.

RxRasProvConnectsAccepted

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of client initiated connect attempts that were accepted
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an RAS client attempts to initiate a connection with the server.
Measurement Scope:	All

Recovery:

No action required.

RxRasProvConnectsAttempted

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of client initiated attempts to establish a connection with the server
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an RAS client attempts to initiate a connection with the server.
Measurement Scope:	All

Recovery:

No action required.

RxRasProvConnectsDenied

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of client initiated connect attempts that were denied because clients were not running on an authorized server, or the maximum number of allowed connections was already established
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an RAS client attempts to initiate a connection, and the connection is denied because clients are not running on an authorized server, or the maximum number of allowed connections is already established or the provisioning interface is disabled.
Measurement Scope:	All

Recovery:

No action required.

RxRasProvMsgsDiscarded

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of provisioning messages that were discarded because the connection was shut down, the server was shut down, the server role switched from active to standby, or the transaction did not become durable within the allowed amount of time.
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an RAS provisioning message is discarded because the connection is shut down, the server

is shut down, the server role switches from active to standby, or the transaction does not become durable within the allowed amount of time.

Measurement Scope: All

Recovery:

No action required.

RxRasProvMsgsFailed

Measurement Group: Provisioning Exceptions

Measurement Type: Simple

Description: Total number of provisioning messages that failed to be processed due to errors

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a received RAS provisioning message fails to be processed due to errors.

Measurement Scope: All

Recovery:

No action required.

RxRasProvMsgsReceived

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of provisioning messages that were received

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time an RAS provisioning message is received.

Measurement Scope: All

Recovery:

No action required.

RxRasProvMsgsSent

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of provisioning messages that were sent

Collection Interval: 5 min

Peg Condition:	This measurement is incremented each time an RAS provisioning message is sent.
Measurement Scope:	PROV Group

Recovery:

No action required.

RxRasProvMsgsSuccessful

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of provisioning messages that were successfully processed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a received RAS provisioning message is successfully processed.
Measurement Scope:	All

Recovery:

No action required.

RxRasPutReqReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of REST PUT requests that have been received on the provisioning interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Provisioning Front End receives a PUT request on the REST provisioning interface.
Measurement Scope:	All

Recovery:

No action required.

RxRasResetReqReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of REST reset requests that have been received on the provisioning interface
Collection Interval:	5 min

Peg Condition: This measurement shall be incremented each time the Provisioning Front End receives a Reset request on the SOAP provisioning interface.

Measurement Scope: All

Recovery:

No action required.

RxXsasDeleteReqReceived

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of SOAP delete requests that have been received on the provisioning interface

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the Provisioning Front End receives a delete request on the SOAP provisioning interface.

Measurement Scope: All

Recovery:

No action required.

RxXsasInsertReqReceived

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of SOAP insert requests that have been received on the provisioning interface

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the Provisioning Front End receives an insert request on the SOAP provisioning interface.

Measurement Scope: All

Recovery:

No action required.

RxXsasOperationReqReceived

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of SOAP operation requests that have been received on the provisioning interface

Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Provisioning Front End receives an operation request on the SOAP provisioning interface.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvConnectionIdleTimeouts

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of connections that timed out and terminated due to idleness
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an XSAS connection times out due to being idle too long.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvConnectsAccepted

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of client initiated connect attempts that were accepted
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an XSAS client initiates a connection that is accepted.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvConnectsAttempted

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of client initiated attempts to establish a connection with the server.

Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an XSAS client attempts to initiate a connection with the server.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvConnectsDenied

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of client initiated connect attempts that were denied because clients were not running on an authorized server, the maximum number of allowed connections was already established.
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an XSAS client attempts to initiate a connection, and the connection is denied because clients are not running on an authorized server, or the maximum number of allowed connections is already established.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvConnectsFailed

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of client initiated connect attempts that failed due to errors during initialization
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an XSAS client attempts a connection that failed due to errors during initialization.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvMsgsDiscarded

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple

Description:	Total number of provisioning messages that were discarded because the connection was shut down, the server was shut down, the server role switched from active to standby, or the transaction did not become durable within the allowed amount of time
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an XSAS provisioning message is discarded because the connection is shut down, the server is shut down, the server role switched from active to standby, or the transaction does not become durable within the allowed amount of time.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvMsgsFailed

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of provisioning messages that failed to be processed due to errors.
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a received XSAS provisioning message fails to be processed due to errors.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvMsgsReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of provisioning messages that were received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an XSAS provisioning message is received.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvMsgsSent

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of provisioning messages that were sent
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an XSAS provisioning message is sent.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvMsgsSuccessful

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	The total number of provisioning messages that were successfully processed
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a received XSAS provisioning message is successfully processed.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvTxnRequestsDiscarded

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	The total number of SOAP transactions that have been discarded 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:	This measurement shall be incremented each time a SOAP transaction has been discarded 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.
Measurement Scope:	All

Recovery:

No action required.

RxXsasProvTxnTotal

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	The total number of SOAP transactions that have been received
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a SOAP transaction has been received.
Measurement Scope:	All

Recovery:

No action required.

RxXsasResetReqReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of SOAP reset requests that have been received on the provisioning interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Provisioning Front End receives a RESET request on the REST provisioning interface.
Measurement Scope:	All

Recovery:

No action required.

RxXsasSelectReqReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of SOAP select requests that have been received on the provisioning interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time the Provisioning Front End receives a select request on the SOAP provisioning interface.
Measurement Scope:	All

Recovery:

No action required.

RxXsasUpdateReqReceived

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of SOAP update requests that have been received on the provisioning interface
Collection Interval:	5 min
Peg Condition:	This measurement is incremented every time the Command Log export is initiated.
Measurement Scope:	All

Recovery:

No action required.

TotalPoolCount

Measurement Group:	Provisioning Performance
Measurement Type:	Max
Description:	Total number of pools reported in a 30-minute period
Collection Interval:	30 min
Peg Condition:	The calculation for this measurement is performed on a 30-minute interval. Once in a 30-minute period, the number of pools is queried from the database and reported. Note that for the first 30 minutes after an installation this measurement displays 0.
Measurement Scope:	All

Recovery:

No action required.

TotalSubscriberCount

Measurement Group:	Provisioning Performance
Measurement Type:	Max
Description:	Total number of subscribers reported in a 30-minute period
Collection Interval:	30 min
Peg Condition:	The calculation for this measurement is performed on a 30-minute interval. Once in a 30-minute period, the number of subscribers is queried from the database and reported. Note that

	for the first 30 minutes after an installation this measurement displays 0.
Measurement Scope:	All

Recovery:

No action required.

TxProvImportResultFilesTransferred

Measurement Group:	Provisioning Performance
Measurement Type:	Simple
Description:	Total number of import result files transferred
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time an import result file is transferred.
Measurement Scope:	All

Recovery:

No action required.

TxProvTxnAborted

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of transactions that were aborted after the configured number of retries.
Collection Interval:	5 min
Peg Condition:	This measurement is incremented each time a transaction is aborted because the configured number of retries were already exhausted.
Measurement Scope:	All

Recovery:

No action required.

TxProvTxnDurabilityTimeouts

Measurement Group:	Provisioning Exceptions
Measurement Type:	Simple
Description:	Total number of committed, non-durable transactions that failed to become durable within the amount of time specified by the Transaction Durability Timeout value
Collection Interval:	5 min

Peg Condition: This measurement is incremented each time a committed, non-durable transaction fails to become durable within the amount of time specified by the Transaction Durability Timeout value.

Measurement Scope: All

Recovery:

No action required.

TxProvTxnFailed

Measurement Group: Provisioning Exceptions

Measurement Type: Simple

Description: Total number of transactions that failed to be started or committed.

