

**Oracle® Communications
User Data Repository**

Alarms, KPIs, and Measurements Reference

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Oracle Communications User Data Repository Alarms, KPIs, and Measurements Reference, Release 12.1
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Chapter 1

Introduction

Topics:

- *Overview.....11*
- *Scope and Audience.....11*
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- *Locate Product Documentation on the Oracle Help Center Site.....12*
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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 location 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 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 UDR 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 UDR. For example, DSR applications (such as RBAR, FABR, CPA, and Policy DRA) and IPFE are currently not used by UDR, 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	Danger: (This icon and text indicate the possibility of <i>personal injury</i> .)
 WARNING	Warning: (This icon and text indicate the possibility of <i>equipment damage</i> .)
 CAUTION	Caution: (This icon and text indicate the possibility of <i>service interruption</i> .)
 TOPPLE	Topple: (This icon and text indicate the possibility of <i>personal injury and equipment damage</i> .)

Related Publications

For information about additional publications that are related to this document, refer to the *Related Publications Reference* document, which is published as a separate document on the Oracle Help Center (OHC) site. See [Locate Product Documentation on the Oracle Help Center Site](#) for more information.

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:

- [User interface organization.....16](#)
- [Common Graphical User Interface Widgets.....18](#)

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	Displays the company name, product name and version, and the alarm panel.
Session Banner	Next bar across the top of the web page	<p>The left side of the banner just above the Main Menu provides the following session information:</p> <ul style="list-style-type: none"> • 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. <p>The right side of the banner:</p> <ul style="list-style-type: none"> • 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	<p>A tree-structured menu of all operations that can be performed through the user interface. The plus character (+) indicates a menu item contains subfolders.</p> <ul style="list-style-type: none"> • 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	<p>Consists of three sections: Page Title Area, Page Control Area (optional), and Page Area.</p> <ul style="list-style-type: none"> • 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

Element	Location	Function
		<p>display in this area. The Page Control Area contains the optional layout element toolbar, which displays different elements depending on which GUI page is selected. For more information, see Optional Layout Element Toolbar.</p> <ul style="list-style-type: none"> • 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.

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	<p>The Administration menu allows you to:</p> <ul style="list-style-type: none"> • Set up and manage user accounts <ul style="list-style-type: none"> Prepare, initiate, monitor, and complete upgrades View the software versions report • 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

Menu Item	Function
	<ul style="list-style-type: none"> • 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.



ORACLE®

Oracle System Login Wed Jul 8 14:20:00 2015 EDT

Log In

Enter your username and password to log in

Username:

Password:

Change password

Welcome to the Oracle System Login.

Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.

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Other names may be trademarks of their respective owners.

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Figure 1: Oracle System Login

1. From the **Main Menu**, select **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.

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.
	Group	Contains operations related to groups.
	Help	Launches the Online Help.

Icon	Name	Description
	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](#).

Displaying Records 1-1 of 1 | [First](#) | [Prev](#) | [Next](#) | [Last](#)

Action	System ID	IP Address	Permission	Action
Edit Delete	lisa	10.25.62.4	READ_WRITE	Edit Delete

Displaying Records 1-1 of 1 | [First](#) | [Prev](#) | [Next](#) | [Last](#)

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 resolve a hostname specified in the NodeInfo table.

[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.

Username: (5-16 characters)

Group: ▼

Time Zone: ▼

Maximum Concurrent Logins: Maximum concurrent logins for a user (0=no limit).
[Default = 1; Range = 0-50]

Session Inactivity Limit: Time (in minutes) after which login sessions expire (0 = never).
[Default = 120; Range = 0-120]

Comment: (max 64 characters)

Temporary Password: (8-16 characters)

Re-type Password: (8-16 characters)

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.

Entire Network	*	System.CPU_CoreUtilPct_Average		System.CPU_CoreUtilPct_Peak		
NOAMP						
SOAM						
	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

Retrieve Add Update Delete

Fields marked with a red asterisk (*) require a value.

Field	Value	Description
Network Entity	<input type="text"/>	* Numeric identifier for the Network Entity 1-15 DIGITS

Retrieve

Figure 6: Tabbed pages

Reports

Reports provide a formatted display of information. Reports are generated from data tables by clicking the **Report** button. 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**, select **Administration > General Options**.
The **General Options** page appears.
2. Locate **WelcomeMessage** 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.
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.

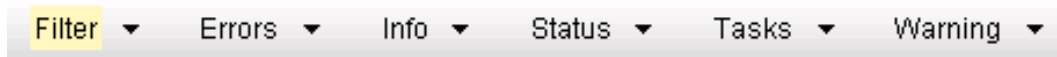


Figure 9: Optional Layout Element Toolbar

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.

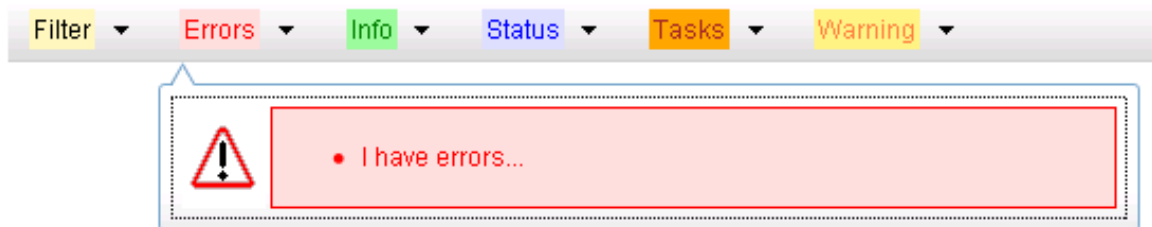


Figure 10: Automatic Error Notification

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 will 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 will be 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.
The filter tool appears.
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.
The filter tool appears.
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.
The filter tool appears.
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.
The selected operator appears in the field.
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.

Auto Refresh : 15 | 30 | Off

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**, select **Administration > General Options**.

The **General Options Administration** page appears.

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.

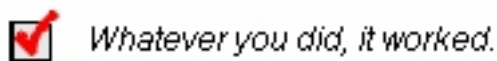
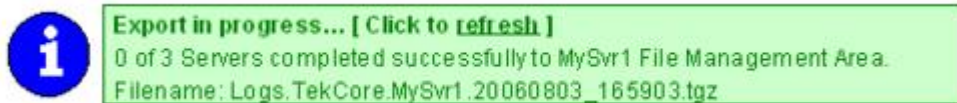
Apply saves the change and remains on the same page.

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:

- [General alarms and events information.....31](#)
- [List of alarms.....34](#)

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.

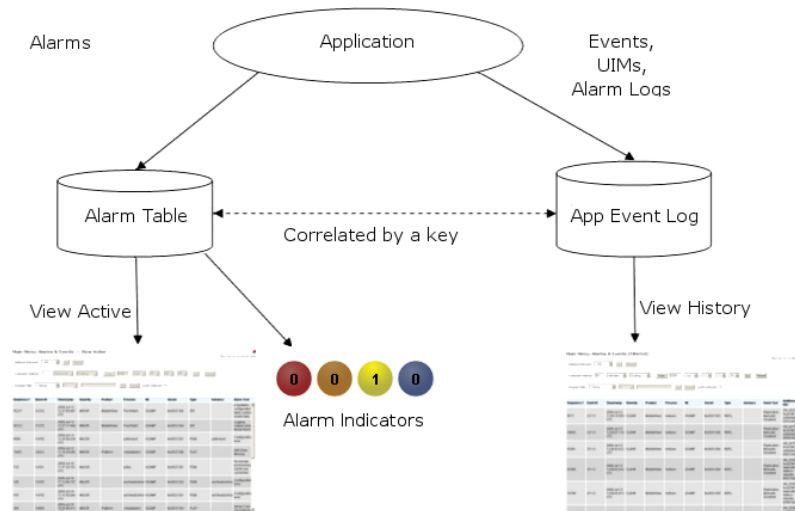


Figure 12: Flow of Alarms

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.








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

Figure 13: Alarm Indicators Legend



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

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
Operations, Administration, and Maintenance (OAM)	10000-10999
IDIH	11500-11549
Provisioning (PROV) (UDR RAS, XSAS, and Prov-Misc)	13000-13100
User Data Repository (UDR)	13101-13500
Communication Agent (ComAgent)	19800-19899
EXG Stack	19900-19999
Diameter	22000-22999
Computer Aided Policy Making (CAPM)	25000-25499
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

Type Name	Type
IDIH	Integrated Diameter Intelligence Hub
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.

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:

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:

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:

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, 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, 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:

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:

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, 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. Contact [My Oracle Support \(MOS\)](#) if failures persist.

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:	Failed
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:

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, 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:

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:

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, 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, 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, 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, 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:

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:

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:

Contact [My Oracle Support \(MOS\)](#) for assistance.

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.

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.

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 that server. Navigate to the Upgrade page (**Administration > Software Management > Upgrade**).
2. Select the "Server Group" tab containing the server that raised the alarm.
3. Select the individual server(s) and then click the **Server Upgrade** 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.

4. If no servers in the group have been upgraded, you can select **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.

10135 - Server Upgrade Canceled - User Request

Event Group:	LOG
Description:	The server upgrade was canceled by the user.
Severity:	Info
Instance:	<ServerGroupName>
HA Score:	Normal
Throttle Seconds:	1
OID:	tekelecLogServerUpgradeCancelledUser

Recovery:

No action required.

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:	awpss7TekelecSamLoginSuccessNotify

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 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, contact [My Oracle Support \(MOS\)](#).

11500-11549 - IDIH

This section provides information and recovery procedures for Integrated Diameter Intelligence Hub (IDIH) alarms, which range from 11500 to 11549.

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.

11500 - Tracing Suspended

Alarm Group:	IDIH
Description:	IDIH trace has been suspended due to DA-MP (danger of) CPU congestion.
Severity:	Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterTracingSuspendedAlarmNotify

Recovery:

No action required. Tracing will resume once the danger of CPU congestion subsides.

11501 - Trace Throttling Active

Alarm Group:	IDIH
Description:	Troubleshooting trace has been throttled on some DA-MPs due to IDIH TTR bandwidth usage exceeding provisioned limit.
Severity:	Minor
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterTracingThrottledAlarmNotify

Recovery:

No action required

11502 - Troubleshooting Trace Started

Event Group:	IDIH
Description:	A troubleshooting trace instance was started.
Severity:	Info
Instance:	<TraceInstanceId>
HA Score:	Normal
Throttle Seconds:	0

OID: eagleXgDiameterIDIHTraceStartedNotify

Recovery:

No action required.

11503 - Troubleshooting Trace Stopped

Event Group: IDIH

Description: A troubleshooting trace instance was stopped.

Severity: Info

Instance: <TraceInstanceId>

HA Score: Normal

Throttle Seconds: 0

OID: eagleXgDiameterIDIHTraceStoppedNotify

Recovery:

No action required

11504 - Invalid DIH IP address

Alarm Group: IDIH

Description: Unable to connect via ComAgent to remote DIH server with HostName

Severity: Minor

Instance: String of Configured DIH HostName

HA Score: Normal

Auto Clear Seconds: 0 (zero)

OID: eagleXgDiameterInvalidDihIpAddressAlarmNotify

Recovery:

No action required

11506 - Invalid IDIH-Trace AVP

Alarm Group: IDIH

Description: An IDIH-Trace AVP has been received with an invalid format.

Severity: Info

Instance: <TransConnName>

HA Score: Normal

Throttle Seconds: 30

OID: eagleXgDiameterInvalidIDIHTraceAvpNotify

Recovery:

1. If the message came from a peer that is not a DA-MP, verify that the peer is not modifying the AVP value (peers may retain the IDIH-Trace AVP unchanged, or remove it entirely, at their discretion).
2. If the message came from a peer that is a DA-MP, contact [My Oracle Support \(MOS\)](#).

11507 - Unable to run network trace at this site

Alarm Group:	IDIH
Description:	A network trace could not be run at this site because the connection or peer referenced by the trace scope value is not configured at this site. The trace will still run at sites that have this entity configured.
Severity:	Info
Instance:	<TraceName>
HA Score:	Normal
Throttle Seconds:	0
OID:	eagleXgDiameterUnableToRunNetworkTraceAtThisSiteNotify

Recovery:

No action required; the trace will still run at all sites that have the indicated object configured at their site.

11508 - Network Trace Configuration Error

Alarm Group:	IDIH
Description:	An error occurred during configuration of the network trace. Please delete the trace definition.
Severity:	Minor
Instance:	<TraceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterNetworkTraceConfigurationErrorNotify

Recovery:

Delete the network trace that raised the alarm.

11509 - Site Trace Configuration Error

Alarm Group:	IDIH
Description:	An error occurred during configuration of the site trace. Please delete the trace definition.
Severity:	Minor

Instance:	<TraceName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterSiteTraceConfigurationErrorNotify
Recovery:	Delete the site trace that raised the alarm.

11510 - Network Trace Activation Error

Alarm Group:	IDIH
Description:	Network trace is not active on this site. A temporary error occurred during the activation of the network trace.
Severity:	Minor
Instance<TraceName>:	
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterNetworkTraceActivationErrorNotify
Recovery:	No action required.

11511 - Invalid DIH HostName

Alarm Group	DIAM
Description	Unable to connect via ComAgent to remote DIH server with hostname.
Severity	Minor
Instance	String of Configured DIH HostName
HA Score	Normal
Auto Clear Seconds	0
OID	eagleXgDiameterInvalidDihHostNameAlarmNotify
Recovery	No action required.

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, contact [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, contact [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 <i>Connection ID</i> , IP <i>IP Address</i>)
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:	<ol style="list-style-type: none"> 1. Attempt to re-establish the RAS connection. 2. If the problem persists, contact My Oracle Support (MOS).

13012 - RAS Connection Denied

Alarm Type:	UDR
Description:	<p>This event is generated each time a local or remote provisioning client initiated connection establishment is denied due to one of the following reasons:</p> <ul style="list-style-type: none"> • 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:	<ol style="list-style-type: none"> 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, contact [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, contact [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, contact [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, contact [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: <ul style="list-style-type: none"> • 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, contact [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, contact [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, contact [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, contact [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, contact [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, contact [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, contact [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, contact [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:

Contact [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: <ul style="list-style-type: none"> • 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, contact [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: <ul style="list-style-type: none"> • 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, contact [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: <ul style="list-style-type: none"> • 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, contact [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: <ul style="list-style-type: none"> • 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, contact [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: <ul style="list-style-type: none"> • 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, contact [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: <ul style="list-style-type: none"> • 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, contact [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, contact [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, contact [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 the key exchange with the remote server is not done successfully.
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, contact [My Oracle Support \(MOS\)](#).

13071 - No Northbound Provisioning Connections

Alarm Type:	PROV
Description:	Alarm occurs when UDR 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 UDR.
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, contact [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, contact [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:

Contact [My Oracle Support \(MOS\)](#).

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:	Contact My Oracle Support (MOS) .

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:	Contact My Oracle Support (MOS) .

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:	Contact My Oracle Support (MOS) .

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.

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. Contact [My Oracle Support \(MOS\)](#).

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:

Contact [My Oracle Support \(MOS\)](#).

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:

Contact [My Oracle Support \(MOS\)](#).

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, contact [My Oracle Support \(MOS\)](#).

13255 - Notification Table Full

Alarm Type	UDR
Description:	<p>The Notification table contains too many notifications that have not been delivered to ASs. This could be because:</p> <ul style="list-style-type: none"> • The rate at which notifications are being produced exceeds the rate at which they can be delivered. • Notifications cannot be delivered to AS(s) because they are unavailable, and the notifications are being buffered for delivery at a later time. <p>The alarm severity depends upon the amount of the Notification Table being used:</p> <ul style="list-style-type: none"> • 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:	xgSDMNotificationTableFull

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 UDR MP.
3. Verify that the application server(s) 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 UDR. Contact [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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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, contact [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 (yes or no).
Severity:	Info
Instance:	N/A
HA Score:	Normal
Auto Clear Seconds:	0
OID:	xgSDMAuditStatisticsReportPool

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. Contact [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**.

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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 \(MOS\)](#).

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: <ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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.

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. 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. 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. 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. 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.
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.
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. 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. 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. 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.

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.

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.
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.
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.
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.

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.

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.

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: <ul style="list-style-type: none"> • Unknown destination server • Connection state is not InService • Incompatible destination • Serialization failed • MxEndpoint send failed • Internal error
Severity:	Info
Instance:	<RemoteIP> <p>Note: If <RemoteIP> is not known at the time of message discard, then "Unknown" will be used.</p>
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. 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. 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. 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. 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**. Contact [My Oracle Support \(MOS\)](#) for assistance.

19818 - Communication Agent DataEvent Mempool utilization

Event Type:	CAF
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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, 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. 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. 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. 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. 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. 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. 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. 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, then 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, then 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. 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. 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. 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. 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 AddInfo.

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. 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. 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: cAFEvtSvcProvRegStateChangedNotify

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: cAFEvtSvcProvOpStateChangedNotify

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, 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, 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, then 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, then 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, then 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, then 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:	<ul style="list-style-type: none"> • 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. 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. 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, 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, 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: <ul style="list-style-type: none"> • 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. 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
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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.
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.

Contact [My Oracle Support \(MOS\)](#) for assistance.

19902 - CFG-DB Update Failure

Alarm Group:	STK
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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.

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.

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.

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.

Contact [My Oracle Support \(MOS\)](#) for assistance.

19910 - Message Discarded at Test Connection

Event Type:	DIAG
Description:	Normal traffic is being discarded because it is routed to an egress Test Connection. An egress Test Connection is given a normal message to be transmitted.
Severity:	Major
Instance:	<Connection name>
HA Score:	Normal
Auto Clear Seconds:	120
OID:	dbcNormalMessageDiscardedNotify

Recovery:

1. Update routing rules to exclude Test connections from being used for routing.
Normal traffic should be received and sent on non-test connections.
2. Change the hostname of the peer connected to the test connection.

The hostname of the peer connected to the test connection may be the destination host for the incoming normal traffic.

19911 - Test message discarded

Event Type:	DIAG
Description:	Test message is given to a non-test connection to be transmitted.
Severity:	Info
Instance:	<Connection name>
HA Score:	Normal
Throttle Seconds:	5
OID:	dbcDiagnosticMessageDiscardNotify

Recovery:

Update routing rules to exclude Test messages from being routed to non-test connection.
Test messages should be received and sent only on test connections.

22000-22999 - Diameter

This section provides information and recovery procedures for Diameter alarms and events, ranging from 22000 - 22999, 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. 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, contact [My Oracle Support \(MOS\)](#).

22006 - Forwarding Loop Detected

Event Type:	DIAM
Description:	The Ingress Request message received was previously processed by the local node as determined from the Route-Record AVPs received in the message.
Severity:	Info
Instance:	<PeerName>
HA Score:	Normal
Throttle Seconds:	10
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 incorrectly routing the message and the issue cannot be fixed using this application.
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, 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 not 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, 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 > System Options** 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, 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, contact [My Oracle Support \(MOS\)](#) for assistance.

22012 - Specified MCCA not provisioned

Event Type: DIAM

Description: The Message Copy Config Set specified by the trigger point is not provisioned.

Severity: Info

Instance: <MCCA>

HA Score: Normal

Throttle Seconds: 10

OID: eagleXgDiameterSpecifiedMCCANotProvisionedNotify

Recovery:

1. Verify the configured value of MCCA with the trigger point.
2. Verify the Message Copy CfgSet (MCCA) provisioning is properly configured.
3. If the problem persists, 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, 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:

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. 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. 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, 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, 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, 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, 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, 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: <ol style="list-style-type: none"> 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, 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, 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, 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, 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, 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. 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, 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, 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, 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, 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, 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, contact [My Oracle Support \(MOS\)](#)

22066 - ETG-ETL Scope Inconsistency

Alarm Group:	DIAM
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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, 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, contact [My Oracle Support \(MOS\)](#).

