

# Oracle® Communications Diameter Signaling Router

## Diameter Common User Guide



Release 9.0.0.0.0

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The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

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# Whats New in This Guide

This section introduces the documentation updates for DSR 9.0.0.0.0 release.

**Release 9.0.0.0.0 - F79729-01, April 2023**

There are no changes to this guide in this release.

# 1

## Introduction

The *Diameter Common User's Guide* and Help provide information about how to use the Diameter Common GUI pages to configure Network Identifiers and MP Profiles, and how to export and import configuration data for Diameter, Diameter Common, IPFE, MAP-Diameter Interworking, and DSR Applications.

### 1.1 Overview

The *Diameter Common User's Guide* and Help provide information about how to use the Diameter Common GUI pages to perform configuration and DSR Bulk Import/Export tasks.

The document provides the following types of information:

- Procedures to configure Diameter Common components
- Procedures to perform DSR Bulk Import/Export operations

### 1.2 Scope and Audience

The Diameter Common documentation is intended for anyone responsible for configuring and using the Diameter Common functions.

Users of this manual must have a working knowledge of telecommunications, of network installations, and of the product that is using the Diameter Common functions.

The Diameter Common software component is shared by multiple applications in the product line. For this reason, this document includes references to the shared applications, and describes GUI options that are not visible or applicable to UDR. For example, DSR applications (such as RBAR, FABR, CPA, and PCA) and IPFE are currently not used by UDR, so disregard any references to these applications.

### 1.3 Manual Organization

This manual is organized into the following chapters:

- [Introduction](#) contains general information about the Diameter Common help documentation, the organization of this manual, and how to get technical assistance.
- [Diameter Common on the NOAM](#) describes the configuration of the Dashboard, Metric and Dashboard Elements, MCCMNC, and MCCMNC Mapping Network Identifiers on the NOAM.
- [Diameter Common on the SOAM](#) describes the configuration of the MCC Ranges Network Identifiers and MPs (Profiles and Assignments) on the SOAM.
- [Diameter Common Bulk Import and Export](#) provides procedures and CSV file formats for use in DSR Bulk Import and Export of Diameter, Diameter Common, IPFE, and DSR Application configuration data on the NOAM and SOAM.

## 1.4 My Oracle Support

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

Call the Customer Access Support 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 My Oracle Support, select **2**

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year.



# 2

## Diameter Common on the NOAM

The Diameter Common GUI pages on the NOAM can be used for configuration of the DSR Dashboard, MCCMNC, MCCMNC Mapping Network Identifiers, as well as Bulk Import and Export functions.

### 2.1 Overview

The Diameter Common menu items on the NOAM provide access to GUI pages to perform the following tasks:

- Configure **Diameter Common**, and then **Dashboard**, and then **Dashboard** (see [Dashboard](#))
- Configure **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** (see [Metric Groups](#))
- Configure **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets** (see [Metric Threshold Configuration Sets](#))
- Configure **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Network Elements** ([Dashboard Network Elements](#))
- Configure **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Networks** (see [Dashboard Networks](#))
- Configure **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** (see [MCCMNC Configuration](#))
- Configure **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** (see [MCCMNC Mapping Configuration](#))
- Configure **Diameter Common**, and then **Common Application Options** (see [Common Application Options](#)).
- Perform DSR Bulk Import/Export operations (see [Diameter Common Bulk Import and Export](#))

### 2.2 Dashboard

Depending on your system, the dashboard differs.

- [Dashboard on the NOAM](#)
- [Dashboard on the SOAM](#)

#### Dashboard on the NOAM

The Dashboard on the NOAM is viewed at **Diameter Common**, and then **Dashboard**.

The Dashboard provides high level Metrics, which provide an overall view of the health of one or more Network Elements (NEs) of a network, making Metrics the core component of the DSR Dashboard. Each column on the Dashboard contains the set of values for a particular

Metric. The selection of which Metrics are displayed on the Dashboard is done via configuration.

The NOAM Dashboard shows both Network summary and NE summary Metrics.

The order that Metric Groups are displayed on the Dashboard is determined from configuration which cannot be modified. The order that Metrics are displayed within a Metric Group on the Dashboard display is determined from configuration which cannot be modified. Metrics selected for display on the Dashboard via configuration can be hidden/viewed via a Dashboard GUI control based on threshold level filters. A threshold level filter is used to limit which Metrics are displayed on the Dashboard based on a severity value. These limits are valuable because they focus on more potentially significant problems.

Horizontal and vertical scrolling allows any Metrics which do not fit onto a single physical screen to be seen.

The Dashboard also facilitates troubleshooting via Metric-specific hyperlinks on the Dashboard to assist in viewing more detailed information via existing DSR status and maintenance screens. The linkage between content on the Dashboard to DSR status and maintenance screens will be determined from configuration which cannot be modified.

Per Network Metrics are derived from per-NE summary Metrics. A Network is the set of one or more Dashboard Network Elements. The formula for calculating a Network Metric value is identical to that for calculating the per-NE Metric for that Metric.

### Dashboard on the SOAM

The SOAM Dashboard shows the NE's summary Metrics, its per-Server Type summary Metrics and its per-Server Metrics.

A Server Type physically groups Metrics associated with a particular type of Server (e.g., DA-MP) onto the Dashboard display in order to create summary Metrics for Servers of a similar type. The order of Server Types on the SOAM Dashboard is determined from configuration which cannot be modified. The Server Types are predefined and cannot be modified. The DA-MP, DSR, SBR, and SOAM Server Types are supported.

Server Metrics are maintained by each MP. Per-Server Metric values are periodically pushed to their local SOAM, where they are displayed on the SOAM Dashboard display.

Server Type Metrics show a roll-up of Server Metrics by Server type. The formula for calculating a Server Type Metric value is identical to that for calculating the per-NE Metric for that Metric.

Network Element (NE) Metrics are derived from per-Server Metrics. A Network Element is the set of servers managed by a SOAM. The formula for calculating a per-NE Metric value is Metric-specific although, in general, most NE Metrics are the sum of the per-Server Metrics. The set of servers which are managed by a SOAM is determined through standard NOAM configuration and cannot be modified via Dashboard configuration. An NOAM can manage up to 32 NEs.

## 2.2.1 Metric Groups

The **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page allows Dashboard Metric Groups to be configured.

A Metric Group establishes a collection of Metrics onto the Dashboard display and creates an aggregation status for a group of metrics. The "status" of a Metric Group is the worst-case status of the metrics within that group.

The name of a Metric Group is determined from configuration which cannot (initially) be modified.

The assignment of a Metric to a Metric Group is determined from configuration which cannot (initially) be modified.

The fields are described in [Metric Groups elements](#).

## 2.2.1.1 Metric Groups elements

[Table 2-1](#) describes the fields on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page.

**Table 2-1 Metric Groups Elements**

| Field (* indicates a required field) | Value            | Description   |
|--------------------------------------|------------------|---|
| *Metric Group Name                   | Format: Text Box | Name of the Metric Group. Metric Group names are not user-configurable. |

Each Metric Group has its own unique metrics. To see the specific metrics within a particular Metric Group, click the +. Once expanded, the list of Metric Names also shows whether or not a given metric is displayed on the Dashboard.

For metrics to be displayed on the Dashboard, the metrics must be selected to do so. To select which metrics are displayed on the Dashboard, select a Metric Group and click **Edit**

### Address Resolution Metrics elements

After selecting the Address Resolution Metric Group and clicking **Edit** on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page, the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page appears. [Table 2-2](#) describes the fields for the specific Address Resolution Metrics.

**Table 2-2 Address Resolution Metrics Elements**

| Metric Name           | Display on Dashboard | Description   |
|-----------------------|----------------------|---|
| # RBAR Cong Instances | Format: Check Box    | Total number of <b>RBAR</b> instances in congestion (CL1, CL2, or CL3) across included servers. |
| RBAR Avg Ing MPS      | Format: Check Box    | Average RBAR ingress MPS across included DA-MP servers.   |
| RBAR Trans Rej %      | Format: Check Box    | Percentage of RBAR transactions rejected across included DA-MP servers.                         |
| # FABR Cong Instances | Format: Check Box    | Total number of FABR instances in congestion (CL1, CL2, or CL3) across included servers.        |
| FABR Avg Ing MPS      | Format: Check Box    | Average FABR ingress MPS across included DA-MP servers.   |

**Table 2-2 (Cont.) Address Resolution Metrics Elements**

| Metric Name      | Display on Dashboard | Description   |
|------------------|----------------------|---|
| FABR Trans Rej % | Format: Check Box    | Percentage of FABR transactions rejected across included DA-MP servers. |

**Alarms Metrics elements**

After selecting the Alarms Metric Group and clicking **Edit** on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page, the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page appears. [Table 2-3](#) describes the fields for the specific Alarms Metrics.

**Table 2-3 Alarms Metrics Elements**

| Metric Name       | Display on Dashboard | Description   |
|-------------------|----------------------|---|
| # Critical Alarms | Format: Check Box    | The total number of critical alarms currently being reported by all associated servers. |
| # Major Alarms    | Format: Check Box    | The total number of major alarms currently being reported by all associated servers.    |
| # Minor Alarms    | Format: Check Box    | The total number of minor alarms currently being reported by all associated servers.    |

**Connections Metrics elements**

After selecting the Diameter Connections Metric Group and clicking **Edit** on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page, the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page appears. [Table 2-4](#) describes the fields for the specific Diameter Connections Metrics.

**Table 2-4 Connections Metrics Elements**

| Metric Name           | Display on Dashboard | Description   |
|-----------------------|----------------------|---|
| # Fixed Conns Unavail | Format: Check Box    | Total number of fixed connections (Diameter or RADIUS) enabled, but unavailable, across included DA-MPs           |
| # IPFE Conns Unavail  | Format: Check Box    | Total number of IPFE Diameter connections enabled, but unavailable, across included DA-MPs                        |
| # Conns Egress Cong   | Format: Check Box    | Total number of connections (Diameter or RADIUS) that are experiencing egress congestion, across included DA-MPs  |
| # Conns Ingress Cong  | Format: Check Box    | Total number of connections (Diameter or RADIUS) that are experiencing ingress congestion, across included DA-MPs |
| # Peer Nodes Unavail  | Format: Check Box    | Total number of Peer Nodes unavailable, across included DA-MPs  |

**Table 2-4 (Cont.) Connections Metrics Elements**

| Metric Name   | Display on Dashboard | Description  |
|---|----------------------|--|
| # Peer Nodes Degraded                               | Format: Check Box    | Total number of Peer Nodes degraded, across included DA-MPs  |
| # Route Lists Unavail                               | Format: Check Box    | Total number of Route Lists unavailable, across included DA-MPs                                      |
| # Route Lists Degraded                              | Format: Check Box    | Total number of Route Lists degraded, across included DA-MPs   |
| # PTL ETGs Degraded                                 | Format: Check Box    | Total number of Pending Transaction Limiting Egress Throttle Groups Degraded, across included DA-MPs |
| # RL ETGs Degraded                                  | Format: Check Box    | Total number of Rate Limiting Egress Throttle Groups Degraded, across included DA-MPs                |
| # TTPs with Loss more than zero percent loss        | Format: Check Box    | Total number of TTPs with Loss more than zero percent loss, across included DA-MPs                   |
| # TTPs with Loss more than Threshold                | Format: Check Box    | Total number of TTPs with Loss more than Threshold, across included DA-MPs, across included DA-MPs   |
| # TTGs with Loss more than zero percent loss metric | Format: Check Box    | Total number of TTGs with Loss more than zero percent loss metric, across included DA-MPs.           |

### Policy & Charging Metrics elements

After selecting the Policy & Charging Metric Group and clicking **Edit** on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page, the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page appears. [Table 2-5](#) describes the fields for the specific Policy and Charging Metrics.

**Table 2-5 Policy & Charging Metrics Elements**

| Metric Name          | Display on Dashboard | Description  |
|----------------------|----------------------|--|
| # PCA Cong Instances | Format: Check Box    | Total number of PCA instances in congestion (CL1, CL2, or CL3) across included servers |
| PCA Avg Ing MPS      | Format: Check Box    | Average PCA ingress MPS across included DA-MP servers                                  |
| PCA Trans Rej %      | Format: Check Box    | Percentage of PCA transactions rejected across included DA-MP servers                  |
| # GLA Cong Instances | Format: Check Box    | Total number of GLA instances in congestion (CL1, CL2, or CL3) across included servers |
| GLA Avg Ing MPS      | Format: Check Box    | Average GLA ingress MPS across included DA-MP servers                                  |
| GLA Trans Rej %      | Format: Check Box    | Percentage of GLA transactions rejected across included DA-MP server                   |

### Priority Service Metrics elements

After selecting the Priority Service Metric Group and clicking **Edit** on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page, the **Diameter**

**Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page appears. [Table 2-6](#) describes the fields for the specific Priority Service Metrics.

**Table 2-6 Priority Service Metrics Elements**

| Metric Name                     | Display on Dashboard | Description  |
|---------------------------------|----------------------|--|
| NGN-PS Offered Rate             | Format: Check Box    | Rate of NGN-PS messages received from DSR peers  |
| NGN-PS Transaction Pass %       | Format: Check Box    | Ratio of number of 2xx NGN-PS Answers sent to Peer/Number of NGN-PS messages Accepted by DSR           |
| NGN-PS Transaction Fail Peers % | Format: Check Box    | Ratio of number of non-2xx NGN-PS Answers received from Peer/Number of NGN-PS messages Accepted by DSR |

### Protocol Metrics elements

After selecting the Protocol Metric Group and clicking the **Edit** on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page, the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page appears. [Table 2-7](#) describes the fields for the specific Protocol Metrics.

**Table 2-7 Protocol Metrics elements**

| Metric Name           | Display on Dashboard | Description  |
|-----------------------|----------------------|--|
| Avg D2D Trans Hold Tm | Format: Check Box    | Average Diameter-to-Diameter Transaction Hold Time across included DA-MPs (ms) |
| Avg D2M Trans Hold TM | Format: Check Box    | Average Diameter-to-MAP Transaction Hold Time                                  |
| Avg M2D Trans Hold Tm | Format: Check Box    | Average MAP-to-Diameter Transaction Hold Time                                  |
| Success Trans %       | Format: Check Box    | Percentage of transactions completed successfully across included servers      |
| Ext Node Rej %        | Format: Check Box    | Percentage of transactions rejected by external signaling nodes                |
| Egress Answer Tmout % | Format: Check Box    | Percentage of egress transactions with answer timeout                          |
| Orphan Answer %       | Format: Check Box    | Percentage of orphan answers detected across included servers                  |

### RADIUS Metrics elements

After selecting the Servers Metric Group and clicking **Edit** on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page, the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page appears. [Table 2-8](#) describes the fields for the specific RADIUS Metrics.

**Table 2-8 RADIUS Metrics Elements**

| Metric Name    | Display on Dashboard | Description                                      |
|----------------|----------------------|--|
| Avg RADIUS MPS | Format: Check Box    | Average RADIUS MPS across included DA-MP servers |
| Avg RD-IWF MPS | Format: Check Box    | Average RD-IWF MPS across included DA-MP servers |

**Servers Metrics elements**

After selecting the Servers Metric Group and clicking **Edit** on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups** page, the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Groups [Edit]** page appears. [Table 2-9](#) describes the fields for the specific Servers Metrics.

**Table 2-9 Servers Metrics Elements**

| Metric Name                 | Display on Dashboard | Description  |
|-----------------------------|----------------------|--|
| # Servers Unavail           | Format: Check Box    | The total number of associated servers administratively enabled, but not reporting status data |
| # Servers Exc Mem Thr       | Format: Check Box    | The total number of servers whose memory usage exceeds any defined threshold                   |
| # Servers Exc CPU Thr       | Format: Check Box    | The total number of servers whose CPU usage exceeds any defined threshold                      |
| # Servers Exc Proc Rate Thr | Format: Check Box    | The total number of servers whose processing rate usage exceeds any defined threshold          |
| # Servers Stack Congested   | Format: Check Box    | The total number of servers whose stack is in congestion (CL1, CL2, or CL3)                    |
| DA-MP Ingress MPS           | Format: Check Box    | Total ingress MPS across included DA-MP servers  |
| IPFE Ingress Pkts/sec       | Format: Check Box    | Total ingress packets per second across included IPFE servers                                  |
| IPFE Ingress MB/sec         | Format: Check Box    | Total ingress MB per second across included IPFE servers                                       |
| SBR Ingress Events/sec      | Format: Check Box    | Total ingress events per second across included SBR servers                                    |
| SBR Sessions                | Format: Check Box    | Total sessions across included SBR servers   |
| SBR Bindings                | Format: Check Box    | Total bindings across included SBR servers   |

## 2.2.2 Metric Threshold Configuration Sets

The **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets** page allows Dashboard Metric Threshold Configuration Sets to be configured.

A Metric Threshold Configuration Set (MTCfgSet) contains all the information defining up to three thresholds for every configured metric. MTCfgSets have two types - Server Thresholds and Summary Thresholds.

The Server Metric Threshold Configuration Set contains thresholds applied only at Server scope. Server Type thresholds cannot be edited, but can be viewed on the Server Type tab of the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets** page.

Summary Metric Threshold Configuration Sets can apply at Dashboard Network Element or Dashboard Network scope. These thresholds can be configured and viewed on the Summary Type tab of the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets** page.

Metric thresholds allow for visualization enhancements on the Dashboard. Visualization enhancements such as coloring are used on the Dashboard to attract attention to a potential problem. When a visual enhancement on the Dashboard is enabled when a user-defined threshold is exceeded, potential problems can be investigated by the inspection of additional information.

Metric thresholds are only used for Dashboard visualization enhancements and are not associated with alarms. Most (but not necessarily all) metrics have thresholds. Whether a Metric can be assigned thresholds is determined from configuration, which cannot be modified.

For information on how to create or edit a Metric Threshold Configuration Set, refer to [Inserting a Summary Metric Threshold Configuration Set](#) and [Editing a Summary Metric Threshold Configuration Set](#).

### 2.2.2.1 Metric Threshold Configuration Sets elements

[Table 2-10](#) describes the elements on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets [Insert]** and **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets [Edit]** pages on the NOAM.