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a transaction fails to be started or committed.

Measurement Scope: All

Recovery:

No action required.

TxProvTxnTotal

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: Total number of transactions that were attempted

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time a transaction is attempted.

Measurement Scope: All

Recovery:

No action required.

TxXsasProvTxnAborted

Measurement Group: Provisioning Exceptions

Measurement Type: Simple

Description: The total number of SOAP transactions that have been aborted after configured number of retries.

Collection Interval: 5 min

Peg Condition: This measurement shall be incremented each time a SOAP transaction has been aborted after configured number of retries is reached.

Measurement Scope: All

Recovery:

No action required.

TxXsasProvTxnFailed

Measurement Group: Provisioning Exceptions

Measurement Type: Simple

Description: The total number of SOAP transactions that have failed to be started or committed.

Collection Interval: 5 min

Peg Condition: This measurement shall be incremented each time a SOAP transaction has failed to be started or committed.

Measurement Scope: All

Recovery:

No action required.

XsasProvTxnCommitted

Measurement Group: Provisioning Performance

Measurement Type: Simple

Description: The total number of SOAP transactions that have been successfully committed to the database.

Collection Interval: 5 min

Peg Condition: This measurement shall be incremented each time a SOAP transaction has been successfully committed to the database.

Measurement Scope: All

Recovery:

No action required.

Ud Client Measurements

The measurements in the *Ud Client Measurements* table appear in one of the four Ud client measurement reports available from the **Main Menu** > **Measurements** > **Report** GUI option:

- Ud Client Exception
- Ud Client LDAP Interface
- Ud Client Performance

- Ud Client SOAP Interface

Table 60: Ud Client Measurements

Measurement Tag	Description	Collection Interval
Ud Client Exceptions		
EvUdBindRequestTimedOut	Total number of LDAP Bind requests which timed out before a response was received.	5 min
EvUdLDAPIdleConnectionDropped	Total number of times an LDAP connection has been disconnected after requests have been sent, but no data has been received within the configured time period.	5 min
EvUdLDAPTCPSendBufferFull	Total number of times an attempt to send an LDAP Search request on a connection has failed because the TCP/IP send buffer is full.	5 min
EvUdNotifyDeleteSubscriberFailed	Total number of subscribers indicated as deleted in a SOAP Notify request where the subscriber failed to be deleted.	5 min
EvUdNotifyFieldUpdateFailure	Total number of individual notifications within a SOAP Notify request which attempted to update a field to an invalid value according to the field definition in the SEC.	5 min
EvUdNotifyRequestTimeout	Total number of SOAP Notify requests that were sent by the Ud Client application to the UDR BE for which no response was received within the expected time period.	5 min
EvUdNotifyUnexpectedUpdateField	Total number of individual notifications within a SOAP Notify request which contained an updated field value in an unexpected SOAP Notify field.	5 min
EvUdNotifyUpdateFailed	Total number of individual notifications within a SOAP Notify request which were valid, resulted in the subscriber Profile needing to be updated, but the Profile failed to be updated.	5 min
EvUdReSearchDeleteFailed	Total number of LDAP Search requests for re-reading a subscriber which indicated that the subscriber was unknown on the Ud Server, and the subscriber failed to be deleted.	5 min
EvUdReSearchProfileUpdateFailed	Total number of LDAP Search requests for re-reading a subscriber where the returned data was different to the existing subscriber	5 min

Measurement Tag	Description	Collection Interval
	data thus requiring a subscriber Profile update, and the subscriber Profile update failed.	
EvUdSearchCannotSend	Total number of times an attempt to send an LDAP Search request has failed because no LDAP connection was available to send it upon.	5 min
EvUdShCreateSubFailed	Total number of failed attempts to create an auto-enrolled subscriber via the Sh interface.	5 min
EvUdSOAPIdleConnectionDropped	Total number of times a SOAP connection has been disconnected after requests have been sent, but no data has been received within the configured time period.	5 min
EvUdSOAPTCPSendBufferFull	Total number of times an attempt to send a SOAP Subscribe request on a connection has failed because the TCP/IP send buffer is full.	5 min
EvUdSubscribeCannotSend	Total number of times an attempt to send a SOAP Search request has failed because no SOAP connection was available to send it upon.	5 min
EvUdSubscribeDeleteFailed	Total number of Ud Subscribe requests which resulted in an "Unknown Subscriber" response, and the subscriber failed to be deleted.	5 min
EvUdSubscribeRequestTimedOut	Total number of SOAP Subscribe requests that timed out before a response was received.	5 min
EvUdSubscribeUpdateFailed	Total number of successful Ud Subscribe attempts where the subscribers "last subscribe time" failed to be updated.	5 min
RxUdBindResponseAuthenticationFailed	Total number of LDAP Bind requests which resulted in a response indicating "Authentication Failed."	5 min
RxUdBindResponseFailed	Total number of LDAP Bind requests which resulted in a response indicating "Failure."	5 min
RxUdNotifyRequestTooMuchData	Total number of SOAP Notify requests received that were too large to process.	5 min
RxUdNotifyRequestInvalidKey	Total number of SOAP Notify requests received that contained a DN/objectClass from which a valid key type could not be deduced.	5 min

Measurement Tag	Description	Collection Interval
RxUdNotifyResponseRequestNotFound	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE where the corresponding SOAP Notify request could not be found in the list of outstanding requests.	5 min
RxUdSearchRequestTimedOut	Total number of LDAP Search requests which timed out before a response was received.	5 min
RxUdSearchResponseAuthenticationFailed	Total number of LDAP Search responses received which indicated "Authentication Failed."	5 min
RxUdSearchResponseRequestNotFound	Total number of LDAP Search responses received where the initiating request could not be found in the list of outstanding requests.	5 min
RxUdSearchResponseTimeout	Total number of LDAP Search responses received which indicated "Timeout."	5 min
RxUdSubscribeResInvldCorrelationHeader	Total number of SOAP Subscribe responses received that contained an invalid correlation header.	5 min
RxUdSubscribeResponseRequestNotFound	Total number of SOAP Subscribe responses received where the initiating request could not be found in the list of outstanding requests.	5 min
TxUdNotifyResponseSendFailed	Total number of SOAP Notify responses received which failed to be send on the SOAP connection.	5 min
TxUdrBeUdSearchRequestSendFailed	Total number of Ud Search requests that failed to be sent from the UDR BE to the Ud Client application.	5 min
TxUdrBeUdUnsubscribeRequestSendFailed	Total number of Ud Subscribe requests to unsubscribe that failed to be sent from the UDR BE to the Ud Client application.	5 min
TxUdBindRequestSendFailed	Total number of LDAP Bind requests which failed to be sent.	5 min
TxUdReSearchFailedInitiate	Total number of Ud Subscribe requests that failed to be sent from the UDR BE to the Ud Client application.	5 min
TxUdReSubscribeFailedInitiate	Total number of Ud Subscribe requests that failed to be sent from the Ud-Created Audit task to the Ud Client application.	5 min