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, contact [My Oracle Support \(MOS\)](#).

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, 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, 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, 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, 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 \(MOS\)](#).

22106 - Ingress Message Discarded: DA-MP Ingress Message Rate Control

Alarm Group:	DIAM
Description:	An ingress message is discarded due to connection (or DA-MP) ingress message rate exceeding connection (or DA-MP) maximum ingress MPS.
Severity:	Major
Instance:	<MPHostName>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterIngressMessageDiscardedAlarmNotify

Recovery:

1. The ingress MPS on the DA-MP is exceeding the MP Maximum Ingress MPS. Consider decreasing the overall ingress message rate on the DA-MP by diverting the traffic or reducing the traffic.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#) for assistance.

22150 - FSM Anonymous Failure

Event Type:	DIAM
Description:	The anonymous connection has encountered a failure condition.
Severity:	Info

Instance:	<MpName>/<FailureCode>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterMpEvFsmAnonFailureNotify
Recovery:	No action required.

22170 - FSM Initiator Failure

Event Type:	DIAM
Description:	The initiator connection has encountered a failure condition.
Severity:	Info
Instance:	<TransConnName>/<FailureCode>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterEvFsmInitFailureNotify
Recovery:	No action required.

22200 - MpCpuCongested

Alarm Group:	DIAM
Description:	The Diameter Process is approaching or exceeding its engineered traffic handling capacity.
Severity:	Minor, Major, Critical
Instance:	dSr.Cpu, ExgStack
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMpCpuCongested

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 \(MOS\)](#).

22201 - MpRxAllRate

Alarm Group:	DIAM
Description:	The ingress message rate for the MP is approaching or exceeding its engineered traffic handling capacity.
Severity:	Minor, Major, Critical
Instance:	MpRxAllRate, DIAM
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterIngressMsgRateNotify

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, contact [My Oracle Support \(MOS\)](#).

22202 - MpDiamMsgPoolCongested

Alarm Group:	DIAM
Description:	The MP's PDU 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:	MpDiamMsgPool, DIAM
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMpDiamMsgPoolCongested

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, 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, 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, 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, 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, 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, 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. 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, contact [My Oracle Support \(MOS\)](#).

22215 - Ingress Message Discarded: DA-MP Overload Control

Alarm Group:	DIAM
Description:	Ingress message is discarded due to DA-MP CPU congestion
Severity:	Major
Instance:	MPHostName (Hostname of the DA-MP)
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterIngressMessageDiscardedOverLoadControlAlarmNotify

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, contact [My Oracle Support \(MOS\)](#).

22216 - Ingress Message Discarded: Priority 0 message discarded by DA-MP Overload Control

Alarm Group:	DIAM
Description:	Ingress Priority 0 message discarded due to DA-MP CPU congestion.
Severity:	Info
Instance:	MPhostName (Hostname of the DA-MP)
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterMpIngressPri0MessageDiscardedNotify

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, contact [My Oracle Support \(MOS\)](#).

22217 - Ingress Message Discarded: Priority 1 message discarded by DA-MP Overload Control

Alarm Group:	DIAM
Description:	Ingress Priority 1 message discarded due to DA-MP CPU congestion.
Severity:	Info

Instance:	MPSHostName (Hostname of the DA-MP)
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterMpIngressPri1MessageDiscardedNotify

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, contact [My Oracle Support \(MOS\)](#).

22218 - Ingress Message Discarded: Priority 2 message discarded by DA-MP Overload Control

Alarm Group:	DIAM
Description:	Ingress Priority 2 message discarded due to DA-MP CPU congestion.
Severity:	Info
Instance:	MPSHostName (Hostname of the DA-MP)
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterMpIngressPri2MessageDiscardedNotify

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, contact [My Oracle Support \(MOS\)](#).

22220 - Connection Congestion Level change

Event Type:	DIAM
Description:	The egress congestion level associated with the connection has changed. When a connection's egress queue is congested, the connection's operational status will be Degraded. If this problem persists and the queue reaches 100% utilization all new egress messages for the Connection will be discarded. This event should not normally occur when no other congestion alarms are asserted.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterConnCongestionLevelChangeNotify

Recovery:

1. An IP network or Diameter peer problem may exist thus preventing SCTP/TCP from transmitting messages into the network at the same pace that messages are being received from the network.
2. The transport task associated with the connection may be experiencing a problem preventing it from processing events from its Connection Event Message Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If one or more MPs in a server site have failed, the traffic will be distributed among the remaining MPs in the server site. MP server status can be monitored using the **Status & Manage > Server** page.
4. 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 using the **Status & Manage > KPIs** page. 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 using 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.
6. If the problem persists, 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, 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, contact [My Oracle Support \(MOS\)](#).

22223 - MpMemCongested

Alarm Group:	DIAM
Description:	DA-MP memory utilization has exceeded its configured limits.
Severity:	Minor, Major, Critical
Instance:	System.RAM_UtilPct, DSR
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterMpMemCongested

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.

22300 - Connection Unavailable: Socket configuration failure

Event Type:	DIAM
Description:	Software failure attempting to configure SCTP or TCP socket.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterConnUnavailSocketCfgFailureNotify

Recovery:

Contact [My Oracle Support \(MOS\)](#).

22301 - Connection Unavailable: Connection initiation failure

Event Type:	DIAM
Description:	Failure occurred while attempting to initiate SCTP or TCP connection with the peer.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterConnUnavailConnInitFailureNotify

Recovery:

1. Confirm that connection is not administratively Disabled at the peer.
2. Confirm that peer connection configuration (protocol, remote/local IP address, remote/local port) matches local connection configuration.
3. Confirm IP network connectivity between peer IP and local IP for the connection.
4. 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.
5. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22302 - Connection Unavailable: Received malformed message

Event Type:	DIAM
Description:	Diameter message received from peer with invalid or inconsistent header/AVP length fields.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterReceivedMalformedMessageNotify

Recovery:

1. Determine if other nodes/MPs connected to the peer are also experiencing problems with messages received from the peer. If so, the peer should be diagnosed.
2. Determine if other connections on this same MP are also experiencing problems. If so, the MP should be removed moved from service, replaced, and the [My Oracle Support \(MOS\)](#) should be contacted to assist with resolution.

22303 - Connection Unavailable: Peer closed connection

Event Type:	DIAM
Description:	The SCTP or TCP connection was closed by the peer.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailPeerClosedConnNotify

Recovery:

1. If unexpected, use peer node diagnostic/log information to determine why peer closed connection.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22304 - Connection Unavailable: Proving Failure

Event Type:	DIAM
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Description:	Connection closed after DWR/DWA based proving algorithm failure.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailProvingFailureNotify

Recovery:

1. Compare your Capabilities Exchange Request (CER) configuration to the far end configuration to identify any mismatch between the two.
2. Examine the peer to determine why it is not responding to Device-Watchdog-Requests (DWRs).
3. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22305 - Connection Admin State change

Event Type:	DIAM
Description:	The Administrative state of the connection has changed.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnectionAdminStateChangeNotify

Recovery:

No action required.

22306 - Connection Unavailable: Timeout waiting for CER/CEA

Event Type:	DIAM
Description:	Connection closed after Tcex timer expired while waiting on CER or CEA from peer.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailTimedOutWaitingForCexNotify

Recovery:

1. For locally initiated connections, confirm that the configured Tcex timer value is not less than the time expected for the peer to respond with CEA after receiving CER.

2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22307 - Connection Unavailable: Timeout waiting for DPA

Event Type:	DIAM
Description:	Connection closed after Tdpa timer expired while waiting on DPA from peer.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailTimedOutWaitingForDpxNotify

Recovery:

No action required.

22308 - Received Unexpected CER/CEA

Event Type:	DIAM
Description:	CER or CEA message was received from the peer when it was not expected.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterReceivedUnexpectedCexNotify

Recovery:

1. Diagnose peer for unexpected behavior.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22309 - Received Unexpected DWR/DWA

Event Type:	DIAM
Description:	DWR or DWA message was received from the peer when it was not expected.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterReceivedUnexpectedDwxNotify

Recovery:

1. Diagnose peer for unexpected behavior.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22310 - Received Unexpected DPR/DPA

Event Type:	DIAM
Description:	DPR or DPA message was received from the peer when it was not expected.
Severity:	Info
Instance:	TransConnName
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterReceivedUnexpectedDpxNotify

Recovery:

1. Diagnose peer for unexpected behavior.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22311 - Invalid Diameter message received

Event Type:	DIAM
Description:	Diameter message received from peer which was decodable but contained a semantic error.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterReceivedInvalidDiameterMessageNotify

Recovery:

1. Analyze MsgOctets from Event Addn'l Data to determine which semantic error occurred and diagnose peer for unexpected behavior.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22312 - Socket send failure

Event Type:	DIAM
Description:	An unexpected error occurred during the socket send call when attempting to send a Diameter message to the peer.
Severity:	Info
Instance:	<TransConnName>

HA Score: Normal
Throttle Seconds: 30
OID: eagleXgDiameterFailedToSendDiameterMessageNotify

Recovery:

1. Analyze errno value and text from Event Addn'l Info to determine root cause.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22313 - Connection Unavailable: Transport failure

Event Type: DIAM
Description: The connection was closed by the SCTP or TCP transport.
Severity: Info
Instance: <TransConnName>
HA Score: Normal
Throttle Seconds: 1
OID: eagleXgDiameterConnUnavailTransportFailureNotify

Recovery:

1. Analyze error value to determine root cause.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22314 - Connection Unavailable: CEA Realm/Host validation failure

Event Type: DIAM
Description: Origin-Realm and/or Origin-Host in CEA message received from peer on locally initiated connection does not match the locally configured connection.
Severity: Info
Instance: <TransConnName>
HA Score: Normal
Throttle Seconds: 1
OID: eagleXgDiameterConnUnavailCeaRealmHostVldtnFailNotify

Recovery:

1. Confirm that peer connection configuration (Realm, Host, protocol, remote/local IP address, remote/local port) matches local connection configuration.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

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 \(MOS\)](#).

22316 - Connection Unavailable: No common apps

Event Type:	DIAM
Description:	No common applications were found between local node and peer node during capabilities exchange.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailNoCommonAppsNotify

Recovery:

1. Reconcile Application IDs between local and peer nodes. If no common applications exist, the connection should be deleted or Disabled.
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 \(MOS\)](#).

22319 - Connection Unavailable: Diameter Watchdog

Event Type:	DIAM
Description:	Connection closed due to no traffic from peer within Tw*2 time after sending DWR.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailWatchdogFailureNotify

Recovery:

1. Confirm that the connection is not administratively Disabled at the peer.
2. Confirm that the peer connection configuration (protocol, remote/local IP address, remote/local port) matches local connection configuration.
3. Confirm there is reliable IP network connectivity between the peer IP and the local IP for the connection (no excess packet loss).
4. 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.
5. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22320 - Invalid peer initiated connection

Event Type:	DIAM
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Description:	Origin-Realm and or Origin-Host in CER message received or the peer IP addresses advertised on peer initiated connection does not match any locally configured connection.
Severity:	Info
Instance:	<MPName>
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterInvalidPeerInitdConnNotify

Recovery:

1. Confirm that peer connection configuration (Realm, Host, protocol, remote/local IP address, remote/local port) matches local connection configuration.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22321 - Connection Unavailable: DNS Resolution Failure

Event Type:	DIAM
Description:	During connection initiation, Transport/Peer FQDN was unable to be resolved to an IP address via DNS.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnUnavailDnsResolutionFailureNotify

Recovery:

1. Confirm DNS is available and reachable by DA-MP.
2. Confirm that DNS configuration contains peer FQDN and appropriate corresponding IP address(es).
3. Analyze errno value and text from Event Addn'l Info to determine root cause.
4. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22322 - Connection Proving Success

Event Type:	DIAM
Description:	The connection proving phase completed successfully.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterConnProvingSuccessNotify

Recovery:

No action required.

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 \(MOS\)](#).

22326 - Connection Established

Event Type: DIAM
Description: The peer connection is available for signaling traffic.
Severity: Info
Instance: <TransConnName>
HA Score: Normal
Throttle Seconds: 1
OID: eagleXgDiameterConnEstablishedNotify

Recovery:

No action required.

22327 - Initiator function disabled

Event Type: DIAM
Description: Peer disconnect reason indicated that we should not attempt to initiate a connection.
Severity: Info
Instance: <TransConnName>
HA Score: Normal
Throttle Seconds: 1
OID: eagleXgDiameterInitiatorFunctionDisabledNotify

Recovery:

1. No action required. The peer can still initiate a connection. If the peer does not attempt to initiate a connection within a reasonable amount of time, the connection can be disabled, then re-enabled to re-activate the initiator function.
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.

22329 - SCTP Connection Impaired: A path has become unreachable

Event Type: DIAM

Description: A path of an established SCTP connection has become unreachable.

Severity: Info

Instance: <TransConnName:Peer IP> (peer/remote IP of the failed path)

HA Score: Normal

Throttle Seconds: 10

OID: eagleXgDiameterSctpConnectionImpairedNotify

Recovery:

1. Check whether the routing path between the local IP address and the peer IP address is up. If it is not, fix it.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

22330 - SCTP Connection Cfg Mismatch: The peer advertised a different number of IP addresses than configured

Event Type: DIAM

Description: 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.

Severity: Info

Instance: <TransConnName>

HA Score: Normal

Throttle Seconds: 1

OID: eagleXgDiameterSctpConnectionCfgMismatchNotify

Recovery:

Check the peer configuration on the local node and the networking configuration on the peer itself with regard to which IP addresses the peer shall advertise.

22331 - SCTP Connection Partial Matching: SCTP connection accepted but the IP addresses advertised by the peer match only partially those configured for the peer in the connection object

Event Type: DIAM

Description: The peer has advertised in the INIT/INIT_ACK chunk a set of IP addresses which overlap but does not include all the IP addresses configured for the peer in the respective connection object.

Severity: Info

Instance: <TransConnName>

HA Score: Normal

Throttle Seconds: 1

OID: eagleXgDiameterSCTPConnectionPartialMatchingNotify

Recovery:

1. Check the peer configuration on the local node and the networking configuration on the peer itself with regard to which IP addresses the peer shall advertise.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

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. Contact [My Oracle Support \(MOS\)](#) for assistance.

22334 - Unexpected Message Priority in ingress Request

Event Type:	DIAM
Description:	The Priority value decoded from the incoming message is not correct.

Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	20
OID:	eagleXgDiameterUnexpMessagePriorityInRequestNotify

Recovery:

1. Verify that the peer is a DSR.
 - Product-Name is reported as “Eagle XG DSR”, in the Event Additional Information.
 - Vendor-Id is reported as 323 (Tekelec).
2. Verify that the Firmware-Revision reported in the Event Additional Information represents a DSR software version that supports the Message Priority Feature.
 - Call *My Oracle Support (MOS)* and obtain the minimum DSR software version that supports Message Priority and compare with this information.
 - If the reported Firmware-Version is greater than or equal to the minimum required DSR software version, call *My Oracle Support (MOS)*.
 - If the reported Firmware-Version is less than the minimum required DSR software version, call *My Oracle Support (MOS)* to seek advice on whether the peer DSR needs to be upgraded, or whether the Message Priority Setting for this Transport Connection or Peer Node needs to be changed to “None”.

22335 - Peer does not support Message Priority

Event Type:	DIAM
Description:	The Peer does not support the Message Priority feature. Therefore, the Peer does not encode Message Priority in the request.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	20
OID:	eagleXgDiameterMessagePriorityNotSuppPeerNotify

Recovery:

1. Verify that the peer is a DSR.
 - Product-Name is reported as “Eagle XG DSR”, in the Event Additional Information.
 - Vendor-Id is reported as 323 (Tekelec).
2. Verify that the Firmware-Revision reported in the Event Additional Information represents a DSR software version that supports the Message Priority Feature.
 - Call *My Oracle Support (MOS)* and obtain the minimum DSR software version that supports Message Priority and compare with this information.

- If the reported Firmware-Version is greater than or equal to the minimum required DSR software version, call *My Oracle Support (MOS)*.
- If the reported Firmware-Version is less than the minimum required DSR software version, call *My Oracle Support (MOS)* to seek advice on whether the peer DSR needs to be upgraded, or whether the Message Priority Setting for this Transport Connection or Peer Node needs to be changed to “None”.

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. Contact *My Oracle Support (MOS)* for assistance.

22343 - Connection Unavailable: Duplicate Connection Released

Event Type:	DIAM
Description:	Duplicate connection established, connection terminated.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterDuplicateConnectionReleasedNotify

Recovery:

No action necessary.

22344 - Failed to process ingress message: Processor Unavailable or Congested

Event Type:	DIAM
Description:	The DSR message processor is Unavailable or Congested.
Severity:	Info
Instance:	<SourceMpHost>

HA Score:	Normal
Throttle Seconds:	10
OID:	eagleXgDiameterProcessorUnavlblOrCngstedNotify

Recovery:

1. See the recovery steps for measurement *RxAnsFwdFailed* in *DSR Measurement Reference*.
2. Contact [My Oracle Support \(MOS\)](#) for further assistance.

22345 - Connection Priority Level changed

Event Type:	DIAM
Description:	The Diameter Connection's CPL has transitioned from its current value to a new CPL value based on congestion levels reported by various features.
Severity:	Info
Instance:	<TransConnName>
HA Score:	Normal
Throttle Seconds:	0 (zero)
OID:	eagleXgDiameterCplChangedNotify

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. Identify the most recent "Connection Degraded" event in the event log for the connection and utilize the Event Detailed information to diagnose the condition.
3. If the problem persists, contact [My Oracle Support \(MOS\)](#) for assistance.

22346 - DA-MP Reserved Ingress MPS Oversubscribed

Event Type:	DIAM
Description:	The total connection Reserved Ingress MPS exceeds the Engineered Ingress MPS capacity of the DA-MP.
Severity:	Info
Instance:	MPName (Hostname of the DA-MP Server)
HA Score:	Normal
Throttle Seconds:	1
OID:	eagleXgDiameterMpResIngressMpsOversubscribedNotify

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. Perform one or more of these actions:
 - Increase the maximum reserved capacity by increasing the value of IPFE Connection Reserved Ingress MPS Scaling parameter.
 - Reduce the subscribed amount of reserved capacity by reducing the number of connections.
 - Reduce the reserved capacity required by connections.
3. If the problem persists, contact [My Oracle Support \(MOS\)](#) for assistance.

22347 - Ingress Message Discarded: DA-MP shared ingress capacity exhausted

Alarm Group:	DIAM
Description:	An ingress message is discarded on a DA-MP due to the ingress message rate on the DA-MP exceeding MP Maximum Ingress MPS.
Severity:	N/A
Instance:	<MPHostName>
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterMpIngressMessageDiscardedNotify

Recovery:

1. The ingress MPS on the DA-MP is exceeding the MP Maximum Ingress MPS. Consider decreasing the overall ingress message rate on the DA-MP by diverting the traffic or reducing the traffic.
2. If the problem persists, 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. 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. 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:
 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:
 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, 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, contact [My Oracle Support \(MOS\)](#).

25000-25499 - Computer Aided Policy Making

This section provides information and recovery procedures for the Computer-Aided Policy Making (CAPM) feature (i.e., Diameter Mediation) alarms and events, ranging from 25000 - 25499, 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.

25000 - CAPM Update Failed

Event Type:	CAPM
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Description:	The Rule Template failed to update because of syntax errors. The Additional Info of the Historical alarm includes the name of the Rule Template that failed to be updated. When the alarm is caused by CAPM Rule Template which contains a syntax error, it may not be raised immediately after applying the template, but may occur when the first Rule has been provisioned and committed.
Severity:	Minor
Instance:	<ruleset> or <ruleset:rule-id>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterCapmUpdateFailedNotify

Recovery:

1. Check the CAPM Rule Template and verify that the left-hand side term of each condition contains a valid Linking-AVP or Select expression.