**Table 2-10 Metric Threshold Configuration Sets Elements**

| Field (* Indicates Required Field)       | Description  | Data Input Notes   |
|--|--|--|
| *Metric Threshold Configuration Set Name | A name that uniquely identifies the Metric Threshold Configuration Set   | Format: Text box<br>Default: N/A<br>Range: A 32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit. |
| Type                                     | Summary type applies to Metrics at Network Element and Network scopes. Server type applies to Metrics at Server scope. | Format: Radio button<br>Default: Summary<br>Range: N/A   |

**Table 2-11 Metric Threshold Elements**

| Metric Name         | Metric Description | Data Input Notes |
|---------------------|--------------------|------------------|
| Alarms Metric Group |                    |                  |



**Table 2-11 (Cont.) Metric Threshold Elements**

| <b>Metric Name</b>          | <b>Metric Description</b>  | <b>Data Input Notes</b>   |
|-----------------------------|--|---|
| # Critical Alarms           | The total number of critical alarms currently being reported by all associated servers.        | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Major Alarms              | The total number of major alarms currently being reported by all associated servers.           | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Minor Alarms              | The total number of minor alarms currently being reported by all associated servers.           | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| Servers Metric Group        |  |   |
| # Servers Unavail           | The total number of associated servers administratively enabled, but not reporting status data | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Servers Exc Mem Thr       | The total number of servers whose memory usage exceeds any defined threshold                   | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Servers Exc CPU Thr       | The total number of servers whose CPU usage exceeds any defined threshold                      | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Servers Exc Proc Rate Thr | The total number of servers whose processing rate usage exceeds any defined threshold          | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Servers Stack Congested   | The total number of servers whose stack is in congestion (CL1, CL2, or CL3)                    | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| DA-MP Ingress MPS           | Total ingress MPS across included DA-MP servers  | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| IPFE Ingress Pkts/sec       | Total ingress packets per second across included IPFE servers                                  | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |

**Table 2-11 (Cont.) Metric Threshold Elements**

| <b>Metric Name</b>                | <b>Metric Description</b>   | <b>Data Input Notes</b>  |
|-----------------------------------|---|--|
| IPFE Ingress MB/sec               | Total ingress MB per second across included IPFE servers                                    | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| SBR Ingress Events/sec            | Total ingress events per second across included SBR servers                                 | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| SBR Sessions                      | Total sessions across included SBR servers  | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| SBR Bindings                      | Total bindings across included SBR servers  | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| Protocol Metric Group             |   |  |
| Avg D2D Trans Hold Tm             | Average Diameter-Diameter Transaction Hold Time across included DA-MPs (ms)                 | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| Success Trans %                   | Percentage of transactions completed successfully across included servers                   | Format: Text box<br>Default: N/A<br>Range: 0-100. Must be an integer             |
| Ext Node Rej %                    | Percentage of transactions rejected by external signaling nodes                             | Format: Text box<br>Default: N/A<br>Range: 0-100. Must be an integer             |
| Egress Answer Tmout %             | Percentage of egress transactions with answer timeout                                       | Format: Text box<br>Default: N/A<br>Range: 0-100. Must be an integer             |
| Orphan Answer %                   | Percentage of orphan answers detected across included servers                               | Format: Text box<br>Default: N/A<br>Range: 0-100. Must be an integer             |
| Diameter Connections Metric Group |   |  |
| # Fixed Diam Conns Unavail        | Total number of fixed Diameter connections enabled, but unavailable, across included DA-MPs | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| # IPFE Conns Unavail              | Total number of IPFE Diameter connections enabled, but unavailable, across included DA-MPs  | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |

**Table 2-11 (Cont.) Metric Threshold Elements**

| <b>Metric Name</b>                        | <b>Metric Description</b>   | <b>Data Input Notes</b>   |
|---|---|---|
| # Diam Conns Egress Cong                  | Total number of Diameter connections that are experiencing egress congestion, across included DA-MPs  | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Diam Conns Ingress Cong                 | Total number of Diameter connections that are experiencing ingress congestion, across included DA-MPs | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Peer Nodes Unavail                      | Total number of Peer Nodes unavailable, across included DA-MPs  | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Peer Nodes Degraded                     | Total number of Peer Nodes degraded, across included DA-MPs   | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Route Lists Unavail                     | Total number of Route Lists unavailable, across included DA-MPs                                       | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # Route Lists Degraded                    | Total number of Route Lists degraded, across included DA-MPs  | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # PTL ETGs Degraded                       | Total number of Pending Transaction Limiting Egress Throttle Groups Degraded, across included DA-MPs  | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| # RL ETGs Degraded                        | Total number of Rate Limiting Egress Throttle Groups Degraded, across included DA-MPs                 | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| <b>Policy &amp; Charging Metric Group</b> |   |   |
| # PCA Cong Instances                      | Total number of PCA instances in congestion (CL1, CL2, or CL3) across included servers                | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| PCA Avg Ing MPS                           | Average PCA ingress MPS across included DA-MP servers   | Format: Text box<br>Default: N/A<br>Range: 0-9999999999999999. Must be an integer |
| PCA Trans Rej %                           | Percentage of PCA transactions rejected across included DA-MP servers                                 | Format: Text box<br>Default: N/A<br>Range: 0-100. Must be an integer              |

Table 2-11 (Cont.) Metric Threshold Elements

| Metric Name                     | Metric Description  | Data Input Notes   |
|---------------------------------|---|--|
| # GLA Cong Instances            | Total number of GLA instances in congestion (CL1, CL2, or CL3) across included servers  | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| GLA Avg Ing MPS                 | Average GLA ingress MPS across included DA-MP servers                                   | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| GLA Trans Rej %                 | Percentage of GLA transactions rejected across included DA-MP servers                   | Format: Text box<br>Default: N/A<br>Range: 0-100. Must be an integer             |
| Address Resolution Metric Group |   |  |
| # RBAR Cong Instances           | Total number of RBAR instances in congestion (CL1, CL2, or CL3) across included servers | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| RBAR Avg Ing MPS                | Average RBAR ingress MPS across included DA-MP servers                                  | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| RBAR Trans Rej %                | Percentage of RBAR transactions rejected across included DA-MP servers                  | Format: Text box<br>Default: N/A<br>Range: 0-100. Must be an integer             |
| # FABR Cong Instances           | Total number of FABR instance in congestion (CL1, CL2, or CL3) across included servers  | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| FABR Avg Ing MPS                | Average FABR ingress MPS across included DA-MP servers                                  | Format: Text box<br>Default: N/A<br>Range: 0-999999999999999. Must be an integer |
| FABR Trans Rej %                | Percentage of FABR transactions rejected across included DA-MP servers                  | Format: Text box<br>Default: N/A<br>Range: 0-100. Must be an integer             |

### 2.2.2.2 Inserting a Summary Metric Threshold Configuration Set

1. On the Summary tab of the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets** page, click **Insert** to insert a new Summary Metric Threshold Configuration Set.
2. Fill in the fields on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets [Insert]** page.  
The fields are described in [Metric Threshold Configuration Sets elements](#).

### 2.2.2.3 Editing a Summary Metric Threshold Configuration Set

1. On the Summary tab of the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets** page, click **Edit** to edit a Summary Metric Threshold Configuration Set.
2. Fill in the fields on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets [Edit]** page.

The fields are described in [Metric Threshold Configuration Sets elements](#).

### 2.2.2.4 Deleting a Metric Threshold Configuration Set

Use this task to delete a Metric Threshold Configuration Set.

1. From the NOAM, select **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Metric Threshold Configuration Sets**.
2. Select the Metric Threshold Configuration Set Name you want to delete.
3. Click **Delete**.
4. Click **OK** or **Cancel**.

## 2.2.3 Dashboard Network Elements

The **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Network Elements** page allows Dashboard Network Elements to be configured.

A Dashboard Network Element contains all the information that defines a view into a single DSR site/Network Element (i.e., an SOAM Server Group and its subtending servers). Each Server Group within a site is associated with the Dashboard Network Element for that site.

Up to 32 Dashboard NEs are supported.

The fields are described in [Dashboard Network Elements elements](#).

For information on how to create or edit a Dashboard Network Element, refer to [Inserting a Dashboard Network Element](#) and [Editing a Dashboard Network Element](#).

### 2.2.3.1 Dashboard Network Elements elements

[Table 2-12](#) describes the elements on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Network Elements [Insert]** and **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Network Elements [Edit]** pages on the NOAM.

**Table 2-12 Dashboard Network Elements Elements**

| Field (* Indicates Required Field)         | Description   | Data Input Notes   |
|--|---|--|
| *Network Element                           | A name that uniquely identifies the Dashboard Network Element   | Format: Pull down list<br>Default: N/A<br>Range: A 32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit. |
| Server Metric Threshold Configuration Set  | The Server Metric Threshold Configuration Set used to determine Dashboard screen cell colorization of the Server-scoped Metric values in this Dashboard Network Element.<br><b>Note:</b> Selection is optional. | Format: Pull down list   |
| Summary Metric Threshold Configuration Set | The Summary Metric Threshold Configuration Set used to determine Dashboard screen cell colorization of this Dashboard Network Element's Metric values.<br><b>Note:</b> Selection is optional.                   | Format: Pull down list   |
| Display Administratively Disabled Servers  | When checked, servers that are administratively disabled will be displayed on the SOAM Dashboard screen.  | Format: Check box  |

### 2.2.3.2 Inserting a Dashboard Network Element

1. To insert a new Dashboard, click **Insert**.
2. Fill in the fields on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Network Elements [Insert]** page.

The fields are described in [Dashboard Network Elements elements](#).

### 2.2.3.3 Editing a Dashboard Network Element

1. To insert a new Dashboard, click **Edit**.
2. Fill in the fields on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Network Elements [Edit]** page.

The fields are described in [Dashboard Network Elements elements](#).

### 2.2.3.4 Deleting a Dashboard Network Element

Use this task to delete a Dashboard Network Element.

1. Click **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Network Element**.
2. Select the Dashboard Network Element Name you want to delete.

3. Click **Delete**.
4. Click **OK** or **Cancel**.

## 2.2.4 Dashboard Networks

The **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Networks** page allows Dashboard Networks to be configured.

A Dashboard Network is a set of Dashboard Network Elements, Metrics, and associated Network Metric Thresholds that is created by configuration defines the content and thresholds of a NOAM Dashboard display.

The set of Dashboard Network Elements assigned to Dashboard Network is determined from configuration and cannot be modified. Only one Dashboard Network is supported.

The fields are described in [Dashboard Networks elements](#).

### 2.2.4.1 Dashboard Networks elements

[Table 2-13](#) describes the elements on the **Diameter Common**, and then **Dashboard**, and then **Configuration**, and then **Dashboard Networks** page.

**Table 2-13 Dashboard Networks Elements**

| Field                                      | Description  | Data Input Notes                             |
|--|--|--|
| Dashboard Network Name                     | Name of the Dashboard Network.<br><b>Note:</b> The Dashboard Network name is not user-configurable.  | Format: Text box                             |
| Summary Metric Threshold Configuration Set | The Summary Metric Threshold Configuration Set used to determine Dashboard screen cell colorization of this Dashboard Network's Metric values.   | Format: Pull down list                       |
| Dashboard Network Elements Display Order   | The order in which the Dashboard Network Elements will be displayed on the NOAM Dashboard screen. To display a Dashboard Network, move it to the lower list. Use the up and down arrows next to the lower list to set the order in which the Dashboard Network Elements will be displayed. | Format: Display boxes with navigable buttons |

## 2.3 MCCMNC Configuration

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** pages are used to configure up to 2500 distinct combinations of Mobile Country Code (**MCC**) and Mobile Network Code (**MNC**).

The configured MCCMNC entries can be mapped to Diameter Realms, MSISDN prefix digits, and CC+NDC combinations, using the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page (see [MCCMNC Mapping Configuration](#)).

MCCMNC combinations are used by Address resolution applications like Full Address Based Resolution (FABR) and Range Based Address Resolution (RBAR), which need to categorize User Identities (digit strings) decoded from the Diameter Request AVPs as either MSISDN or IMSI, to allow looking up the User Identity in the appropriate lookup table.

Most of the time, these applications can clearly categorize the decoded User Identity based on:

- The configured Routing Entity Type
- The contents of the AVP  
For instance, if the User Identity has been decoded from a SIP URI that has a "+" sign before the digits (such as sig:+1-919-460-5500@oracle.com), it can be directly categorized as an MSISDN.
- The number of digits in the User Identity

In certain cases, none of these methods allow a clear categorization (for example, if the number of digits needs to be used and the received number of digits are applicable to both IMSIs and MSISDNs, and thus leads to an ambiguous determination; or if there is no "+" sign before the digits). In such cases, a tie breaker procedure is required to categorize the digits as an IMSI or an MSISDN. The configured MCCMNC combinations can be used to provide a tie breaker mechanism in such cases, as follows:

- If FABR has been configured to decode an IMPU from a User Identity (digit string) but cannot determine whether the User Identity is an IMSI or an MSISDN based on digit analysis, FABR needs a tie breaker to categorize the User Identity properly.  
FABR extracts the first 5 or 6 digits of the User Identity and compares them against the list of configured 5-digit and 6-digit MCC-MNC combinations on the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page.  
If a match occurs, the User Identity is considered to be an IMSI and is used for an IMSI lookup.  
If a match does not occur, the User Identity is considered to be an MSISDN and is used for an MSISDN lookup.
- If RBAR has been configured to decode an IMPU/MSISDN from a User Identity (digit string) but cannot determine whether the User Identity is an IMSI or an MSISDN based on digit analysis, RBAR needs a tie breaker to categorize the user identity properly.  
RBAR extracts the first 5 or 6 digits of the User Identity and compares them against the list of configured 5-digit and 6-digit MCC-MNC combinations on the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page.  
If a match occurs, the User Identity is considered to be an IMSI. RBAR will bypass the AVP; as RBAR does not support decoding an IMSI from a Routing Entity of IMPU or MSISDN.  
If a match does not occur, the User Identity is considered to be an MSISDN and is used for MSISDN lookup.

As described in [MCCMNC Mapping Configuration](#), MCCMNC combinations and MCCMNC Mapping are used by:

- The MAP-Diameter Interworking Function to translate a Diameter Request message to a MAP Request message (ITU) or a MAP Request message to a Diameter Request message.
- Diameter Mediation to populate the Destination-Realm AVP based on the IMSI value present in a Request message.

On the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page, you can perform the following actions:



- Filter the list of entries, to display only the desired entries.
- Sort the list entries in ascending or descending order by clicking the column heading. By default, the list is sorted by **MCC** and **MNC** in ascending ASCII order.
- Click **Insert**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC [Insert]** page opens. You can add new MCCMNC entries. If the maximum number of MCCMNC entries (2500) already exists in the system, the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC [Insert]** page will not open, and an error message is displayed.

- Select an MCCMNC entry in the list, and click **Edit**.  
The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC [Edit]** page opens. The selected MCCMNC entry can be edited.
- Select an MCCMNC entry in the list, and click **Delete** to remove the selected entry.

## 2.3.1 MCCMNC Elements

[Table 2-14](#) describes the fields on the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** pages.

**Table 2-14** MCCMNC Elements

| Field (* indicates a required field) | Description                           | Value  |
|--------------------------------------|---------------------------------------|--|
| *MCC                                 | Mobile Country Code                   | Format: Text box; numeric. Valid values are 0-999.<br>Range: 3 digits                              |
| *Country Name                        | Country Name corresponding to the MCC | Format: text box; alphanumeric string<br>Range: Up to 128 characters                               |
| *MNC                                 | Mobile Network Code                   | Format: Text box; numeric. Valid values are 0-999.<br>Range: 2 or 3 digits                         |
| *Network Name                        | Network Name corresponding to the MNC | Format: text box; ASCII printable characters; alphanumeric string.<br>Range: Up to 128 characters. |

## 2.3.2 Adding MCCMNC Entries

Use this task to configure new **MCCMNC** entries.

**MCCMNC** fields are described in [MCCMNC Elements](#).

1. On the NOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page appears.

2. Click **Insert**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC [Insert]** page appears.

If the maximum number of **MCCMNC** entries (2500) has already been configured in the system, the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC [Insert]** page does not open, and an error message appears.

3. Enter a value for each field.
4. Click:
  - **OK** to save the new entry and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page.
  - **Apply** to save the new entry and remain on this page. The data displayed on the page is updated.
  - **Cancel** to return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page without saving any changes.

If **OK** or **Apply** is clicked and any of the following conditions exist, an error message appears:

- Any fields contain a value that is out of the allowed range
- Any required field is empty (not entered)
- Adding the new **MCCMNC** entry would cause the allowed maximum number of entries (2500) to be exceeded
- The combination of the **MCC** and **MNC** field values is not unique (already exists)

### 2.3.3 Editing MCCMNC Entries

Use this task to change **MCCMNC** entries.

**MCCMNC** fields are described in [MCCMNC Elements](#).

When the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC [Edit]** page opens, the fields are populated with the current configured values.



#### Note:

The **MCC** and **MNC** field values cannot be changed.

1. On the NOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC**.  
The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page appears.
2. Select the **MCCMNC** entry to be changed.
3. Click **Edit**.  
The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC [Edit]** page appears.
4. Edit the fields that need to be changed.
5. Click:
  - **OK** to save the changes and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page.

- **Apply** to save the changes and remain on this page.
- **Cancel** to return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page without saving any changes.

If **OK** or **Apply** is clicked and any of the following conditions exist, an error message appears:

- Any field contains values that are not valid or are out of range
- Any required field is empty (not entered)

## 2.3.4 Deleting MCCMNC Entries

Use this task to delete an MCCMNC entry.

1. From the NOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page appears.

2. Select the **MCCMNC** entry to be deleted.
3. Click **Delete**.
4. Click:

- **OK** to delete the **MCCMNC** entry.
- **Cancel** to cancel the delete function and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page.

If **OK** is clicked and the selected **MCCMNC** entry no longer exists (it was deleted by another user), an error message is displayed.

## 2.4 MCCMNC Mapping Configuration

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** pages are used to configure mapping of MCC+MNC combinations to Diameter Realms, MSIN prefix digits, and CC+NDC combinations.

The MCC+MNC combinations must first be configured using the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** pages (see [MCCMNC Configuration](#)) before the MCCMNC Mapping configuration is performed.

MCCMNC combinations and MCCMNC Mapping are used by:

- The MAP-Diameter Interworking Function to translate:
  - A Diameter Request message to a MAP Request message (ITU)  
If a Diameter Request message does not contain a Destination Host AVP, but does contain IMSI digits in a User-Name AVP, the MCCMNC Mapping configuration is used to translate the MCC and MNC in the IMSI to the CC and NDC that are populated in the SCCP Called Party Address (CdPA) of the MAP Request. A longest prefix match of IMSI digits (MCC+MNC+prefix digits) is performed.
  - A MAP Request message to a Diameter Request message  
If the GTA digits are in IMSI format (for ANSI this occurs if the SCCP CdPA Translation Type is 9, and for ITU this occurs if the SCCP CdPA Numbering Plan is E.212), then the MCCMNC Mapping configuration is used to translate the MCC and MNC in the IMSI to a Diameter Realm.

The Diameter Realm is populated into the Destination-Realm AVP of the Diameter Request message.

- Diameter Mediation to populate the Destination-Realm AVP based on the IMSI value present in a Request message. Mediation retrieves the IMSI value from one of the following AVPs in the Request:
  1. Subscription-ID (Subscription-ID-Type=1)
  2. User-Name
  - The first instance of an AVP that contains an IMSI is used.
  - The Mediation Set Diameter Realm Action extracts the MCC and MNC values from the IMSI by prefix matching against the MCCMNC combinations configured on the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC** page. The MCC and MNC cannot be extracted from the IMSI if there is no match found on this page.
  - The Destination-Realm AVP is added or populated with the Realm that corresponds to the MCCMNC combination configured on the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page.
  - If no Realm is specified for the MCCMNC combination, the Destination-Realm is populated in 3GPP format "epc.mnc<MNC>.mcc<MCC>.3gppnetwork.org", where <MNC> and <MCC> fields correspond to the MNC and MCC values extracted from the AVP containing the IMSI present in the Request.
  - If the Destination-Realm AVP is not present in the message, the Action adds it.

On the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page, you can perform the following actions:

- Filter the list of entries, to display only the desired entries.
- Sort the list entries in ascending or descending order by clicking the column heading. By default, the list is sorted by **MCC** and **MNC** in ascending ASCII order.
- Click **Insert**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping [Insert]** page opens. You can add new MCCMNC Mapping entries. If the maximum number of MCCMNC Mapping entries (2500) already exists in the system, the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping [Insert]** page will not open, and an error message is displayed.