Measurement Tag	Description	Collection Interval
TxUdReSubscribeFailedNoValidKey	Total number of LDAP Search requests for re-reading a subscriber which could not be sent, because the subscriber Profile did not contain a key that could be mapped to a valid Search DN/filter.	5 min
TxUdSearchRequestSendBufferFull	Total number of times an attempt to send an LDAP Search request on a connection has failed because the TCP/IP send buffer is full.	5 min
TxUdSubscribeRequestSendBufferFull	Total number of SOAP Subscribe requests that failed to be sent due to the TCP/IP send buffer being full.	5 min
TxUdSubscribeRequestSendFailed	Total number of SOAP Subscribe requests that failed to be sent due to another error than the TCP/IP send buffer being full.	5 min
Ud LDAP Interface		
EvUdBindRequest	Total number of LDAP Bind requests attempted to be sent	5 min
EvUdLDAPConnectionBusy	Total number of times an attempt to send an LDAP Search request has failed because a "Busy" error has been returned.	5 min
EvUdUnbindRequest	Total number of LDAP Unbind requests attempted to be sent.	5 min
RxUdBindResponseSuccess	Total number of LDAP Bind requests which resulted in a successful response.	5 min
RxUdSearchRequest	Total number LDAP Search requests received by the Ud Client application.	5 min
RxUdSearchResponseBusy	Total number of LDAP Search responses received which indicated the Ud Server was busy.	5 min
RxUdSearchResponseFailed	Total number of LDAP Search responses received which indicated "Failed."	5 min
RxUdSearchResponseSuccess	Total number of LDAP Search responses received which indicated "Success."	5 min
RxUdSearchResponseUnknownSubscriber	Total number of LDAP Search responses received which indicated "Unknown Subscriber."	5 min
TxUdBindRequestSendSuccess	Total number of LDAP Bind requests which were sent successfully.	5 min
TxUdUnbindRequestSent	Total number of LDAP Unbind requests which were sent successfully.	5 min

Measurement Tag	Description	Collection Interval
UDR Client Performance		
EvUdNotifyDeleteSubscriber	Total number of individual notifications within a SOAP Notify request which indicated the deletion of a subscriber.	5 min
EvUdNotifyDeleteSubscriberSuccess	Total number of subscribers indicated as deleted in a SOAP Notify request where the subscriber was successfully deleted.	5 min
EvUdNotifyNoUpdatesMade	Total number of individual notifications within a SOAP Notify request which were valid, but did not result in the subscriber Profile being updated.	5 min
EvUdNotifySubscriberNotUdCreated	Total number of individual notifications within a SOAP Notify request for which the subscriber exists, but was not Ud-Created.	5 min
EvUdNotifyUnknownSubscriber	Total number of individual notifications within a SOAP Notify request for which the subscriber was not found in OCUDR.	5 min
EvUdNotifyUpdateSuccess	Total number of individual notifications within a SOAP Notify request which were valid, resulted in the subscriber Profile needing to be updated, and the Profile was successfully updated.	5 min
EvUdReSearchDeleteSuccess	Total number of LDAP Search requests for re-reading a subscriber which indicated that the subscriber was unknown on the Ud Server, and the subscriber was successfully deleted.	5 min
EvUdReSearchProfileDifferent	Total number of LDAP Search requests for re-reading a subscriber where the returned data was different to the existing subscriber data thus requiring a subscriber Profile update.	5 min
EvUdReSearchProfileSame	Total number of LDAP Search requests for re-reading a subscriber where the returned data was the same as the existing subscriber data thus not requiring a subscriber Profile update.	5 min
EvUdReSearchProfileUpdateSuccess	Total number of LDAP Search requests for re-reading a subscriber where the returned data was different to the existing subscriber data thus requiring a subscriber Profile update, and the subscriber Profile update was successful.	5 min

Measurement Tag	Description	Collection Interval
EvUdSimultaneousAccessReq	Total number of Sh requests that resulted in Ud-Creating a subscribe at the same time as another request also creating the same subscriber.	5 min
EvUdSimultaneousAccessReqProfileDiff	Total number of Sh requests that resulted in Ud-Creating a subscribe at the same time as another request also creating the same subscriber where the subscriber Profile was read again, but was different to existing Profile, resulting in a subscriber Profile update.	5 min
EvUdSimultaneousAccessReqProfileSame	Total number of Sh requests that resulted in Ud-Creating a subscribe at the same time as another request also creating the same subscriber where the subscriber Profile was read again, but was the same as the existing Profile.	5 min
EvUdSubscribeDeleteSuccess	Total number of Ud Subscribe requests which resulted in an "Unknown Subscriber" response, and the subscriber was successfully deleted.	5 min
EvUdSubscribeUpdateSuccess	Total number of successful Ud Subscribe attempts where the subscribers "last subscribe time" was updated successfully.	5 min
RxUdNotifyRequest	Total number of SOAP Notify requests received by the UDR application.	5 min
RxUdrBeUdSearchResponseReceived	Total number of Ud Search responses received by the UDR BE.	5 min
RxUdrBeUdSubscribeResponseReceived	Total number of Ud Subscribe responses received by the UDR BE.	5 min
RxUdReSearchBusy	Total number of LDAP Search requests for re-reading a subscriber which failed due to a "Busy" error.	5 min
RxUdReSearchFailed	Total number of LDAP Search requests for re-reading a subscriber which failed due to an error other than "Busy" or "Unknown Subscriber."	5 min
RxUdReSearchUnknownSubscriber	Total number of LDAP Search requests for re-reading a subscriber which indicated that the subscriber was unknown on the Ud Server.	5 min

Measurement Tag	Description	Collection Interval
RxUdShCreateSubSuccess	Total number of Ud-Created subscribers created via the Sh interface.	5 min
RxUdShPurCreateMsgs	Total number of PUR requests received via the Sh interface where the subscriber was unknown and Ud-Creation was triggered to create the subscriber.	5 min
RxUdShSnrCreateMsgs	Total number of SNR requests received via the Sh interface where the subscriber was unknown and Ud-Creation was triggered to create the subscriber.	5 min
RxUdShUdrCreateMsgs	Total number of UDR requests received via the Sh interface where the subscriber was unknown and Ud-Creation was triggered to create the subscriber.	5 min
TxUdNotifyResponseSent	Total number of Ud Notify responses sent to the Ud Client application.	5 min
TxUdrBeUdSearchRequestSent	Total number of Ud Search requests sent triggered by the initial Ud-Creation of a subscriber.	5 min
TxUdrBeUdUnsubscribeRequestSent	Total number of Ud Subscribe requests to unsubscribe triggered by a provisioning request to delete a subscriber.	5 min
TxUdReSearchSendSearch	Total number of Ud Search requests sent upon re-reading a Ud-Created subscriber.	5 min
TxUdReSearchSendThrottled	Total number of Ud Search requests that were attempted to be sent as part of a re-read, but were not sent due to throttling of re-read requests.	5 min
TxUdReSubscribeSendSubscribe	Total number of Ud Subscribe requests sent upon re-subscribing a Ud-Created subscriber.	5 min
TxUdSearchRequestSent	Total number of LDAP Search requests sent on the LDAP interface.	5 min
TxUdSubscribeRequestInitialSent	Total number of Ud Subscribe requests sent triggered by the initial Ud-Creation of a subscriber.	5 min
TxUdSubscribeRequestSent	Total number of Ud Subscribe requests sent on the SOAP interface.	5 min
Ud SOAP Interface		

Measurement Tag	Description	Collection Interval
EvUdSOAPConnectionBusy	Total number of times an attempt to send a SOAP Subscribe request has failed because a "Busy" error has been returned.	5 min
RxUdNotifyRequestBusy	Total number of SOAP Notify requests rejected because OCUDR was too busy.	5 min
RxUdNotifyRequestDiscarded	Total number of SOAP Notify requests received without a SOAP header.	5 min
RxUdNotifyRequestInvalidRequest	Total number of SOAP Notify requests received that did not comply to the expected format.	5 min
RxUdNotifyRequestReceived	Total number of SOAP Notify requests received by the SOAP Interface.	5 min
RxUdNotifyRequestValid	Total number of SOAP Notify requests that were sent by the Ud Client application to the UDR BE.	5 min
RxUdNotifyResponseBusy	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Busy."	5 min
RxUdNotifyResponseFailed	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Failed."	5 min
RxUdNotifyResponseInvalidRequest	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Invalid Request."	5 min
RxUdNotifyResponseSuccess	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Success."	5 min
RxUdNotifyResponseUnknownSubscriber	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Unknown Subscriber."	5 min
RxUdSubscribeRequest	Total number SOAP Subscribe requests received by the Ud Client application.	5 min
RxUdSubscribeResponseFailed	Total number of SOAP Subscribe responses received which indicated "Failed."	5 min
RxUdSubscribeResponseReceived	Total number of SOAP Subscribe responses received.	5 min
RxUdSubscribeResponseSuccess	Total number of SOAP Subscribe responses received which indicated "Success."	5 min