A typical problem can be a non-existing expression, or syntax error of a custom-defined Select expression. If the CAPM Rule Template contains a syntax error, create a new Rule Template by copying and modifying the existing one, then deleting the old Rule Template.
2. Verify also that the recently provisioned data of the Rule Template does not contain a syntax error, i.e., the regular expressions are correct, the fields expecting numbers contain only numbers, etc.

25001 - CAPM Action Failed

Event Type:	CAPM
Description:	When a new Rule Template is created, a failure occurs when performing the action.
Severity:	Info
Instance:	<ruleset> or <ruleset:rule-id>
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterCapmActionFailedNotify

Recovery:

Check the reasons the action failed. It may be a lack of system resources to perform an action, or the action may refer to a part of the message that is not available.

25002 - CAPM Exit Rule Template

Event Type:	CAPM
Description:	When Action Error Handling is set to 'immediately exit from the rule template' for the given Rule Template and a failure occurs

	when performing the action, processing of the Rule Template is stopped.
Severity:	Info
Instance:	<ruleset> or <ruleset:rule-id>
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterCapmExitRuleFailedNotify
Recovery:	No action required.

25003 - CAPM Exit Trigger

Event Type:	CAPM
Description:	When Action Error Handling is set to 'immediately exit from the trigger point' for the given Rule Template and a failure occurs when performing the action, processing of the Rule Template is stopped (subsequent templates within the trigger point are also skipped).
Severity:	Info
Instance:	<ruleset> or <ruleset:rule-id>
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterCapmExitTriggerFailedNotify
Recovery:	No action required.

25004 - Script failed to load

Alarm Type:	CAPM
Description:	Script syntax error
Severity:	Minor
Instance:	<script name>
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	eagleXgDiameterCapmScriptLoadingFailedNotify
Recovery:	Check for syntax errors in the script

25005 - CAPM Generic Event

Event Type:	CAPM
Description:	CAPM Generic Event
Severity:	Info
Instance:	<template-id:rule-id>
HA Score:	Normal
Throttle Seconds:	30
OID:	eagleXgDiameterCapmGenericInfoAlarmNotify

Recovery:

Contact [My Oracle Support \(MOS\)](#).

25006 - CAPM Generic Alarm - Minor

Event Type:	CAPM
Description:	CAPM Generic Alarm - Minor
Severity:	Minor
Instance:	<template-id:rule-id>
HA Score:	Normal
Auto Clear Seconds:	300
OID:	eagleXgDiameterCapmGenericMinorAlarmNotify

Recovery:

Contact [My Oracle Support \(MOS\)](#).

25007 - CAPM Generic Alarm - Major

Event Type:	CAPM
Description:	CAPM Generic Alarm - Major
Severity:	Major
Instance:	<template-id:rule-id>
HA Score:	Normal
Auto Clear Seconds:	300
OID:	eagleXgDiameterCapmGenericMajorAlarmNotify

Recovery:

Contact [My Oracle Support \(MOS\)](#).

25008 - CAPM Generic Alarm - Critical

Event Type:	CAPM
Description:	CAPM Generic Alarm - Critical
Severity:	Critical
Instance:	<template-id:rule-id>
HA Score:	Normal
Auto Clear Seconds:	300
OID:	eagleXgDiameterCapmGenericCriticalAlarmNotify

Recovery:

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, 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, contact [My Oracle Support \(MOS\)](#) for assistance.

31000-32700 - 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:

1. Export event history for the given server and the given process.
2. Contact [My Oracle Support \(MOS\)](#).

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. Export event history for the given server and the given process.
2. 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. Export event history for the given server and the given process.
2. 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. 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. Check network connectivity between the affected servers.
2. If there are no issues with network connectivity, 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. Export event history for the given server and inetsync task.
2. Contact [My Oracle Support \(MOS\)](#).

31104 - DB Replication latency over threshold

Alarm Group:	REPL
Description:	Database replication latency has exceeded thresholds
Severity:	Minor
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, 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. Export event history for the given server and inetmerge task.

2. 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. Check network connectivity between the affected servers.
2. If there are no issues with network connectivity, 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. Check network connectivity between the affected servers.
2. If there are no issues with network connectivity, 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, 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, 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. Export event history for the given server and idbsvc task.
2. 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:

No action required. 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. Check IMI network connectivity between the affected servers.
2. If there are no issues with network connectivity, 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. Export event history for the given server and idbsvc task.
2. 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:
 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, 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, 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:	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:	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:	<ol style="list-style-type: none"> 1. Remove unnecessary or temporary files from partitions that are greater than 80% full. 2. If there are no files known to be unneeded, contact My Oracle Support (MOS).

31122 - Excessive shared memory early warning

Alarm Group:	MEM
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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:	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:	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, 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:

Contact [My Oracle Support \(MOS\)](#).

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:

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, 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. Run 'procsh -o' to identify involved processes.
2. Contact [My Oracle Support \(MOS\)](#) if this alarm persists.

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:

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. Export event history for the given server, and Imysqld task.
2. 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. 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:

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:	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:	<ol style="list-style-type: none"> 1. Export event history for the given server, all processes. 2. 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:	

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. If the process does not exit, it may be necessary to reboot the server to eliminate the zombie process.
2. 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:

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:
 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:
 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, 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:	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:	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:	Contact My Oracle Support (MOS) .

31216 - SysMetric configuration error

Alarm Group:	SW
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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:	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:	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:	Contact My Oracle Support (MOS) .

31222 - HA not configured

Alarm Group:	HA
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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:	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:	<ol style="list-style-type: none"> 1. This alarm clears automatically when the server successfully registers for HA heartbeating. 2. If this alarm does not clear after a couple minutes, contact 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:	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, 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, 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:	300

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, 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, 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. Export event history for the given server and raclerk task.
2. 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:

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 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. 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, 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 remaining be 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, 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, 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. Export event history for the given server and statclerk task.
2. 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 indicate 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. Export event history for the given server and all processes.
2. 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. Contact [My Oracle Support \(MOS\)](#).

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, 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, 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:

Export event history for the given server and cmha task, then Contact [My Oracle Support \(MOS\)](#).

31283 - HA Server Offline

Alarm Group:	HA
Description:	High availability server is offline
Severity:	Critical
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0
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 Contact [My Oracle Support \(MOS\)](#).

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, 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:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

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:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

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:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

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:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

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:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

31295 - HA Action Status

Alarm Group:	HA
Description:	HA Resource action status
Severity:	Info
HA Score:	Normal
Auto Clear Seconds:	300
OID:	comcolHaActionStatusNotify

Recovery:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

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:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

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:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

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:

1. If this alarm occurs during routine maintenance activity, it may be ignored.
2. Otherwise, contact [My Oracle Support \(MOS\)](#).

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: 300

OID: comcolHaTopologyNotify

Recovery:

Status message - no action required.

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 [My Oracle Support \(MOS\)](#) 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. Use the following command to verify the switch is active: `ping switch1A/B` (this requires command line access).
2. If the problem persists, 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.
2. If the problem persists, 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.
2. If the problem persists, 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:

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:

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:

Contact [My Oracle Support \(MOS\)](#).

32302 - Server RAID disk error

Alarm Group:	PLAT
Description:	This alarm indicates that the offboard storage server had a problem with its hardware disks.
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal
Auto Clear Seconds:	0 (zero)
OID:	tpdRaidDiskError
Alarm ID:	TKSPLATMA3

Recovery

1. Determine if the hardware platform is PP5160.
Note: SDM on the PP5160 platform uses raid0 configuration.
 If the platform is a PP5160, no action is required.
2. Contact [My Oracle Support \(MOS\)](#).

32303 - Server Platform error

Alarm Group:	PLAT
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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:	Contact My Oracle Support (MOS) and provide the system health check output.

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

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:

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:

Contact [My Oracle Support \(MOS\)](#).

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, 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: <ul style="list-style-type: none"> • 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:	Contact <i>My Oracle Support (MOS)</i> .

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. <div style="display: flex; align-items: center; margin-top: 10px;">  <div> <p>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.</p> </div> </div>
Severity:	Major
Instance:	May include AlarmLocation, AlarmId, AlarmState, AlarmSeverity, and bindVarNamesValueStr
HA Score:	Normal

Auto Clear Seconds: 0 (zero)
OID: tpdDefaultRouteNetworkError

Recovery:

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's intake. Remove any blockage.
2. Verify that the temperature in the room is normal. If it is too hot, lower the temperature in the room to an acceptable level.

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

3. If the problem has not been resolved, contact [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:

Contact [My Oracle Support \(MOS\)](#).

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, 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. Perform the recovery procedures for the other alarms that accompany this alarm.
2. If the problem has not been resolved, contact [My Oracle Support \(MOS\)](#).

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:

Contact [My Oracle Support \(MOS\)](#).

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:

Contact [My Oracle Support \(MOS\)](#).

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:

No recovery necessary. If the condition persists, contact [My Oracle Support \(MOS\)](#) 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. If the problem persists, contact [My Oracle Support \(MOS\)](#).

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. If the problem persists, contact [My Oracle Support \(MOS\)](#).

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, 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.

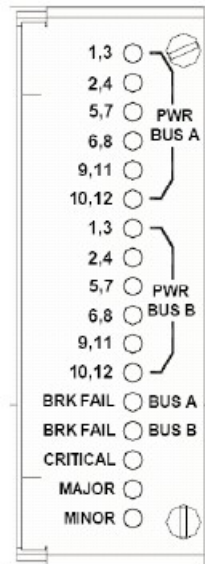


Figure 15: Breaker Panel LEDs

Description:	This alarm indicates that a power fault has been identified by the breaker panel.
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 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. Look at the breaker panel assignments and verify that the corresponding LED in the PWR BUS A group and the PWR BUS B group is illuminated Green.

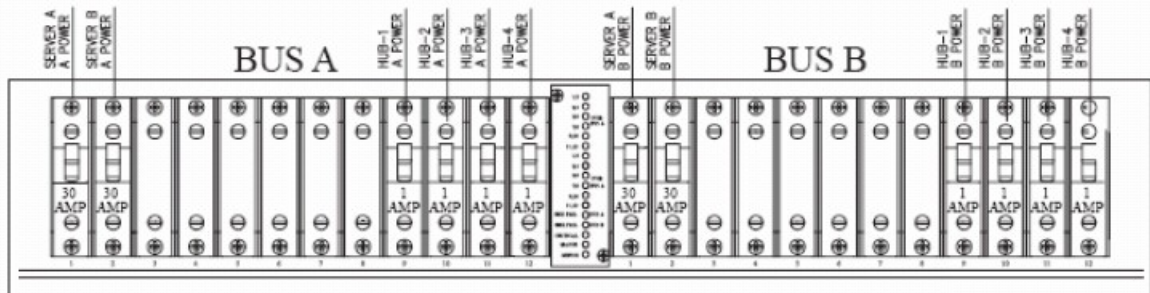


Figure 16: Breaker Panel Setting

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. Contact [My Oracle Support \(MOS\)](#)

3. Check the BRK FAIL LEDs for BUS A and for BUS B.
 - If one of the BRK FAIL LEDs is illuminated Red, then one or more of the respective Input Breakers has tripped. (A tripped breaker is indicated by the toggle located in the center position.) Perform the following steps to repair this issue:
 - a) For all tripped breakers, move the breaker down to the open (OFF) position and then back up to the closed (ON) position.
 - b) After all the tripped breakers have been reset, check the BRK FAIL LEDs again. If one of the BRK FAIL LEDs is still illuminated Red, Contact [My Oracle Support \(MOS\)](#)
 - If all of the BRK FAIL LEDs and all the LEDs in the PWR BUS A group and the PWR BUS B group are illuminated Green, continue with the next step.
 - If all of the BRK FAIL LEDs and all the LEDs in the PWR BUS A group and the PWR BUS B group are illuminated Green, there is most likely a problem with the serial connection between the server and the breaker panel. This connection is used by the system health check to monitor the breaker panel for failures. Verify that both ends of the labeled serial cables are properly secured. If any issues are discovered with these cable connections, make the necessary corrections and continue to the next step to verify that the alarm has been cleared, otherwise Contact [My Oracle Support \(MOS\)](#)
4. If the problem has not been resolved, 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 multiple servers:
 - If this alarm is displayed by only one server, the problem is most likely to be with the cable or the server itself. Look for other alarms that indicate a problem with the server and perform the recovery procedures for those alarms first.
 - If this alarm is displayed by multiple servers, go to the next step.
2. Verify that both ends of the labeled serial cables are secured properly (for locations of serial cables, see the appropriate hardware manual).
3. If the alarm has not been cleared, contact [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 heartbeat is running (service TKLCha status).

Note: This step may require command line ability.

4. 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:

Contact [My Oracle Support \(MOS\)](#).

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:

Contact [My Oracle Support \(MOS\)](#).

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:

Contact [My Oracle Support \(MOS\)](#).

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, contact [My Oracle Support \(MOS\)](#) 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:

Contact [My Oracle Support \(MOS\)](#).

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:

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. Contact My Oracle Support (MOS) if reseating the cables does not clear the alarm.

32339 - Max pid limit

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:

Contact [My Oracle Support \(MOS\)](#).

32340 - Server NTP Daemon Lost Synchronization For Extended Time

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.
2. Contact [My Oracle Support \(MOS\)](#).

32341 - Server NTP Daemon Never Synchronized Error

Alarm Group:	PLAT
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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.
2. 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 are providing accurate time.
2. Contact [My Oracle Support \(MOS\)](#).

32343 - RAID disk problem

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:

Contact [My Oracle Support \(MOS\)](#).

32344 - 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:

Contact [My Oracle Support \(MOS\)](#).

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. Contact [My Oracle Support \(MOS\)](#)

32346 - Server Hardware Problem

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:	TKSPLATMA46
Recovery:	Contact My Oracle Support (MOS)

32347 - Oracle hwmgmtcliStatus Problem

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:	tpdHWMGMTCLIPProblem
Alarm ID:	TKSPLATMA47
Recovery:	Contact My Oracle Support (MOS)

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. Contact [My Oracle Support \(MOS\)](#).

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:

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:

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: <ul style="list-style-type: none"> • 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:	Contact My Oracle Support (MOS) .

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:	Contact My Oracle Support (MOS) .

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:

Contact [My Oracle Support \(MOS\)](#).

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:

Contact [My Oracle Support \(MOS\)](#).

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:

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's intake. Remove any blockage.
2. Verify that the temperature in the room is normal. If it is too hot, lower the temperature in the room to an acceptable level.

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

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

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

4. If the problem has not been resolved, contact [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. 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 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. Locate the server's Network Timing Protocol (NTP) source.
2. Determine if the NTP server is reachable.
3. Contact [My Oracle Support \(MOS\)](#) if additional assistance is needed.

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:
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:
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:
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:

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:

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:

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:

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:

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:

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:

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. Locate the server's Network Timing Protocol (NTP) source.
2. Check the NTP server's stratum level. Stratum level 13 or higher will generate the alarm.
3. Contact [My Oracle Support \(MOS\)](#) if additional assistance is needed.

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:

Contact [My Oracle Support \(MOS\)](#) to get a replacement server.

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

Recovery:

Contact [My Oracle Support \(MOS\)](#) to determine whether the issue is with a failed drive or failed configuration.

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:

Contact [My Oracle Support \(MOS\)](#).

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:

1. Contact [My Oracle Support \(MOS\)](#) to get a replacement switch. Verify the ambient air temperature around the switch is as low as possible until the switch is replaced.
2. [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 problem persists, 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 breaker wasn't tripped.
2. If breaker is still good and problem persists, 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. 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:

Contact [My Oracle Support \(MOS\)](#).

32530 - Server Upgrade Fail Detected

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:	pdServerUpgradeFailed
Alarm ID:	TKSPLATMI31

Recovery:

Contact [My Oracle Support \(MOS\)](#).

32531 - Half Open Socket Warning

Alarm Group:	PLAT
	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:

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's upgrade procedure for accepting or rejecting the upgrade.

32533 - Max pid 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:	Contact My Oracle Support (MOS) .

32534 - NTP Source Server Is Not Able To Provide Correct Time

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 are providing accurate time.
2. Contact [My Oracle Support \(MOS\)](#).

32535 - 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:

If this alarm persists for several hours (depending on a load of a server rebuild of array can take multiple hours to finish), contact [My Oracle Support \(MOS\)](#).

32536 - 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. 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

Throttle Seconds: 86400

OID: tpdTelcoSwitchNotification

Recovery:

Contact [My Oracle Support \(MOS\)](#).

32701 - HIDS Initialized

Alarm Group: PLAT

Description: This alarm indicates HIDS was initialized.
Default Severity: Info
OID: tpdHidsBaselineCreated
Recovery:
 Contact [My Oracle Support \(MOS\)](#).

32702 - HIDS Baseline Deleted

Alarm Group: PLAT
Description: HIDS baseline was deleted.
Default Severity: Info
OID: tpdHidsBaselineDeleted
Recovery:
 Contact [My Oracle Support \(MOS\)](#).

32703 - HIDS Enabled

Alarm Group: PLAT
Description: HIDS was enabled.
Default Severity: Info
OID: tpdHidsEnabled
Recovery:
 Contact [My Oracle Support \(MOS\)](#).

32704 - HIDS Disabled

Alarm Group: PLAT
Description: HIDS was disabled.
Default Severity: Info
OID: tpdHidsDisabled
Recovery:
 Contact [My Oracle Support \(MOS\)](#).

32705 - HIDS Monitoring Suspended

Alarm Group: PLAT
Description: HIDS monitoring suspended.
Default Severity: Info
OID: tpdHidsSuspended

Recovery:

Contact [My Oracle Support \(MOS\)](#).

32706 - HIDS Monitoring Resumed

Alarm Group: PLAT
Description: HIDS monitoring resumed.
Default Severity: Info
OID: tpdHidsResumed

Recovery:

Contact [My Oracle Support \(MOS\)](#).

32707 - HIDS Baseline Updated

Alarm Group: PLAT
Description: HIDS baseline updated.
Default Severity: Info
OID: tpdHidsBaselineUpdated

Recovery:

Contact [My Oracle Support \(MOS\)](#).

Chapter 4

Key Performance Indicators (KPIs)

Topics:

- [General KPIs information.....256](#)
- [List of KPIs.....256](#)

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	Average of User Data Ingress Message Rate (messages per second) utilization on a MP server. The Ingress Message Rate is the number of User Data StackEvents (messages) that ComAgent delivers to Application Layers Queue.

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
Response Time (ms)	Average time from when routing receives a Request message from a downstream peer to the time that an Answer response is sent to that downstream 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.

Key Performance Indicators (KPIs)

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.
Message 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.

Process-based KPIs

Table 15: 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

Key Performance Indicators (KPIs)

Variable	Description
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
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 16: 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.

Key Performance Indicators (KPIs)

Variable	Description
M3RL Xmit Msgs/Sec	M3RL DATA MSUs/Sec sent.
M3RL Recv Msgs/Sec	M3RL DATA MSUs/Sec received.

UDRBE KPIs

Table 17: 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
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
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

Key Performance Indicators (KPIs)

Variable	Description
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
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
TxUdrSmUnsubscribeReqSuccessRate	The number of unsubscribe requests (across all interfaces) that have been successfully processed per second

UDRFE KPIs

Table 18: 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 UDR currently

Key Performance Indicators (KPIs)

Variable	Description
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 19: Provisioning KPIs

Variable	Description
ProvMsgsImportedRate	The number of provisioning messages imported per second
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

Key Performance Indicators (KPIs)

Variable	Description
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 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

Key Performance Indicators (KPIs)

Variable	Description
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

Chapter 5

Measurements

Topics:

- [General measurements information.....266](#)
- [List of measurements.....267](#)

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

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

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

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

Measurement 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 20: 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: <ul style="list-style-type: none"> 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 Peer 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 21: 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. 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. 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. 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. 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. 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. 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. 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. 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. 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. 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. 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, 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.