- Select an MCCMNC Mapping entry in the list, and click **Edit**. The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping [Edit]** page opens. The selected MCCMNC Mapping entry can be edited.
- Select an MCCMNC Mapping entry in the list, and click **Delete** to remove the selected entry.

## 2.4.1 MCCMNC Mapping Elements

[Table 2-15](#) describes the fields on the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** pages.

Table 2-15 MCCMNC Mapping Elements

| Field (* indicates a required field) | Description   | Value  |
|--------------------------------------|---|--|
| *MCCMNC                              | Country and Network Code.   | Format: Pulldown list.<br>Range: Configured MCCMNC entries   |
| Country Name                         | Country Name corresponding to the MCC.  | Read-only field<br>Format: text box; alphanumeric string.<br>Range: Country Name configured for selected MCCMNC entry.   |
| Network Name                         | Network Name corresponding to the MNC.  | Read-only field<br>Format: text box; ASCII printable characters; alphanumeric string.<br>Range: Network Name configured for selected MCCMNC entry.   |
| MSIN Prefix Digits                   | Optional MSIN prefix digits that form a "MCC+MNC+MSIN prefix digits" string.<br>An empty MSIN prefix digits entry (0 digits) is used to map MCC+MNC to configuration data.<br>If MSIN prefix digits are specified, it maps "MCC+MNC+ MSIN prefix digits" to configuration data. | Format: text box; numeric string. Valid values are 0-9999999999<br>Range: 0-10 digits<br>Default: Empty string (null)  |
| CCNDC                                | Optional Country Code (CC) plus National Destination Code (NDC) that is associated with the "MCC+MNC+ optional MSIN Prefix Digits".   | Format: text box; numeric string. Valid values are 0-999999999999999<br>Range: 0-15 digits<br>Default: Empty string (null)   |
| Realm                                | Diameter Realm that is associated with the "MCC+MNC+ optional MSIN Prefix Digits"   | Format: string consisting of a list of labels separated by dots. A label can contain letters, digits, dash (-), and underscore (_). A label must begin with a letter, digit, or underscore, and must end with a letter or digit.<br>Underscore can be used only as the first character.<br>Range: A valid Realm; Realm - up to 255 characters; label - up to 63 characters |
| Description                          | Optional description or note about this entry.  | Format: text box<br>Range 0-255 characters   |

## 2.4.2 Adding MCCMNC Mapping Entries

Use this task to configure new **MCCMNC Mapping** entries.

**MCCMNC Mapping** fields are described in [MCCMNC Mapping Elements](#).

1. On the NOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page appears.

2. Click **Insert**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping [Insert]** page appears.

If the maximum number of **MCCMNC** entries (2500) has already been configured in the system, the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping [Insert]** page does not open, and an error message appears.

3. Enter a value for each field.

4. Click:

- **OK** to save the new entry and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page.
- **Apply** to save the new entry and remain on this page. The data displayed on the page is updated.
- **Cancel** to return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page without saving any changes.

If **OK** or **Apply** is clicked and any of the following conditions exist, an error message appears:

- Any fields contain a value that is out of the allowed range
- Any required field is empty (not entered)
- Adding the new **MCCMNC Mapping** entry would cause the allowed maximum number of entries (2500) to be exceeded
- The **MCC+MNC+MSIN Prefix Digits** entry is not unique (already exists)

## 2.4.3 Editing MCCMNC Mapping Entries

Use this task to change **MCCMNC Mapping** entries.

**MCCMNC** fields are described in [MCCMNC Mapping Elements](#).

When the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping [Edit]** page opens, the fields are populated with the current configured values.



### Note:

The **MCC** and **MNC** field values cannot be changed.

1. On the NOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page appears.

2. Select the **MCCMNC Mapping** entry to be changed.
3. Click **Edit**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping [Edit]** page appears.

4. Change the field values as needed.

5. Click:
  - **OK** to save the changes and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page.
  - **Apply** to save the changes and remain on this page.
  - **Cancel** to return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page without saving any changes.

If **OK** or **Apply** is clicked and any of the following conditions exist, an error message appears:

- Any field contains values that are not valid or are out of range
- Any required field is empty (not entered)

## 2.4.4 Deleting MCCMNC Mapping Entries

Use this task to delete an MCCMNC Mapping entry.

1. On the NOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page appears.

2. Select the **MCCMNC Mapping** entry to be deleted.
3. Click **Delete**.

A popup window appears to confirm the delete.

4. Click:
  - **OK** to delete the **MCCMNC Mapping** entry.
  - **Cancel** to cancel the delete function and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCCMNC Mapping** page.

If **OK** is clicked and the selected **MCCMNC Mapping** entry no longer exists (it was deleted by another user), an error message is displayed.

## 2.5 Common Application Options

The Enhanced Overload Control Function checkbox can be either enabled or disabled on PCA DA-MPs and SBR MPs. This feature can only be enabled on the NOAM.

**Table 2-16 Common Application Options**

| Field                              | Description   | Values   |
|------------------------------------|---|--|
| Enhanced Overload Control Function | <p>If this checkbox is unchecked, the existing PCA/SBR overload control function applies to those DA-MPs and SBR MPs where the DRMP feature is disabled.</p> <p>If this checkbox is checked, the enhanced overload control function applies to all PCA DA-MPs and SBR MPs under the same NO topology.</p> | <p>Format: Checkbox</p> <p>Range: checked, unchecked</p> <p>Default: unchecked</p> |

# 3

## Diameter Common on the SOAM

The Diameter Common GUI pages on the SOAM can be used for viewing the DSR Dashboard, for configuration of the MCC Ranges Network Identifiers, and for Bulk Import and Export functions.

### 3.1 Overview

The Diameter Common menu items on the SOAM provide access to GUI pages to perform the following tasks:

- View **Diameter Common**, and then **Dashboard** (see [Dashboard](#))
- Configure **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** (see [MCC Ranges Configuration](#))
- Configure **Diameter Common**, and then **MPs**, and then **Profiles and Diameter Common**, and then **MPs**, and then **Profile Assignments** (see [MPs](#))
- Perform DSR Bulk Import/Export operations (see [Diameter Common Bulk Import and Export](#))

### 3.2 Dashboard

Depending on your system, the dashboard differs.

- [Dashboard on the NOAM](#)
- [Dashboard on the SOAM](#)

#### Dashboard on the NOAM

The Dashboard on the NOAM is viewed at **Diameter Common**, and then **Dashboard**.

The Dashboard provides high level Metrics, which provide an overall view of the health of one or more Network Elements (NEs) of a network, making Metrics the core component of the DSR Dashboard. Each column on the Dashboard contains the set of values for a particular Metric. The selection of which Metrics are displayed on the Dashboard is done via configuration.

The NOAM Dashboard shows both Network summary and NE summary Metrics.

The order that Metric Groups are displayed on the Dashboard is determined from configuration which cannot be modified. The order that Metrics are displayed within a Metric Group on the Dashboard display is determined from configuration which cannot be modified. Metrics selected for display on the Dashboard via configuration can be hidden/viewed via a Dashboard GUI control based on threshold level filters. A threshold level filter is used to limit which Metrics are displayed on the Dashboard based on a severity value. These limits are valuable because they focus on more potentially significant problems.

Horizontal and vertical scrolling allows any Metrics which do not fit onto a single physical screen to be seen.



The Dashboard also facilitates troubleshooting via Metric-specific hyperlinks on the Dashboard to assist in viewing more detailed information via existing DSR status and maintenance screens. The linkage between content on the Dashboard to DSR status and maintenance screens will be determined from configuration which cannot be modified.

Per Network Metrics are derived from per-NE summary Metrics. A Network is the set of one or more Dashboard Network Elements. The formula for calculating a Network Metric value is identical to that for calculating the per-NE Metric for that Metric.

### Dashboard on the SOAM

The SOAM Dashboard shows the NE's summary Metrics, its per-Server Type summary Metrics and its per-Server Metrics.

A Server Type physically groups Metrics associated with a particular type of Server (e.g., DA-MP) onto the Dashboard display in order to create summary Metrics for Servers of a similar type. The order of Server Types on the SOAM Dashboard is determined from configuration which cannot be modified. The Server Types are predefined and cannot be modified. The DA-MP, DSR, SBR, and SOAM Server Types are supported.

Server Metrics are maintained by each MP. Per-Server Metric values are periodically pushed to their local SOAM, where they are displayed on the SOAM Dashboard display.

Server Type Metrics show a roll-up of Server Metrics by Server type. The formula for calculating a Server Type Metric value is identical to that for calculating the per-NE Metric for that Metric.

Network Element (NE) Metrics are derived from per-Server Metrics. A Network Element is the set of servers managed by a SOAM. The formula for calculating a per-NE Metric value is Metric-specific although, in general, most NE Metrics are the sum of the per-Server Metrics. The set of servers which are managed by a SOAM is determined through standard NOAM configuration and cannot be modified via Dashboard configuration. An NOAM can manage up to 32 NEs.

## 3.3 MCC Ranges Configuration

The **MCC Ranges** component defines up to 10 distinct, non-overlapping Mobile Country Code (**MCC**) Ranges, which are the first 3 digits of the IMSI. The FABR and RBAR applications consider an IMSI to be invalid for address lookup if the MCC portion of the decoded IMSI falls within any of the Reserved MCC Range configured by the user.

While searching for an IMSI in the Diameter message AVPs, if the MCC digits portion of decoded IMSI digits fall within one of the configured **MCC Ranges**, the IMSI digits will NOT be used for further Address Resolution. The FABR and RBAR applications will continue to search other AVP instances (if present), or next priority AVP (if configured) or next Routing Entity (if configured) for a valid address.

The two following MCC Ranges are reserved by telephony standards and are recommended to be configured in addition to other user-specified ranges:

- 000-199
- 800-899

On the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page, you can perform the following actions:

- Filter the list of **MCC Ranges**, to display only the desired **MCC Ranges**.
- Sort the list entries in ascending or descending order by **Start MCC** values or **End MCC** values by clicking the column heading. By default, the list is sorted by **Start MCC** values in ascending ASCII order.

- Click **Insert**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges [Insert]** page opens. You can add new MCC Ranges. If the maximum number of MCC Ranges (10) already exists in the system, the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges [Insert]** page will not open, and an error message is displayed.

- Select an MCC Range in the list, and click **Edit**.  
The **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges [Edit]** page opens. The **Start MCC**, **End MCC**, or both for the selected MCC Range can be edited.
- Select an MCC Range in the list, and click **Delete** to remove the selected MCC Range.

### 3.3.1 MCC Ranges Elements

[Table 3-1](#) describes the fields on the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** pages.

**Table 3-1 MCC Ranges Elements**

| Field (* indicates a required field) | Description  | Value                                      |
|--------------------------------------|--|--|
| *Start MCC                           | The start value of the Reserved Mobile Country Code Range. | Format: text box; numeric.<br>Range: 0-999 |
| *End MCC                             | The end value of the Reserved Mobile Country Code Range.   | Format: text box; numeric.<br>Range: 0-999 |

### 3.3.2 Adding MCC Ranges

Use this task to configure new **MCC Ranges**.

**MCC Ranges** fields are described in [MCC Ranges Elements](#).

1. On the SOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page appears.

2. Click **Insert**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges [Insert]** page appears.

If the maximum number of **MCC Ranges** (10) has already been configured in the system, the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges [Insert]** page does not open, and an error message appears.

3. Enter a value for the **Start MCC** field.

4. Enter a value for the **End MCC** field.
5. Click:
  - **OK** to save the new **MCC Range** and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page.
  - **Apply** to save the new **MCC Range** and remain on this page. The data displayed on the page is updated.
  - **Cancel** to return to the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page without saving any changes.

If **OK** or **Apply** is clicked and any of the following conditions exist, an error message appears:

- Any fields contain a value that is out of the allowed range
- Any required field is empty (not entered)
- Adding the new **MCC Range** would cause the maximum number of **MCC Ranges** (10) to be exceeded
- The **Start MCC** field value is greater than the End MCC field value
- The **MCC Range** created lies within the ranges of other **MCC Ranges**

### 3.3.3 Editing MCC Ranges

Use this task to change **MCC Ranges**.

**MCC Ranges** fields are described in [MCC Ranges Elements](#).

When the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges [Edit]** page opens, the fields are populated with the current configured values.

1. On the SOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page appears.

2. Select the **MCC Range** to be changed.
3. Click **Edit**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges [Edit]** page appears.

4. Change the **Start MCC** value, the **End MCC** value, or both.
5. Click:

- **OK** to save the changes and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page.
- **Apply** to save the changes and remain on this page.
- **Cancel** to return to the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page without saving any changes.

If **OK** or **Apply** is clicked and any of the following conditions exist, an error message appears:

- The selected **MCC Range** no longer exists; it has been deleted by another user

- Any field contains values that are out of range
- Any required field is empty (not entered)
- The **Start MCC** field value is greater than the **End MCC** field value
- The **MCC Range** created lies within the ranges of other MCC Ranges

### 3.3.4 Deleting MCC Ranges

Use this task to delete an MCC Ranges entry.

1. On the SOAM, select **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges**.

The **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page appears.

2. Select the **MCC Ranges** entry to be deleted.
3. Click **Delete**.

A popup window appears to confirm the delete.

4. Click:
  - **OK** to delete the **MCC Ranges** entry.
  - **Cancel** to cancel the delete function and return to the **Diameter Common**, and then **Network Identifiers**, and then **MCC Ranges** page.

If **OK** is clicked and the selected **MCC Ranges** entry no longer exists (it was deleted by another user), an error message is displayed.

## 3.4 MPs

A Diameter Agent Message Processor (DA-MP) is a computer or blade hosting the Diameter base protocol and one or more DSR Applications. Multiple DA-MPs are supported in a DSR system.

An MP Profile defines maximum and threshold values for an MP. An MP Profile must be assigned to each DA-MP in the system configuration. Select the appropriate MP Profile according to the hardware and application or applications that are running on the MP, as shown in [Table 3-2](#).



#### Note:

The profiles listed in [Table 3-2](#) and that appear on the MPs GUI pages might not include all of the profiles that are available for all Oracle Communications products. Product-specific profiles and instructions for assigning them are included in the *Installation Guide* for each product.

**Table 3-2 MP Profile Selection**

| Hardware             | Application(s) | MP Profile |
|----------------------|----------------|------------|
| DA-MPs               |                |            |
| G6 half height blade | Diameter Relay | G6:Relay   |

Table 3-2 (Cont.) MP Profile Selection

| Hardware                 | Application(s)   | MP Profile  |
|--------------------------|--|---|
| G8/G9 half height blade  | Diameter Relay   | G8/G9:Relay   |
| G7 full height blade     | Diameter Relay   | G7:Relay  |
| Virtual DA-MP            | Diameter Relay   | VM:Relay<br><b>Note:</b> If a virtualized version of DSR is being used, then the MP Profile can be VM:10K_MPS.    |
| Gen9V2 half height blade | Diameter Relay   | Gen9V2:Relay  |
| G6 half height blade     | Diameter Relay + FABR or RBAR                              | G6:Database   |
| G8/G9 half height blade  | Diameter Relay + FABR or RBAR                              | G8/G9:Database  |
| G7 full height blade     | Diameter Relay + FABR or RBAR                              | G7:Database   |
| Virtual DA-MP            | Diameter Relay + FABR or RBAR                              | VM:Database<br><b>Note:</b> If a virtualized version of DSR is being used, then the MP Profile can be VM:10K_MPS. |
| Gen9V2 half height blade | Diameter Relay + FABR or RBAR                              | Gen9V2:Database   |
| G6 half height blade     | Diameter Relay + CPA or PCA                                | G6:Session  |
| G8/G9 half height blade  | Diameter Relay + CPA or PCA                                | G8/G9:Session   |
| G7 full height blade     | Diameter Relay + CPA or PCA                                | G7:Session  |
| Virtual DA-MP            | Diameter Relay + CPA or PCA                                | VM:10K_MPS  |
| G6 half height blade     | Diameter Relay + RBAR + PCA                                | G6:Session_Database   |
| G8/G9 half height blade  | Diameter Relay + RBAR + PCA                                | G8/G9:Session_Database  |
| G7 full height blade     | Diameter Relay + RBAR + PCA                                | G7:Session_Database   |
| Gen9V2 half height blade | Diameter Relay + RBAR + PCA                                | Gen9V2:Session  |
| G8/G9 half height blade  | MAP-to-Diameter Interworking Function (MD-IWF) Application | G8/G9:MD-IWF  |
| Virtual DA-MP            | Diameter Relay + FABR or RBAR                              | VM:35K_MPS  |

[MPs Profiles Elements](#) describes the user-configurable and engineering-configured values in an MP Profile.

 **Note:**

The Ingress Message Rate Alarm Threshold values for the PCA application are user-configurable on the NOAM **Policy and Charging**, and then **Configuration**, and then **Congestion Options** page; they are not shown in [MPs Profiles Elements](#).

## 3.4.1 MPs Profiles Elements

Table 3-3 describes the fields on the DA-MP tab on the **Diameter Common**, and then **MPs**, and then **Profiles** page.



### Note:

The Data Input Notes apply only to the DA-MP Configurable elements.