Measurement Tag	Description	Collection Interval
RxUdSubscribeResponseUnknownSubscriber	Total number of SOAP Subscribe responses received which indicated "Unknown Subscriber."	5 min
RxUdUnsubscribeRequest	Total number SOAP Unsubscribe requests received by the Ud Client application.	5 min
TxUdSubscribeRequestSubscribeSent	Total number of SOAP Subscribe requests which indicate a request to "subscribe" to subscriber data change notifications that were successfully sent.	5 min
TxUdSubscribeRequestUnsubscribeSent	Total number of SOAP Subscribe requests which indicate a request to "unsubscribe" to subscriber data change notifications that were successfully sent.	5 min

Ud Client Exceptions

EvUdBindRequestTimedOut

Measurement ID 3893

Measurement Group: Ud Client Exception

Measurement Type: Simple

Description: Total number of LDAP Bind requests which timed out before a response was received.

Collection Interval: 5 min

Peg Condition: The measurement is incremented each time an LDAP Bind request on an LDAP connection was successfully sent, but no response was received in the configured time period.

Measurement Scope: Server Group

Recovery:

No action required.

EvUdLDAPIdleConnectionDropped

Measurement ID 3908

Measurement Group: Ud Client Exception

Measurement Type: Simple

Description: The measurement shall be incremented each time an LDAP connection has been marked congested due to the TCP/IP send buffer being full, no LDAP Search requests can be successfully sent, and no responses are have been received for a configured period, resulting in the connection being dropped.

Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP connection has been marked congested due to the TCP/IP send buffer being full, no LDAP Search requests can be successfully sent, and no responses are have been received for a configured period, resulting in the connection being dropped.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdLDAPTCPSendBufferFull

Measurement ID	3909
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of times an attempt to send an LDAP Search request on a connection has failed because the TCP/IP send buffer is full.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send an LDAP Search request on an LDAP connection fails because the TCP/IP send buffer is full.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyDeleteSubscriberFailed

Measurement ID	3925
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of subscribers indicated as deleted in a SOAP Notify request where the subscriber failed to be deleted.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received which indicates that the subscriber has been deleted in the Ud Server, and the subscriber failed to be deleted in OCUDR.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyFieldUpdateFailure

Measurement ID	3926
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of individual notifications within a SOAP Notify request which attempted to update a field to an invalid value according to the field definition in the SEC.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP attribute included in a SOAP Notify request fails field validation as defined in the SEC, resulting in the individual notification being rejected.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyRequestTimeout

Measurement ID	3978
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of SOAP Notify requests that were sent by the Ud Client application to the UDR BE for which no response was received within the expected time period.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application does not receive a response to a notify request sent to the UDR application within the configured timeout period.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyUnexpectedUpdateField

Measurement ID	3927
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of individual notifications within a SOAP Notify request which contained an updated field value in an unexpected SOAP Notify field.
Collection Interval:	5 min

Peg Condition:	The measurement is incremented each time an unexpected notification update field is encountered in a SOAP Notify request.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyUpdateFailed

Measurement ID	3930
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of individual notifications within a SOAP Notify request which were valid, resulted in the subscriber Profile needing to be updated, but the Profile failed to be updated.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a notification is processed and subscriber Profile fields have change, and the update of the subscriber Profile failed.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdReSearchDeleteFailed

Measurement ID	3941
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber which indicated that the subscriber was unknown on the Ud Server, and the subscriber failed to be deleted.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request returned an error indicating the subscriber was not known on the Ud Server, and the subscriber failed to be deleted in OCUDR.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdReSearchProfileUpdateFailed

Measurement ID	3937

Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber where the returned data was different to the existing subscriber data thus requiring a subscriber Profile update, and the subscriber Profile update failed.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request has returned subscriber data, and the subscriber Profile needs to be updated, and the subscriber Profile update failed.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSearchCannotSend

Measurement ID	3912
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of times an attempt to send an LDAP Search request has failed because no LDAP connection was available to send it upon.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search request cannot be sent because all LDAP connections are either not connected, or in a busy state.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdShCreateSubFailed

Measurement ID	3907
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of failed attempts to create an auto-enrolled subscriber via the Sh interface.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a Ud-Created subscriber fails to be created.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSOAPIdleConnectionDropped

Measurement ID	3913
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of times a SOAP connection has been disconnected after requests have been sent, but no data has been received within the configured time period.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP connection has been marked congested due to the TCP/IP send buffer being full, no SOAP Subscribe requests can be successfully sent, and no responses are have been received for a configured period, resulting in the connection being dropped.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSOAPTCPSendBufferFull

Measurement ID	3914
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of times an attempt to send a SOAP Subscribe request on a connection has failed because the TCP/IP send buffer is full.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send a SOAP Subscribe request on a SOAP connection fails because the TCP/IP send buffer is full.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSubscribeCannotSend

Measurement ID	3912
Measurement Group:	Ud Client Exception
Measurement Type:	Simple

Description:	Total number of times an attempt to send a SOAP Search request has failed because no SOAP connection was available to send it upon.
Collection Interval:	5 min
Peg Condition:	The measurement shall be incremented each time a SOAP Subscribe request cannot be sent because all SOAP connections are either not connected, or in a busy state.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSubscribeDeleteFailed

Measurement ID	3900
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of Ud Subscribe requests which resulted in an "Unknown Subscriber" response, and the subscriber failed to be deleted.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a response to a SOAP Subscribe request has indicated an "Unknown Subscriber" error, and the subscriber failed to be deleted from OCUDR.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSubscribeRequestTimedOut

Measurement ID	3965
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe requests that timed out before a response was received.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Subscribe request on a SOAP connection was successfully sent, but no response was received in the configured time period.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSubscribeUpdateFailed

Measurement ID	3902
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of successful Ud Subscribe attempts where the subscribers "last subscribe time" failed to be updated.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the UDR application receives a failure response to a SOAP Subscribe request.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdBindResponseAuthenticationFailed

Measurement ID	3898
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Bind requests which resulted in a response indicating "Authentication Failed."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an error response was received for an LDAP Bind request on an LDAP connection that indicated an authentication failure has occurred on the Ud Server.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdBindResponseFailed

Measurement ID	3895
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Bind requests which resulted in a response indicating "Failure."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an error response was received for an LDAP Bind request on an LDAP connection

	that indicated an error other than an authentication failure has occurred on the Ud Server.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyRequestTooMuchData

Measurement ID	3974
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of SOAP Notify requests received that were too large to process.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is larger than the maximum allowed size.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyRequestInvalidKey

Measurement ID	3975
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of SOAP Notify requests received that contained a DN/objectClass from which a valid key type could not be deduced.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request contains an individual notification where the subscriber key cannot be correlated with the keys configured for the LDAP/SOAP interfaces.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyResponseRequestNotFound

Measurement ID	3979
Measurement Group:	Ud Client Exception
Measurement Type:	Simple

Description:	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE where the corresponding SOAP Notify request could not be found in the list of outstanding requests.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application receives a notify response from the UDR application, and the corresponding request is not found in the list of outstanding notify requests.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSearchRequestTimedOut

Measurement ID	3951
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search requests which timed out before a response was received.
Collection Interval:	5 min
Peg Condition:	The measurement shall be incremented each time an LDAP Search request on an LDAP connection was successfully sent, but no response was received in the configured time period.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSearchResponseAuthenticationFailed

Measurement ID	3956
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search responses received which indicated "Authentication Failed."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an error response was received for an LDAP Bind Search on an LDAP connection that indicated an error that maps to the authentication failed status.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSearchResponseRequestNotFound

Measurement ID	3952
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search responses received where the initiating request could not be found in the list of outstanding requests.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time upon receipt of an LDAP Search response on an LDAP connection, the corresponding request is not found in the list of outstanding requests for the LDAP connection.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSearchResponseTimeout

Measurement ID	3958
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search responses received which indicated "Timeout."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search request on an LDAP connection was successfully sent, but no response was received in the configured time period.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSubscribeResInvldCorrelationHeader

Measurement ID	3967
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe responses received that contained an invalid correlation header.
Collection Interval:	5 min

Peg Condition:	The measurement is incremented each time a SOAP Subscribe response does not contain a valid SOAP header, as specified by 3GPP.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSubscribeResponseRequestNotFound

Measurement ID	3968
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe responses received where the initiating request could not be found in the list of outstanding requests.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time upon receipt of a SOAP Subscribe response on a SOAP connection, the corresponding request is not found in the list of outstanding requests for the SOAP connection.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdNotifyResponseSendFailed

Measurement ID	3985
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of SOAP Notify responses received which failed to be send on the SOAP connection.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send a SOAP Notify response on a SOAP connection failed.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBeUdSearchRequestSendFailed

Measurement ID	3917
Measurement Group:	Ud Client Exception
Measurement Type:	Simple

Description:	Total number of Ud Search requests that failed to be sent from the UDR BE to the Ud Client application.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the UDR application fails to send a Search request to the Ud Client application.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBeUdUnsubscribeRequestSendFailed

Measurement ID	3988
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of Ud Subscribe requests to unsubscribe that failed to be sent from the UDR BE to the Ud Client application.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the UDR application fails to send an Unsubscribe request to the Ud Client application.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdBindRequestSendFailed

Measurement ID	3892
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Bind requests which failed to be sent.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send an LDAP Bind request on an LDAP connection failed.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdReSearchFailedInitiate

Measurement ID	3934
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of Ud Subscribe requests that failed to be sent from the UDR BE to the Ud Client application.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt by the UDR application to send an LDAP Search request to the Ud Client application, as part of a re-search request failed.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdReSubscribeFailedInitiate

Measurement ID	3947
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber which could not be sent, because the subscriber Profile did not contain a key that could be mapped to a valid Search DN/filter.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt by the UDR application to send a SOAP Subscribe request to the Ud Client application, as part of a re-subscribe request failed.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdReSubscribeFailedNoValidKey

Measurement ID	3946
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber which could not be sent, because the subscriber Profile did not contain a key that could be mapped to a valid Search DN/filter.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a request to re-subscribe for a subscriber cannot be sent because the subscriber

	does not have a subscriber Profile key value which is configured for use on the SOAP/LDAP interface for the Ud Client.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdSearchRequestSendBufferFull

Measurement ID	3950
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of times an attempt to send an LDAP Search request on a connection has failed because the TCP/IP send buffer is full.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application attempts to send an LDAP Search request, and upon sending, detects that the TCP/IP send buffer for the connection is full.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdSubscribeRequestSendBufferFull

Measurement ID	3963
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe requests which indicate a request to "subscribe" to subscriber data change notifications that were successfully sent. Total number of SOAP Subscribe requests that failed to be sent due to the TCP/IP send buffer being full.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application attempts to send a SOAP Subscribe request, and upon sending, detects that the TCP/IP send buffer for the connection is full.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdSubscribeRequestSendFailed

Measurement ID	3964

Measurement Group: Ud Client Exception

Measurement Type: Simple

Description: Total number of SOAP Subscribe requests that failed to be sent due to another error than the TCP/IP send buffer being full.

Collection Interval: 5 min

Peg Condition: The measurement is incremented each time an attempt to send a SOAP Subscribe request on a SOAP connection failed.

Measurement Scope: Server Group

Recovery:

No action required.

Ud LDAP Interface

EvUdBindRequest

Measurement ID 3890

Measurement Group: Ud Client LDAP Interface

Measurement Type: Simple

Description: Total number of LDAP bind requests attempted to be sent.

Collection Interval: 5 min

Peg Condition: The measurement is incremented each time an attempt to send an LDAP bind request is made on an LDAP connection.

Measurement Scope: Server Group

Recovery:

No action required.

EvUdLDAPConnectionBusy

Measurement ID 3910

Measurement Group: Ud Client LDAP Interface

Measurement Type: Simple

Description: Total number of times an attempt to send an LDAP Search request has failed because a "Busy" error has been returned.

Collection Interval: 5 min

Peg Condition: The measurement is incremented each time an LDAP Search response is received indicating a "Busy" status.

Measurement Scope: Server Group

Recovery:

No action required.

EvUdUnbindRequest

Measurement ID	3896
Measurement Group:	Ud Client LDAP Interface
Measurement Type:	Simple
Description:	Total number of LDAP Unbind requests attempted to be sent.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send an LDAP Unbind request is made on an LDAP connection.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdBindResponseSuccess

Measurement ID	3994
Measurement Group:	Ud Client LDAP Interface
Measurement Type:	Simple
Description:	Total number of LDAP Bind requests which resulted in a successful response.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a successful response was received for an LDAP Bind request on an LDAP connection.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSearchRequest

Measurement ID	3948
Measurement Group:	Ud Client LDAP Interface
Measurement Type:	Simple
Description:	Total number LDAP Search requests received by the Ud Client application.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application receives a request from the UDR application to send an LDAP Search request.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdSearchResponseBusy

Measurement ID 3957

Measurement Group: Ud Client LDAP Interface

Measurement Type: Simple

Description: Total number of LDAP Search responses received which indicated the Ud Server was busy.

Collection Interval: 5 min

Peg Condition: The measurement is incremented each time an error response was received for an LDAP Bind Search on an LDAP connection that indicated an error that maps to the authentication failed status The measurement shall be incremented each time an error response was received for an LDAP Bind Search on an LDAP connection that indicated an error that maps to the busy status.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdSearchResponseFailed

Measurement ID 3955

Measurement Group: Ud Client LDAP Interface

Measurement Type: Simple

Description: Total number of LDAP Search responses received which indicated "Failed."

Collection Interval: 5 min

Peg Condition: The measurement is incremented each time an error response was received for an LDAP Bind Search on an LDAP connection that indicated an error that maps to the failed status.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdSearchResponseSuccess

Measurement ID 3953

Measurement Group: Ud Client LDAP Interface

Measurement Type: Simple

Description:	Total number of LDAP Search responses received which indicated "Success."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a successful response was received for an LDAP Search request on an LDAP connection.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSearchResponseUnknownSubscriber

Measurement ID	3954
Measurement Group:	Ud Client LDAP Interface
Measurement Type:	Simple
Description:	Total number of LDAP Search responses received which indicated "Unknown Subscriber."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an error response was received for an LDAP Search request on an LDAP connection that indicated the subscriber was unknown on the Ud Server.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdBindRequestSendSuccess

Measurement ID	3891
Measurement Group:	Ud Client LDAP Interface
Measurement Type:	Simple
Description:	Total number of LDAP Bind requests attempted to be sent.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send an LDAP Bind request on an LDAP connection was successful.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdUnbindRequestSent

Measurement ID	3897

Measurement Group:	Ud Client LDAP Interface
Measurement Type:	Simple
Description:	Total number of LDAP Unbind requests which were sent successfully.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send an LDAP Unbind request on an LDAP connection was successful.
Measurement Scope:	Server Group

Recovery:

No action required.