- If the problem persists, 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

- Check the Transport history at **Main Menu > Transport Manager > Maintenance**.
- Verify IP network connectivity between the MP server and the Adjacent Nodes IP address using a ping or traceroute command.
- Verify that the SCTP validation mode is the one that is needed.
- 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**.
- 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.
- If the problem persists, contact [My Oracle Support \(MOS\)](#).

Association Performance measurements

Table 22: 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. 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, contact [My Oracle Support \(MOS\)](#).

Association Usage measurements

Table 23: 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. 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: <ul style="list-style-type: none"> • 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 the 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. 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: <ul style="list-style-type: none"> • 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 24: Communication Agent Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
CADDataFIFOQueueFul	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
CASStackQueueFul	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
CATxDscrdDestUserIncompat	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. 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. 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. 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, contact [My Oracle Support \(MOS\)](#).

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. 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, 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. 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. 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. 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. 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. 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. 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. 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. 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	
	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: <ul style="list-style-type: none"> • 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. 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. 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. 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: <ul style="list-style-type: none"> • 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. 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	<ul style="list-style-type: none"> • 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. <p>Note: This measurement is NOT pegged for these conditions:</p> <ul style="list-style-type: none"> • 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. Contact [My Oracle Support \(MOS\)](#) for assistance.

CATransEndAbnormRateAvg

Measurement ID 9865
Measurement Group ComAgent Performance
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 an exponential smoothing 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 trouble shooting when compared to other measurements.

Measurement Scope Server

Recovery

No action necessary.

CATransEndAbnormRateMax

Measurement ID 9866
Measurement Group ComAgent Performance
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 an exponential smoothing 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 trouble shooting 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. 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. 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. 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. Contact [My Oracle Support \(MOS\)](#) for assistance.

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. 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: <ul style="list-style-type: none"> • Server overload that can result in delayed responses. • Unexpected conditions in software.
Measurement Scope	Server
Recovery	<ol style="list-style-type: none"> 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. 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: <ul style="list-style-type: none"> • 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. 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: <ul style="list-style-type: none"> • 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. 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. 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: <ul style="list-style-type: none"> • 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. 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. 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. 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 25: 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

Measurement Tag	Description	Collection Interval
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
CAPeakDataFIFOQueueUtil	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
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

Measurement Tag	Description	Collection Interval
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 queue from local stacks to deliver it to a peer server.	30 min
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. 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. 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. 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. 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. 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. 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. Contact [My Oracle Support \(MOS\)](#) for assistance.

CATransEndAbnormRateAvg

Measurement ID 9865

Measurement Group ComAgent Performance

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 an exponential smoothing

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 trouble shooting when compared to other measurements.

Measurement Scope Server

Recovery

No action necessary.

CATransEndAbnormRateMax

Measurement ID 9866

Measurement Group ComAgent Performance

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 an exponential smoothing 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 trouble shooting 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 an exponential smoothing 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 trouble shooting 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 an exponential smoothing 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 trouble shooting when compared to other measurements.
Measurement Scope	Server
Recovery	No action necessary.

CATransStarted

Measurement ID	9835
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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 26: 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
EvEmrCongestionOnset	Number of times an EMR Congestino Level was advanced.	5 min
EvRemoteBusyCongestion	Number of times Remote Busy Congestion occurred.	5 min
EvSmoothedEmrPeak	Smoothed EMR Peak.	5 min
EvSmoothedEmrAvg	Smoothed EMR Average.	5 min
RxRejectedConnCongestion	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
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

ConnOnsetCL1

Measurement ID	10524
Measurement Group	Connection Congestion
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times the connection experienced the onset of CL1.
Collection Interval	5 min
Peg Condition	Each time the congestion level for a connection changes from CL0 to CL1

Measurement Scope Server Group

Recovery

1. If EMR Throttling is enabled for the connection, determine if either the maximum EMR may be set too high or the onset/abatement thresholds need adjustment.
2. Check to see if the Remote Busy Abatement Timeout is too small.
3. Verify whether or not other connections to the adjacent Diameter node are out of service, thus causing more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
4. Examine if the connection is over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.

ConnOnsetCL2

Measurement ID 10525

Measurement Group Connection Congestion

Measurement Type Simple

Measurement Dimension Arrayed (by Diameter Connection ID)

Description The number of times the connection experienced the onset of CL2.

Collection Interval 5 min

Peg Condition Each time the congestion level for a connection changes from CL0 or CL1 to CL2.

Measurement Scope Server Group

Recovery

1. If EMR Throttling is enabled for the connection, determine if either the maximum EMR may be set too high or the onset/abatement thresholds need adjustment.
2. Check to see if the Remote Busy Abatement Timeout is too small.
3. Verify whether or not other connections to the adjacent Diameter node are out of service, thus causing more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
4. Examine if the connection is over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.

ConnOnsetCL3

Measurement ID 10526

Measurement Group Connection Congestion

Measurement Type Simple

Measurement Dimension Arrayed (by Diameter Connection ID)

Description The number of times the connection experienced the onset of CL3.

Collection Interval	5 min
Peg Condition	Each time the congestion level for a connection changes from CL0, CL1, or CL2 to CL3
Measurement Scope	Server Group

Recovery

1. If EMR Throttling is enabled for the connection, determine if either the maximum EMR may be set too high or the onset/abatement thresholds need adjustment.
2. Check to see if the Remote Busy Abatement Timeout is too small.
3. Verify whether or not other connections to the adjacent Diameter node are out of service, thus causing more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
4. Examine if the connection is over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.

ConnOnsetCL4

Measurement ID	10527
Measurement Group	Connection Congestion
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times the connection experienced the onset of CL4.
Collection Interval	5 min
Peg Condition	Each time the congestion level for a connection changes from CL0, CL1, CL2, or CL3 to CL4.
Measurement Scope	Server Group

Recovery

1. If EMR Throttling is enabled for the connection, determine if either the maximum EMR may be set too high or the onset/abatement thresholds need adjustment.
2. Check to see if the Remote Busy Abatement Timeout is too small.
3. Verify whether or not other connections to the adjacent Diameter node are out of service, thus causing more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
4. Examine if the connection is over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.

EvEmrCongestionOnset

Measurement ID	10195
Measurement Group	Connection Congestion
Measurement Type	Simple

Measurement Dimension	Arrayed (by Connection ID)
Description	Number of times an EMR Congestion Level was advanced
Collection Interval	5 min
Peg Condition	Each time the EMR Congestion Level is advanced
Measurement Scope	Site

Recovery

1. Verify the "Maximum EMR" for the connection is set sufficiently high.
2. Verify the EMR onset/abatement thresholds are properly adjusted. Setting an abatement threshold too close to its onset threshold may trigger oscillation between higher and lower congestion levels.
3. Verify the "Smoothing Factor" parameter for the connection is properly adjusted. Increasing the "Smoothing Factor" value places more weight towards the current EMR over the smoothed EMR. Decreasing the "Smoothing Factor" value places more weight towards the smoothed EMR over the current EMR.
4. Verify the "EMR Abatement Timeout" for the connection is set sufficiently high. Short abatement time periods may result in triggering EMR throttling too rapidly.
5. Check to see if other connections to the adjacent Diameter Node are out of service. Adjacent Diameter nodes being out of service can cause more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
6. Check to see if the connection is over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.
7. If the problem persists, contact [My Oracle Support \(MOS\)](#).

EvRemoteBusyCongestion

Measurement ID	10528
Measurement Group	Connection Congestion
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Number of times Remote Busy Congestion occurred.
Collection Interval	5 min
Peg Condition	Each time the Remote Busy Congestion Level changed from CL0 to either CL1, CL2 or CL3.
Measurement Scope	Site

Recovery

1. Verify the "Maximum EMR" for the connection is set sufficiently high.
2. Verify the EMR onset/abatement thresholds are properly adjusted. Setting an abatement threshold too close to its onset threshold may trigger oscillation between higher and lower congestion levels.
3. Verify the "Smoothing Factor" parameter for the connection is properly adjusted. Increasing the "Smoothing Factor" value places more weight towards the current EMR over the smoothed EMR.

Decreasing the "Smoothing Factor" value places more weight towards the smoothed EMR over the current EMR.

4. Verify the "Remote Busy Abatement Timeout" for the connection is set sufficiently high. Short abatement time periods may result in triggering EMR throttling too rapidly.
5. Check to see if other connections to the adjacent Diameter Node are out of service. Adjacent Diameter nodes being out of service can cause more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
6. Check to see if the connection is over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.
7. If the problem persists, contact [My Oracle Support \(MOS\)](#).

EvSmoothedEmrAvg

Measurement ID	10193
Measurement Group	Connection Congestion
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	Average of the "Smoothed EMR" calculations made during the collection interval.
Collection Interval	5 min
Peg Condition	A "Smoothed EMR" calculation S_t is periodically calculated (every 90ms). Each time S_t is calculated, then the "Average Smoothed EMR" measurement shall be updated. For example, if 3 Smoothed EMR values were calculated during the collection interval – 10, 14 and 9 respectively, then the "Average Smoothed EMR" would be: $11 ((10+14+ 9)/3)$
Measurement Scope	Site
Recovery	No action necessary.

EvSmoothedEmrPeak

Measurement ID	10192
Measurement Group	Connection Congestion
Measurement Type	Max
Measurement Dimension	Arrayed (by Connection ID)
Description	Peak "Smoothed EMR" calculation made during the collection interval.
Collection Interval	5 min
Peg Condition	A "Smoothed EMR" calculation S_t is periodically calculated (every 90ms). If the new S_t exceeds any previous S_{t-k} value for the collection interval, then this measurement will be updated with

the new St value. For example, if 3 Smoothed EMR values were calculated during the collection interval – 10, 14 and 9 respectively, then the “Peak Smoothed EMR” would be: $14 = \text{Max}(10, 14, 9)$

Measurement Scope Site

Recovery

No action necessary.

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.

TmConnInCL1

Measurement ID 10520
Measurement Group Connection Congestion
Measurement Type Simple
Measurement Dimension Arrayed (by Connection ID)
Description Total amount of time (in seconds) the connection experienced CL1.
Collection Interval 5 min
Peg Condition A "time duration interval" is determined by:
 The "time duration interval" starts when:

- New "collection interval" for the measurement begins and the connection congestion level is CL1.
- Connection congestion level changes to CL1.

 The "time duration interval" stops when:

- The collection interval for the measurement ends.

- The connection congestion level changes from CL1 to another congestion level.

Measurement Scope Server Group

Recovery

1. If EMR Throttling is enabled for the connection, either the maximum EMR may be set too high or the onset/abatement thresholds need adjustment.
2. The "Remote Bust Abatement Timeout" may be too small.
3. This problem can be caused if other connections to the adjacent Diameter Node are out of service, thus causing more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
4. The connection may be over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.
5. Contact [My Oracle Support \(MOS\)](#) for further assistance.

TmConnInCL2

Measurement ID 10521

Measurement Group Connection Congestion

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description Total amount of time (in seconds) the connection experienced CL2.

Collection Interval 5 min

Peg Condition A "time duration interval" is determined by:

The "time duration interval" starts when:

- New "collection interval" for the measurement begins and the connection congestion level is CL2.
- Connection congestion level changes to CL2.

The "time duration interval" stops when:

- The collection interval for the measurement ends.
- The connection congestion level changes from CL2 to another congestion level.

Measurement Scope Server Group

Recovery

1. If EMR Throttling is enabled for the connection, either the maximum EMR may be set too high or the onset/abatement thresholds need adjustment.
2. The "Remote Bust Abatement Timeout" may be too small.
3. This problem can be caused if other connections to the adjacent Diameter Node are out of service, thus causing more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
4. The connection may be over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.

5. Contact [My Oracle Support \(MOS\)](#) for further assistance.

TmConnInCL3

Measurement ID	10522
Measurement Group	Connection Congestion
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Total amount of time (in seconds) the connection experienced CL3.
Collection Interval	5 min
Peg Condition	A "time duration interval" is determined by: The "time duration interval" starts when: <ul style="list-style-type: none"> • New "collection interval" for the measurement begins and the connection congestion level is CL3. • Connection congestion level changes to CL3. The "time duration interval" stops when: <ul style="list-style-type: none"> • The collection interval for the measurement ends. • The connection congestion level changes from CL3 to another congestion level.
Measurement Scope	Server Group

Recovery

1. If EMR Throttling is enabled for the connection, either the maximum EMR may be set too high or the onset/abatement thresholds need adjustment.
2. The "Remote Bust Abatement Timeout" may be too small.
3. This problem can be caused if other connections to the adjacent Diameter Node are out of service, thus causing more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
4. The connection may be over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.
5. Contact [My Oracle Support \(MOS\)](#) for further assistance.

TmConnInCL4

Measurement ID	10523
Measurement Group	Connection Congestion
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	Total amount of time (in seconds) the connection experienced CL4.
Collection Interval	5 min

Peg Condition

A "time duration interval" is determined by:

The "time duration interval" starts when:

- New "collection interval" for the measurement begins and the connection congestion level is CL4.
- Connection congestion level changes to CL4.

The "time duration interval" stops when:

- The collection interval for the measurement ends.
- The connection congestion level changes from CL4 to another congestion level.

Measurement Scope

Server Group

Recovery

1. If EMR Throttling is enabled for the connection, either the maximum EMR may be set too high or the onset/abatement thresholds need adjustment.
2. The "Remote Bust Abatement Timeout" may be too small.
3. This problem can be caused if other connections to the adjacent Diameter Node are out of service, thus causing more traffic to be sent on this connection than what the adjacent Diameter Node can support on a per-connection basis.
4. The connection may be over-subscribed from a routing perspective. Any recent changes to DSR routing configurable may have inadvertently diverted more message traffic to this connection.
5. Contact [My Oracle Support \(MOS\)](#) for further assistance.

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 27: 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
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

Measurement Tag	Description	Collection Interval
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
RxConnGapAckBlocks	The number of gap acknowledgement blocks received on the SCTP connection.	5 min
TxConnRetransDataChunks	The number of retransmitted data chunks sent on the SCTP connection.	5 min
RxConnDupPkts	The number of duplicate packets received on the TCP 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

EvConnCerValFail

Measurement ID	10117
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	CER contained invalid or unsupported AVP or AVP value.
Collection Interval	5 min
Peg Condition	Inband-Security AVP value in CER was other than 0 (NO_INBAND_SECURITY).
Measurement Scope	Server Group

Recovery

1. Disable peer's use of inband security.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

EvConnCexIpChkFail

Measurement ID	10118
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
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).
Collection Interval	5 min
Peg Condition	On receipt of CER/CEA message from the peer for which 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).
Measurement Scope	Server Group

Recovery

1. Diagnose peer to resolve inconsistency.
2. If the problem persists, contact [My Oracle Support \(MOS\)](#).

EvConnCnxFail

Measurement ID	10123
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The 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.
Collection Interval	5 min
Peg Condition	Pegged when the DSR attempts to initiate a connection to a peer and fails.
Measurement Scope	Server Group

Recovery

1. If this measurement indicates an excessive number of failed connection attempts, check that the peer is operational, and that it is accepting connections on the SCTP/TCP listen port configured for the Peer Node.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvConnDnsFail

Measurement ID	10126
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Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times an attempt to resolve a peer's FQDN to an IP address via DNS failed.
Collection Interval	5 min
Peg Condition	Pegged when a connection is closed without the peer sending a DPR.
Measurement Scope	Server Group

Recovery

1. If this measurement indicates an excessive number of DNS resolution failures, examine the DNS configuration values to determine if the correct DNS servers are being queried.
2. Examine the DNS configuration of the configured DNS servers.
3. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvConnFarEndClose

Measurement ID	10121
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times the far end closed the connection.
Collection Interval	5 min
Peg Condition	Pegged when the peer closes the connection.
Measurement Scope	Server Group

Recovery

If this measurement indicates an excessive number of peer disconnects, the Alarm History and measurements [RxConnDpr](#), [RxConnDwr](#), and [TxConnDwa](#) should be examined to determine the reason for the peer disconnects.

EvConnManClose

Measurement ID	10120
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times the connection was manually closed via administratively disabling the connection locally.

Collection Interval	5 min
Peg Condition	Pegged when a user disables a connection from the GUI.
Measurement Scope	Server Group
Recovery	No action required.

EvConnPeerNumIpFail

Measurement ID	10119
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	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.
Collection Interval	5 min
Peg Condition	The peer advertised a different number of IP addresses than configured.
Measurement Scope	Server Group
Recovery	Check the peer configuration on the local node and the networking configuration on the peer itself with regard to which IP addresses the peer shall advertise using the Diameter > Configuration > System Options page.

EvConnRelease

Measurement ID	10129
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the connection was terminated based on a connection release request from DRL.
Collection Interval	5 min
Peg Condition	Pegged when a connection terminated successfully on request from DRL.
Measurement Scope	Server Group
Recovery	No action necessary.

EvSockInitFail

Measurement ID	10122
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the socket initialization failed.
Collection Interval	5 min
Peg Condition	Pegged when the DSR attempts to apply the SCTP/TCP socket options to a peer connection and fails.
Measurement Scope	Server Group

Recovery

Check the SCTP/TCP options in the Connection Configuration Set for the connection and correct them.

EvConnTransFail

Measurement ID	10125
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the transport connection was closed due to SCTP/TCP transport failure.
Collection Interval	5 min
Peg Condition	Pegged when a connection is closed without the peer sending a DPR.
Measurement Scope	Server Group

Recovery

1. If this measurement indicates an excessive number of ungraceful peer disconnects the Alarm History should be examined to determine the reason for the peer disconnects.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxConnDupPkts

Measurement ID	10508
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of duplicate packets received on the TCP connection.
Collection Interval	5 min
Peg Condition	When duplicate packet is received on the TCP connection.
Measurement Scope	Server Group
Recovery	No action required.

RxConnDupTsns

Measurement ID	10504
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of duplicate TSNs received on the SCTP connection.
Collection Interval	5 min
Peg Condition	When there is a duplicate TSN received on the SCTP connection from the remote peer.
Measurement Scope	Server Group
Recovery	No action required.

RxConnGapAckBlocks

Measurement ID	10505
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of gap acknowledgement blocks received on the SCTP connection.
Collection Interval	5 min
Peg Condition	When there is a gap in the Peer's received subsequences of data chunks as represented by their Transport Sequence Numbers (TSNs).
Measurement Scope	Server Group
Recovery	No action required.

RxConnGapAckBlocks

Measurement ID	10505
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of gap acknowledgement blocks received on the SCTP connection.
Collection Interval	5 min
Peg Condition	When there is a gap in the Peer's received subsequences of data chunks as represented by their Transport Sequence Numbers (TSNs).
Measurement Scope	Server Group
Recovery	No action required.

TxConnRetransDataChunks

Measurement ID	10506
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of retransmitted data chunks sent on the SCTP connection.
Collection Interval	5 min
Peg Condition	When a data chunk is retransmitted on the SCTP connection.
Measurement Scope	Server Group
Recovery	No action required.

TxConnRetransSegs

Measurement ID	10509
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of retransmit segments sent on the TCP connection.

Collection Interval	5 min
Peg Condition	When a retransmitted segment is sent on the TCP connection.
Measurement Scope	Server Group
Recovery	No action required.