**Table 3-3 MPs Profiles DA-MP Elements**

| Field (* indicates required field) | Description   | Data Input Notes  |
|------------------------------------|---|---|
| DA-MP Configurable                 |   |   |
| *CL1 Discard Percent               | The percentage below DA-MP Engineered Ingress MPS that DA-MP Overload Control will police the total DA-MP ingress MPS when the DA-MP is in congestion level 1.  | Format: text box<br>Range: 0 - 50%<br>Default: 0  |
| *CL2 Discard Percent               | The percentage below DA-MP Engineered Ingress MPS that DA-MP Overload Control will police the total DA-MP ingress MPS to when the DA-MP is in congestion level 2.   | Format: text box<br>Range: 10 - 50%<br>Default: 20  |
| *CL3 Discard Percent               | The percentage below DA-MP Engineered Ingress MPS that DA-MP Overload Control will police the total DA-MP ingress MPS to when the DA-MP is in congestion level 3.   | Format: text box<br>Range: 20 - 50%<br>Default: 40  |
| *Congestion Discard Policy         | The order of priority and/or color-based traffic segments to consider when determining discard candidates for the application of treatment during DA-MP Congestion processing.                              | Format: pulldown list<br>Range: Priority Only, Color Within Priority, Priority Within Color<br>Default: Priority Only |
| *DOC Message Discard Percentage    | The percent of total DA-MP ingress MPS above DA-MP Engineered Ingress MPS that DA-MP Overload Control will discard when the DA-MP is in danger of congestion.   | Format: text box<br>Range: 0 - 50 %<br>Default: 20  |
| DOC Discard Policy                 | The order of priority and/or color-based traffic segments to consider when determining discard candidates for the application of treatment during DA-MP DOC processing.                                     | Format: pulldown list<br>Range: Priority Only, Color Within Priority, Priority Within Color<br>Default: Priority Only |
| DA-MP View-Only                    |   |   |
| Maximum Connections                | The maximum number of Diameter connections the DA-MP can have configured at any one time  | Engineering-configured  |
| Engineered Ingress MPS             | The maximum ingress message rate, in messages per second, that the DA-MP will support without overload. This value limits the total Reserved Ingress MPS of all Diameter Connections assigned to the DA-MP. | Engineering-configured  |

**Table 3-3 (Cont.) MPs Profiles DA-MP Elements**

| <b>Field (* indicates required field)</b>                   | <b>Description</b>   | <b>Data Input Notes</b> |
|---|--|-------------------------|
| Maximum Ingress Message Rate Minor Alarm Set Threshold      | The ingress message rate, in messages per second, above which a minor alarm is raised.                 | Engineering-configured  |
| Maximum Ingress Message Rate Minor Alarm Clear Threshold    | The ingress message rate, in messages per second, below which a minor alarm is cleared.                | Engineering-configured  |
| Maximum Ingress Message Rate Major Alarm Set Threshold      | The ingress message rate, in messages per second, above which a major alarm is raised.                 | Engineering-configured  |
| Maximum Ingress Message Rate Major Alarm Clear Threshold    | The ingress message rate, in messages per second, below which a major alarm is cleared.                | Engineering-configured  |
| Maximum Ingress Message Rate Critical Alarm Set Threshold   | The ingress message rate, in messages per second, above which a critical alarm is raised.              | Engineering-configured  |
| Maximum Ingress Message Rate Critical Alarm Clear Threshold | The ingress message rate, in messages per second, below which a critical alarm is cleared.             | Engineering-configured  |
| Routing Message Rate Minor Alarm Set Threshold              | The Diameter message processing rate, in messages per second, above which a minor alarm is raised.     | Engineering-configured  |
| Routing Message Rate Minor Alarm Clear Threshold            | The Diameter message processing rate, in messages per second, below which a minor alarm is cleared.    | Engineering-configured  |
| Routing Message Rate Major Alarm Set Threshold              | The Diameter message processing rate, in messages per second, above which a major alarm is raised.     | Engineering-configured  |
| Routing Message Rate Major Alarm Clear Threshold            | The Diameter message processing rate, in messages per second, below which a major alarm is cleared.    | Engineering-configured  |
| Routing Message Rate Critical Alarm Set Threshold           | The Diameter message processing rate, in messages per second, above which a critical alarm is raised.  | Engineering-configured  |
| Routing Message Rate Critical Alarm Clear Threshold         | The Diameter message processing rate, in messages per second, below which a critical alarm is cleared. | Engineering-configured  |
| Average Message Size Minor Alarm Set Threshold              | The Average Message Size above which a minor alarm is set.   | Engineering-configured  |
| Average Message Size Minor Alarm Clear Threshold            | The Average Message Size below which a minor alarm is cleared.   | Engineering-configured  |
| Average Message Size Major Alarm Set Threshold              | The Average Message Size above which a major alarm is set.   | Engineering-configured  |
| Average Message Size Major Alarm Clear Threshold            | The Average Message Size below which a major alarm is cleared.   | Engineering-configured  |

**Table 3-3 (Cont.) MPs Profiles DA-MP Elements**

| <b>Field (* indicates required field)</b>                | <b>Description</b>  | <b>Data Input Notes</b> |
|--|---|-------------------------|
| Average Message Size Critical Alarm Set Threshold        | The Average Message Size above which a critical alarm is set.   | Engineering-configured  |
| Average Message Size Critical Alarm Clear Threshold      | The Average Message Size below which a critical alarm is cleared.   | Engineering-configured  |
| Average Hold Time Minor Alarm Set Threshold              | The Average Hold Time above which a minor alarm is set.   | Engineering-configured  |
| Average Hold Time Minor Alarm Clear Threshold            | The Average Hold Time below which a minor alarm is cleared.   | Engineering-configured  |
| Average Hold Time Major Alarm Set Threshold              | The Average Hold Time above which a major alarm is set.   | Engineering-configured  |
| Average Hold Time Major Alarm Clear Threshold            | The Average Hold Time below which a major alarm is cleared.   | Engineering-configured  |
| Average Hold Time Critical Alarm Set Threshold           | The Average Hold Time above which a critical alarm is set.  | Engineering-configured  |
| Average Hold Time Critical Alarm Clear Threshold         | The Average Hold Time below which a critical alarm is cleared.  | Engineering-configured  |
| RBAR Receive Message Rate Minor Alarm Set Threshold      | The ingress request rate for the RBAR Application, in messages per second, above which a minor alarm is raised.     | Engineering-configured  |
| RBAR Receive Message Rate Minor Alarm Clear Threshold    | The ingress request rate for the RBAR Application, in messages per second, below which a minor alarm is cleared.    | Engineering-configured  |
| RBAR Receive Message Rate Major Alarm Set Threshold      | The ingress request rate for the RBAR Application, in messages per second, above which a major alarm is raised.     | Engineering-configured  |
| RBAR Receive Message Rate Major Alarm Clear Threshold    | The ingress request rate for the RBAR Application, in messages per second, below which a major alarm is cleared.    | Engineering-configured  |
| RBAR Receive Message Rate Critical Alarm Set Threshold   | The ingress request rate for the RBAR Application, in messages per second, above which a critical alarm is raised.  | Engineering-configured  |
| RBAR Receive Message Rate Critical Alarm Clear Threshold | The ingress request rate for the RBAR Application, in messages per second, below which a critical alarm is cleared. | Engineering-configured  |
| FABR Receive Message Rate Minor Alarm Set Threshold      | The ingress request rate for the FABR Application, in messages per second, above which a minor alarm is raised.     | Engineering-configured  |
| FABR Receive Message Rate Minor Alarm Clear Threshold    | The ingress request rate for the FABR Application, in messages per second, below which a minor alarm is cleared.    | Engineering-configured  |



**Table 3-3 (Cont.) MPs Profiles DA-MP Elements**

| <b>Field (* indicates required field)</b>                  | <b>Description</b>  | <b>Data Input Notes</b> |
|--|---|-------------------------|
| FABR Receive Message Rate Major Alarm Set Threshold        | The ingress request rate for the FABR Application, in messages per second, above which a major alarm is raised.       | Engineering-configured  |
| FABR Receive Message Rate Major Alarm Clear Threshold      | The ingress request rate for the FABR Application, in messages per second, below which a major alarm is cleared.      | Engineering-configured  |
| FABR Receive Message Rate Critical Alarm Set Threshold     | The ingress request rate for the FABR Application, in messages per second, above which a critical alarm is raised.    | Engineering-configured  |
| FABR Receive Message Rate Critical Alarm Clear Threshold   | The ingress request rate for the FABR Application, in messages per second, below which a critical alarm is cleared.   | Engineering-configured  |
| CPA Receive Message Rate Minor Alarm Set Threshold         | The ingress request rate for the CPA Application, in messages per second, above which a minor alarm is raised.        | Engineering-configured  |
| CPA Receive Message Rate Minor Alarm Clear Threshold       | The ingress request rate for the CPA Application, in messages per second, below which a minor alarm is cleared.       | Engineering-configured  |
| CPA Receive Message Rate Major Alarm Set Threshold         | The ingress request rate for the CPA Application, in messages per second, above which a major alarm is raised.        | Engineering-configured  |
| CPA Receive Message Rate Major Alarm Clear Threshold       | The ingress request rate for the CPA Application, in messages per second, below which a major alarm is cleared.       | Engineering-configured  |
| CPA Receive Message Rate Critical Alarm Set Threshold      | The ingress request rate for the CPA Application, in messages per second, above which a critical alarm is raised.     | Engineering-configured  |
| CPA Receive Message Rate Critical Alarm Clear Threshold    | The ingress request rate for the CPA Application, in messages per second, below which a critical alarm is cleared.    | Engineering-configured  |
| DM-IWF Receive Message Rate Minor Alarm Set Threshold      | The ingress request rate for the DM-IWF Application, in messages per second, above which a critical alarm is raised.  | Engineering-configured  |
| DM-IWF Receive Message Rate Minor Alarm Clear Threshold    | The ingress request rate for the DM-IWF Application, in messages per second, below which a critical alarm is cleared. | Engineering-configured  |
| DM-IWF Receive Message Rate Major Alarm Set Threshold      | The ingress request rate for the DM-IWF Application, in messages per second, above which a critical alarm is raised.  | Engineering-configured  |
| DM-IWF Receive Message Rate Major Alarm Clear Threshold    | The ingress request rate for the DM-IWF Application, in messages per second, below which a critical alarm is cleared. | Engineering-configured  |
| DM-IWF Receive Message Rate Critical Alarm Set Threshold   | The ingress request rate for the DM-IWF Application, in messages per second, above which a critical alarm is raised.  | Engineering-configured  |
| DM-IWF Receive Message Rate Critical Alarm Clear Threshold | The ingress request rate for the DM-IWF Application, in messages per second, below which a critical alarm is cleared. | Engineering-configured  |

## 3.4.2 Editing Configurable MP Profile Parameters

Use this task to edit the values for configurable parameters in each MP Profile type that will be assigned to a DA-MP in the DSR.

The configurable parameters are described in [MPs Profiles Elements](#).

1. Select **Diameter Common**, and then **MPs**, and then **Profiles**.  
The **Diameter Common**, and then **MPs**, and then **Profiles** page appears.
2. For each MP Profile type, edit the values for the configurable parameters.
3. Click:
  - **Apply** to save the edited parameter values.
  - **Cancel** to reset the parameter values to their previous setting.

## 3.4.3 MPs Profile Assignments Elements

[Table 3-4](#) describes the fields on the **Diameter Common**, and then **MPs**, and then **Profile Assignments** page.

**Table 3-4** MPs Profile Assignments Elements

| Field         | Description   | Data Input Notes  |
|---------------|---|---|
| DA-MP         | The Hostname of the MP.<br>Active and Standby MP pairs are listed on the same line; they have the same type of Profile assigned.<br>MPs that are stand-alone or that belong to multi-active server groups will have lines of their own. | View-only   |
| MP Profile    | MP Profile assigned to the MP.  | Format: Pulldown list<br>Range: Valid Profiles for the type of MP |
| current value | The current MP Profile for each MP, and a description of the MP.  | View-only   |

## 3.4.4 Assigning MP Profiles to MPs

Use this task to assign an MP Profile to each DA-MP in the system.



### Note:

An MP Profile assignment does not take effect until the MP has been restarted.

[MPs Profile Assignments Elements](#) describes the MP Profile Assignments elements.

1. Select **Diameter Common**, and then **MPs**, and then **Profile Assignments**.

---

The **Diameter Common**, and then **MPs**, and then **Profile Assignments** page appears.

2. For each DA-MP, select one of the available MP Profiles. See [Table 3-2](#) for help in selecting the appropriate MP Profile.
3. Click:
  - **Assign** to assign the selected MP Profiles to the MPs.
  - **Cancel** to reset the MP Profile assignments to their previous setting.

To correct a warning that a Standby MP has a different MP Profile assignment than its corresponding Active MP, reassign the desired MP Profile to the Active/Standby MP pair on this page.

# 4

## Diameter Common Bulk Import and Export

The **Diameter Common**, and then **Import** and **Diameter Common**, and then **Export** GUI pages provide access to functions for exporting and importing configuration data for Diameter and Diameter Common components, IPFE, MAP-Diameter Interworking, and DSR Applications.

### 4.1 DSR Bulk Import

The DSR Bulk Import operations use configuration data in ASCII Comma-Separated Values (CSV) files (.csv), to insert new data into, update existing data in, or delete existing data from the Diameter Configuration and Diameter Common, IPFE Configuration, or DSR Applications (FABR, RBAR, PCA, GLA, CPA and Charging SBR, MD-IWF, DM-IWF, and RADIUS) configuration data in the system.

#### Import CSV Files

Import CSV files can be created by using a DSR Bulk Export operation, or can be manually created using a text editor. The CSV file formats are described in [Diameter and Diameter Common CSV File Formats and Contents](#).

#### **Caution:**

The format of each Import CSV file record must be compatible with the configuration data in the current DSR release in the system.

- Configuration data refers to any data that is configured for one of the **Export Application** types (Diameter, FABR, RBAR, CPA, PCA, GLA, SBR, MDIWF, IPFE).
- For the "Diameter" **Export Application** type, configuration data refers to any data that is configured using the GUI pages that are available from the **Diameter Configuration** menu folder, and the **Diameter Common**, and then **Network Identifiers** and **Diameter Common**, and then **MPs** menu folders.

#### **Note:**

**Diameter**, and then **AVP Dictionary** configuration data cannot be imported using the Bulk Export function.

#### **Note:**

Diameter Mediation configuration data cannot be imported with DSR Bulk Import operations; Mediation has its own Import and Export functions.

- Each file can contain one or more records of the same format (for one configuration component, such as records for several Diameter Configuration Connections); the entire format for each record must be contained in one line of the file.

Files that are created using the DSR Bulk Export operation can be exported either to the Status & Manage File Management Directory (**Status**, and then **Manage**, and then **Files** page), or to the local Export Server Directory.

For files that are exported to the Export Server Directory,

- If a remote Export Server has been configured (see the **Administration**, and then **Remote Servers**, and then **Data Export** page), the files in the Export Server Directory are automatically transferred to the configured remote Export Server and are deleted from the Export Server Directory. The transferred files do not appear in the list on the local system **Status & Manage**, and then **Files** page or in the list on the **Diameter**, and then **Configuration**, and then **Import** page.
- If a remote Export Server has not been configured, the files in the Export Server Directory appear in the list on the **Status & Manage**, and then **Tasks**, and then **Active Tasks** page, and also appear in the list on the local system **Status & Manage**, and then **Files** page, but not on the **Diameter**, and then **Configuration**, and then **Import** page.

For files that are exported to the File Management Directory,

- The files appear in the File Management area list on the local system **Status & Manage**, and then **Files** page and in the list on the **Diameter**, and then **Configuration**, and then **Import** page.
- The files can be downloaded, edited, uploaded, and used for Import operations.
  - Import CSV files must be in the File Management area of the local system before they can be used for Import operations on the local system.
  - The **Download** function on the **Status & Manage**, and then **Files** page can be used to download the files to a location off of the local system for editing or transfer to another system.
  - The **Upload** function on the **Status & Manage**, and then **Files** page can be used to upload the files to the File Management area of the local system.

For files that are created manually using a text editor,

- Import CSV files that are located off of the local system must be uploaded to the File Management area of the local system before they can be used for Import operations on the local system.
- The **Upload** function on the **Status & Manage**, and then **Files** page can be used to upload the files to the File Management area of the local system.

### Import Operations

#### **Caution:**

Bulk Import can degrade the performance of the DA-MP and should be performed only in the maintenance window.

The CSV files that are used for Import operations must be in the local File Management area on the OAM where the data can be configured:

- The NOAM for Diameter Topology Hiding data, network-wide PCA data, and MAP-Diameter Interworking data for MD-IWF
- The SOAM for the rest of the Diameter data, site-specific PCA data, MAP-Diameter Interworking data for DM-IWF, IPFE data, MP Profiles and Profile Assignments data, and data for other DSR Applications.

The **Diameter Common**, and then **Import** page lists all files in the File Management area (on the **Status & Manage**, and then **Files** page) that have the .csv file extension.

The **File Management** button on the **Diameter Common**, and then **Import** page opens the **Status & Manage**, and then **Files** page.

The following Import operations can be performed:

 **Note:**

The **Application Type**, **Keyword**, and **Key** fields in each file record are used to identify the configuration data entry in the system.

- **Insert new configuration data into the system**  
Only data records that do not currently exist in the system are inserted. Any records in the file that do already exist in the system are treated and logged as failures.
- **Update existing configuration data in the system**  
Only data records that currently exist in the system can be updated. Any records in the file that do not already exist in the system, and any records that already exist in the system but are not updated in the file, are treated and logged as failures.
- **Delete existing configuration data from the system**  
Only data records that currently exist in the system can be deleted. Any records in the file that do not exist in the system, and any records that exist in the system but are not changed in the file, are treated and logged as failures.

For the Import operation on each record in a file to be successful with no errors logged for the operation, each record must be valid for the configuration data format and for the Import operation that is being performed.

- Exported configuration data probably needs to be edited before the exported file is used for an Import operation on the same system.

**Insert from CSV operations** - Records need to be added or edited to be able to insert new configuration data entries (such as connections or Route Lists). It is best to remove from the file any records for existing configuration data entries; they will be flagged as errors for an Insert operation. It might be difficult to distinguish between logged errors for existing data and for the records for the new entries.

**Update from CSV operations** – Records need to be edited to change element values in existing configuration data entries. The Application Type, Keyword, and Key fields are NOT changed in the records, so that the entries can be identified as existing in the system. It is best to remove from the file any records for existing configuration data entries that are NOT being updated; they will be flagged as errors for an Insert operation. It might be difficult to distinguish between logged errors for existing records that are not updated and for the updated records.

**Delete from CSV operations** – Using an exported file without editing it will remove from the system all of the configuration data entries in the exported records. If you do not want to delete all of the configuration data entries that are in the file records, edit the file and remove the records for the entries that are NOT to be deleted. Records for configuration data entries that do not exist in the system will be flagged as errors for a Delete operation. For example, if you want to delete 20 of 100 configured connections, edit the file and remove the records for the 80 connections that you do not want to delete.

- Files that were created using the DSR Bulk Export operation and are transferred to another system for importing configuration data on that other system may not need to be edited. Exceptions might be system-specific information such as IP addresses and MP Profiles.
- Manually created files can be created so that they contain only the configuration data that is needed for the desired Import operation. The files can be edited later for use with a different Import operation.

Manually created CSV files are not required to contain a comment header. If a comment header is included in the file, it must be formatted using pound signs (#), as shown in the Export file header that is described in Export Results.

 **Note:**

IPFE supports Import and Delete operations only. Due to the design of the IPFE database, import of a single table is not supported. Importing both *IpfeOption* and *IpListTsa* is required. You must import *IpfeOption* first followed by *IpListTsa*. *IpfeOption* defines part of the Target Set data used during validation of the *IpListTsa*.

## Import Operation Results

Each Import operation creates one or two files that appear in the File Management area:

- A log file that has the same name as the Import file, but with the .log extension. For example, `ImportExportStatus/<import file name>.log`

The Bulk Import operation can be configured with the **Abort On First Error** check box to:

- Log the error for each record that failed during the operation, and continue the Import operation.
- Log the error for just the first record that failed, and end the Import operation.

Information for records that succeed is not included in the log. The log file contains the Action (Import operation) that was performed; and the number of Successful Operations (records), Failed Operations (records), and Total Operations (records).

- A Failures file, if failures occurred during the Import operation. The file is a .csv with the same name as the Import file, but contains `_Failures` in the file name.

For example, if the Import file name is

`October_2_SO_DSR1_Diameter_CmdCodes.csv`, the Failures file is named `October_2_SO_DSR1_Diameter_CmdCodes_Failures.csv`

A Failures file can be downloaded from the local File Management area to a server off the local system, edited to correct each record that failed, uploaded to the local system File Management area, and used again to repeat the Import operation and successfully process the records.

Any Failures .csv files in the File Management Directory that remain unchanged for more than 14 days and any log files older than 14 days will be automatically removed. The task to remove these files runs once a day.

### The Diameter Common > Import page

On the **Diameter Common**, and then **Import** page, you can perform the following actions:

- Sort the list of files by column, by clicking the column heading. The default sort is by File Name in ascending ASCII order.
- Select a file and click **Insert From CSV**, **Update From CSV**, or **Delete From CSV**. A popup window appears to confirm the selected Import operation.

One import or export task at a time is allowed.

- Click **Tasks** to display the status and progress of an Import operation. The progress of the import operation can also be viewed on the **Status**, and then **Manage**, and then **Tasks**, and then **Active Tasks** page.
- Click **File Management** to open the **Status & Manage**, and then **Files** page. Exported .csv files can be viewed, downloaded to an external location, uploaded from an external location, and deleted.

Log files from Import operations can be viewed and deleted.