UDR Client Performance

EvUdNotifyDeleteSubscriber

Measurement ID	3923
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of individual notifications within a SOAP Notify request which indicated the deletion of a subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received which indicates that the subscriber has been deleted in the Ud Server.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyDeleteSubscriberSuccess

Measurement ID	3924
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of subscribers indicated as deleted in a SOAP Notify request where the subscriber was successfully deleted.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received which indicates that the subscriber has been deleted in the Ud Server, and the subscriber was successfully deleted in OCUDR.

Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyNoUpdatesMade

Measurement ID	3928
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of individual notifications within a SOAP Notify request which were valid, but did not result in the subscriber Profile being updated.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time upon successfully completing the processing of a notification, if no subscriber Profile fields were changed (for any reason).
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifySubscriberNotUdCreated

Measurement ID	3922
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of individual notifications within a SOAP Notify request for which the subscriber exists, but was not Ud-Created.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received, and the subscriber exists in OCUDR, but was not Ud-Created.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyUnknownSubscriber

Measurement ID	3921
Measurement Group:	Ud Client Performance
Measurement Type:	Simple

Description:	Total number of individual notifications within a SOAP Notify request for which the subscriber was not found in OCUDR.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received, and the subscriber does not exist in OCUDR.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdNotifyUpdateSuccess

Measurement ID	3929
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of individual notifications within a SOAP Notify request which were valid, resulted in the subscriber Profile needing to be updated, and the Profile was successfully updated.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a notification is processed and subscriber Profile fields have change, and the update of the subscriber Profile was successful.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdReSearchDeleteSuccess

Measurement ID	3940
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber which indicated that the subscriber was unknown on the Ud Server, and the subscriber was successfully deleted.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request returned an error indicating the subscriber was not known on the Ud Server, and the subscriber was successfully deleted in OCUDR
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdReSearchProfileDifferent

Measurement ID	3935
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber where the returned data was different to the existing subscriber data thus requiring a subscriber Profile update.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request has returned subscriber data, and the subscriber Profile needs to be updated as it is different.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdReSearchProfileSame

Measurement ID	3939
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber where the returned data was the same as the existing subscriber data thus not requiring a subscriber Profile update.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request has returned subscriber data, and the subscriber Profile does not need to be updated as it is the same.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdReSearchProfileUpdateSuccess

Measurement ID	3936
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber where the returned data was different to the existing subscriber

	data thus requiring a subscriber Profile update, and the subscriber Profile update was successful.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request has returned subscriber data, and the subscriber Profile needs to be updated, and the subscriber Profile update was successful.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSimultaneousAccessReq

Measurement ID	3918
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Sh requests that resulted in Ud-Creating a subscribe at the same time as another request also creating the same subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a request to create a Ud-Created subscriber encounters a situation where the subscriber was also being created at the same time, triggered by a different Sh request.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSimultaneousAccessReqProfileDiff

Measurement ID	3920
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Sh requests that resulted in Ud-Creating a subscribe at the same time as another request also creating the same subscriber where the subscriber Profile was read again, but was different to existing Profile, resulting in a subscriber Profile update.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a request to create a Ud-Created subscriber encounters a situation where the subscriber was also being created at the same time, and the subscriber data retrieved via LDAP for the request was found to be different to the data used to initially create the subscriber.

Measurement Scope: Server Group

Recovery:

No action required.

EvUdSimultaneousAccessReqProfileSame

Measurement ID	3919
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Sh requests that resulted in Ud-Creating a subscribe at the same time as another request also creating the same subscriber where the subscriber Profile was read again, but was the same as the existing Profile.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a request to create a Ud-Created subscriber encounters a situation where the subscriber was also being created at the same time, and the subscriber data retrieved via LDAP for the request was found to be the same as the data used to initially create the subscriber.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSubscribeDeleteSuccess

Measurement ID	3899
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Subscribe requests which resulted in an "Unknown Subscriber" response, and the subscriber was successfully deleted.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a response to a SOAP Subscribe request has indicated an "Unknown Subscriber" error, and the subscriber has been successfully deleted from OCUDR.
Measurement Scope:	Server Group

Recovery:

No action required.

EvUdSubscribeUpdateSuccess

Measurement ID	3901
Measurement Group:	Ud Client Performance

Measurement Type:	Simple
Description:	Total number of successful Ud Subscribe attempts where the subscribers "last subscribe time" was updated successfully.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the UDR application receives a successful response to a SOAP Subscribe request.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyRequest

Measurement ID	3972
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of SOAP Notify requests received by the UDR application.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received by the UDR application.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBeUdSearchResponseReceived

Measurement ID	3990
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Search responses received by the UDR BE.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the UDR application receives a response to a Ud Search request.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdrBeUdSubscribeResponseReceived

Measurement ID	3991

Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud subscribe responses received by the UDRBE.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the UDR application receives a response to a Ud subscribe request.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdReSearchBusy

Measurement ID	3942
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber which failed due to a "Busy" error.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request returned an error indicating that the Ud Server was busy.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdReSearchFailed

Measurement ID	3943
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber which failed due to an error other than "Busy" or "Unknown Subscriber".
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request returned an error indicating other than busy or unknown subscriber.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdReSearchUnknownSubscriber

Measurement ID	3938
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of LDAP Search requests for re-reading a subscriber which indicated that the subscriber was unknown on the Ud Server.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search response performed as part of a re-search request returned an error indicating the subscriber was not known on the Ud Server.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdShCreateSubSuccess

Measurement ID	3906
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud-Created subscribers created via the Sh interfac.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a Ud-Created subscriber is successfully created.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdShPurCreateMsgs

Measurement ID	3904
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	The total number of PUR requests received via the Sh interface where the subscriber was unknown and Ud-Creation was triggered to create the subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the UDR Back End is processing an update request, the subscriber user identity is

not found in the index, and the update request matches Ud-Creation requirements.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdShSnrCreateMsgs

Measurement ID 3905

Measurement Group: Ud Client Performance

Measurement Type: Simple

Description: Total number of SNR requests received via the Sh interface where the subscriber was unknown and Ud-Creation was triggered to create the subscriber.

Collection Interval: 5 min

Peg Condition: The measurement is incremented each time the UDR Back End is processing a subscribe request, the subscriber user identity is not found in the index, and the read request matches Ud-Creation requirements.

Measurement Scope: Server Group

Recovery:

No action required.

RxUdShUdrCreateMsgs

Measurement ID 3903

Measurement Group: Ud Client Performance

Measurement Type: Simple

Description: Total number of UDR requests received via the Sh interface where the subscriber was unknown and Ud-Creation was triggered to create the subscriber.

Collection Interval: 5 min

Peg Condition: This measurement is incremented each time the UDR Back End is processing a subscribe request. The subscriber user identity is not found in the index, and the subscribe request matches Ud-Creation requirements.

Measurement Scope: Server Group

Recovery:

No action required.

TxUdNotifyResponseSent

Measurement ID 3931

Measurement Group: Ud Client Performance

Measurement Type:	Simple
Description:	Total number of Ud Notify responses sent to the Ud Client application.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the UDR application sends a response to a SOAP Notify request to the Ud Client application.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBeUdSearchRequestSent

Measurement ID	3916
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Search requests sent triggered by the initial Ud-Creation of a subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time shall an LDAP Search request is sent during the initial creation of a Ud-Created subscriber.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBeUdUnsubscribeRequestSent

Measurement ID	3987
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud unsubscribe requests sent, triggered by a provisioning request to delete a subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time UDR fails to send an unsubscribe request to the Ud client.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdReSearchSendSearch

Measurement ID	3933
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Search requests sent upon re-reading a Ud-Created subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an LDAP Search request is sent as part of a periodic re-search request.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdReSearchSendThrottled

Measurement ID	3932
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Search requests that were attempted to be sent as part of a re-read, but were not sent due to throttling of re-read requests.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send an LDAP Search request as part of a re-search request was not sent due to throttling of re-search requests.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdReSubscribeSendSubscribe

Measurement ID	3945
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Subscribe requests sent upon re-subscribing a Ud-Created subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Subscribe request is sent during the re-subscribe of a Ud-Created subscriber.