TxConnSendFail

Measurement ID	10124
Measurement Group	Connection Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the transport send failed for any message on an established connection. When this occurs, the transport connection will NOT be disconnected.
Collection Interval	5 min
Peg Condition	Pegged when the DSR is unable to send a message on the connection
Measurement Scope	Server Group
Recovery	<ol style="list-style-type: none"> 1. If this measurement indicates an excessive number of send failures, examine the <i>TxConnSendBufPeak</i> and <i>TxConnSendBufAvg</i> measurements. 2. Contact <i>My Oracle Support (MOS)</i> for assistance if needed.

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 28: 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
RxConnAvgMPS	Exponentially smoothed average rate in MPS on the connection. Note: This measurement will be sampled periodically and reported in	5 min

Measurement Tag	Description	Collection Interval
	the Connections Maintenance GUI as a type of KPI.	
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
RTxConnTotalDataChunks	The number of total data chunks received on the SCTP connection.	5 min
RxSctpChunkMp	Number of SCTP data chunks received by the MP (excluding duplicates).	5 min
RxSctpPacketMp	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	5 min

Measurement Tag	Description	Collection Interval
	sent to the peer or have been sent to the peer and have not been unacknowledged.	
TxConnTotalDataChunks	The number of total data chunks sent on the SCTP connection.	5 min
TxPerConnQueueAvg	Per Connection Egress Message Queue Average Utilization.	5 min
TxPerConnQueuePeak	Per Connection Egress Message Queue Peak Utilization.	5 min

EvConnCnxSuccess

Measurement ID	10108
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The 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.
Collection Interval	5 min
Peg Condition	Pegged when a socket connection is made, regardless of which side initiates the connection.
Measurement Scope	Server Group
Recovery	No action required.

EvPerConnQueueCongestionChange

Measurement ID	10225
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times that the congestion level changed for a Per Connection Egress Queue.
Collection Interval	5 min
Peg Condition	Each time the congestion level for a Per Connection Egress Queue was changed.
Measurement Scope	Server Group

Recovery

1. An IP network, or Diameter peer, problem may exist thus preventing SCTP/TCP from transmitting messages into the network at the same pace that messages are being received from the network.
2. The transport task associated with the connection may be experiencing a problem, preventing it from processing events from its Connection Event Message Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If one or more MPs in a server site have failed, the traffic will be distributed among the remaining MPs in the server site. MP server status can be monitored using the **Status & Manage > Server** page.
4. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored using the **Status & Manage > KPIs** page. 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 using 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.
6. If the problem persists, contact [My Oracle Support \(MOS\)](#).

RxConnAvgMPS

Measurement ID	10500
Measurement Group	Connection Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	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 KPI.
Collection Interval	5 min
Peg Condition	This measurement is driven by the SysMetric. This measurement indicates the exponentially smoothed 30-second average of the ingress messages per second over the measurement reporting interval. The average rate is exponentially smoothed over a 30 second interval to help eliminate variance caused by bursts in the ingress message rate. This measurement, if reported periodically, provides a history of the ingress messaging rate for each connection. This measurement can also be seen in near real-time by viewing the connection status screen (Diameter > Maintenance > Connections).
Measurement Scope	Per network, per NE, per MP server

Recovery

No action required.

RxConnMsgs

Measurement ID	10104
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Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of messages received on the connection. This includes all Diameter messages, both routable and non-routable.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message is received from the peer on the connection. This measurement is pegged for all messages accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.
Measurement Scope	Server Group
Recovery	No action required.

RxConnOctets

Measurement ID	10105
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of octets received on the connection. This includes Diameter payload octets for all Diameter messages, both routable and non-routable.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message is received from the peer on the connection. This measurement is pegged for all messages accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.
Measurement Scope	Server Group
Recovery	No action required.

RxConnPeakMPS

Measurement ID	10501
Measurement Group	Connection Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Connection ID)
Description	Peak rate of the exponentially smoothed average rate in MPS on the connection.

Collection Interval	5 min
Peg Condition	This measurement is driven by the SysMetric. This measurement indicates the highest average rate in ingress messages per second that was processed by the Diameter connection. In other words, this measurement shows the highest value of measurement ConnIngressAvgMPS during the measurement reporting interval.
Measurement Scope	Per network, per NE, per MP server
Recovery	No action required.

RxConnRecvBufAvg

Measurement ID	10106
Measurement Group	Connection Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	The 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.
Collection Interval	5 min
Peg Condition	Periodically (currently once a second) the depth of the socket receive buffer is measured and the value used to update this measurement.
Measurement Scope	Server Group
Recovery	<ol style="list-style-type: none"> 1. If this measurement is at or above 80%, this may be an indication that the SCTP/TCP socket receive buffer size is too small, or that the Local Node is unable to handle the load it is presented. Increase the SCTP/TCP Socket Receive Buffer Size from the Connection Configuration Set for this connection. 2. If this does not improve the situation, consider load-sharing with other DSRs. 3. Contact My Oracle Support (MOS) for assistance if needed.

RxConnRecvBufPeak

Measurement ID	10107
Measurement Group	Connection Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Connection ID)
Description	The 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.

Collection Interval	5 min
Peg Condition	Periodically (currently once a second) the depth of the socket receive buffer is measured and the value used to update this measurement.
Measurement Scope	Server Group

Recovery

1. If this measurement exceeds the SCTP/TCP socket receive buffer size, this may be an indication that the SCTP/TCP socket receive buffer size is too small, or that the Local Node is unable to handle the load it is presented. Increase the SCTP/TCP Socket Receive Buffer Size from the Connection Configuration Set for this connection.
2. If this does not improve the situation, consider load-sharing with other DSRs.
3. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxConnTotalDataChunks

Measurement ID	10516
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of total data chunks received on the SCTP connection.
Collection Interval	5 min
Peg Condition	When data chunks are received on the SCTP connection.
Measurement Scope	Server Group

Recovery

No action required.

RxMsgRateAvg

Measurement ID	10222
Measurement Group	Connection Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	The average connection 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).
Collection Interval	5 min

Peg Condition The average of all connection ingress message rate samples taken during the collection interval.

The connection measurement is associated with the connection from which the 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. 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 \(MOS\)](#).

RxMsgRatePeak

Measurement ID 10221

Measurement Group Connection Performance

Measurement Type Max

Measurement Dimension Arrayed (by Connection ID)

Description The peak connection 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).

Collection Interval 5 min

Peg Condition The maximum connection ingress message rate (messages per second) sample taken during the collection interval.

The connection measurement is associated with the connection from which the 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. 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 \(MOS\)](#).

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.

TxConnMsgs

Measurement ID	10100
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Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of messages sent on the connection. This includes all Diameter messages, both routable and non-routable.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message is sent to the peer on the connection
Measurement Scope	Server Group
Recovery	No action required.

TxConnOctets

Measurement ID	10101
Measurement Group	Connection Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of octets sent on the connection. This includes all Diameter messages, both routable and non-routable.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message is sent to the peer on the connection.
Measurement Scope	Server Group
Recovery	No action required.

TxConnSendBufAvg

Measurement ID	10102
Measurement Group	Connection Performance
Measurement Type	Average
Measurement Dimension	Arrayed (by Connection ID)
Description	The 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.

Collection Interval	5 min
Peg Condition	Periodically (currently once a second) the depth of the socket send buffer is measured and the value used to update this measurement.
Measurement Scope	Server Group

Recovery

1. If this measurement is at or above 80%, this may be an indication that the peer is unable to handle the load it is presented with. Consider load-sharing with other Peer Nodes.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TxConnSendBufPeak

Measurement ID	10103
Measurement Group	Connection Performance
Measurement Type	Max
Measurement Dimension	Arrayed (by Connection ID)
Description	The 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.
Collection Interval	5 min
Peg Condition	Periodically (currently once a second) the depth of the socket send buffer is measured and the value used to update this measurement.
Measurement Scope	Server Group

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.

TxPerConnQueueAvg

Measurement ID 10224

Measurement Group Connection Performance

Measurement Type Average

Measurement Dimension Arrayed (by Connection ID)

Description The average Per Connection Egress Message Queue utilization (0-100%) measured during the collection interval.

Collection Interval 5 min

Peg Condition The average of all Per Connection Egress Message Queue utilization samples taken during the collection interval.

Measurement Scope Server Group

Recovery

1. An IP network or Diameter peer problem may exist that is preventing SCTP/TCP from transmitting messages into the network at the same pace that messages are being received from the network.
2. The transport task associated with the connection may be experiencing a problem preventing it from processing events from its Connection Event Message Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If one or more MPs in a server site have failed, the traffic will be distributed among the remaining MPs in the server site. MP server status can be monitored using the **Status & Manage > Server** page.
4. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored using the **Status & Manage > KPIs** page. 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 using 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.
6. If the problem persists, contact [My Oracle Support \(MOS\)](#).

TxPerConnQueuePeak

Measurement ID 10223

Measurement Group Connection Performance

Measurement Type Max

Measurement Dimension Arrayed (by Connection ID)

Description The peak Per Connection Egress Message Queue utilization (0-100%) measured during the collection interval.

Collection Interval	5 min
Peg Condition	The maximum Per Connection Egress Message Queue utilization sample taken during the collection interval.
Measurement Scope	Server Group

Recovery

1. An IP network or Diameter peer problem may exist that is preventing SCTP/TCP from transmitting messages into the network at the same pace that messages are being received from the network.
2. The transport task associated with the connection may be experiencing a problem preventing it from processing events from its Connection Event Message Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If one or more MPs in a server site have failed, the traffic will be distributed among the remaining MPs in the server site. MP server status can be monitored using the **Status & Manage > Server** page.
4. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored using the **Status & Manage > KPIs** page. 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 using 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.
6. If the problem persists, contact [My Oracle Support \(MOS\)](#).

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 29: 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

Measurement Tag	Description	Collection Interval
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
TxAnswerTimeoutMp	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. 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
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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: <ul style="list-style-type: none"> • 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. 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. 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.

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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

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 30: 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
EvConnCealIdValFail	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

Measurement Tag	Description	Collection Interval
EvConnNoConnApps	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 address validation failure, the connection already established, and connection Administratively Disabled.	5 min
EvConnRejInsufficientIngressMps	Number of times MP rejected a Diameter connection due to insufficient Ingress MPS on the 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 MP exceeding its maximum number of supported Diameter connections.	5 min
EvConnWdFail	Number of times the Diameter Watchdog algorithm closed the connection due to no traffic received from the peer within $T_w \times 2$ 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 T_w 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

Measurement Tag	Description	Collection Interval
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
RxConnFailMalMsg	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
RxConnMpCongestionAnswerRsp	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 MPS limitation and an Answer response was sent.	5 min
RxMaxMpsRejectMp	The number of ingress Diameter messages that were rejected because of MP Maximum MPS limitation and an Answer response was sent.	5 min

Measurement Tag	Description	Collection Interval
RxMpCongestionDiscardMp	The number of ingress Diameter Request messages received that were discarded or rejected because of local 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 MP Overload Control component.	5 min
RxMsgsOCYellowPri0DiscardMp	The number of Yellow ingress Priority 0 messages discarded by the MP Overload Control component.	5 min
RxMsgsOCGreenPri1DiscardMp	The number of Green ingress Priority 1 messages discarded by the MP Overload Control component.	5 min
RxMsgsOCYellowPri1DiscardMp	The number of Yellow ingress Priority 1 messages discarded by the MP Overload Control component.	5 min
RxMsgsOCGreenPri2DiscardMp	The number of Green ingress Priority 2 messages discarded by the MP Overload Control component.	5 min
RxMsgsOCYellowPri2DiscardMp	The number of Yellow ingress Priority 2 messages discarded by the 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

Measurement Tag	Description	Collection Interval
TmConnDegraded	Total time (in seconds) during the reporting period that the connection state was in the Degraded state.	5 min
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
TxAllConnQueueFullAnswerDiscard	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, contact [My Oracle Support \(MOS\)](#).

EvConnCeaIdValFail

Measurement ID	10169
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the connection was closed due to CEA Realm/Host validation for locally initiated connections.
Collection Interval	5 min
Peg Condition	Pegged when a CEA message is received on the connection that has an Origin-Host AVP value that does not match the FQDN configured for the peer, or an Origin-Realm AVP value that does not match the realm configured for the peer.
Measurement Scope	Server Group

Recovery

1. Examine the Origin-Host and Origin-Realm AVP values in the CEA sent by the peer.

2. Either change the FQDN/Realm configured for the peer to match this value, or change the peer so that it sends Origin-Host/Origin-Realm AVP values that match the peer FQDN/Realm configuration.
3. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvConnCexTO

Measurement ID	10176
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the connection timed out waiting for the peer to send a CEx.
Collection Interval	5 min
Peg Condition	Pegged when a peer initiated a connection and fails to send a CER within Tcex (from the Connection Configuration Set) seconds of the socket connection being established, or when the DSR initiates a connection and the peer fails to send a CEA within Tcex (from the Connection Configuration Set) seconds of the DSR sending a CER.
Measurement Scope	Server Group

Recovery

1. Examine the peer to determine why it did not send the appropriate CEx message.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvConnDpaTO

Measurement ID	10180
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times the connection timed out waiting for the peer to send a DPA
Collection Interval	5 min
Peg Condition	Pegged when a peer fails to send a DPA within Tdpx (from the Connection Configuration Set) seconds of the DSR sending a DPR.
Measurement Scope	Server Group

Recovery

1. Examine the peer to determine why it did not respond to the DPR message that the DSR sent to it.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvConnNoConnApps

Measurement ID	10170
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times the connection was closed due to there being no common Application IDs existing between the Local and Peer Nodes.
Collection Interval	5 min
Peg Condition	Pegged when a CEx message is received on the connection that has <ol style="list-style-type: none"> 1. No Application IDs specified (when in Relay mode), or 2. No Application IDs in common with those configured for the local node or 3. If any of the Application IDs marked as 'MUST exist in Peer CEx', in the CEx Cfg Set of that connection object, is not present in the CEx message
Measurement Scope	Server Group

Recovery

Verify that either the Auth-Application-ID, the Acct-Application-ID, or the Vendor-Specific-Application-ID AVPs are present in the CEx message sent by the peer.

EvConnPrvFail

Measurement ID	10181
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the connection was closed after failing to successfully complete the proving phase.
Collection Interval	5 min
Peg Condition	Pegged when a peer fails a proving period.
Measurement Scope	Server Group

Recovery

1. Examine the peer to determine why it did not respond in a timely fashion to the DWRs sent during the proving period.
2. Consider increasing the Proving Timer in the Connection Configuration Set for the connection to allow more time for the peer to respond to DWRs.
3. Contact *My Oracle Support (MOS)* for assistance if needed.

EvConnRejected

Measurement ID	10184
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times the connection was rejected. Reasons include IP address validation failure, the connection already established, and connection administratively disabled.
Collection Interval	5 min
Peg Condition	Pegged when a connection is rejected for any reason.
Measurement Scope	Server Group

Recovery

1. Examine the Alarm History to determine the specific reason(s) for the connection being rejected.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvConnRejMaxConnExceeded

Measurement ID	10188
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times DA-MP rejected a Diameter connection due to the DA-MP exceeding its connection or ingress MPS capacity.
Collection Interval	5 min
Peg Condition	This measurement is incremented for each Diameter connection that is rejected by a DA-MP.
Measurement Scope	Server Group

Recovery

1. The DA-MP has reached its connection or ingress MPS capacity.
2. 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.
3. The sum of the Reserved Ingress MPS for the added connection and MP Reserved Ingress MPS has exceeded the MP Maximum Reserved Ingress MPS. The value for Reserved Ingress MPS for the added connection needs to be examined to determine if its value should be decreased.
4. If the problem persists, contact [My Oracle Support \(MOS\)](#).

EvConnWdFail

Measurement ID	10178
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the Diameter watchdog algorithm closed the connection due to no traffic received from the peer within $T_w \times 2$ seconds after a DWR was sent.
Collection Interval	5 min
Peg Condition	Pegged when no messages were received from the peer within $T_w \times 2$ seconds of sending a DWR to the peer.
Measurement Scope	Server Group

Recovery

1. Examine the peer to determine why it is not responding to requests.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvConnWdSuspect

Measurement ID	10185
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times the Diameter watchdog algorithm declared the connection suspect due to no traffic received from the peer within T_w seconds after a DWR was sent.
Collection Interval	5 min
Peg Condition	Pegged when no Diameter messages are received on the connection for T_w seconds after a DWR was sent to the peer.
Measurement Scope	Server Group

Recovery

1. Examine the peer to determine why it is not responding to requests.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvMpCerIdValFail

Measurement ID	10169
Measurement Group	Diameter Exception
Measurement Type	Simple

Measurement Dimension	Single
Description	The number of times the connection was closed due to CER Realm/Host validation for peer initiated connections.
Collection Interval	5 min
Peg Condition	Pegged when the value Origin-Host and/or Origin-Realm AVPs sent by the peer in its CER message do not match the values provisioned for the connection.
Measurement Scope	Server Group

Recovery

1. Examine the Alarm History to determine the Origin Host and Realm sent by the peer.
2. Compare these values to those configured in the Peer Node object for this connection. These values must match in order for the peer connection to be validated.
3. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

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	<ol style="list-style-type: none"> 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. 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.

RxConnCeaError

Measurement ID	10175
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of CEA error messages received on the connection.
Collection Interval	5 min

Peg Condition Pegged when a CEA message with a non-success response code is received on the connection.

Measurement Scope Server Group

Recovery

1. Examine the Alarm History to determine why the connection is being rejected.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxConnFailMalfMsg

Measurement ID 10172

Measurement Group Diameter Exception

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of messages received on the connection which were malformed. Malformed messages cause the connection to be closed.

Collection Interval 5 min

Peg Condition Pegged when a message is received on the connection that cannot be decoded.

Measurement Scope Server Group

Recovery

1. Examine the Alarm History and find Event 22302 - Connection Unavailable: Received malformed message (refer to the *DSR Alarms and KPIs Reference* for details about this event) for this connection.
2. Examine the displayed message bytes for errors. Monitor the connection for invalid Diameter messages.
3. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxConnInvalidMsg

Measurement ID 10171

Measurement Group Diameter Exception

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of messages received on the connection which had a semantic error. Messages with semantic errors are discarded.

Collection Interval 5 min

Peg Condition Pegged when a message is received on the connection that cannot be decoded.

Measurement Scope Server Group

Recovery

1. Examine the Alarm History and find Event 22311 - Invalid Diameter message received (refer to the *DSR Alarms and KPIs Reference* for details about this event) for this connection.
2. Examine the displayed message bytes for errors.
3. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxConnMpCongestionAnswerRsp

Measurement ID	10238
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of ingress messages that were rejected with an error response because of local DA-MP CPU congestion.
Collection Interval	5 min
Peg Condition	For each ingress Diameter message that was rejected because of local DA-MP CPU congestion and an Answer response was sent. The connection measurement is associated with the connection from which the 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. 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, contact [My Oracle Support \(MOS\)](#).

RxConnOversizedMsg

Measurement ID	10149
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of messages received on the connection which were oversized (greater than Engineered Message Size and less than or equal to Maximum Message Size).
Collection Interval	5 min
Peg Condition	When the ingress message size received on the connection is greater than Engineered Message Size and less than or equal to Maximum Message Size
Measurement Scope	Server Group
Recovery	No action required.

RxConnUnexpCex

Measurement ID	10173
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of unexpected CER/CEA messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a CER/CEA message is received on the connection after the capabilities exchange has been completed. Pegged when a CER is expected from the peer and a CEA received, or vice versa.
Measurement Scope	Server Group
Recovery	<ol style="list-style-type: none"> 1. Examine the Alarm History and find Event 22308 - Received Unexpected CER/CEA (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this event) for this connection to determine the reason that the CEx was unexpected. 2. Contact My Oracle Support (MOS) for assistance if needed.