- Click the **Abort On First Error** check box. When a check mark appears in the box, only the first record that failed is recorded in the log and the Failures .csv file. The Bulk Import operation stops after the error is detected and logged.

When there is no check mark in the box (the default), all records that failed are recorded in the log and the Failures .csv file.

## 4.1.1 Bulk Import elements

[Table 4-1](#) describes the fields on the **Diameter Common**, and then **Import** page.

**Table 4-1 Bulk Import Elements**

| Element    | Description  |
|------------|--|
| File Name  | The name of the .csv file from the Status & Manage File Management area. |
| Line Count | Number of lines in the file.   |
| Time Stamp | The creation time and date of the file.                                  |

## 4.1.2 Using an Import File to insert DSR Configuration Data

Use the following procedure to insert into the system new configuration data entries from the records in a DSR Bulk Import CSV file.

1. Select **Diameter Common**, and then **Import**.



The **Diameter**, and then **Common**, and then **Import** page appears. The page lists all of the .csv files from the **Status & Manage**, and then **Files** File Management area.

2. Select the **File Name** for the file to be used to insert the configuration data.
3. Specify whether the Import operation should stop processing on the first error that occurs, or should continue processing if errors occur during the Import operation.
  - To continue processing when errors occur, click the **Abort On First Error** check box so that the box is empty (the default).
  - To stop processing on the first error, click the **Abort On First Error** check box so that a checkmark appears in the check box.
4. Click **Insert From CSV**.

A popup window appears to confirm the file to use for the **Insert From CSV** operation.
5. On the popup window, do one of the following actions:
  - **OK** to perform the Import **Insert From CSV** operation. An indication is displayed that the operation is in progress.
  - **Cancel** to cancel the **Insert From CSV** operation and return to the **Diameter Common**, and then **Import** page.
6. To view the progress of the Import operation, you can:
  - Select the **Tasks** icon near the top left of the **Diameter**, and then **Configuration**, and then **Import** page.
  - Select **Status & Manage**, and then **Tasks**, and then **Active Tasks** to open the **Status & Manage**, and then **Tasks**, and then **Active Tasks (Filtered)** page.
7. To view the log file from the Import operation, and the Failures.csv file if one was created, click **File Management** to open the **Status & Manage**, and then **Files (Filtered)** page.

### 4.1.3 Using an Import File to update DSR Configuration Data

Use the following procedure to use the contents of a DSR Bulk Import .csv file to update existing configuration data in the system.

1. Select **Diameter Common**, and then **Import**.

The **Diameter Common**, and then **Import** page appears. The page lists all of the .csv files from the **Status & Manage**, and then **Files** File Management area.
2. Select the **File Name** for the file to be used to update the configuration data.
3. Specify whether the Import operation should stop processing on the first error that occurs, or should continue processing if errors occur during the Import operation.
  - To continue processing when errors occur, click the **Abort On First Error** check box so that the box is empty (the default).
  - To stop processing on the first error, click the **Abort On First Error** check box so that a checkmark appears in the check box.
4. Click **Update From CSV**.

A popup window appears to confirm the file to use for the **Update From CSV** operation.

5. On the popup window, do one of the following actions:
  - **OK** to perform the Import **Update From CSV** operation. An indication is displayed that the operation is in progress.
  - **Cancel** to cancel the **Update From CSV** operation and return to the **Diameter Common**, and then **Import** page.
6. To view the progress of the Import operation, you can:
  - Select the **Tasks** icon near the top left of the **Diameter**, and then **Configuration**, and then **Import** page.
  - Select **Status & Manage**, and then **Tasks**, and then **Active Tasks** to open the **Status & Manage**, and then **Tasks**, and then **Active Tasks (Filtered)** page.
7. To view the log file from the Import operation, and the Failures.csv file if one was created, click **File Management** to open the **Status & Manage**, and then **Files (Filtered)** page.

#### 4.1.4 Using an Import File to delete DSR Configuration Data

Use the following procedure to use the contents of a DSR Bulk Import .csv file to delete configuration data.



##### Note:

This operation does NOT delete a .csv file from the list of files on the page.

1. Select **Diameter Common**, and then **Import**.  
The **Diameter Common**, and then **Import** page appears. The page lists all of the .csv files from the **Status & Manage**, and then **Files** File Management area.
2. Select the **File Name** for the file to be used to delete the configuration data.
3. Click **Delete From CSV**.  
A popup window appears to confirm the file that you want to use for the **Delete From CSV** operation.
4. On the popup window, click:
  - **OK** to perform the Import **Delete From CSV** operation. An indication is displayed that the operation is in progress.
  - Click **Cancel** to cancel the **Delete From CSV** operation and return to the **Diameter Common**, and then **Import** page.
5. To view the progress of the Import operation, you can:
  - Select the **Tasks** icon near the top of the **Diameter Common**, and then **Import** page.
  - Select **Status & Manage**, and then **Tasks**, and then **Active Tasks** to open the **Status & Manage**, and then **Tasks**, and then **Active Tasks (Filtered)** page.
6. To view the log file from the Import operation, click **File Management** to open the **Status & Manage**, and then **Files (Filtered)** page.

## 4.2 DSR Bulk Export

The DSR Bulk Export operation creates ASCII Comma-Separated Values (CSV) files (.csv) containing Diameter and Diameter Common, IPFE, and DSR Application configuration data. Exported configuration data can be edited and used with the DSR Bulk Import operations to change the configuration data in the local system without the use of GUI pages. The exported files can be transferred to and used to configure another DSR system.

 **Note:**

Exported CSV files are not intended for long-term backup of configuration data. (Use the Database Backup function described in the *DSR Administration Guide* and DSR Administration Help for long-term backups of configuration data.)

### Exported CSV Files

Each exported CSV file contains one or more records for the configuration data that was selected for the Export operation. The record formats and contents are described in [Diameter and Diameter Common CSV File Formats and Contents](#).

The selected configuration data can be exported once immediately, or can be periodically automatically exported on a defined schedule.

- Configuration data refers to any data that is configured for one of the **Export Application** types (Diameter, RADIUS, FABR, RBAR, CPA, SBR, PCA, GLA, MDIWF and IPFE).

 **Note:**

GLA requires that Policy DRA Pooling is active. For more information, see *Gateway Location Application (GLA) User Guide* or *PCA User Guide*.

Exports must be performed on the OAM where the data can be configured - the NOAM for Diameter Topology Hiding, Diameter Common data, network-wide PCA data, and MAP-Interworking data for MD-IWF ; and the SOAM for the rest of the Diameter data, Diameter Common data, site-specific PCA data, IPFE data, MAP-Diameter Interworking data for DM-IWF, and DSR Application data.

- For the "Diameter" **Export Application** type, configuration data refers to any data that is configured using the GUI pages that are available from the Diameter Configuration folders and the Diameter Common folders.

 **Note:**

**Diameter**, and then **AVP Dictionary** configuration data cannot be imported using the Bulk Export function.

 **Note:**

Diameter Mediation configuration data cannot be exported with DSR Bulk Export; Mediation has its own Import and Export functions.

The following configuration data can be exported in one Export operation:

- All exportable configuration data available on the OAM
- All exportable configuration data from the selected Export Application, on the OAM
- Exportable configuration data from a selected configuration component for the selected Export Application

When ALL is selected, the exported data for each configuration component appears in a separate .csv file.

For data that is exported once immediately, the default Output File Name has the following format; the name can be changed and is not required to keep this format: NE  
Name\_Timestamp-TimeZone\_ApplicationType\_DataType.csv.

For data that is scheduled to be exported periodically, the default Task Name is DSR Configuration Export; the name can be changed.

All exported .csv files contain a comment header with the following information:

- Software revision used to generate the exported file
- Date and Time file was generated
- Name of each selected Data object exported
- Total number of exported records

The following example illustrates how the export file header might appear, but it might not look exactly as shown:

```
#####
#####
# Oracle Communications DSR Software Revision: <x.x.x-xxx.xx.x>
# Date/Time Generated: <yyy/mon/dd hh:mm:ss timezone>
# Exported Application: <ApplicationType>
# Exported Object: <ObjectType>
# Number of Records: <nnn>
#####
#####
```

### Export Operations

Exported files can be written to the File Management Directory in the Status & Manage File Management area (see the **Status & Manage**, and then **Files** page) or to the Export Server Directory.

Files that are created by a DSR Bulk Export operation must be in the local File Management area before they can be used for Bulk Import operations. See [DSR Bulk Import](#).

For files that are exported to the local File Management Directory,

- The files appear in the File Management area list on the local system (see the **Status & Manage**, and then **Files** page) and in the list on the **Diameter**, and then **Configuration**, and then **Import** page.
- These files can be used for Import operations on the local system.

Any .csv files that are exported to the File Management Directory and remain unchanged for more than 14 days will be automatically removed. The task to remove these files runs once a day.

For files that are exported to the local Export Server Directory,

- If a remote Export Server has been configured (see **Administration**, and then **Remote Servers**, and then **Data Export**), the files in the local Export Server Directory are transferred to the configured remote Export Server location and are deleted from the local Export Server Directory. These transferred files do not appear in the File Management area on the local system, and cannot be used for Import operations on the local system.
- If a remote Export Server has not been configured, the files in the local Export Server Directory appear in the list on the **Status & Manage**, and then **Tasks**, and then **Active Tasks** page and in the File Management area list on the local system, but not on the **Diameter Common**, and then **Import** page. These files cannot be used for Import operations on the local system.

### Export Results

If the export has any failures or is unsuccessful, the results of the export operation are logged to a log file with the same name as the exported file but with a ".log" extension. Successful export operations will not be logged.

### The Diameter Common Export page

On the **Diameter Common**, and then **Export** page, you can perform the following actions:

- Manually export configuration data one time immediately in a CSV file to either the Export Server or the File Management area.
- Schedule periodic automatic exports of configuration data in CSV files to either the Export Server or the File Management area. Scheduled exports are listed on the **Status & Manage**, and then **Tasks**, and then **Scheduled Tasks** page.
- Click **Tasks** to display the status and progress of an Export operation. The progress of the export operation can also be viewed on the **Status & Manage**, and then **Tasks**, and then **Active Tasks** page.
- Click **File Management** on the **Diameter Common**, and then **Export** page to open the **Status & Manage**, and then **Files** page. On the **Status & Manage**, and then **Files** page, exported .csv files can be viewed, downloaded to an external location, uploaded from an external location, and deleted. Log files from Export operations can be viewed and deleted.

## 4.2.1 Bulk Export elements

Table 4-2 describes the fields on the Diameter Configuration Export page.

Table 4-2 Bulk Export Elements

| Element (* indicates required field) | Description  | Data Input Notes  |
|--------------------------------------|--|---|
| *Export Application                  | Diameter or activated DSR Application from which configuration data will be exported.<br><b>Diameter</b> includes Diameter Common configuration data.  | Format: Pulldown list<br>Range: ALL, <b>Diameter</b> , <b>IPFE</b> , all activated DSR Applications<br>To clear the field, select <b>-Select-</b> in the list.  |
| Export Data                          | Data to be exported.<br><b>Diameter</b> , <b>IPFE</b> , or a specific activated DSR Application must be selected in Export Application before this list is available.<br>This field is required when <b>Diameter</b> or a DSR Application is selected.<br><b>Diameter</b> includes Diameter Common configuration data.   | Format: Pulldown list<br>Range: ALL; configuration folders for <b>Diameter</b> (except Mediation folders), <b>IPFE</b> , or the selected DSR Application.<br>To clear the field, select <b>-Select-</b> in the list.  |
| Output File Name                     | Name of the .csv export file.<br>The default name appears in this field when Export Frequency is <b>Once</b> and: <ul style="list-style-type: none"> <li><b>ALL</b> is selected in Export Application</li> <li><b>Diameter</b>, <b>IPFE</b>, or a DSR Application is selected in Export Application, and <b>ALL</b> or a specific configuration folder is selected in Export Data</li> </ul> <b>Diameter</b> includes Diameter Common data.<br>The default file name can be changed, and is not required to follow the default format.<br>This field is required when it is available. | Format: Valid characters are alphanumeric characters, dash (-), and underscore (_)<br>Default file name: file name in the format NeName_ReportDate-TimeZone_ApplicationType_ReportType, with the following values:<br>NeName = Host name of the NO or SO from which the configuration data will be exported.<br>ReportDate = Current date in the format mmddyy.<br>TimeZone = Current Time Zone.<br>Application Type = the selected Export Application to export from<br>ObjectType = the selected Data to export |
| *Task Name                           | Periodic Export Task name.<br>This field is required when the Export Frequency is not <b>Once</b> .  | Format: text box; length must not exceed 24 characters. Valid characters are alphanumeric, minus sign (-), and spaces between words. The first character must be an alpha character. The last character must not be a minus sign.<br>Range: 1-24 characters<br>Default: DSR Configuration Export  |

Table 4-2 (Cont.) Bulk Export Elements

| Element (* indicates required field) | Description   | Data Input Notes  |
|--------------------------------------|---|---|
| Description                          | Periodic Export Task description.   | Format: text box; length must not exceed 255 characters. Valid characters are alphanumeric, minus sign (-), and spaces between words. The first character must be an alpha character. The last character must not be a minus sign.<br>Range: 1-255 characters   |
| Export Directory                     | Directory in which an export file will be placed.<br>Files that are exported to the Export Server Directory will automatically be copied over to the remote if one is configured. The files will be deleted from the local system after the transfer to the remote Export Server is complete.<br>Files that are exported to the File Management Directory, or are exported to the Export Server Directory when no remote Export Server is configured, can be viewed and imported on the local system. | Format: radio buttons<br>Range: radio button for Export Server Directory, radio button for File Management Directory<br>Default: Export Server Directory  |
| Export Frequency                     | How often the data will be written to the Export Server Directory or File Management Directory.<br>When <b>Once</b> is selected, the export is performed immediately after <b>Ok</b> is clicked.  | Format: radio buttons<br>Range: radio buttons for Once, Hourly, Daily, Weekly<br>Default: Once  |
| Minute                               | The minute of each hour when the data will be exported.<br>This field is available only when <b>Hourly</b> is selected for <b>Export Frequency</b> .  | Format: text box with up and down selection arrows<br>Range: 1-59<br>Default: 0   |
| Time of Day                          | Time of day when data will be exported.<br>This field is available only when <b>Daily</b> or <b>Weekly</b> is selected for <b>Export Frequency</b> .  | Format: <ul style="list-style-type: none"> <li>Text box; the time can be typed in the format HH:MM AM or HH:MM PM.</li> <li>Pulldown list; click in the box to display a 24-hour list of times that are at 15-minute intervals. Select the desired time in the list.</li> </ul> Range: 12:00 AM through 11:45 PM in 15-minute intervals, or specified time<br>Default: 12:00 AM |

Table 4-2 (Cont.) Bulk Export Elements

| Element (* indicates required field) | Description  | Data Input Notes  |
|--------------------------------------|--|---|
| Day of the Week                      | Day of the week on which data will be exported.<br><br>This field is available only when <b>Weekly</b> is selected for <b>Export Frequency</b> . | Format: a radio button for each day of the week<br><br>Range: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday<br><br>Default: Sunday |

## 4.2.2 Manually Exporting a Configuration Data File Once

Use the following procedure to export a configuration data .csv file once immediately to the Status & Manage File Management area or to the Export Server Directory.

### Note:

The exported file appears the File Management area list on the **Status & Manage**, and then **Files** page if the **File Management Directory** is selected as the **Export Directory**, or if the **Export Server Directory** is selected and no remote Export Server is configured.

1. Navigate to **Diameter Common**, and then **Export**.
2. Verify the **Once** option is selected in the **Export Frequency** list. (Select **Once** if another radio button is currently selected.)
3. From the **Export Application** options, select **ALL**, **Diameter**, **IPFE**, **RADIUS**, or the activated DSR application from which the configuration data will be exported.  
  
If you selected **ALL**, go to step 5.
4. From the **Export Data** options, select **ALL** or the configuration folder that contains the data that will be exported from the selected **Export Application** type.
5. Either use (do not change) the default **Output File Name**, or change the entry to the desired name.
6. Select the **Export Directory** option for the file that will be exported.  
  
Select either the Export Server Directory (the default), or the File Management Directory.
7. Click **OK** to Export.  
  
An indication displays that the operation is in progress.
8. To view the progress of the Export operation, you can:
  - Select the **Tasks** icon near the top of the **Diameter Common**, and then **Export** page.
  - Navigate to **Status & Manage**, and then **Tasks**, and then **Active Tasks** to display open tasks.



9. To locate a file in the File Management area or to view the log file from an Export operation, click **File Management** to open the **Status & Manage**, and then **Files (Filtered)** page.

## 4.2.3 Scheduling Periodic Automatic Exports of Configuration Data

Use the following procedure to schedule periodic automatic Exports of configuration data files to the local Export Server Directory or to the local File Management area.

### Note:

When the selected **Export Directory** is the **Export Server Directory**, the file is exported to a temporary Export directory on the local system. A remote Export Server must be configured before the exported file can be transferred to the specified directory on the configured remote Export Server. See the online help for the **Administration**, and then **Remote Servers**, and then **Data Export** page and Help for instructions to configure a remote Export Server.

If no remote Export Server is configured, or if the exported configuration data could be used for Import operations on the local system, select **File Management Directory** as the **Export Directory**.

1. Select **Diameter Common**, and then **Export**.  
The **Diameter Common**, and then **Export** page appears.
2. In the **Export Application** list, select **ALL**, **Diameter**, **IPFE**, **RADIUS**, or the activated DSR Application from which the configuration data will be exported.  
If you selected **ALL**, go to 4.
3. In the **Export Data** list, select **ALL** or the configuration folder that contains the data that will be exported from the selected **Export Application** type.
4. Select the radio button for the **Export Frequency** of the scheduled Exports. (Do not select **Once**.)
5. Either use the default **Task Name** (DSR Configuration Export), or change the name if desired for the Export operation.  
The **Task Name** is required when the **Export Frequency** is not **Once**.
6. If a description of the Export task is desired, enter the **Description** in the text box (up to 255 characters).
7. Select the radio button for the **Export Directory** to which the file will be exported.  
Select either the **Export Server Directory** (the default), or the **File Management Directory**.  
Select the **File Management Directory** if no remote Export Server has been configured.
8. Enter or select the time or day information to specify when the scheduled Export operations will occur.
  - If **Export Frequency** is **Hourly**, enter (type or click the arrows) the **Minute** of each hour (0-59) when the file will be exported.

- If **Export Frequency** is **Daily**, enter (type, or click in the box and select from the list) the **Time of Day** when the file will be exported. Select from 15-minute intervals or enter a specific time.
  - If **Export Frequency** is **Weekly**,
    - Select the radio button for the **Day of Week** on which the file will be exported.
    - Enter (type, or click in the box and select from the pulldown list) the **Time of Day** when the file will be exported. Select from 15-minute intervals or enter a specific time.
9. Click **Ok** to save the schedule.
- To view, edit, or delete the saved schedule task, select **Status & Manage**, and then **Tasks**, and then **Active Tasks** or click the link in the indication to open the **Status & Manage**, and then **Tasks**, and then **Scheduled Tasks** page.
- The schedule can be changed or deleted on the **Status & Managed**, and then **Tasks**, and then **Scheduled Tasks** page.
10. To view the progress of an Export operation, you can:
- Select the **Tasks** icon near the top of the **Diameter Common**, and then **Export** page.
  - Select **Status & Manage**, and then **Tasks**, and then **Active Tasks** to open the **Status & Manage**, and then **Tasks**, and then **Active Tasks (Filtered)** page.
11. To locate a file in the File Management area or to view the log file from an Export operation, click **File Management** to open the **Status & Manage**, and then **Files (Filtered)** page.