Measurement Scope:	Server Group

Recovery:

No action required.

TxUdrBeUdSearchRequestSent

Measurement ID	3916
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Search requests sent triggered by the initial Ud-Creation of a subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time shall an LDAP Search request is sent during the initial creation of a Ud-Created subscriber.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdSubscribeRequestInitialSent

Measurement ID	3944
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Subscribe requests sent triggered by the initial Ud-Creation of a subscriber.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Subscribe request is sent during the initial creation of a Ud-Created subscriber.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdSubscribeRequestSent

Measurement ID	3944
Measurement Group:	Ud Client Performance
Measurement Type:	Simple
Description:	Total number of Ud Subscribe requests sent on the SOAP interface.
Collection Interval:	5 min

Peg Condition:	The measurement is incremented each time the Ud Client application has successfully sent a SOAP Subscribe request.
Measurement Scope:	Server Group

Recovery:

No action required.

Ud SOAP Interface

EvUdSOAPConnectionBusy

Measurement ID	3915
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of times an attempt to send a SOAP Subscribe request has failed because a "Busy" error has been returned.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Subscribe response is received indicating a "Busy" status.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyRequestBusy

Measurement ID	3976
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Notify requests rejected because OCUDR was too busy.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received, and OCUDR is too busy to process the request.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyRequestDiscarded

Measurement ID	3992
Measurement Group:	Ud Client SOAP Interface

Measurement Type:	Simple
Description:	Total number of SOAP Notify requests received without a SOAP header.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received without a SOAP header.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyRequestInvalidRequest

Measurement ID	3973
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Notify requests received that did not comply to the expected format.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify does not contain a valid request, as specified by 3GPP.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyRequestReceived

Measurement ID	3986
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a SOAP Notify request is received on the SOAP interface.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyRequestValid

Measurement ID	3977
Measurement Group:	Ud Client SOAP Interface

Measurement Type:	Simple
Description:	Total number of SOAP Notify requests that were sent by the Ud Client application to the UDR BE.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a valid SOAP Notify request is received.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyResponseBusy

Measurement ID	3982
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Busy."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application receives a notify response from the UDR application indicating that the UDR application was too busy to process the request.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyResponseFailed

Measurement ID	3983
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Failed."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application receives a notify response from the UDR application indicating a failed response.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyResponseInvalidRequest

Measurement ID	3984
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Invalid Request."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application receives a notify response from the UDR application indicating that the notification was invalid.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyResponseSuccess

Measurement ID	3980
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Success."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application receives a successful notify response from the UDR application.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdNotifyResponseUnknownSubscriber

Measurement ID	3981
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Notify responses received by the Ud Client application from the UDR BE indicating the result "Unknown Subscriber."
Collection Interval:	5 min

Peg Condition:	The measurement is incremented each time the Ud Client application receives a notify response from the UDR application indicating that the subscriber was unknown in OCUDR.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSearchResponseAuthenticationFailed

Measurement ID	3956
Measurement Group:	Ud Client Exception
Measurement Type:	Simple
Description:	Total number of LDAP Search responses received which indicated "Authentication Failed."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an error response was received for an LDAP Bind Search on an LDAP connection that indicated an error that maps to the authentication failed status.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSubscribeRequest

Measurement ID	3959
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number SOAP Subscribe requests received by the Ud Client application.
Collection Interval:	5 min
Peg Condition:	The measurement in incremented each time the Ud Client application receives a request from the UDR application to send a "SOAP Subscribe" request.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSubscribeResponseFailed

Measurement ID	3971
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple

Description:	Total number of SOAP Subscribe responses received which indicated "Failed."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an error response was received for an LDAP Bind Search on an LDAP connection that indicated an error that maps to the failed status.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSubscribeResponseReceived

Measurement ID	3966
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe responses received.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a response is received for a SOAP Subscribe request on a SOAP connection.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSubscribeResponseSuccess

Measurement ID	3969
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe responses received which indicated "Success."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time a successful response was received for a SOAP Subscribe request on a SOAP connection.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdSubscribeResponseUnknownSubscriber

Measurement ID	3970

Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe responses received which indicated "Unknown Subscriber."
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an error response was received for a SOAP Subscribe request on a SOAP connection that indicated the subscriber was unknown on the Ud Server.
Measurement Scope:	Server Group

Recovery:

No action required.

RxUdUnsubscribeRequest

Measurement ID	3989
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number SOAP Unsubscribe requests received by the Ud Client application.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time the Ud Client application receives a request from the UDR application to send a SOAP Subscribe unsubscribe request.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdSubscribeRequestSubscribeSent

Measurement ID	3961
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe requests which indicate a request to "subscribe" to subscriber data change notifications that were successfully sent.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send a SOAP Subscribe request on a SOAP connection was successful, and the request was to subscribe to subscribe data change notifications for a subscriber.
Measurement Scope:	Server Group

Recovery:

No action required.

TxUdSubscribeRequestUnsubscribeSent

Measurement ID	3962
Measurement Group:	Ud Client SOAP Interface
Measurement Type:	Simple
Description:	Total number of SOAP Subscribe requests which indicate a request to "subscribe" to subscriber data change notifications that were successfully sent Total number of SOAP Subscribe requests which indicate a request to "unsubscribe" to subscriber data change notifications that were successfully sent.
Collection Interval:	5 min
Peg Condition:	The measurement is incremented each time an attempt to send a SOAP Subscribe request on a SOAP connection was successful, and the request was to subscribe to unsubscribe from data change notifications for a subscriber.
Measurement Scope:	Server Group

Recovery:

No action required.

Glossary

A

ACK	Data Acknowledgement
AS	Application Server A logical entity that hosts and executes services in an IMS network, interfacing through SIP or a similar protocol.
ASP	Application Server Process A process instance of an Application Server. An Application Server Process serves as an active or standby process of an Application Server (for example, part of a distributed virtual switch or database). Examples of ASPs are processes (or process instances of) MGCs, IP SCPs or IP HLRs. An ASP contains an SCTP end-point, and may be configured to process signaling traffic within more than one Application Server.
Association	An association refers to an SCTP association. The association provides the transport for protocol data units and adaptation layer peer messages.

B

BIOS	Basic Input-Output System Firmware on the CPU blade that is executed prior to executing an OS.