RxConnUnexpDpx

Measurement ID	10179
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of unexpected DPR/DPA messages received on the connection.
Collection Interval	5 min

Peg Condition Pegged when a DPx message is received on the connection before the capabilities exchange has been completed, or when a DPA is received without a DPR being sent to it.

Measurement Scope Server Group

Recovery

1. Examine the peer to determine why it is sending non-CEX messages before the capabilities exchange is complete, or why it is sending a DPA without receiving a DPR.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxConnUnexpDwx

Measurement ID 10177

Measurement Group Diameter Exception

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of unexpected DWR/DWA messages received on the connection.

Collection Interval 5 min

Peg Condition Pegged when a DWx message is received on the connection before the capabilities exchange has been completed.

Measurement Scope Server Group

Recovery

1. Examine the peer to determine why it is sending non-CEx messages before the capabilities exchange is complete.
2. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxDOCDiscardConn

Measurement ID 10235

Measurement Group Diameter Ingress Transaction Exception

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of ingress messages that were discarded because of local DA-MP danger of CPU congestion.

Collection Interval 5 min

Peg Condition For each message discarded on a connection due to DA-MP danger of CPU congestion.

The connection measurement is associated with the connection from which the message was received.

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, contact [My Oracle Support \(MOS\)](#).

RxDCCRRejectConn

Measurement ID	10236
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of ingress Diameter messages that were rejected with an error response because of local DA-MP danger of CPU congestion.
Collection Interval	5 min
Peg Condition	For each message discarded on a connection with a DIAMETER (Error) Answer due to DA-MP danger of CPU congestion. The connection measurement is associated with the connection from which the message was received.
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, contact [My Oracle Support \(MOS\)](#).

RxDOCRjectMp

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, contact [My Oracle Support \(MOS\)](#).

RxMpCongestionDiscardMp

Measurement ID	10207
Measurement Group	Diameter Exception

Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Diameter Request messages received that were discarded or rejected because of local DA-MP CPU congestion.
Collection Interval	5 min
Peg Condition	For each ingress Diameter Request message discarded because of local DA-MP 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, contact [My Oracle Support \(MOS\)](#).

RxMpCongestionRejectMp

Measurement ID	10253
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 CPU congestion
Collection Interval	5 min
Peg Condition	Pegged for each message discarded with a DIAMETER (Error) Answer due to a DA-MP 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, 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 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, 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, 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, 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, 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, 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, contact [My Oracle Support \(MOS\)](#).

RxPduPoolEmptyDiscard

Measurement ID	10227
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Diameter messages that were discarded because no PDU buffers were available.
Collection Interval	5 min
Peg Condition	For each Diameter message discarded. The connection measurement is associated with the connection the message was received from.
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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxRoutableRejectMsgsMp

Measurement ID	10248
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages rejected with error answer due to DA-MP Overload Control (DOC and Congestion).
Collection Interval	5 min

Peg Condition	Pegged for each Request message that is rejected.
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. Contact [My Oracle Support \(MOS\)](#) for assistance.
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, 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. 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TxAllConnQueueFullAnswerDiscard

Measurement ID	10230
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of egress Diameter Answer messages that were discarded because the All-Connections Event Queue was full.
Collection Interval	5 min
Peg Condition	For each Answer message discarded because the All-Connections Event 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TxAllConnQueueFullDiscard

Measurement ID	10112
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of egress Diameter messages that were discarded because the All-Connections Event Queue was full.
Collection Interval	5 min
Peg Condition	For each message discarded because the "All-Connections Event Queue" was full
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. If the problem persists, contact [My Oracle Support \(MOS\)](#).

TxConnUnavailDiscard

Measurement ID	10113
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of egress Diameter messages that were discarded by DCL because the egress connection was Unavailable.
Collection Interval	5 min
Peg Condition	For each egress message discarded because the egress connection was found to be Unavailable.

Measurement Scope Server Group

Recovery

No action required.

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.

TxReqMsgApplMismatch

Measurement ID 10006

Measurement Group Diameter Exception

Measurement Type Simple

Measurement Dimension Arrayed (by Connection ID)

Description The number of times a selected egress peer was not selected because it does not support the target Application ID in the message header.

Collection Interval 5 min

Peg Condition Each time the DSR bypasses a transport connection during route selection because the Application ID in the Request message does not match one of the Application IDs received from the peer on the transport connection during the Diameter Capabilities Exchange procedure.

The connection measurement is associated with the egress connection to which an Application ID was not supported for routing the message.

Measurement Scope Server Group

Recovery

Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

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, 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	Contact My Oracle Support (MOS) for assistance if needed.

TxTestMessageDiscard

Measurement ID	10242
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of egress messages in test mode that were discarded at normal egress connection.
Collection Interval	5 min
Peg Condition	Each time an egress message in test mode is discarded at normal egress connection
Measurement Scope	Server Group
Recovery	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 31: Diameter Ingress Transaction Exception Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxAnsFwdFailed	The number of times an ingress Diameter Answer message could not be forwarded to the appropriate	5 min

Measurement Tag	Description	Collection Interval
	DA-MP, because the DA-MP was unavailable or congested.	
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 a 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
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	5 min

Measurement Tag	Description	Collection Interval
	than those identified by other measurements.	
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

RxAnsFwdFailed

Measurement ID	10116
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times an ingress Diameter Answer message could not be forwarded to the appropriate DA-MP, because the DA-MP was unavailable or congested.
Collection Interval	5 min
Peg Condition	This peg is incremented when a DA-MP receives a Diameter Answer message, identifies the DA-MP that holds the pending

transaction, however finds that the DA-MP is unavailable or congested.T

Measurement Scope Server Group

Recovery

If this measurement is seen to be incrementing consistently, contact [My Oracle Support \(MOS\)](#).

This measurement should be pegged, only when the DSR process on the destination DA-MP is Unavailable or the DA-MP is rebooting.

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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxDiscardedMsgsPerConnControlsMp

Measurement ID	10245
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The total number of ingress Diameter messages, over all connections, that were discarded by this MP. Discard is either due to the connection exceeding its configured maximum capacity, or unavailable shared capacity.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message, received on any peer connection, is discarded due to exceeding the configured maximum ingress MPS.
Measurement Scope	Server Group
Recovery	No action required.

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, contact [My Oracle Support \(MOS\)](#).

RxDOCDiscardConn

Measurement ID	10235
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of ingress messages that were discarded because of local DA-MP danger of CPU congestion.
Collection Interval	5 min
Peg Condition	For each message discarded on a connection due to DA-MP danger of CPU congestion. The connection measurement is associated with the connection from which the message was received.
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, 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, contact [My Oracle Support \(MOS\)](#).

RxMpCongestionDiscard

Measurement ID	10237
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of ingress messages that were discarded because of local DA-MP CPU congestion.
Collection Interval	5 min
Peg Condition	For each ingress Diameter Request message discarded because of local DA-MP CPU congestion. The connection measurement is associated with the connection from which the 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. 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, 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: <ul style="list-style-type: none"> • 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 <p>The connection measurement is associated with the connection from which the Request message was received.</p>
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. 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. 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, 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 <i>RxRejectedConnCongestion</i> , <i>RxDecodeFailure</i> , <i>RxMessageLooping</i> , <i>RxConnInvalidMsg</i> , <i>RxNoRulesFailure</i> , <i>RxNoRoutesFound</i> , <i>RxTransactionTimeout</i> , <i>RxPrtRuleRejection</i> , or <i>RxRejectedOther</i> 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 <i>RxDecodeFailure</i> , <i>RxMessageLooping</i> , <i>RxConnInvalidMsg</i> , <i>RxNoRulesFailure</i> , <i>RxNoRoutesFound</i> , <i>RxTransactionTimeout</i> , <i>RxArtRuleRejection</i> , or <i>RxPrtRuleRejection</i> .
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 <i>RxDecodeFailure</i> , <i>RxMessageLooping</i> , <i>RxConnInvalidMsg</i> , <i>RxNoRulesFailure</i> , <i>RxNoRoutesFound</i> , <i>RxTransactionTimeout</i> , <i>RxArtRuleRejection</i> , or <i>RxPrtRuleRejection</i> . 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxRoutableDiscardedMsgsMp

Measurement ID 10249

Measurement Group Diameter Ingress Transaction Exception

Measurement Type Simple

Measurement Dimension Single

Description The number of messages discarded without error answer due to DA-MP Overload Control (DOC and Congestion).

Collection Interval 5 min

Peg Condition Pegged when Diameter Request message is discarded.

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. Contact [My Oracle Support \(MOS\)](#) for assistance.
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, contact [My Oracle Support \(MOS\)](#).

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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TxAllConnQueueFullRequestReject

Measurement ID	10229
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of egress Diameter Request messages that were rejected because the All-Connections Event Queue was full.
Collection Interval	5 min
Peg Condition	For each Request message discarded because the All-Connections Event 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. 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: <ul style="list-style-type: none"> • 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, contact [My Oracle Support \(MOS\)](#).

TxPerConnQueueFullDiscard

Measurement ID	10114
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple

Measurement Dimension	Arrayed (by Connection ID)
Description	The number of egress messages that were discarded because the "Per Connection Egress Message Queue" was full.
Collection Interval	5 min
Peg Condition	For each message discarded because the "Per Connection Egress Message Queue" was full
Measurement Scope	Server Group

Recovery

1. An IP network or Diameter peer problem may exist thus preventing SCTP/TCP from transmitting messages into the network at the same pace that messages are being received from the network.
2. The transport task associated with the connection may be experiencing a problem preventing it from processing events from its Connection Event Message Queue. Examine the alarm log from **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. Monitor the MP server status from **Main Menu > Status & Manage > Server Status**.
4. The mis-configuration 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.
5. 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
6. If the problem persists, contact [My Oracle Support \(MOS\)](#).

TxPerConnQueueFullAnswerDiscard

Measurement ID	10234
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of egress Answer messages that were discarded because the Per Connection Egress Message Queue was full.
Collection Interval	5 min
Peg Condition	For each Per Connection Egress Message Queue Answer message discarded.
Measurement Scope	Server Group

Recovery

1. An IP network or Diameter peer problem may exist that is preventing SCTP/TCP from transmitting messages into the network at the same pace that messages are being received from the network.

2. The transport task associated with the connection may be experiencing a problem preventing it from processing events from its Connection Event Message Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If one or more MPs in a server site have failed, the traffic will be distributed among the remaining MPs in the server site. MP server status can be monitored using the **Status & Manage > Server** page.
4. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored using the **Status & Manage > KPIs** page. 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 using 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.
6. If the problem persists, contact [My Oracle Support \(MOS\)](#).

TxPerConnQueueFullRequestDiscard

Measurement ID	10233
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of egress Request messages that were discarded because the Per Connection Egress Message Queue was full.
Collection Interval	5 min
Peg Condition	For each Per Connection Egress Message Queue Request message discarded.
Measurement Scope	Server Group

Recovery

1. An IP network or Diameter peer problem may exist that is preventing SCTP/TCP from transmitting messages into the network at the same pace that messages are being received from the network.
2. The transport task associated with the connection may be experiencing a problem preventing it from processing events from its Connection Event Message Queue. The alarm log should be examined using the **Alarms & Events** page.
3. If one or more MPs in a server site have failed, the traffic will be distributed among the remaining MPs in the server site. MP server status can be monitored using the **Status & Manage > Server** page.
4. The misconfiguration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored using the **Status & Manage > KPIs** page. 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 using 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.
6. If the problem persists, 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: <ul style="list-style-type: none"> • 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. 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TxSockFullDiscard

Measurement ID	10115
Measurement Group	Diameter Ingress Transaction Exception
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of egress Diameter messages that were discarded because the socket was not writable.
Collection Interval	5 min
Peg Condition	For each egress Diameter message discarded because the socket was not writable.
Measurement Scope	Server Group

Recovery

1. An IP network or Diameter peer problem may exist thus preventing SCTP/TCP from transmitting messages into the network at the same pace that messages are being received from the network.
2. The transport task associated with the connection may be experiencing a problem preventing it from processing events from its Connection Event Message Queue. Examine the alarm log from **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. Monitor the MP server status from **Main Menu > Status & Manage > Server Status**.
4. The mis-configuration 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.
5. 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.
6. If the problem persists, contact [My Oracle Support \(MOS\)](#).

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 32: 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
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 33: Diameter Performance Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvConnPrvSuccess	Number of times the connection successfully completed the proving phase.	5 min
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
RoutingMsgs	The number of messages processed by DRL , including Rerouting and Message Copy.	5 min
RxAcceptedRequestsMp	The number of ingress Diameter Request messages that are accepted by MP to be routed after all Overload Controls are applied.	5 min
RxAllowedMsgsPerConnControlsMp	The total number of ingress Diameter messages, over all connections, that were not discarded by MP.	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
RxAnswerMsgsMp	Number of Answer messages received.	5 min

Measurements

Measurement Tag	Description	Collection Interval
RxConnAnswerMsgs	Number of routable Answer messages received on the connection.	5 min
RxConnCea	Number of CEA messages received on the connection.	5 min
RxConnCer	Number of CER messages received on the connection.	5 min
RxConnDpa	Number of DPA messages received on the connection.	5 min
RxConnDpr	Number of DPR messages received on the connection	5 min
RxConnDwa	Number of DWA messages received on the connection.	5 min
RxConnDwr	Number of DWR messages received on the connection.	5 min
RxConnRequestMsgs	Number of routable Request messages received on the connection.	5 min
RxConnRoutableMsgs	Number of routable messages received on the connection.	5 min
RxMaxMpsAcceptedMp	The number of ingress Diameter messages received that are accepted by Maximum IMR Controls of MP.	5 min
RxMaxMpsAcceptedRequestsMp	The number of ingress Diameter Request messages that are accepted by MP to be routed after Maximum IMR Controls are applied by MP.	5 min
RxMsgSize	Ingress message size statistics.	5 min
RxMsgSizeAvg	Average ingress message size in Diameter payload octets.	5 min
RxMsgSizePeak	Peak ingress message size in Diameter payload octets.	5 min
RxMsgsOCPri0Mp	The number of ingress Priority 0 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCGreenPri0Mp	The number of Green ingress Priority 0 messages arriving at the DA-MP Overload Control component.	5 min

Measurements

Measurement Tag	Description	Collection Interval
RxMsgsOCYellowPri0Mp	The number of Yellow ingress Priority 0 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCPri1Mp	The number of ingress Priority 1 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCGreenPri1Mp	The number of Green ingress Priority 1 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCYellowPri1Mp	The number of Yellow ingress Priority 1 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCPri2Mp	The number of ingress Priority 2 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCGreenPri2Mp	The number of Green ingress Priority 2 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCYellowPri2Mp	The number of Yellow ingress Priority 2 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCPri3Mp	The number of ingress Priority 3 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCPri0RatePeakMp	The peak rate of ingress Priority 0 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCGreenPri0RatePeakMp	The peak rate of Green ingress Priority 0 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCYellowPri0RatePeakMp	The peak rate of Yellow ingress Priority 0 messages arriving at the DA-MP Overload Control component.	5 min

Measurements

Measurement Tag	Description	Collection Interval
RxMsgsOCPri1RatePeakMp	The peak rate of ingress Priority 1 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCGreenPri1RatePeakMp	The peak rate of Green ingress Priority 1 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCYellowPri1RatePeakMp	The peak rate of Yellow ingress Priority 1 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCPri2RatePeakMp	The peak rate of ingress Priority 2 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCGreenPri2RatePeakMp	The peak rate of Green ingress Priority 2 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCYellowPri2RatePeakMp	The peak rate of Yellow ingress Priority 2 messages arriving at the DA-MP Overload Control component.	5 min
RxMsgsOCPri3RatePeakMp	The peak rate of ingress Priority 3 messages arriving at the DA-MP Overload Control component.	5 min
RxOfferedMsgsMp	Total number of ingress Diameter messages, over all connections, offered to this MP. This includes both routable and non-routable messages.	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
RxRoutableAcceptedMsgsMpmn	The number of ingress Diameter messages received that are accepted by MP for processing after all overload controls are applied.	5 min

Measurement Tag	Description	Collection Interval
RxRoutableMsgsMp	Number of routable messages received.	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
TxAnswerMsgsMp	Number of routable Answer messages transmitted.	5 min
TxConnAnswerMsgs	Number of routable Answer messages successfully sent on the connection.	5 min
TxConnCea	Number of CEA messages sent on the connection.	5 min
TxConnCer	Number of CER messages received on the connection.	5 min
TxConnDpa	Number of DPA messages sent on the connection.	5 min
TxConnDpr	Number of DPR messages sent on the connection.	5 min
TxConnDwa	Number of DWA messages sent on the connection.	5 min
TxConnDwr	Number of DWR messages received on the connection.	5 min
TxConnRequestMsgs	Number of routable Request messages successfully sent on the connection.	5 min
TxMsgSize	Average egress message size in Diameter payload octets.	5 min
TxMsgSizeAvg	Average egress message size in Diameter payload octets.	5 min

Measurement Tag	Description	Collection Interval
TxMsgSizePeak	Peak egress message size in Diameter payload octets.	5 min
TxRequestMsgsMp	Number of routable Request messages transmitted.	5 min
TxRequestSuccessAllMp	Number of Request messages successfully routed to a peer.	5 min

EvConnPrvSuccess

Measurement ID	10186
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Diameter Connection ID)
Description	The number of times the connection successfully completed the proving phase.
Collection Interval	5 min
Peg Condition	Pegged when a proving period is successfully completed.
Measurement Scope	Server Group

Recovery

1. If the proving mode in the Connection Configuration Set is set to On Error, and this measurement indicates an excessive number of proving periods being performed, examine measurements [TxConnDpr](#), [RxConnDpa](#), [RxConnDpr](#), and [TxConnDpa](#).
2. Also examine the Alarm History for Events 22303 - Connection Unavailable: Peer closed connection, 22319 - Connection Unavailable: Diameter Watchdog, and 22345 - Connection Priority Level changed. Refer to the *DSR Alarms and KPIs Reference* for details about these events.
The presence of these measurements/events may indicate that the peer is not responding to DWRs or not handling the DPx exchange on disconnect properly, after which the DSR will require a proving period.
3. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

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. 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.

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. <ul style="list-style-type: none"> • 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.

RxAcceptedRequestsMp

Measurement ID	10255
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress request messages that are accepted by DA-MP for routing.
Collection Interval	5 min
Peg Condition	For each message forwarded to DRL for routing
Measurement Scope	Server Group

Recovery

No action required.

RxAcceptedMsgsPerConnControlsMp

Measurement ID	10246
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The total number of ingress Diameter messages, over all connections, that were not discarded by MP
Collection Interval	5 min

Peg Condition	Pegged when a Diameter message, received on any peer connection, is not discarded due to not exceeding the configured maximum ingress MPS.
Measurement Scope	Server Group
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.

RxAnswerMsgsMp

Measurement ID	10132
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Answer messages received.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message is received from the peer on the connection. This measurement is pegged for all messages accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.
Measurement Scope	Server Group

Recovery

No action required.

RxConnAnswerMsgs

Measurement ID	10152
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	The number of routable Answer messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter answer message is received from the peer.
Measurement Scope	Server Group
Recovery	No action required.

RxConnCea

Measurement ID	10157
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of CEA messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a CEA message is received on the connection.
Measurement Scope	Server Group
Recovery	No action required.

RxConnCer

Measurement ID	10158
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of CER messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a CER message is received on the connection.
Measurement Scope	Server Group
Recovery	No action required.

RxConnDpa

Measurement ID	10166
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of DPA messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a DPA message is received on the connection.
Measurement Scope	Server Group
Recovery	No action required.

RxConnDpr

Measurement ID	10167
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of DPR messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a DPR message is received on the connection.
Measurement Scope	Server Group
Recovery	No action required.