## 4.2.4 Bulk Import and Export CSV File Formats and Contents

### CSV File Formats and Contents

DSR Bulk Import and Export files support an ASCII Comma-Separated Values (CSV) file format.

- The configuration data described in each table in this help section is contained in a single line in the CSV file.
- The first field or column of each line defines the Application Type; see [Table 4-3](#).
- The second column describes the configuration data type, such as LocalNode, PeerNode, or RouteList.
- Subsequent fields or columns contain the associated configuration data.
- Fields containing text that includes spaces or commas are enclosed in double quotes.
- Element values that are selected using radio buttons on the GUI page are shown as separate fields or columns in the CSV Format tables. A selected value appears in its field or column; an unselected value is shown as just two commas in the file (...,...) to maintain the positioning in the file.
- The CSV file can include optional comment lines for documenting within the file. Comment lines must begin with a pound sign (#) in the first column, and can be included on any line of the file.
- All text fields within the CSV file containing comma (,), double quotes ("), newline (\n), tab (\t), carriage return (\r) or their combinations are double quoted.

**Table 4-3 Application Types Supported by DSR Bulk Import and Export**

| Application Type | Description  |
|------------------|--|
| Diameter         | Common Diameter Plug-In (DPI); includes Diameter Common data |
| RBAR             | Range Based Address Resolution (RBAR)                        |
| FABR             | Full Address Based Resolution (FABR)                         |
| CPA              | Charging Proxy Application (CPA)                             |
| SBR              | Session Binding Repository (Charging SBR)                    |
| PCA              | Policy and Charging Application (PCA)                        |
| IPFE             | IP Front End (IPFE)  |
| GLA              | Gateway Location Application (GLA)                           |
| MAPIWF           | MAP-Diameter Interworking Function                           |
| RADIUS           | Remote Authentication Dial In User Service                   |

#### 4.2.4.1 Diameter and Diameter Common CSV File Formats and Contents

##### Diameter CSV File Formats

The following tables describe the CSV file content and attribute field or column positions for all Diameter configuration data supported by the Diameter Application Type.



##### Note:

**Diameter**, and then **AVP Dictionary** configuration data cannot be imported and exported with the Bulk Import/Export functions in Diameter Common.

"Local Node Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-4](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-4 Local Node CSV Format**

| Column | Data Description                               |
|--------|--|
| 0      | Application Type (Diameter)                    |
| 1      | LocalNode (Keyword)                            |
| 2      | Name (Key)                                     |
| 3      | Fqdn   |
| 4      | Realm  |
| 5      | Tcp Port                                       |
| 6      | Sctp Port                                      |
| 7      | Dtls Port                                      |
| 8      | TlsPort  |
| 9      | RADIUS UDP Server Ports [0]<br>(repeated x 10) |

**Table 4-4 (Cont.) Local Node CSV Format**

| Column | Data Description  |
|--------|---|
| 19     | Enable RADIUS UDP Client Ports (Yes/No)   |
| 20     | RADIUS Client UDP Port Range Start  |
| 21     | RADIUS Client UDP Port Range End  |
| 22     | Verification Mode ('SslVerifyNone', 'SslVerifyPeer', 'SslVerifyPeerFailIfNoPeerCert' and 'SslVerifyPeerVerifyClientOnce') |
| 23     | Certificate Type  |
| 24     | Certificate Name  |
| 25     | Connection Configuration Set Name   |
| 26     | Cex Configuration Set Name  |
| 27     | IP Address [0]<br>(repeated x 128)  |
| 153    | IP Address [127]  |
| 154    | IP Type [0] (LocalIp, PeerIp, IpfeTsa)<br>(repeated x 128)  |
| 282    | IP Type [127] (LocalIp, PeerIp, IpfeTsa)  |

"Peer Node Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-5](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-5 Peer Node CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type  |
| 1      | PeerNode (Keyword)  |
| 2      | Name (Key)  |
| 3      | AAA Protocol (RADIUS, Diameter)   |
| 4      | Fqdn  |
| 5      | Realm   |
| 6      | Tcp Port  |
| 7      | Sctp Port   |
| 8      | Dtls Port   |
| 9      | Tls Port  |
| 10     | RADIUS Server UDP Ports[0]<br>(repeated x 10)                                   |
| 19     | RADIUS Server UDP Ports[9]  |
| 20     | Replace Destination Host (No, Yes)  |
| 21     | Replace Destination Realm (No, Yes)   |
| 22     | Minimum Connection Capacity   |
| 23     | Alternate Route on Connection failure (SamePeer, DifferentPeer, SameConnection) |
| 24     | Alternate Route on Answer Timeout (SamePeer, DifferentPeer, SameConnection)     |

**Table 4-5 (Cont.) Peer Node CSV Format**

| Column | Data Description  |
|--------|---|
| 25     | Alternate Route on Answer Result Code (SamePeer, DifferentPeer, SameConnection) |
| 26     | Alternate Implicit Route  |
| 27     | Maximum Alternate Routing Attempts  |
| 28     | IP Address [0]<br>(repeated x 128)  |
| 155    | IP Address [127]  |
| 156    | Dynamic (No, Yes)   |
| 157    | Routing Option Set  |
| 158    | Pending Answer Timer  |
| 159    | Peer Route Table  |
| 160    | Message Priority Setting  |
| 161    | Message Priority Configuration Set  |
| 162    | Application Route Table   |
| 163    | Topology Hiding Status (Enabled, Disabled)                                      |
| 164    | Peer Node Group Name  |
| 165    | Transaction Configuration Set   |
| 166    | AVP Removal List  |

"Peer Node Group Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements list in [Table 4-6](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-6 Peer Node Group CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type        |
| 1      | PeerNodeGroup (Keyword) |
| 2      | Peer Node Group Name    |

"Route Groups Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-7](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-7 Route Group CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type        |
| 1      | RouteGrp (Keyword)      |
| 2      | Name (Key)              |
| 3      | Dynamic (No, Yes)       |
| 4      | Type (Peer, Connection) |
| 5      | Peer Node 1 Name        |

**Table 4-7 (Cont.) Route Group CSV Format**

| Column | Data Description                        |
|--------|---|
| 6      | Peer Node 1 Weight<br>(repeated x 160)  |
| 323    | Peer Node 160 Name                      |
| 324    | Peer Node 160 Weight                    |
| 325    | Connection 1 Name                       |
| 326    | Connection 1 Weight<br>(repeated x 512) |
| 1347   | Connection 512 Name                     |
| 1348   | Connection 512 Weight                   |

"Route List Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-8](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-8 Route List CSV Format**

| Column | Data Description                             |
|--------|--|
| 0      | Application Type                             |
| 1      | RouteList (Keyword)                          |
| 2      | Name (Key)                                   |
| 3      | Dynamic (No, Yes)                            |
| 4      | Minimum Route Group Availability Weight      |
| 5      | Route Across Route Groups (Enabled/Disabled) |
| 6      | Route Group 1 Name                           |
| 7      | Route Group 1 Priority<br>(repeated x 3)     |
| 10     | Route Group 3 Name                           |
| 11     | Route Group 3 Priority                       |
| 12     | Site Name[0]                                 |
| 13     | Traffic Throttle Group[0]                    |
| 14     | Maximum Loss Percent Threshold[0]            |
| 15     | Route Group Name[0]<br>(repeated x 10)       |
| 48     | Site Name[10]                                |
| 49     | Traffic Throttle Group[10]                   |
| 50     | Maximum Loss Percent Threshold[10]           |
| 51     | Route Group Name[10]<br>(12-51 repeated x 3) |
| 92     | Site Name[0]                                 |
| 93     | Traffic Throttle Group[0]                    |
| 94     | Maximum Loss Percent Threshold[0]            |
| 95     | Route Group Name[0]<br>(repeated x 10)       |
| 128    | Site Name[0]                                 |

**Table 4-8 (Cont.) Route List CSV Format**

| Column | Data Description                  |
|--------|-----------------------------------|
| 129    | Traffic Throttle Group[0]         |
| 130    | Maximum Loss Percent Threshold[0] |
| 131    | Route Group Name[0]               |

"Peer Routing Rules Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-9](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-9 Peer Routing Rule CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Diameter)   |
| 1      | PeerRouteRule (Keyword)   |
| 2      | Name (Key)  |
| 3      | Priority  |
| 4      | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode, AppID)                              |
| 5      | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 6      | Value   |
| 7      | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode, AppID)                              |
| 8      | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 9      | Value   |
| 10     | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode, AppID)                              |
| 11     | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 12     | Value   |
| 13     | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode, AppID)                              |
| 14     | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 15     | Value   |
| 16     | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode, AppID)                              |
| 17     | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 18     | value   |

**Table 4-9 (Cont.) Peer Routing Rule CSV Format**

| Column | Data Description  |
|--------|---|
| 19     | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode, AppID)                              |
| 20     | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 21     | Value   |
| 22     | Action (RouteToPeer, Forward To Peer Route Table, SendAnswer, Abandon With No Answer)         |
| 23     | Target Peer Route Table Name  |
| 24     | Route List Name   |
| 25     | Diameter Answer Code  |
| 26     | Answer Error Message  |
| 27     | Message Priority (NC, PR0, PR1, PR2)  |
| 28     | Message Copy Configuration Set  |
| 29     | Vendor Id   |
| 30     | Peer Route Table  |

"Connections Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-10](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-10 Connection CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type  |
| 1      | Conn (Keyword)  |
| 2      | Connection Name (Key)   |
| 3      | AAA Protocol (RADIUS, Diameter)   |
| 4      | Type (FullySpecified, LocalMpInitiator, LocalMpResponder, RadiusServer, RadiusClient) |
| 5      | Local Node Name   |
| 6      | Dynamic (No, Yes)   |
| 7      | Peer Node Name  |
| 8      | IPFE Initiator DAMP IP Address  |
| 9      | Protocol Type (Tcp, Sctp, Dtls, Tls, Udp)   |
| 10     | Connection Configuration Set Name   |
| 11     | Cex Configuration Set Name  |
| 12     | Cap Configuration Set Name  |
| 13     | Primary Local IP Address  |
| 14     | Secondary Local IP Address  |
| 15     | Primary Peer IP Address   |
| 16     | Secondary Peer IP Address   |
| 17     | Transport Fqdn  |
| 18     | Peer Identification (Ip, TransportFqdn, PeerFqdn)                                     |



**Table 4-10 (Cont.) Connection CSV Format**

| Column | Data Description  |
|--------|---|
| 19     | Local Initiate Port   |
| 20     | UDP Port  |
| 21     | Transport Congestion Abatement Timeout                          |
| 22     | Remote Busy Usage (Enabled, Disabled)                           |
| 23     | Remote Busy Timeout   |
| 24     | Message Priority Setting (None, RequestMessage, UserConfigured) |
| 25     | Message Priority Configuration Set                              |
| 26     | Egress Message Throttling Configuration Set                     |
| 27     | Shared Secret Configuration Set                                 |
| 28     | Message Authenticator Configuration Set                         |
| 29     | Message Conversion Configuration Set                            |
| 30     | Ingress Status-Server Configuration Set                         |
| 31     | Suppress Connection Unavailable Alarm (Yes, No)                 |
| 32     | Suppress Connections Attempts (Yes, No)                         |
| 33     | Test Mode (Yes, No)   |

"Connection Configuration Set Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-11](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-11 Connection Configuration Set CSV Format**

| Column | Data Description                      |
|--------|---------------------------------------|
| 0      | Application Type                      |
| 1      | ConnCfgSet (Keyword)                  |
| 2      | ConnCfgSet Name (Key)                 |
| 3      | retransInitialTimeout                 |
| 4      | retransMinTimeout                     |
| 5      | retransMaxTimeout                     |
| 6      | retransMaxTimeoutInit                 |
| 7      | retransPathFailure                    |
| 8      | retransAssocFailure                   |
| 9      | retransInitFailure                    |
| 10     | sackDelay                             |
| 11     | heartbeatInterval                     |
| 12     | sctpSockSendSize                      |
| 13     | sctpSockRecvSize                      |
| 14     | burstMax                              |
| 15     | sctpNumInboundStreams                 |
| 16     | sctpNumOutboundStreams                |
| 17     | sctpDatagramBundlingEnabled (Yes, No) |
| 18     | sctpMaxSegmentSize                    |

**Table 4-11 (Cont.) Connection Configuration Set CSV Format**

| Column | Data Description                       |
|--------|--|
| 19     | sctpFragmentationEnabled (Yes, No)     |
| 20     | sctpDataChunkDeliveryOrdered (Yes, No) |
| 21     | tcTimer                                |
| 22     | twinitTimer                            |
| 23     | tcexTimer                              |
| 24     | tdpxTimer                              |
| 25     | provingMode (Always, Suspect, Never)   |
| 26     | provingTimeout                         |
| 27     | provingDwrsToSend                      |
| 28     | pendTransPerConn                       |
| 29     | cexHostIpValidationEnabled(Yes, No)    |
| 30     | nagleEnabled (Yes, No)                 |
| 31     | tcpSockSendSize                        |
| 32     | tcpSockRecvSize                        |
| 33     | tcpMaxSegmentSize                      |
| 34     | tcpKeepAliveEnabled (Yes, No)          |
| 35     | tcpKeepAliveIdleTime                   |
| 36     | tcpKeepAliveProbeInterval              |
| 37     | tcpKeepAliveMaxCount                   |
| 38     | radiusPendTransPerConn                 |
| 39     | preventDupEgressRetrans                |
| 40     | preventDupIngressRetrans               |
| 41     | cachedResponseDur                      |

"Reroute On Answer Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-12](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-12 Reroute on Answer CSV Format**

| Column | Data Description             |
|--------|------------------------------|
| 0      | Application Type (Diameter)  |
| 1      | RerouteOnAns (Keyword)       |
| 2      | Answer Result-Code AVP Value |
| 3      | Application ID               |

"System Options Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-13](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-13 System Options CSV Format**

| Column | Data Description |
|--------|------------------|
| 0      | Application Type |

Table 4-13 (Cont.) System Options CSV Format

| Column | Data Description  |
|--------|---|
| 1      | Options (Keyword)   |
| 2      | Fixed Connection Failure Major Aggregation Alarm Threshold    |
| 3      | Fixed Connection Failure Critical Aggregation Alarm Threshold |
| 4      | IPFE Connection Failure Major Aggregation Alarm Threshold     |
| 5      | IPFE Connection Failure Critical Aggregation Alarm Threshold  |
| 6      | Peer Node Failure Critical Aggregation Alarm Threshold        |
| 7      | Route List Failure Critical Aggregation Alarm Threshold       |
| 8      | Excessive Reroute Onset Threshold                             |
| 9      | Excessive Reroute Abatement Threshold                         |
| 10     | Message Copy Feature Enabled (Enabled, Disabled)              |
| 11     | Message Copy Disable Congestion Level (CL1, CL2)              |
| 12     | Redirect Answer Processing Enabled (Yes, No)                  |
| 13     | Redirect Application Route Table                              |
| 14     | Redirect Peer Route Table                                     |
| 15     | Client Socket Send Buffer Size                                |
| 16     | Client Socket Receive Buffer Size                             |
| 17     | Server Socket Send Buffer Size                                |
| 18     | Server Socket Receive Buffer Size                             |
| 19     | Encode FQDN In Lower Case (Yes, No)                           |
| 20     | Realm Expiration Minor Alarm Set Time                         |
| 21     | Realm Expiration Major Alarm Set Time                         |
| 22     | NGN-PS Admin State (Enabled, Disabled)                        |
| 23     | Minimum Answer Priority                                       |
| 24     | Minimum Inviolable Priority                                   |
| 25     | NGN-PS Maximum Message Rate Percent                           |
| 26     | NGN-PS Gx Admin State (Enabled, Disabled)                     |
| 27     | NGN-PS Gx ARP1  |
| 28     | NGN-PS Gx ARP2  |
| 29     | NGN-PS Gx ARP3  |
| 30     | NGN-PS Gx ARP4  |
| 31     | NGN-PS Gx ARP5  |
| 32     | NGN-PS Gx Advance Priority Type (None, Spr, Hss)              |
| 33     | NGN-PS Rx Admin State (Enabled, Disabled)                     |
| 34     | NGN-PS Rx MPS AVP Value                                       |
| 35     | NGN-PS Cx/Dx Admin State (Enabled, Disabled)                  |
| 36     | NGN-PS Dh/Sh Admin State (Enabled, Disabled)                  |

"DNS Options Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-14](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-14 DNS Options CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | DnsOption (Keyword)         |
| 2      | Primary IP                  |
| 3      | Secondary IP                |
| 4      | Query Duration Timer        |

"CEX Configuration Sets Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-15](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-15 CEX Configuration Set CSV Format**

| Column | Data Description                          |
|--------|---|
| 0      | Application Type (Diameter)               |
| 1      | CexCfgSet (Keyword)                       |
| 2      | Name (Key)                                |
| 3      | Dynamic (Yes, No)                         |
| 4      | Selected Application ID [1]               |
| 5      | Selected Type [1]                         |
| 6      | Selected Vendor ID [1]<br>(repeated x 10) |
| 31     | Selected Application ID [10]              |
| 32     | Selected Type [10]                        |
| 33     | Selected Vendor ID [10]                   |
| 34     | Must Application ID [1]                   |
| 35     | Must Type [1]                             |
| 36     | Must Vendor ID [1]<br>(repeated x 10)     |
| 61     | Must Application ID [10]                  |
| 62     | Must Type [10]                            |
| 63     | Must Vendor ID [10]                       |
| 64     | Vendor ID [1]<br>(repeated x 10)          |
| 73     | Vendor ID [10]                            |
| 74     | DSR Feature Status AVP (Yes, No)          |

"Capacity Configuration Sets Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-16](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-16 Capacity Configuration Set CSV Format**

| Column | Data Description                      |
|--------|---------------------------------------|
| 0      | Application Type (Diameter)           |
| 1      | CapCfgSet (Keyword)                   |
| 2      | Capacity Configuration Set Name (Key) |
| 3      | Reserved Ingress MPS                  |
| 4      | Maximum Ingress MPS                   |
| 5      | Ingress MPS Minor Alarm Threshold     |
| 6      | Ingress MPS Major Alarm Threshold     |
| 7      | Ingress MPS Abatement Time            |
| 8      | Convergence Time                      |

"Application Routing Rules Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-17](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-17 AppRouteRule CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type  |
| 1      | AppRouteRule (Keyword)  |
| 2      | Name (Key)  |
| 3      | Priority  |
| 4      | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode AppID)                               |
| 5      | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 6      | Value   |
| 7      | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode AppID)                               |
| 8      | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 9      | Value   |
| 10     | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode AppID)                               |
| 11     | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 12     | Value   |
| 13     | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode AppID)                               |
| 14     | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True) |
| 15     | Value   |

**Table 4-17 (Cont.) AppRouteRule CSV Format**

| Column | Data Description   |
|--------|--|
| 16     | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode AppID)  |
| 17     | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True)  |
| 18     | Value  |
| 19     | param (DestHost, DestRealm, OrigHost, OrigRealm, CmdCode AppID)  |
| 20     | condOperator (Present, Absent, Equal, Not Equal, StartsWith, EndsWith, DontCare, Always True)  |
| 21     | Value  |
| 22     | Application Name   |
| 23     | Action (Route to Application, Forward To Egress Routing, Send Answer, Abandon With No Answer, Forward To Application Route Table, Forward To Peer Route Table) |
| 24     | Target Route Table Name (Application Route Table Name/Peer Route Table Name)   |
| 25     | Answer Result-Code Value   |
| 26     | Vendor Id  |
| 27     | Answer Error Message   |
| 28     | Gx-Prime (No, Yes)   |
| 29     | Application Route Table  |