C

C

CEA	Capability-Exchange-Answer The Diameter response that the prepaid rating engine sends to the Mobile Originated application during capability exchanges.
CER	Capabilities-Exchange-Request A Diameter message that the Mobile Originated application sends to a prepaid rating engine to perform a capability exchange. The CER (indicated by the Command-Code set to 257 and the Command Flags' 'R' bit set) is sent to exchange local capabilities.The prepaid rating engine responds with a Capability-Exchange-Answer (CEA) message.
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.
COMCOL	Communications Core Object Library

C

	A suite of re-usable C++ libraries, as well as processes and procedures available for use in Oracle products. Many of its features are focused toward the communications area of software developments, although it purpose is not intended to restrict its functionality to any particular area.
Communication Agent	See ComAgent.
CPU	Central Processing Unit

D

DA-MP	Diameter Agent Message Processor A DSR MP (Server Role = MP, Server Group Function = Diameter Signaling Router). A local application that can optionally be activated on the DA-MP. A computer or blade that is hosting a Diameter Signaling Router Application.
DB	Database
DCL	Diameter Connection Layer The software layer of the stack which implements Diameter transport connections.
Diameter	Protocol that provides an Authentication, Authorization, and Accounting (AAA) framework for applications such as network access or IP mobility. Diameter works in both local and roaming AAA situations. Diameter can also be used as a signaling protocol for

D

	mobility management which is typically associated with an IMS or wireless type of environment.
DNS	Domain Name System A system for converting Internet host and domain names into IP addresses.
DOIC	Diameter Overload Indication Conveyance
DPA	Disconnect-Peer-Answer A message used by a Diameter node to answer the Disconnect-Peer-Request (DPR).
DPR	Disconnect-Peer-Request A message used by a Diameter node to inform its peer of its intent to disconnect the transport layer. Upon receipt of a DPR, the Disconnect-Peer-Answer (DPA) is returned.
DRL	Diameter Routing Layer - The software layer of the stack that implements Diameter routing.
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.
DTLS	Datagram Transport Layer Security

D

DWA	Device-Watchdog-Answer A Diameter message used with the Device-Watchdog-Request (DWR) message to proactively detect connection failures. If no traffic is detected on a connection between the Mobile Originated application and the prepaid rating engine within the configured timeout period, a DWR message is sent to the prepaid rating engine. If the prepaid rating engine fails to respond with a DWA within the required time, the connection is closed with the prepaid rating engine and initiates failover procedures. All new and pending requests are then sent to the secondary server.
DWR	Device-Watchdog-Request A Diameter message used with the Device-Watchdog-Answer (DWA) message to proactively detect connection failures. If no traffic is detected on a connection between the Mobile Originated application and the Diameter server within the configured timeout period, a DWR message is sent to the Diameter Server. If the Diameter server fails to respond within the required time, the connection is closed with the Diameter server and initiates failover procedures. All new and pending requests are then sent to the secondary Diameter server.

E

ESPR	Enhanced Subscriber Profile Repository - Oracle Communications' database system that provides the storage and management of subscriber policy control data for PCRF nodes.

E

ETG	Egress Throttle Group (s)

F

FIPS	Federal Information Processing Standard

G

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

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.
HIDS	Host Intrusion Detection System
HP	Hewlett-Packard
HSS	Home Subscriber Server A central database for subscriber information.

I

IMSI	International Mobile Subscriber Identity
IMR	Ingress Message Rate

I

IP	Internet Protocol - IP specifies the format of packets, also called datagrams, and the addressing scheme. The network layer for the TCP/IP protocol suite widely used on Ethernet networks, defined in STD 5, RFC 791. IP is a connectionless, best-effort packet switching protocol. It provides packet routing, fragmentation and re-assembly through the data link layer.
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.

K

KPI	Key Performance Indicator

M

MME	Mobility Management Entity
MP	Message Processor - The role of the Message Processor is to provide the application messaging protocol interfaces and processing. However, these servers also have OAM components. All Message Processors replicate from their Signaling OAM's database and generate faults to a Fault Management System.
MPE	Multimedia Policy Engine

M

	A high-performance, high-availability platform for operators to deliver and manage differentiated services over high-speed data networks. The MPE includes a protocol-independent policy rules engine that provides authorization for services based on policy conditions such as subscriber information, application information, time of day, and edge resource utilization.
MSISDN	Mobile Station International Subscriber Directory Number The unique, network-specific subscriber number of a mobile communications subscriber. MSISDN follows the E.164 numbering plan; that is, normally the MSISDN is 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.
NS	Notification subscription A subscription request made by a specific Subscribing Client to a specific subscriber public identity. It contains a list of the subscribed to Entity Alias values, the expiry time of the subscription, and associated flags. It also contains information necessary to build and send a Notification to the Subscribing Client. This is stored as an entry in the individual's SNO record object.

N

NTP	Network Time Protocol
NTP daemon	Network Time Protocol daemon – NTP process that runs in the background.

O

OAM	Operations, Administration, and Maintenance. These functions are generally managed by individual applications and not managed by a platform management application, such as PM&C. Operations – Monitoring the environment, detecting and determining faults, and alerting administrators. Administration – Typically involves collecting performance statistics, accounting data for the purpose of billing, capacity planning, using usage data, and maintaining system reliability. Maintenance – Provides such functions as upgrades, fixes, new feature enablement, backup and restore tasks, and monitoring media health (for example, diagnostics).
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.

O

OLR	Overload report
OOS	Out of Service

P

PCRF	Policy and Charging Rules Function The ability to dynamically control access, services, network capacity, and charges in a network.
PDU	Protocol Data Unit
Perl	An object-oriented, event-driven programming language.
PNA	Push-Notification-Answer Sent by a client in response to the Push-Notification-Request command.
PNR	Push Notification Request on Sh Interface Sent by a Diameter server to a Diameter client in order to notify changes in the user data in the server.
PTR	Pending Transaction Record
PUA	Profile-Update-Answer Command sent by a client in response to the Profile-Update-Request command.

P

PUR	Sh Profile Update Request (from PCRF to ESPR). This request can refer to the profile entity and other entities.

R

RAS	REST Application Server
RBAR	Range Based Address Resolution A DSR enhanced routing application which allows you to route Diameter end-to-end transactions based on Application ID, Command Code, Routing Entity Type, and Routing Entity address ranges.
Relay Agent	Diameter agent that forwards requests and responses to other Diameter nodes based on routing-related AVPs (such as Destination-Realm) and routing configuration. Because relays do not make policy decisions, they do not examine or alter non-routing AVPs. As a result, relays never originate messages, do not need to understand the semantics of messages or non-routing AVPs, and are capable of handling any Diameter application or message type.

S

SCTP	Stream Control Transmission Protocol SCTP is a reliable transport protocol that operates on top of a connectionless packet network such as IP and is functionally equivalent to TCP. It establishes a connection between two endpoints (called an association; in TCP, these are

S

	sockets) for transmission of user messages.
SDO	Subscription Data Object An SDO consists of subscription state information and a collection of registers for storing entities. An individual SDO applies to one subscriber. A pool SDO applies to a group of subscribers.
SG	Signaling Gateway A network element that receives/sends SCN native signaling at the edge of the IP network. The SG function may relay, translate or terminate SS7 signaling in an SS7-Internet Gateway. The SG function may also be coresident with the MG function to process SCN signaling associated with line or trunk terminations controlled by the MG (for example, signaling backhaul). A Signaling Gateway could be modeled as one or more Signaling Gateway Processes, which are located at the border of the SS7 and IP networks. Where an SG contains more than one SGP, the SG is a logical entity and the contained SGPs are assumed to be coordinated into a single management view to the SS7 network and to the supported Application Servers.
SGSN	Serving GPRS Support Node
SNA	Subscribes Notification Answer on Sh Interface

S

SNO	Subscription Notification Object. An SNO stores a collection of client subscribe-to-notifications for a subscription.
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.
SNR	Subscriber Notification Request on Sh Interface
SO	Signaling OAM A server that manages a collection of MPs. SO servers are deployed in active/standby pairs.
SOAP	Simple Object Access Protocol
SW	Software

T

Transport Manager	Provides the interface to the Adaptation Layer (M3UA) and manages the connections and data transmission from SCTP sockets.

U

UDA	User-Data-Answer

U

	Sent by a server in response to the User-Data-Request command.
UDR	User Data Repository A logical entity containing user data.
UDRFE	UDR Front End
Untrusted Network	A Diameter network which has topology information hidden by the Topology Hiding features.

X

XSAS	XML SOAP Application Server