RxConnDwa

Measurement ID	10161
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of DWA messages received on the connection.
Collection Interval	5 min

Peg Condition	Pegged when a DWA message is received on the connection.
Measurement Scope	Server Group
Recovery	No action required.

RxConnDwr

Measurement ID	10162
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of DWR messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a DWR message is received on the connection.
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.

RxConnRoutableMsgs

Measurement ID	10187
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Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of routable messages received on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a message with the Proxy bit set is received on the connection.
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.

RxMaxMpsAcceptedMp

Measurement ID	10250
Measurement Group	Diameter Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Diameter messages received that are accepted by Maximum IMR Controls of MP.
Collection Interval	5 min
Peg Condition	Pegged for each message not discarded or rejected with "Discard Message" or "Drop Message & Send Response".

Measurement Scope Server Group

Recovery

No action required.

RxMaxMpsAcceptedRequestsMp

Measurement ID 10254

Measurement Group Diameter Performance

Measurement Type Simple

Measurement Dimension Single

Description The number of ingress Diameter Request messages that are accepted by MP to be routed after Maximum IMR Controls are applied by MP.

Collection Interval 5 min

Peg Condition Each time a Diameter Request message is not discarded or rejected

Measurement Scope Server Group

Recovery

No action required.

RxMsgSize

Measurement ID 10135

Measurement Group Diameter Performance

Measurement Type Simple

Measurement Dimension Single

Description Ingress message size statistics.

Note: Each bucket in the array contains the number of PDUs with Diameter payload octets that fell within the bucket's range during the measurement period.

- [0] = less than 512 octets
- [1] = 512 to 1023 octets
- [2] = 1024 to 1535 octets
- [3] = 1536 to 2047 octets
- [4] = 2048 to 2559 octets
- [5] = 2560 to 3071 octets
- [6] = 3072 to 3583 octets
- [7] = 3584 to 4095 octets
- [8] = 4096 or more octets

Collection Interval 5 min

Peg Condition Pegged when a Diameter message is received from the peer on the connection. This measurement is pegged for all messages accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.

Measurement Scope Server Group

Recovery
No action required.

RxMsgSizeAvg

Measurement ID 10133

Measurement Group Diameter Performance

Measurement Type Simple

Measurement Dimension Single

Description The average ingress message size in Diameter payload octets.

Collection Interval 5 min

Peg Condition Pegged when a Diameter message is received from the peer on the connection. This measurement is pegged for all messages accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.

Measurement Scope Server Group

Recovery
No action required.

RxMsgSizePeak

Measurement ID 10134

Measurement Group Diameter Performance

Measurement Type Simple

Measurement Dimension Single

Description The peak ingress message size in Diameter payload octets.

Collection Interval 5 min

Peg Condition Pegged when a Diameter message is received from the peer on the connection. This measurement is pegged for all messages accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.

Measurement Scope Server Group

Recovery

1. If this measurement exceeds the configured maximum Diameter message size, examine the [RxConnFailMalfMsg](#) measurement to determine how many messages were discarded because of this condition.
2. Examine the Alarm History and find Event 22302 - Connection Unavailable: Received malformed message (refer to the *DSR Alarms and KPIs Reference* for details about this event) for this connection.
3. Examine the displayed message bytes for errors and monitor the connection for invalid Diameter messages.
4. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxMsgsOCPri0Mp

Measurement ID	10256
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Priority 0 messages arriving at the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 0 Diameter Request message arrives at the DA-MP Overload Control component
Measurement Scope	Site
Recovery	No action required

RxMsgsOCGreenPri0Mp

Measurement ID	10257
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Green ingress Priority 0 messages arriving at 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	No action required

RxMsgsOCYellowPri0Mp

Measurement ID	10258
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Yellow ingress Priority 0 messages arriving at 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	No action required

RxMsgsOCPri1Mp

Measurement ID	10259
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Priority 1 messages arriving at the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 1 Diameter Request message arrives at the DA-MP Overload Control component
Measurement Scope	Site
Recovery	No action required

RxMsgsOCGreenPri1Mp

Measurement ID	10260
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Green ingress Priority 1 messages arriving at 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	No action required

RxMsgsOCYellowPri1Mp

Measurement ID	10261
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Yellow ingress Priority 1 messages arriving at 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	No action required

RxMsgsOCPri2Mp

Measurement ID	10262
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of ingress Priority 2 messages arriving at the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 2 Diameter Request message arrives at the DA-MP Overload Control component
Measurement Scope	Site
Recovery	No action required

RxMsgsOCGreenPri2Mp

Measurement ID	10263
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Green ingress Priority 2 messages arriving at 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	No action required

RxMsgsOCYellowPri2Mp

Measurement ID	10264
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of Yellow ingress Priority 2 messages arriving at 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	No action required

RxMsgsOCPri3Mp

Measurement ID	10265
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single

Description	The number of ingress Priority 3 messages arriving at the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 3 Diameter Request message arrives at the DA-MP Overload Control component
Measurement Scope	Site
Recovery	No action required

RxMsgsOCPri0RatePeakMp

Measurement ID	10266
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of ingress Priority 0 messages arriving at the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 0 Diameter Request message arrives at the DA-MP Overload Control component
Measurement Scope	Site
Recovery	No action required

RxMsgsOCGreenPri0RatePeakMp

Measurement ID	10267
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of Green ingress Priority 0 messages arriving at 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	
Recovery	No action required

RxMsgsOCYellowPri0RatePeakMp

Measurement ID	10268
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of Yellow ingress Priority 0 messages arriving at 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	No action required

RxMsgsOCPri1RatePeakMp

Measurement ID	10269
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of ingress Priority 1 messages arriving at the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 1 Diameter Request message arrives at the DA-MP Overload Control component
Measurement Scope	Site
Recovery	No action required

RxMsgsOCGreenPri1RatePeakMp

Measurement ID	10270
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of Green ingress Priority 1 messages arriving at 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	No action required

RxMsgsOCYellowPri1RatePeakMp

Measurement ID	10271
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of Yellow ingress Priority 1 messages arriving at 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	No action required

RxMsgsOCPri2RatePeakMp

Measurement ID	10272
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of ingress Priority 2 messages arriving at the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 2 Diameter Request message arrives at the DA-MP Overload Control component
Measurement Scope	
Recovery	No action required

RxMsgsOCGreenPri2RatePeakMp

Measurement ID	10263
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of Green ingress Priority 2 messages arriving at 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	Server Group
Recovery	No action required

RxMsgsOCYellowPri2RatePeakMp

Measurement ID	10274
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak rate of Yellow ingress Priority 2 messages arriving at 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	No action required

RxMsgsOCPri3RatePeakMp

Measurement ID	10275
Measurement Group	Diameter Performance
Measurement Type	Max
Measurement Dimension	Single

Description	The peak rate of ingress Priority 3 messages arriving at the DA-MP Overload Control component.
Collection Interval	5 min
Peg Condition	Each time a Priority 3 Diameter Request message arrives at the DA-MP Overload Control component
Measurement Scope	Site
Recovery	No action required

RxOfferedMsgsMp

Measurement ID	10244
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The total number of ingress Diameter messages, over all connections, offered to this MP. This includes both routable and non-routable messages.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message is received on any peer connection.
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.

RxRoutableAcceptedMsgsMp

Measurement ID	10247
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of messages accepted and sent to DRL for processing.
Collection Interval	5 min
Peg Condition	Pegged when Diameter message is sent to DRL for routing.
Measurement Scope	Server Group
Recovery	No action required.

RxRoutableMsgsMp

Measurement ID	10130
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of routable messages received.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message, with the Proxy bit set, is received from the peer. This measurement is pegged for all messages accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.
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. 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	<ul style="list-style-type: none"> • 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 <p>This includes Answer messages received from an upstream peers and those generated by DRL.</p>
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. 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	<ol style="list-style-type: none"> 1. If the average is significantly larger than what is considered normal, then additional measurements, such as measurement <i>TmResponseTimeUpstream</i>, should be consulted to assist in determining the source of the delay. 2. 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

Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TxAnswerMsgsMp

Measurement ID	10137
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of routable Answer messages transmitted.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter Answer message is sent to the peer on the connection.
Measurement Scope	Server Group

Recovery

No action required.

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.

TxConnCea

Measurement ID	10159
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of CEA messages sent on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a CEA message is sent on the connection.
Measurement Scope	Server Group
Recovery	No action required.

TxConnCer

Measurement ID	10156
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of CER messages sent on the connection.
Collection Interval	5 min

Peg Condition When a CER message is sent to the peer on the connection. This measurement is pegged for CER messages indicating success as well as those indicating an error. A separate measurement (TxConnCerErr) is also pegged if the CER indicates an error.

Measurement Scope Server Group

Recovery
No action required.

TxConnDpa

Measurement ID 10168
Measurement Group Diameter Performance
Measurement Type Simple
Measurement Dimension Arrayed (by Connection ID)
Description The number of DPA messages sent on the connection.

Collection Interval 5 min
Peg Condition Pegged when a DPA message is sent on the connection.

Measurement Scope Server Group

Recovery
No action required.

TxConnDpr

Measurement ID 10165
Measurement Group Diameter Performance
Measurement Type Simple
Measurement Dimension Arrayed (by Connection ID)
Description The number of DPR messages sent on the connection.

Collection Interval 5 min
Peg Condition Pegged when a DPR message is sent on the connection.

Measurement Scope Server Group

Recovery
No action required.

TxConnDwa

Measurement ID 10163

Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of DWA messages sent on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a DWA message is sent on the connection.
Measurement Scope	Server Group
Recovery	No action required.

TxConnDwr

Measurement ID	10160
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of DWR messages sent on the connection.
Collection Interval	5 min
Peg Condition	Pegged when a DWR message is received on the connection.
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.

TxMsgSize

Measurement ID	10140
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Egress message size statistics.

Note: Each bucket in the array contains the number of PDUs with Diameter payload octets that fell within the bucket's range during the measurement period.

- [0] = less than 512 octet
- [1] = 512 to 1023 octets
- [2] = 1024 to 1535 octets
- [3] = 1536 to 2047 octets
- [4] = 2048 to 2559 octets
- [5] = 2560 to 3071 octets
- [6] = 3072 to 3583 octets
- [7] = 3584 to 4095 octets
- [8] = 4096 or more octets

Collection Interval	5 min
Peg Condition	Pegged when a Diameter message is sent to the peer on the connection.
Measurement Scope	Server Group

Recovery

No action required.

TxMsgSizeAvg

Measurement ID	10138
Measurement Group	Diameter Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The average egress message size in Diameter payload octets.
Collection Interval	5 min
Peg Condition	Pegged when a Diameter message is sent to the peer on the connection.

Measurement Scope Server Group

Recovery

No action required.

TxMsgSizePeak

Measurement ID 10139

Measurement Group Diameter Performance

Measurement Type Simple

Measurement Dimension Single

Description The peak egress message size in Diameter payload octets.

Collection Interval 5 min

Peg Condition Pegged when the size of the Diameter message sent to the peer is larger than any other message sent to the peer during the reporting interval.

Measurement Scope Server Group

Recovery

No action required.

TxRequestMsgsMp

Measurement ID 10136

Measurement Group Diameter Performance

Measurement Type Simple

Measurement Dimension Single

Description The number of routable Request messages transmitted.

Collection Interval 5 min

Peg Condition Pegged when a Diameter Request message is sent to the peer on the connection.

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 34: Diameter Rerouting Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxRerouteAnswerRsp	Answer messages received associated with rerouted Request messages	5 min
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

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	<ol style="list-style-type: none"> 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. 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. 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. 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 35: 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
RxLnkUnsollInactAck	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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxLnkUnsolicitedAck

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. 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. 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. 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 36: 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 37: 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 38: 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	<p>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 <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is asserted during the collection period.</p> <p>Start of duration measurement for Link Set "X" criteria:</p> <ol style="list-style-type: none"> 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). <p>Stop of duration measurement for Link Set "X" criteria:</p> <ol style="list-style-type: none"> 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 39: 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: <ul style="list-style-type: none"> • 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 <i>DSR Alarms and KPIs Reference</i> 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	<p>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:</p> <ul style="list-style-type: none"> • 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. 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. 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. 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 40: 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	<ol style="list-style-type: none"> 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. 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 MCCA, thus causing the copy action to fail.
Measurement Scope	Server Group

Recovery

1. Verify the MCCA configured with the trigger points and ensure proper provisioning.
2. If the problem persists, 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. Contact [My Oracle Support \(MOS\)](#) for assistance.

DASCopyFailurePeerAppIdUnsup

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. 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. 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. 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. 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. 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. 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 41: 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

EvConnPeerUnsuppMp

Measurement ID	10128
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)

Description	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.
Collection Interval	5 min
Peg Condition	Pegged when a connection is configured to read message priority from ingress message and the peer does not support UCMP feature.
Measurement Scope	Server Group

Recovery

1. Verify that the peer is a DSR
 - Product-Name is reported as "Eagle XG DSR", in the Event Additional Information.
 - Vendor-Id is reported as 323 (Tekelec).
2. Verify that the Firmware-Revision reported in the Event Additional Information represents a DSR software version that supports the Message Priority Feature.
 - Call *My Oracle Support (MOS)* and obtain the minimum DSR software version that supports Message Priority and compare with this information.
 - If the reported Firmware-Version is greater than or equal to the minimum required DSR software version, call *My Oracle Support (MOS)*.
 - If the reported Firmware-Version is less than the minimum required DSR software version, call *My Oracle Support (MOS)* to seek advice on whether the peer DSR needs to be upgraded, or whether the Message Priority Setting for this Transport Connection or Peer Node needs to be changed to "None".

EvConnUnexpMp

Measurement ID	10127
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Arrayed (by Connection ID)
Description	The number of times an ingress Request message was received with a priority of "3", when the peer supports UCMP feature.
Collection Interval	5 min
Peg Condition	Pegged when a peer supports UCMP feature and an ingress Request message was received with a priority of "3".
Measurement Scope	Server Group

Recovery

1. Verify that the peer is a DSR

- Product-Name is reported as "Eagle XG DSR", in the Event Additional Information.
 - Vendor-Id is reported as 323 (Tekelec).
2. Verify that the Firmware-Revision reported in the Event Additional Information represents a DSR software version that supports the Message Priority Feature.
- Call *My Oracle Support (MOS)* and obtain the minimum DSR software version that supports Message Priority and compare with this information.
 - If the reported Firmware-Version is greater than or equal to the minimum required DSR software version, call *My Oracle Support (MOS)*.
 - If the reported Firmware-Version is less than the minimum required DSR software version, call *My Oracle Support (MOS)* to seek advice on whether the peer DSR needs to be upgraded, or whether the Message Priority Setting for this Transport Connection or Peer Node needs to be changed to "None".

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.

RxMpMsgPri0

Measurement ID	10109
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Single
Description	Total number of ingress messages assigned message priority 0.
Collection Interval	5 min
Peg Condition	Pegged when an ingress message is assigned a priority of 0.

Measurement Scope	Server Group
Recovery	No action necessary.
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.

RxMpMsgPri1

Measurement ID	10110
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Single
Description	Total number of ingress messages assigned message priority 1.
Collection Interval	5 min
Peg Condition	Pegged when an ingress message is assigned a priority of 1.
Measurement Scope	Server Group

Recovery

No action necessary.

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.

RxMpMsgPri2

Measurement ID	10111
Measurement Group	Message Priority
Measurement Type	Simple
Measurement Dimension	Single
Description	Total number of ingress messages assigned message priority 2.
Collection Interval	5 min
Peg Condition	Pegged when an ingress message is assigned a priority of 2.
Measurement Scope	Server Group
Recovery	No action necessary.

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 42: 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
EvMemoryCongestionLevel1Entered	The number of times that the DA-MP entered memory congestion level 1.	5 min
EvMemoryCongestionLevel2Entered	The number of times that the DA-MP entered memory congestion level 2.	5 min
EvMemoryCongestionLevel3Entered	The number of times that the DA-MP entered memory congestion level 3.	5 min
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

Measurement Tag	Description	Collection Interval
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
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	5 min

Measurement Tag	Description	Collection Interval
	SCTP/TCP socket until it is sent to the egress peer's SCTP/TCP socket.	
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 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
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

Measurement Tag	Description	Collection Interval
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

EvDiameterProcessAvg

Measurement ID	10204
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single
Description	The average Diameter Process CPU utilization (0-100%) measured during the collection interval. The Diameter process is responsible for all Diameter-related processing.
Collection Interval	5 min
Peg Condition	The average of all Diameter process CPU 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvDiameterProcessPeak

Measurement ID	10203
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak Diameter process CPU utilization (0-100%) measured during the collection interval. The Diameter process is responsible for all Diameter-related processing.
Collection Interval	5 min
Peg Condition	The maximum Diameter process CPU 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

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, 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, contact [My Oracle Support \(MOS\)](#).

EvMemoryCongestionLevel1Entered

Measurement ID	14151
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times that the DA-MP entered memory congestion level 1.
Collection Interval	5 min
Peg Condition	Each time any of these conditions occur: <ul style="list-style-type: none"> • Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) transitions from "cleared" to asserted with severity "Minor." • Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) transitions from asserted with severity "Major" to asserted with severity "Minor." • Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) transitions from asserted with severity "Critical" to asserted with severity "Minor."

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, contact [My Oracle Support \(MOS\)](#).

EvMemoryCongestionLevel2Entered

Measurement ID 14153
Measurement Group MP Performance
Measurement Type Simple
Measurement Dimension Single
Description The number of times that the DA-MP entered memory congestion level 2.
Collection Interval 5 min
Peg Condition Each time one of these conditions occur:

- Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) transitions from "cleared" to asserted with severity "Major."
- Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) transitions from asserted with severity "Minor" to asserted with severity "Major."
- Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) transitions from asserted with severity "Critical" to asserted with severity "Major."

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, contact [My Oracle Support \(MOS\)](#).

EvMemoryCongestionLevel3Entered

Measurement ID	14155
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times that the DA-MP entered memory congestion level 3.
Collection Interval	5 min
Peg Condition	Each time one of these conditions occur: <ul style="list-style-type: none"> • Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) transitions from "cleared" to asserted with severity "Critical." • Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) transitions from asserted with severity "Minor" to asserted with severity "Critical." • Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) transitions from asserted with severity "Critical" to asserted with severity "Critical." <p>When the "time interval" completes, the time measured is added to the measurement value.</p>
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, contact [My Oracle Support \(MOS\)](#).

EvMpCongestionEntered

Measurement ID	10206
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times that the DA-MP became congested (regardless of severity level).
Collection Interval	5 min
Peg Condition	Each time Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) transitions from cleared to asserted with severity CL1.
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, 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 <i>DSR Alarms and KPIs Reference</i> 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, 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 <i>DSR Alarms and KPIs Reference</i> 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, 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 <i>DSR Alarms and KPIs Reference</i> 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, contact [My Oracle Support \(MOS\)](#).

EvMpDangerOfCongestionEntered

Measurement ID	10283
Measurement Group	MP Performance
Measurement Type	Simple

Measurement Dimension	Single
Description	The number of times that the local DA-MP entered danger of CPU congestion.
Collection Interval	5 min
Peg Condition	Each time Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) transitions from "cleared" to asserted with severity "Info".
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. 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, contact [My Oracle Support \(MOS\)](#).