"Application Ids Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-18](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-18 Application ID CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | Appids (Keyword)            |
| 2      | Application ID              |
| 3      | Name                        |

"CEX Parameters elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-19](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-19 CEX Parameters CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | CexParameters (Keyword)     |

**Table 4-19 (Cont.) CEX Parameters CSV Format**

| Column | Data Description                                 |
|--------|--|
| 2      | Application ID                                   |
| 3      | Application ID Type (Authentication, Accounting) |
| 4      | Vendor ID  |

"Pending Answer Timers Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-20](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-20 Pending Answer Timer CSV Format**

| Column | Data Description             |
|--------|------------------------------|
| 0      | Application Type (Diameter)  |
| 1      | PendingAnswerTimer (Keyword) |
| 2      | Name (Key)                   |
| 3      | Timer                        |

"Routing Option Set Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-21](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-21 Routing Option Set CSV Format**

| Column | Data Description                       |
|--------|--|
| 0      | Application Type                       |
| 1      | RoutingOptionSet (Keyword)             |
| 2      | Name (Key)                             |
| 3      | Maximum Per Message Forwarding Allowed |
| 4      | Transaction Lifetime                   |
| 5      | Pending Answer Timer                   |
| 6      | Resource Exhausted Action              |
| 7      | Resource Exhaustion Result Code        |
| 8      | Resource Exhausted Error Message       |
| 9      | Resource Exhausted Vendor Id           |
| 10     | No Peer Response Action                |
| 11     | No Peer Response Result Code           |
| 12     | No Peer Response Error Message         |
| 13     | No Peer Response Vendor Id             |
| 14     | Connection Failure Action              |
| 15     | Connection Failure Result Code         |
| 16     | Connection Failure Error Message       |
| 17     | Connection Failure Vendor Id           |
| 18     | Connection Congestion Action           |

**Table 4-21 (Cont.) Routing Option Set CSV Format**

| Column | Data Description                            |
|--------|---|
| 19     | Connection Congestion Result Code           |
| 20     | Connection Congestion Error Message         |
| 21     | Connection Congestion Vendor Id             |
| 22     | Peer Node Reported Congestion Action        |
| 23     | Peer Node Reported Congestion Result Code   |
| 24     | Peer Node Reported Congestion Error Message |
| 25     | Peer Node Reported Congestion Vendor Id     |
| 26     | Destination Realm Not Served Action         |
| 27     | Destination Realm Not Served Result Code    |
| 28     | Destination Realm Not Served Error Message  |
| 29     | Destination Realm Not Served Vendor Id      |
| 30     | Nested ART/PRT Error Action                 |
| 31     | Nested ART/PRT Error Result Code            |
| 32     | Nested ART/PRT Error Message                |
| 33     | Nested ART/PRT Error Vendor Id              |

"Peer Route Tables Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-22](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-22 Peer Route Table CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | PeerRouteTable (Keyword)    |
| 2      | Name (Key)                  |

"Message Priority Configuration Set Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-23](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-23 Message Priority Configuration Set CSV Format**

| Column | Data Description                  |
|--------|-----------------------------------|
| 0      | Application Type (Diameter)       |
| 1      | MsgPriorityCfgSet (Keyword)       |
| 2      | Name                              |
| 3      | applId[1]                         |
| 4      | cmdCode[1]                        |
| 5      | msgPriority[1]<br>(repeated x 50) |
| 151    | applId[50]                        |



**Table 4-23 (Cont.) Message Priority Configuration Set CSV Format**

| Column | Data Description |
|--------|------------------|
| 152    | cmdCode[50]      |
| 153    | msgPriority[50]  |

"Message Throttling Configuration Set Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-24](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-24 Message Throttling Configuration Set CSV Format**

| Column | Data Description              |
|--------|-------------------------------|
| 0      | Application Type (Diameter)   |
| 1      | MsgThrottlingCfgSet (Keyword) |
| 2      | Name (Key)                    |
| 3      | maxEMR                        |
| 4      | smoothFactor                  |
| 5      | abateTime                     |
| 6      | TT1                           |
| 7      | AT1                           |
| 8      | TT2                           |
| 9      | AT2                           |
| 10     | TT3                           |
| 11     | AT3                           |

"Message Copy Configuration Set Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-25](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-25 MessagecopyCfgSet CSV Format**

| Column | Data Description                             |
|--------|--|
| 0      | Application Type                             |
| 1      | MessagecopyCfgSet (Keyword)                  |
| 2      | Message Copy Configuration Set Name          |
| 3      | Message Copy Request Type                    |
| 4      | Original Answer Result Code for Message Copy |
| 5      | Route List of the DAS node                   |
| 6      | Ingress Answer Included (No, Yes)            |
| 7      | DAS Answer Result Code                       |
| 8      | Max DAS Retransmission Attempts              |

"Application Route Tables elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-26](#) and configuration considerations

for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-26 Application Route Table CSV Format**

| Column | Data Description                |
|--------|---------------------------------|
| 0      | Application Type (Diameter)     |
| 1      | ApplicationRouteTable (Keyword) |
| 2      | Name (Key)                      |

"Command Codes elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-27](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-27 Command Code CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | CmdCodes (Keyword)          |
| 2      | cmdCode                     |
| 3      | name                        |

Troubleshooting with IDIH "Traces elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-28](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-28 Trace CSV Format**

| Column | Data Description                     |
|--------|--------------------------------------|
| 0      | Application Type                     |
| 1      | Trace (Keyword)                      |
| 2      | Trace Name (Key)                     |
| 3      | Trace Location                       |
| 4      | Scope Type                           |
| 5      | Scope Value                          |
| 6      | Number of Matches                    |
| 7      | Time of Duration                     |
| 8      | Content Type                         |
| 9      | Condition 1 Name                     |
| 10     | Condition 1 AVP                      |
| 11     | Condition 1 Operator                 |
| 12     | Condition 1 Value<br>(repeated x 13) |
| 57     | Condition 13 Name                    |
| 58     | Condition 13 AVP                     |
| 59     | Condition 13 Operator                |
| 60     | Condition 13 Value                   |
| 61     | Notes                                |

Troubleshooting with IDIH "Options elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-29](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-29 Trace Options CSV Format**

| Column | Data Description              |
|--------|-------------------------------|
| 0      | Application Type (Diameter)   |
| 1      | TraceOptions (Keyword)        |
| 2      | Max Bandwidth                 |
| 3      | IDIH IP Address               |
| 4      | IDIH Visualization IP address |

Troubleshooting with IDIH "Global Options elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-30](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-30 Trace Global Options CSV Format**

| Column | Data Description             |
|--------|------------------------------|
| 0      | Application Type (Diameter)  |
| 1      | TraceGlobalOptions (Keyword) |
| 2      | Max Active Network Traces    |

"Trusted Network Lists elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-31](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-31 Trusted Network List CSV Format**

| Column | Data Description                     |
|--------|--------------------------------------|
| 0      | Application Type (Diameter)          |
| 1      | TrustedNetworkList (Keyword)         |
| 2      | Name (Key)                           |
| 3      | trustedRealm [1]<br>(repeated x 100) |

"Path Topology Hiding Configuration Sets Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-32](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-32 Path Topology Hiding Configuration Set CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |

**Table 4-32 (Cont.) Path Topology Hiding Configuration Set CSV Format**

| Column | Data Description                   |
|--------|------------------------------------|
| 1      | PathTopologyHidingCfgSet (Keyword) |
| 2      | Name (Key)                         |
| 3      | hostnameSuffix<br>(repeated x 10)  |
| 13     | pseudoRouteRecord                  |
| 14     | pseudoProxy                        |
| 15     | encryptionKey                      |

"S6a/S6d Topology Hiding Configuration Sets Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-33](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-33 S6a/S6d HSS Topology Hiding Configuration Set CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type  |
| 1      | HssTopologyHidingCfgSet (Keyword)   |
| 2      | Name (Key)  |
| 3      | useSingleHssPseudoHostname  |
| 4      | singleHssPseudoHostname   |
| 5      | count   |
| 6      | randomizeCount  |
| 7      | autoGenerate  |
| 8      | prefix  |
| 9      | suffix  |
| 10     | length  |
| 11     | action (SendAnswer, Forward, Abandon)   |
| 12     | resultCode  |
| 13     | vendorId  |
| 14     | errMsg  |
| 15     | actualHostname  |
| 16     | pseudoHostname1   |
| 17     | pseudoHostname2   |
| 18     | pseudoHostname3<br>(combination of actual and pseudo hostnames<br>repeated x 500) |

"MME/SGSN Topology Hiding Configuration Sets Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-34](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-34 MME/SGSN Topology Hiding Configuration Set CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Diameter)   |
| 1      | MmeTopologyHidingCfgSet (Keyword)   |
| 2      | Name (Key)  |
| 3      | count   |
| 4      | randomizeCount  |
| 5      | autoGenerate  |
| 6      | prefix  |
| 7      | suffix  |
| 8      | length  |
| 9      | Action (SendAnswer, Forward, Abandon)   |
| 10     | resultCode  |
| 11     | vendorId  |
| 12     | errMsg  |
| 13     | actualHostname[1]   |
| 14     | pseudoHostname1   |
| 15     | pseudoHostname2   |
| 16     | pseudoHostname3<br>(combination of actual and pseudo hostnames<br>repeated x 300) |

"S9 PCRF Topology Hiding Configuration Sets Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-35](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-35 S9 PCRF Topology Hiding Configuration Set CSV Format**

| Column | Data Description                      |
|--------|---------------------------------------|
| 0      | Application Type (Diameter)           |
| 1      | S9PcrfTopologyHidingCfgSet (Keyword)  |
| 2      | Name (Key)                            |
| 3      | count                                 |
| 4      | randomizeCount                        |
| 5      | autoGenerate                          |
| 6      | prefix                                |
| fe7    | suffix                                |
| 8      | length                                |
| 9      | action (SendAnswer, Forward, Abandon) |
| 10     | resultCode                            |
| 11     | vendorId                              |
| 12     | errMsg                                |
| 13     | actualHostname                        |
| 14     | pseudoHostname1                       |
| 15     | pseudoHostname2                       |

**Table 4-35 (Cont.) S9 PCRF Topology Hiding Configuration Set CSV Format**

| Column | Data Description   |
|--------|--|
| 16     | pseudoHostname3<br>(combination of actual and pseudo hostnames repeated x 600) |

"S9 AF/pCSCF Topology Hiding Configuration Sets Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-36](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-36 S9 AF/pCSCF Topology Hiding Configuration Set CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Diameter)  |
| 1      | S9AfPcscfTopologyHidingCfgSet (Keyword)  |
| 2      | Name (Key)   |
| 3      | count  |
| 4      | randomizeCount   |
| 5      | autoGenerate   |
| 6      | prefix   |
| 7      | suffix   |
| 8      | length   |
| 9      | Action (SendAnswer, Forward, Abandon)  |
| 10     | resultCode   |
| 11     | vendorId   |
| 12     | errMsg   |
| 13     | actualHostname[1]  |
| 14     | pseudoHostname1  |
| 15     | pseudoHostname2  |
| 16     | pseudoHostname3<br>(combination of actual and pseudo hostnames repeated x 500) |

"Protected Network Configuration Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-37](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-37 Protected Network CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | ProtectedNetwork (Keyword)  |
| 2      | protectedRealm (Key)        |
| 3      | trustedNetList              |
| 4      | pathTopologyHidingCfgSet    |
| 5      | mmeTopologyHidingCfgSet     |

**Table 4-37 (Cont.) Protected Network CSV Format**

| Column | Data Description              |
|--------|-------------------------------|
| 6      | hssTopologyHidingCfgSet       |
| 7      | S9PcrfTopologyHidingCfgSet    |
| 8      | S9AfPcscfTopologyHidingCfgSet |

**Diameter Common CSV File Formats**

The following tables describe the CSV file content and attribute field or column positions for all Diameter Common configuration data supported by the **Diameter** Application Type.

"MCCMNC Elements" describes the configuration data elements listed in [Table 4-38](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-38 MCCMNC CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | MccMnc (Keyword)            |
| 2      | Mobile Country Code (MCC)   |
| 3      | Mobile Network Code (MNC)   |
| 4      | Country Name                |
| 5      | Network Name                |

"MCCMNC Mapping Elements" describes the configuration data elements listed in [Table 4-39](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-39 MCCMNC Mapping CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | MccMncMapping (Keyword)     |
| 2      | Mobile Country Code (MCC)   |
| 3      | Mobile Network Code (MNC)   |
| 4      | Prefix                      |
| 5      | Country Name                |
| 6      | Network Name                |
| 7      | CCNDC                       |
| 8      | Realm                       |
| 9      | Description                 |

"MCC Ranges Elements" describes the configuration data elements listed in [Table 4-40](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-40 Reserved MCC Ranges CSV Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | ReservedMccRanges (Keyword) |
| 2      | startMccRange               |
| 3      | endMccRange                 |

"Transaction Configuration Set Elements" describes the configuration data elements list in [Table 4-41](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-41 Transaction Configuration Group CSV Format**

| Column | Data Description                     |
|--------|--------------------------------------|
| 0      | Application Type                     |
| 1      | TransactionConfigurationSet(Keyword) |
| 2      | Name(Key)                            |

"Transaction Configuration Rule Elements" describes the configuration data elements listed in [Table 4-42](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-42 Transaction Configuration Rule CSV Format**

| Column | Data Description                      |
|--------|---------------------------------------|
| 0      | Application Type                      |
| 1      | TransactionConfigurationRule(Keyword) |
| 2      | Name(Key)                             |
| 3      | appld                                 |
| 4      | cmdCode                               |
| 5      | routingOptionSet                      |
| 6      | pendingAnswerTimer                    |
| 7      | applicationRouteTable                 |
| 8      | peerRouteTable                        |
| 9      | transactionCfgSet                     |

"MP Profiles Elements" describes the editable configuration data elements listed in [Table 4-43](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-43 MP Profile Parameters CSV Record Format**

| Column | Data Description            |
|--------|-----------------------------|
| 0      | Application Type (Diameter) |
| 1      | MpProfileRwParm (Keyword)   |
| 2      | profileName (key)           |



**Table 4-43 (Cont.) MP Profile Parameters CSV Record Format**

| Column | Data Description |
|--------|------------------|
| 3      | key (key)        |
| 4      | value            |

"MP Profile Assignments Elements" describes the configuration data elements listed in [Table 4-44](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-44 MP Profile Assignments CSV Record Format**

| Column | Data Description              |
|--------|-------------------------------|
| 0      | Application Type (Diameter)   |
| 1      | MpProfileAssignment (Keyword) |
| 2      | nodeName (key)                |
| 3      | profileName                   |

"Rate Limiting Configuration Elements" describes the configuration data elements listed in [Table 4-45](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-45 Rate Limiting Configuration CSV Record Format**

| Column | Data Description     |
|--------|----------------------|
| 0      | Application Type     |
| 1      | RateCfgSet (Keyword) |
| 2      | Name (Key)           |
| 3      | Maximum Egress Rate  |
| 4      | RateConvergenceTime  |
| 5      | RateAbatementTime    |
| 6      | RateOnsetThres1      |
| 7      | RateAbateThres1      |
| 8      | RateOnsetThres2      |
| 9      | RateAbateThres2      |
| 10     | RateOnsetThres3      |
| 11     | RateAbateThres3      |

"Pending Transaction Limiting Configuration Elements" describes the configuration data elements listed in [Table 4-46](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-46 Pending Transaction Limiting Configuration CSV Record Format**

| Column | Data Description          |
|--------|---------------------------|
| 0      | Application Type          |
| 1      | PendTransCfgSet (Keyword) |

**Table 4-46 (Cont.) Pending Transaction Limiting Configuration CSV Record Format**

| Column | Data Description                       |
|--------|--|
| 2      | Name (Key)                             |
| 3      | Maximum Number of Pending Transactions |
| 4      | PendTransOnsetThres1                   |
| 5      | PendTransAbateThres1                   |
| 6      | PendTransOnsetThres2                   |
| 7      | PendTransAbateThres2                   |
| 8      | PendTransOnsetThres3                   |
| 9      | PendTransAbateThres3                   |
| 10     | PendTransAbateTime3                    |

"Egress Throttle List Elements" describes the configuration data elements listed in [Table 4-47](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-47 Egress Throttle List CSV Record Format**

| Column | Data Description       |
|--------|------------------------|
| 0      | Application Type       |
| 1      | Etl (Keyword)          |
| 2      | Name (Key)             |
| 3      | siteName_1             |
| 4      | etgName_1              |
| 5      | connFailPctReduction_1 |
| 6      | siteName_2             |
| 7      | etgName_2              |
| 8      | connFailPctReduction_2 |
| 9      | siteName_3             |
| 10     | etgName_3              |
| 11     | connFailPctReduction_3 |
| 12     | RateCfgSet             |
| 13     | PendTransCfgSet        |

"Egress Throttle Group Elements" in the *Diameter User Guide* and Help describes the configuration data elements listed in [Table 4-48](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-48 Egress Throttle Group CSV Format**

| Column | Data Description |
|--------|------------------|
| 0      | Application Type |
| 1      | Etg (Keyword)    |
| 2      | Name (Key)       |
| 3      | EtgControlScope  |

**Table 4-48 (Cont.) Egress Throttle Group CSV Format**

| Column | Data Description |
|--------|------------------|
| 4      | RateCfgSet       |
| 5      | PendTransCfgSet  |
| 6      | Peers            |
|        | (repeated x 128) |
| 133    | Conns            |
|        | (repeated x 128) |

"Dashboard Network Elements" describes the configuration data elements listed in [Table 4-49](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-49 Dashboard Network CSV Format**

| Column | Data Description                           |
|--------|--|
| 0      | Application Type                           |
| 1      | DshNetwork (Keyword)                       |
| 2      | Network Name (always "Network" in DSR 7.1) |
| 3      | SOAM Server Group #1 Name                  |
| 4      | SOAM Server Group #1 Display Order         |
| 5-66   | (31 additional SOAM SG pairs of rows)      |
| 67     | Summary Threshold Configuration Set Name   |

"Dashboard Network Element Elements" describes the configuration data elements listed in [Table 4-50](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-50 Dashboard Network Element CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type  |
| 1      | DshNe (Keyword)   |
| 2      | Network Element Name  |
| 3      | Server Threshold Configuration Set Name<br>(empty or "ServerThresholds" in DSR 7.1) |
| 4      | Summary Threshold Configuration Set Name  |
| 5      | Display Administratively Disabled Servers<br>("Yes"/"No")                           |

"Dashboard Metric Group Elements" describes the configuration data elements listed in [Table 4-51](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-51 Dashboard Metric Group CSV Format**

| Column | Data Description                            |
|--------|---|
| 0      | Application Type                            |
| 1      | DshMetricGroup (Keyword)                    |
| 2      | Metric Group Name                           |
| 3      | Metric #1 Name                              |
| 4      | Metric #1 Display on Dashboard ("Yes"/"No") |
| 5-30   | (13 additional SOAM SG pairs of rows)       |