EvPduPoolAvg

Measurement ID	10209
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single
Description	The average Diameter PDU Buffer Pool utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The average of all Diameter PDU 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvPduPoolPeak

Measurement ID	10208
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	<p>The peak Diameter PDU Buffer Pool utilization (0-100%) measured during the collection interval.</p> <p>A PDU is allocated to each message that arrives at an MP and is de-allocated when message processing completes. This measurement is useful for evaluating whether persistent network problems exist. In general, PDU buffers are engineered to match the processing capacity of the MP. If network problems exist, delaying the off-loading of egress messages from the MP, then PDUs/messages will sit in internal Diameter queues.</p>
Collection Interval	5 min
Peg Condition	The maximum Diameter PDU 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvPtrListPeak

Measurement ID	10210
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	<p>The peak Diameter PTR Buffer Pool utilization (0-100%) measured during the collection interval.</p> <p>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.</p>
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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

EvStasisModeMaxConnsExceeded

Measurement ID	10190
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The number of times DA-MP requested IPFE to cease distributing Diameter connections to the DA-MP due to maximum number of connections on the DA-MP.
Collection Interval	5 min
Peg Condition	This measurement is incremented when the A DA-MP is sending IPFE a “heartbeat” message and it has determined that the number of Diameter connections established has reached the maximum number supported by the DA-MP since the last “heartbeat” message was sent. A DA-MP will send a “heartbeat” message indicating a STASIS availability status when it has reached its maximum number of active Diameter connections.
Measurement Scope	Server Group

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 \(MOS\)](#).

EvStasisModeMpCongestion

Measurement ID	10191
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	The DA-MP is in MP Congestion due to high traffic rates. The number of times DA-MP requested IPFE to cease distributing Diameter connections to the DA-MP due to MP Congestion.
Collection Interval	5 min
Peg Condition	This measurement is incremented when the A DA-MP is sending IPFE a “heartbeat” message and it has been determined that its Congestion Level has transitions from CL0 (No Congestion) since

the last heartbeat message sent. A DA-MP will send a “heartbeat” message indicating STASIS availability status when it’s Congestion Level is greater than CL0.

Measurement Scope Server Group

Recovery

1. The traffic rate needs to be decreased.
2. Contact [My Oracle Support \(MOS\)](#) for assistance.

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. 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxMsgRateAvgMp

Measurement ID	10202
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single
Description	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).
Collection Interval	5 min
Peg Condition	The average of all MP ingress message rate 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

RxMsgRatePeakMp

Measurement ID	10201
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	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).
Collection Interval	5 min
Peg Condition	The maximum ingress message rate (messages per second) 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. 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. 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. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TmAnswerTimeAvg

Measurement ID	10198
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single
Description	<p>Average time (in milliseconds) 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.</p> <p>Note: This is the average cross-MP delay for answers during the measurement period excluding ethernet/IP stack ingress and egress processing time.</p>
Collection Interval	5 min
Peg Condition	Timing started when an ingress Answer message is read from the connection socket. Timing stopped when the matching egress Answer message is written to the connection socket. The difference between the two times is used to update the average.
Measurement Scope	Server Group

Recovery

1. If this measurement indicates an excessive average cross-MP delay, examine the DIAM KPIs to determine if the system is under excessive load.
2. Examine the Peer Routing Rules to determine if there are an excessive number of rules.
3. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TmAnswerTimePeak

Measurement ID	10197
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	<p>Peak time (in milliseconds) 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.</p> <p>Note: This is the peak cross-MP delay for answers during the measurement period excluding ethernet/IP stack ingress and egress processing time.</p>
Collection Interval	5 min
Peg Condition	Timing started when an ingress Answer message is read from the connection socket. Timing stopped when the matching egress Answer message is written to the connection socket. This measurement is pegged if the difference is larger than the current value of the measurement.
Measurement Scope	Server Group
Recovery	No action required.

TmMemoryCongestionLevel1

Measurement ID	14150
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	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.
Collection Interval	5 min
Peg Condition	<p>The "time interval" starts when one of these conditions occur:</p> <ul style="list-style-type: none"> • A new "collection interval" for the measurement begins and Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is already asserted with severity "Minor". • Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is asserted with severity "Minor" (onset of DA-MP memory congestion level 1).

The "time interval" stops when one of these conditions occur:

- The "collection interval" for the measurement ends and Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Minor".
- 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is no longer asserted with severity "Minor" (abatement of DA-MP memory congestion level 1).

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 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.
3. The size of the average message processed by DSR is exceeding its configured limits. This may cause DSR to consume an abnormally large amount of memory, leading to performance degradation. Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) may be raised as a result. Examine the traffic coming from connected peers to see if any of them are sending abnormally large messages.
4. If the problem persists, contact [My Oracle Support \(MOS\)](#).

TmMemoryCongestionLevel2

Measurement ID	14152
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	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.
Collection Interval	5 min
Peg Condition	The "time interval" starts when one of these conditions occur: <ul style="list-style-type: none"> • A new "collection interval" for the measurement begins and Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is already asserted with severity "Major".

- Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted with severity "Major" (onset of DA-MP memory congestion level 2).

The "time interval" stops when one of these conditions occur:

- The "collection interval" for the measurement ends and Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Major".
- 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is no longer asserted with severity "Major" (abatement of DA-MP memory congestion level 2).

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 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.
3. The size of the average message processed by DSR is exceeding its configured limits. This may cause DSR to consume an abnormally large amount of memory, leading to performance degradation. Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) may be raised as a result. Examine the traffic coming from connected peers to see if any of them are sending abnormally large messages.
4. If the problem persists, contact [My Oracle Support \(MOS\)](#).

TmMemoryCongestionLevel3

Measurement ID	14154
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	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.
Collection Interval	5 min
Peg Condition	The "time interval" starts when one of these conditions occur: <ul style="list-style-type: none"> • A new "collection interval" for the measurement begins and Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the <i>DSR Alarms</i>

and KPIs Reference for details about this alarm) is already asserted with severity "Critical".

- Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted with severity "Critical" (onset of DA-MP memory congestion level 3).

The "time interval" stops when one of these conditions occur:

- The "collection interval" for the measurement ends and Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is already asserted with severity "Critical".
- 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is no longer asserted with severity "Critical" (abatement of DA-MP memory 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 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.
3. The size of the average message processed by DSR is exceeding its configured limits. This may cause DSR to consume an abnormally large amount of memory, leading to performance degradation. Alarm 22223 - DA-MP Memory Utilization Limit Exceeded (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) may be raised as a result. Examine the traffic coming from connected peers to see if any of them are sending abnormally large messages.
4. If the problem persists, contact [My Oracle Support \(MOS\)](#).

TmMpCongestion

Measurement ID	10205
Measurement Group	MP Performance
Measurement Type	Simple
Measurement Dimension	Single
Description	Total time (in milliseconds) the local DA-MP was in CPU congestion. 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 duration interval starts when one of the following conditions occurs:

1. 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 asserted (regardless of severity level).
2. Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is asserted with severity Minor (local MP congestion level CL0 to CL1 transition).

The time duration interval stops when one of the following conditions occurs:

1. 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 asserted (regardless of severity level).
2. Alarm 22200 - Local MP Congestion (refer to the *DSR Alarms and KPIs Reference* for details about this alarm) is cleared (local MP congestion level CL1 to CL0 transition).

When a time duration interval completes, the time measured is added to the total measurement value.

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, contact [My Oracle Support \(MOS\)](#).

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, 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	<p>The "time interval" starts when one of the following conditions occur:</p> <ul style="list-style-type: none"> • A new "collection interval" for the measurement begins and Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is already asserted with severity "Major". • Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> 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). <p>The "time interval" stops when one of the following conditions occur:</p> <ul style="list-style-type: none"> • The "collection interval" for the measurement ends and Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is already asserted with severity "Major". • Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> 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). <p>When the "time interval" completes, the time measured is added to the measurement value.</p>
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, 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	<p>The "time interval" starts when one of the following conditions occur:</p> <ul style="list-style-type: none"> • A new "collection interval" for the measurement begins and Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is already asserted with severity "Critical". • Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is asserted with severity "Critical" (onset of local DA-MP CPU congestion level 3). <p>The "time interval" stops when one of the following conditions occur:</p> <ul style="list-style-type: none"> • The "collection interval" for the measurement ends and Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is already asserted with severity "Critical". • Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is no longer asserted with severity "Critical" (abatement of local DA-MP CPU congestion level 3). <p>When the "time interval" completes, the time measured is added to the measurement value.</p>
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, contact [My Oracle Support \(MOS\)](#).

TmMpDangerOfCongestion

Measurement ID	10282
Measurement Group	MP Performance
Measurement Type	Simple

Measurement Dimension	Single
Description	The total time (in milliseconds) the local DA-MP was in danger of CPU congestion. This will appear as an aggregate value retrieved from all DA-MPs in a Network Element.
Collection Interval	5 min
Peg Condition	<p>The “time interval” starts when one of the following conditions occurs:</p> <ul style="list-style-type: none"> • A new “collection interval” for the measurement begins and Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is already asserted with severity “Info”. • Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is asserted with severity “Info” (onset of local DA-MP danger of CPU congestion). <p>The “time interval” stops when one of the following conditions occurs:</p> <ul style="list-style-type: none"> • The “collection interval” for the measurement ends and Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is already asserted with severity “Info”. • Alarm 22200 - Local MP Congestion (refer to the <i>DSR Alarms and KPIs Reference</i> for details about this alarm) is cleared (abatement of local DA-MP danger of CPU congestion). <p>When the “time interval” completes, the time measured is added to the measurement value.</p>
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. 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, contact [My Oracle Support \(MOS\)](#).

TmRequestTimeAvg

Measurement ID	10196
Measurement Group	MP Performance
Measurement Type	Average

Measurement Dimension	Single
Description	Average time (in milliseconds) 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. Note: This is the average cross-MP delay for Requests during the measurement period excluding ethernet/IP stack ingress and egress processing time.
Collection Interval	5 min
Peg Condition	Timing started when an ingress message is read from the connection socket. Timing stopped when the matching egress message is written to the connection socket. The difference between the two times is used to update the average.
Measurement Scope	Server Group
Recovery	<ol style="list-style-type: none"> 1. If this measurement indicates an excessive average cross-MP delay, examine the DIAM KPIs to determine if the system is under excessive load. 2. Examine the Peer Routing Rules to determine if there are an excessive number of rules. 3. Contact My Oracle Support (MOS) for assistance if needed.

TmRequestTimePeak

Measurement ID	10197
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	Peak time (in milliseconds) 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. Note: This is the peak cross-MP delay for Requests during the measurement period excluding ethernet/IP stack ingress and egress processing time.
Collection Interval	5 min
Peg Condition	Timing started when an ingress request message is read from the connection socket. Timing stopped when the matching egress request message is written to the connection socket. This measurement is pegged if the difference is larger than the current value of the measurement.
Measurement Scope	Server Group
Recovery	

No action required.

TxAllConnQueueAvg

Measurement ID	10217
Measurement Group	MP Performance
Measurement Type	Average
Measurement Dimension	Single
Description	The average All-Connections Event Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The average of all All-Connections Event Queue utilization samples taken during the collection interval.
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, contact [My Oracle Support \(MOS\)](#).

TxAllConnQueuePeak

Measurement ID	10216
Measurement Group	MP Performance
Measurement Type	Max
Measurement Dimension	Single
Description	The peak All-Connections Event Queue utilization (0-100%) measured during the collection interval.
Collection Interval	5 min
Peg Condition	The maximum of all All-Connections Event Queue utilization samples taken during the collection interval.
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, 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, 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, contact [My Oracle Support \(MOS\)](#).

OAM.ALARM measurements

Table 43: 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 44: 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

Measurement Tag	Description	Collection Interval
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 committed more resources than provided by physical RAM, in which case, swapping will occur.	5 minutes
System.ShMem_UtilPct_Average	The average shared memory usage as a percentage of the limit configured by shl.set.	5 minutes
System.ShMem_UtilPct_Peak	The peak shared memory usage as a percentage of the limit configured by shl.set.	5 minutes
System.SwapIn_Rate_Average	The average number of memory pages swapped in to memory from disk per second.	5 minutes
System.SwapIn_Rate_Peak	The peak number of memory pages swapped in to memory from disk per second.	5 minutes
System.SwapOut_Rate_Average	The average number of memory pages swapped out of memory from disk per second.	5 minutes
System.SwapOut_Rate_Peak	The peak number of memory pages swapped out of memory from disk per second.	5 minutes
System.Swap_UtilPct_Average	The average usage of swap space as a percentage of the total configured swap space.	5 minutes
System.Swap_UtilPct_Peak	The peak usage of swap space as a percentage of the total configured swap space.	5 minutes
System.CPU_CoreUtilPct_Average	The average CPU usage for each core. On an eight-core system, there will be eight	5 minutes

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

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 45: Peer Routing Rules Measurement Report Fields

Measurement Tag	Description	Collection Interval
EvPeerAvpDeleted	Number of Diameter AVPs deleted by an AVP Removal List.	5 min
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

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 46: 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
RxRuleFwdFailActionSendAns	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 MCCA 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, 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: <ol style="list-style-type: none"> 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) . <p>The Route List measurement is associated with the Route List selected for routing.</p>
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 47: 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	<p>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:</p> <ul style="list-style-type: none"> • 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 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 Server Group

Recovery

1. Check the Route List settings using the **Diameter > Configuration > Route Lists** page.
2. 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. 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. 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 48: Routing Usage Measurement Report Fields

Measurement Tag	Description	Collection Interval
RxRoutedImplicitRealm	The number of Request messages routed via Destination-Realm Implicit Routing.	5 min
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

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.

Server Exception measurements

Measurement Tag	Description	Collection Interval
EvError	Number of normal errors encountered	30 min
EvVital	Number of severe errors encountered	30 min

EvError

Measurement ID	9901
Measurement Group	Server Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	<p>The number of error trace conditions. This indicates that an expected but abnormal path was taken in the software, which warrants further investigation.</p> <p>By default, error tracing is disabled. Non-zero values in this measurement indicate that something is occurring that would have generated an error trace, were error tracing enabled. These error trace conditions should not affect service; situations that are service affecting will be covered by Alarms or Events.</p>
Collection Interval	30 min
Peg Condition	Any time a software path is executed that contains an error trace, regardless of whether or not error tracing is enabled.
Measurement Scope	NE, Server
Recovery	Contact My Oracle Support (MOS) for assistance if any unexpected non-zero values in this measurement occur.

EvVital

Measurement ID	9900
Measurement Group	Server Exception
Measurement Type	Simple
Measurement Dimension	Single
Description	<p>The number of vital trace conditions encountered. A vital trace indicates that an unexpected path was taken in the software, which warrants further investigation. These vital trace conditions should not affect service; situations that are service affecting will be covered by Alarms or Events.</p> <p>During application start-up and shutdown, vital traces are used to show details that can aid in debugging of initialization and shutdown problems. These traces are always enabled and cannot be turned off.</p> <p>It is a VITAL error condition for any other instance.</p>
Collection Interval	30 min
Peg Condition	Any time a software path is executed that contains a vital trace
Measurement Scope	NE, Server

Recovery

Contact [My Oracle Support \(MOS\)](#) for assistance if any unexpected non-zero values in this measurement occur.

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 Transport 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	30 min

Measurement Tag	Description	Collection Interval
	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.	
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 out 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) 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) 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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) 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) 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) 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. 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. 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. 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. 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

Measurement Tag	Description	Collection Interval
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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

- If the association is expected to have connected during the measurement reporting interval, no action is necessary.
- Otherwise:
 - Transport status can be viewed at **Main Menu > Transport Manager > Maintenance > Transport**.
 - 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.
 - 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: <ul style="list-style-type: none"> • 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) 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

Measurement Tag	Description	Collection Interval
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 from 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. 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. 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
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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

Measurement Tag	Description	Collection Interval
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
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

Measurement Tag	Description	Collection Interval
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
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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 necessary

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 necessary

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	<ol style="list-style-type: none"> 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 necessary

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 necessary

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 necessary

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 necessary

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 necessary

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 necessary

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 necessary

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 necessary

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 49: 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
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

Measurement Tag	Description	Collection Interval
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) record for the subscriber exceeded the maximum number of allowed subscriptions and caused a subscription(s) to be removed	5 minutes
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

Measurements

Measurement Tag	Description	Collection Interval
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
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
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

Measurement Tag	Description	Collection Interval
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
TxUdrSmSubscribeReqFailed	Total number of failed subscribe requests	5 minutes
TxUdrSmSubscribeReqSuccess	Total number of successful subscribe requests	5 minutes
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
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:	No action required.
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.

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
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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 <i>Success</i> in the <u>updateAck</u> 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.

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.

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.

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.

UDRFE Measurements**Table 50: 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

Measurements

Measurement Tag	Description	Collection Interval
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
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

Measurement Tag	Description	Collection Interval
RxResponsePNA	Total number of PNA received	5 minutes
RxResponseRejectedComAgentError	Total number of responses that cannot be processed due to ComAgent connection errors	5 minutes
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	

Measurement Tag	Description	Collection Interval
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
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
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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.

RxResetRequestPursSuccessful

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
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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 51: 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
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
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,	5 min

Measurement Tag	Description	Collection Interval
	R_ProvTxnTimeouts, R_ProvTxnAborted, and R_ProvTxnFailed counters)	
TxXsasProvTxnAborted	Total number of SOAP transactions 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.

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.

A

ACK	Data Acknowledgement
AS	<p>Application Server</p> <p>A logical entity that hosts and executes services in an IMS network, interfacing through SIP or a similar protocol.</p>
ASP	<p>Application Server Process</p> <p>A process instance of an Application Server. An Application Server Process serves as an active or standby process of an Application Server (e.g., 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.</p>
Association	<p>An association refers to an SCTP association. The association provides the transport for protocol data units and adaptation layer peer messages.</p>
AVP	<p>Attribute-Value Pair</p> <p>The Diameter protocol consists of a header followed by one or more attribute-value pairs (AVPs). An AVP includes a header and is used to encapsulate protocol-specific data (e.g., routing information) as</p>

A

well as authentication, authorization or accounting information.

B

BIOS

Basic Input-Output System

Firmware on the CPU blade that is executed prior to executing an OS.

C

CAPM

Computer-aided policy making

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

C

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

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 its 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 such as CPA can optionally be activated on the DA-MP. A computer or blade that is hosting a Diameter Signaling Router Application.

DB

Database

D

DCL	<p>Diameter Connection Layer</p> <p>The software layer of the stack which implements Diameter transport connections.</p>
DEA	<p>Diameter Edge Agent</p> <p>Device through which LTE roaming signaling traffic is funneled to protect network element addresses from being exposed to third parties.</p>
Diameter	<p>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 mobility management which is typically associated with an IMS or wireless type of environment.</p>
DNS	<p>Domain Name System</p> <p>A system for converting Internet host and domain names into IP addresses.</p>
DPA	<p>Disconnect-Peer-Answer</p> <p>A message used by a Diameter node to answer the Disconnect-Peer-Request (DPR).</p>
DPR	<p>Disconnect-Peer-Request</p> <p>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</p>

D

	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
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

D

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

EMR Egress Message Rate

ESPR Enhanced Subscriber Profile Repository - Oracle Communications' database system that provides the storage and management of subscriber policy control data for PCRF nodes.

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

H

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

IDIH Integrated Diameter Intelligence Hub

IMSI International Mobile Subscriber Identity

IMR Ingress Message Rate

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

I

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&P components. All Message Processors replicate from their Signaling OAM's database and generate faults to a Fault Management System.

MSISDN Mobile Station International Subscriber Directory Number. The 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.

N

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.

NTP

Network Time Protocol

NTP daemon

Network Time Protocol daemon – NTP process that runs in the background.

O

OAM

Operations, Administration, and Maintenance

The application that operates the Maintenance and Administration Subsystem that controls the operation of many products.

OID

Object Identifier

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

O

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.
 Maintains rules regarding a subscriber's use of network resources. Responds to CCR and AAR messages. Periodically sends RAR messages. All policy sessions for a given subscriber, originating anywhere in the network, must be processed by the same PCRF.
 In the Policy Management system, PCRF is located in the MPE device.

PDU Protocol Data Unit

Peer A Diameter node to which a given Diameter node has a direct transport connection.

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

P

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.

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

R

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 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 (e.g., 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

S

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
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

S

SW Software

U

UDA User-Data-Answer
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