"Dashboard Metric Threshold Configuration Set Elements" describes the configuration data elements listed in [Table 4-52](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-52 Dashboard Metric Threshold Configuration Set CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type   |
| 1      | DshMetricThresholdCfgSet (Keyword)                                 |
| 2      | MTCfgSet Name  |
| 3      | MTCfgSet Type ("Server"/"Summary")                                 |
| 4      | Metric #1 Name   |
| 5      | Metric #1 Threshold 1  |
| 6      | Metric #1 Threshold 2  |
| 7      | Metric #1 Threshold 3  |
| 8      | Metric #2 Name   |
| 9      | Metric #2 Threshold 1  |
| 10     | Metric #2 Threshold 2  |
| 11     | Metric #2 Threshold 3  |
| 12-239 | (57 additional groups of 4 rows per engineering-configured Metric) |

"AVP Removal List Elements" describes the configuration data elements listed in [Table 4-53](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-53 AvpRemovalList CSV Format**

| Column | Data Description         |
|--------|--------------------------|
| 0      | Application Type         |
| 1      | AvpRemovalList (Keyword) |
| 2      | Name (Key)               |
| 3      | Direction                |
| 4      | Message Type             |
| 5      | AVP Code_1               |
| 6      | AVP Name_1               |
| 7      | Vendor Id_1              |

**Table 4-53 (Cont.) AvpRemovalList CSV Format**

| Column | Data Description                 |
|--------|----------------------------------|
| 8      | Vendor Name_1<br>(repeated x 10) |
| 41     | AVP Code_10                      |
| 42     | AVP Name_10                      |
| 43     | Vendor Id_10                     |
| 44     | Vendor Name_10                   |

"Discovery Attributes Elements" describes the configuration data elements listed in [Table 4-54](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-54 DpdAttribute CSV Format**

| Column | Data Description                             |
|--------|--|
| 0      | Application Type                             |
| 1      | DpdAttributeSet (Keyword)                    |
| 2      | Realm Name                                   |
| 3      | DNS Set                                      |
| 4      | Local Node                                   |
| 5      | Connection Mode                              |
| 6      | Local Protocol Preference Override (No, Yes) |
| 7      | Application Id[1]                            |
| 8      | Application Type[1]                          |
| 9      | Vendor Id[1]                                 |
| 10     | TCP Preference[1]                            |
| 11     | SCTP Preference[1]                           |
| 12     | TLS Preference[1]                            |
| 13     | DTLS Preference[1]                           |
| 14     | Max Num Peers[1]                             |
| 15     | Max Num Connections[1]<br>(repeated x 10)    |
| 88     | Application Id[10]                           |
| 89     | Application Type[10]                         |
| 90     | Vendor Id[10]                                |
| 91     | TCP Preference[10]                           |
| 92     | SCTP Preference[10]                          |
| 93     | TLS Preference[10]                           |
| 94     | DTLS Preference[10]                          |
| 95     | Max Num Peers[10]                            |
| 96     | Max Num Connections[10]                      |
| 97     | Local IP Address                             |
| 98     | IPFE Initiator DAMP                          |
| 99     | Connection Configuration Set                 |
| 100    | Capacity Configuration Set                   |

**Table 4-54 (Cont.) DpdAttribute CSV Format**

| Column | Data Description |
|--------|------------------|
| 101    | Realm Prefix     |

"DNS Set Elements" describes the configuration data elements listed in [Table 4-55](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-55 DpdDnsSet CSV Format**

| Column | Data Description                |
|--------|---------------------------------|
| 0      | Application Type                |
| 1      | DpdDnsSet (Keyword)             |
| 2      | DNS Set Name (Key)              |
| 3      | Primary DNS Server IP Address   |
| 4      | Secondary DNS Server IP Address |
| 5      | DNS Query Timeout               |
| 6      | Number Of Retries               |

"Dynamic Peer Discovery Realms Elements" describes the configuration data elements listed in [Table 4-56](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-56 DpdRealm CSV Format**

| Column | Data Description   |
|--------|--------------------|
| 0      | Application Type   |
| 1      | DpdRealm (Keyword) |
| 2      | Realm Name         |

"Traffic Throttle Group Elements" describes the configuration data elements listed in [Table 4-57](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-57 TrafficThrottleGroup CSV Format**

| Column | Data Description                              |
|--------|---|
| 0      | Application Type                              |
| 1      | TrafficThrottleGroup (Keyword)                |
| 2      | Name (Key)                                    |
| 3      | Traffic Throttle Point [1]<br>(repeated x 20) |
| 22     | Traffic Throttle Point [20]                   |
| 23     | Application ID                                |
| 24     | Shared (No, Yes)                              |

"Traffic Throttle Point Elements" describes the configuration data elements listed in [Table 4-58](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-58 TrafficThrottlePoint CSV Format**

| Column | Data Description               |
|--------|--------------------------------|
| 0      | Application Type               |
| 1      | TrafficThrottlePoint (Keyword) |
| 2      | Name (Key)                     |
| 3      | TTP Configuration Set          |
| 4      | Max Loss Percent Threshold     |
| 5      | Alternate Implicit Route       |
| 6      | Peer Node                      |
| 7      | Application Id                 |
| 8      | Max ETR                        |

"Traffic Throttle Point Configuration Elements" describes the configuration data elements listed in [Table 4-59](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-59 TrafficThrPointCfgSet CSV Format**

| Column | Data Description                    |
|--------|-------------------------------------|
| 0      | Application Type                    |
| 1      | TrafficThrPointCfgSet (Keyword)     |
| 2      | Name (Key)                          |
| 3      | Diversion Policy                    |
| 4      | Abatement Recovery Rate             |
| 5      | Override Message Priority Threshold |
| 6      | Default Reduction Percentage        |
| 7      | Default Validity Duration           |
| 8      | Rate Convergence Time               |

Diameter Signaling Firewall Elements describes the configuration data elements listed in [Table 4-60](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-60 Signaling Firewall CSV Format**

| Column | Data Description                        |
|--------|---|
| 0      | Application Type                        |
| 1      | Signaling Firewall (Keyword)            |
| 2      | Signaling Node Name                     |
| 3      | Signaling Firewall Administrative State |

## 4.2.4.2 Range Based Address Resolution (RBAR) CSV File Formats and Contents

The following tables describe the CSV file content and attribute column positions for all configuration data supported by the RBAR Application Type.



### Note:

Address Individual and Address Range elements are in different CSV files for performance reasons.

"Applications configuration elements" in the RBAR Help describes the configuration data elements listed in [Table 4-61](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-61 Supported Application CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type (Rbar) |
| 1      | SuppAppl (Keyword)      |
| 2      | Application ID          |
| 3      | Routing Mode (Proxy)    |

"Addresses configuration elements" in the RBAR Help describes the configuration data elements listed in [Table 4-62](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-62 Address Individual CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type (Rbar) |
| 1      | AddressIndv (Keyword)   |
| 2      | Table Name              |
| 3      | Address                 |
| 4      | Destination             |
| 5      | Pfx Length              |
| 6      | Old Table Name          |
| 7      | Old Address             |
| 8      | Old Pfx Length          |

"Addresses configuration elements" in the RBAR Help describes the configuration data elements listed in [Table 4-63](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-63 Address Range CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type (Rbar) |



**Table 4-63 (Cont.) Address Range CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 1      | AddressRange (Keyword)  |
| 2      | Table Name              |
| 3      | Start Address           |
| 4      | End Address             |
| 5      | Destination             |
| 6      | Pfx Length              |
| 7      | Old Table Name (Key)    |
| 8      | Old Start Address (Key) |
| 9      | Old Pfx Length (Key)    |

"Address Tables configuration elements" in the RBAR Help describes the configuration data elements listed in [Table 4-64](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-64 Address Table CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Rbar)  |
| 1      | AddressTable (Keyword)   |
| 2      | Name   |
| 3      | Comment  |
| 4      | Routing Entity (Imsi, Msisdn, Impi, Impu, ExternalId, Ipv4, Ipv6PfxAddr, Unsigned16) |

"Destinations configuration elements" in the RBAR Help describes the configuration data elements listed in [Table 4-65](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-65 Destination Table CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type (Rbar) |
| 1      | Destination (Keyword)   |
| 2      | Name (Key)              |
| 3      | Realm                   |
| 4      | Fqdn                    |
| 5      | Avp Insertion (No, Yes) |

"Exceptions configuration elements" in the RBAR Help describes the configuration data elements listed in [Table 4-66](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-66 Routing Exception CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Rbar)   |
| 1      | RoutingException (Keyword)  |
| 2      | Application ID  |
| 3      | Exception Type (UnknownCmdCode, NoRoutingEntityAddress, NoDrtEntry) |
| 4      | Action (FwdUnchanged, FwdToDest, SendAnswer, SendAnsExp)            |
| 5      | Destination Name  |
| 6      | Answer Result Code  |
| 7      | Vendor ID   |
| 8      | Error Message   |

"Address Resolutions configuration elements" in the RBAR Help describes the configuration data elements listed in [Table 4-67](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-67 Address Resolution CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Rbar)   |
| 1      | Resolution (Keyword)  |
| 2      | Application ID  |
| 3      | CMD Code  |
| 4      | Routing Entity 1 (Imsi, Msisdn, Impi, Impu, Ipv4, Ipv6PfxAddr, Unsigned16, ExternalId)  |
| 5      | Re 1 Avp 1 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SvcInfoSubscrId4, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, SubscriptionId4, UserIdentityMsisdn, UserIdentityPublic, UserIdentifierExternalId, UserName, FramedIpAddress, FramedIpv6Prefix, SvcInfoPsInfo3gppcc, Unprovisioned) |
| 6      | Re 1 Avp 2 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SvcInfoSubscrId4, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, SubscriptionId4, UserIdentityMsisdn, UserIdentityPublic, UserIdentifierExternalId, UserName, FramedIpAddress, FramedIpv6Prefix, SvcInfoPsInfo3gppcc, Unprovisioned) |
| 7      | Re 1 Address Table Name   |
| 8      | Routing Entity 2 (Imsi, Msisdn, Impi, Impu, Ipv4, Ipv6PfxAddr, Unsigned16, ExternalId)  |

**Table 4-67 (Cont.) Address Resolution CSV Format**

| Column | Data Description   |
|--------|--|
| 9      | Re 2 Avp 1 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SvcInfoSubscrId4, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, SubscriptionId4, UserIdentityMsisdn, UserIdentityPublic, UserIdentifierExternalId, UserName, FramedIpAddress, FramedIpv6Prefix, SvcInfoPsInfo3gppcc, Unprovisioned)  |
| 10     | Re 2 Avp 2 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SvcInfoSubscrId4, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, SubscriptionId4, UserIdentityMsisdn, UserIdentityPublic, UserIdentifierExternalId, UserName, FramedIpAddress, FramedIpv6Prefix, SvcInfoPsInfo3gppcc, Unprovisioned)  |
| 11     | Re 2 Address Table name  |
| 12     | Routing Entity 3 (Imsi, Msisdn, Impi, Impu, Ipv4, Ipv6PfxAddr, Unsigned16, ExternalId )  |
| 13     | Re 3 Avp 1 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SvcInfoSubscrId4, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, SubscriptionId4, Msisdn, UserIdentityMsisdn, UserIdentifier Msisdn, UserIdentity Public, UserIdentifierExternalId , UserIdentifierUserName, UserName, FramedIpAddress, FramedIpv6Prefix, SvcInfoPsInfo3gppcc, Unprovisioned) |
| 14     | Re 3 Avp 2 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SvcInfoSubscrId4, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, SubscriptionId4, Msisdn, UserIdentityMsisdn, UserIdentifier Msisdn, UserIdentity Public, UserIdentifierExternalId , UserIdentifierUserName, UserName, FramedIpAddress, FramedIpv6Prefix, SvcInfoPsInfo3gppcc, Unprovisioned) |
| 15     | Re 3 Address Table name  |

"System Options elements" in the RBAR Help describes the configuration data elements listed in [Table 4-68](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-68 Option CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type (Rbar) |

**Table 4-68 (Cont.) Option CSV Format**

| Column | Data Description   |
|--------|--|
| 1      | Option (Keyword)   |
| 2      | Uri Supported (No, Yes)  |
| 3      | RemoveDestHost (No, Yes)   |
| 4      | Exclude Space (No, Yes)  |
| 5      | Allow SubsequentDSR App Invoc (No, Yes)  |
| 6      | Realm  |
| 7      | Fqdn   |
| 8      | Resource Exhaustion Error Code   |
| 9      | Resource Exhaustion Error Message  |
| 10     | Resource Exhaustion Vendor ID  |
| 11     | Unavailable Application Action<br>(ContinueRouting, DefaultRoute, SendAnswer,<br>SendAnsExp) |
| 12     | Unavailable Application Route List   |
| 13     | Unavailable Application Result Code  |
| 14     | Unavailable Application Error Message  |
| 15     | Unavailable Application Vendor ID  |
| 16     | ASCII Excluded List [0]<br>(repeated x 20) . . .   |
| 35     | ASCII Excluded List [19]   |
| 36     | TBCD Excluded List [0]<br>(repeated x 5) . . .   |
| 40     | TBCD Excluded List [4]   |

### 4.2.4.3 Full Address Based Resolution (FABR) CSV File Formats and Contents

#### Full Address-Based Resolution (FABR) CSV File Formats

The following tables describe the CSV file content and attribute column positions for all configuration data supported by the **FABR** Application Type.

"Applications configuration elements" in the FABR Help describes the configuration data elements listed in [Table 4-69](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-69 Supported Application CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type (Fabr) |
| 1      | SuppAppl (Keyword)      |
| 2      | Application ID          |
| 3      | Routing Mode (Proxy)    |

"Exceptions configuration elements" in the FABR Help describes the configuration data elements listed in [Table 4-70](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-70 Routing Exception CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Fabr)  |
| 1      | RoutingException (Keyword)   |
| 2      | Application ID   |
| 3      | Exception Type (UnknownCmdCode, NoRoutingEntityAddress, NoAddrMatch, DpErrors, DpCongestion) |
| 4      | Action (FwdUnchanged, FwdToDest, SendAnswer, SendAnsExp, AbandonRequest)                     |
| 5      | Destination Name   |
| 6      | Answer Result Code   |
| 7      | Vendor ID  |
| 8      | Error Message  |

"Destinations configuration elements" in the FABR Help describes the configuration data elements listed in [Table 4-71](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-71 Default Destination Table CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type (Fabr) |
| 1      | Destination (Keyword)   |
| 2      | Name                    |
| 3      | Realm                   |
| 4      | Fqdn                    |

"Address Resolutions configuration elements" in the FABR Help describes the configuration data elements listed in [Table 4-72](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-72 Address Resolution CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Fabr)                                 |
| 1      | Resolution (Keyword)                                    |
| 2      | Application ID  |
| 3      | CMD Code  |
| 4      | Routing Entity 1 (Imsi, Msisdn, Impi, Impu, ExternalId) |

Table 4-72 (Cont.) Address Resolution CSV Format

| Column | Data Description   |
|--------|--|
| 5      | Re 1 Avp 1 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, Msisdn, UserIdentityMsisdn, UserIdentifierMsisdn, UserIdentityPublic, UserIdentifierExternalId , UserIdentifierUserName, UserName, WildCardedPublDnty) |
| 6      | Re 1 Avp 2 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, Msisdn, UserIdentityMsisdn, UserIdentifierMsisdn, UserIdentityPublic, UserIdentifierExternalId , UserIdentifierUserName, UserName, WildCardedPublDnty) |
| 7      | Re 1 Destination Type (MtcHss, ImsHss, LteHss, Pcrf, Ocs, Ofcs, Aaa, UserDefined1, UserDefined2)   |
| 8      | Routing Entity 2 (Imsi, Msisdn, Impi, Impu, ExternalId)  |
| 9      | Re 2 Avp 1 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, Msisdn, UserIdentityMsisdn, UserIdentifierMsisdn, UserIdentityPublic, UserIdentifierExternalId , UserIdentifierUserName, UserName, WildCardedPublDnty) |
| 10     | Re 2 Avp 2 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, Msisdn, UserIdentityMsisdn, UserIdentifierMsisdn, UserIdentityPublic, UserIdentifierExternalId , UserIdentifierUserName, UserName, WildCardedPublDnty) |
| 11     | Re 2 Destination Type (MtcHss, ImsHss, LteHss, Pcrf, Ocs, Ofcs, Aaa, UserDefined1, UserDefined2)   |
| 12     | Routing Entity 1 Search Prefix (Yes, No)   |
| 13     | Routing Entity 2 Search Prefix (Yes, No)   |
| 14     | Routing Entity 1 Search Blacklist (Yes, No)  |
| 15     | Routing Entity 2 Search Blacklist (Yes, No)  |
| 16     | Routing Entity 3 (Imsi, Msisdn, Impi, Impu, ExternalId)  |

**Table 4-72 (Cont.) Address Resolution CSV Format**

| Column | Data Description   |
|--------|--|
| 17     | Re 3 Avp 1 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, Msisdn, UserIdentity Msisdn, UserIdentifierMsisdn, UserIdentityPublic, UserIdentifier ExternalId , UserIdentifierUserName, UserName, WildCardedPubldnty) |
| 18     | Re 3 Avp 2 (PublicIdentity, SvcInfoSubscrId0, SvcInfoSubscrId1, SvcInfoSubscrId2, SvcInfoSubscrId3, SubscriptionId0, SubscriptionId1, SubscriptionId2, SubscriptionId3, Msisdn, UserIdentityMsisdn, UserIdentifierMsisdn, UserIdentityPublic, UserIdentifier ExternalId , UserIdentifierUserName, UserName, WildCardedPubldnty)  |
| 19     | Re 3 Destination Type ( MtcHss, ImsHss, LteHss, Pcrf, Ocs, Ofcs, Aaa, UserDefined1, UserDefined2)  |
| 20     | Routing Entity 3 Search Prefix (Yes, No)   |
| 21     | Routing Entity 3 Search Blacklist (Yes, No)  |

"System Options elements" in the FABR Help describes the configuration data elements listed in [Table 4-73](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-73 Option CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Fabr)  |
| 1      | Option (Keyword)   |
| 2      | RemoveDestHost (No, Yes)   |
| 3      | Exclude Space (No, Yes)  |
| 4      | Allow SubsequentDSR App Invoc (No, Yes)  |
| 5      | Realm  |
| 6      | Fqdn   |
| 7      | Resource Exhaustion Error Code   |
| 8      | Resource Exhaustion Error Message  |
| 9      | Resource Exhaustion Vendor ID  |
| 10     | Unavailable Application Action (ContinueRouting, DefaultRoute, SendAnswer, SendAnsExp) |
| 11     | Unavailable Application Route List   |
| 12     | Unavailable Application Result Code  |
| 13     | Unavailable Application Error Message  |
| 14     | Unavailable Application Vendor ID  |

**Table 4-73 (Cont.) Option CSV Format**

| Column | Data Description                                 |
|--------|--|
| 15     | ASCII Excluded List [0]<br>(repeated x 20) . . . |
| 33     | ASCII Excluded List [19]                         |
| 35     | TBCD Excluded List [0]<br>(repeated x 5) . . .   |
| 39     | TBCD Excluded List [4]                           |
| 40     | Bundling Enabled (Yes, No)                       |
| 41     | Max Bundle Size                                  |
| 42     | Prefix Search Enabled (Yes, No)                  |
| 43     | Blacklist Search Enabled (Yes, No)               |

#### 4.2.4.4 Charging Proxy Application (CPA) CSV File Formats and Contents

##### Charging Proxy Application (CPA) CSV File Formats

The following tables describe the CSV file content and attribute column positions for all configuration data supported by the CPA Application Type.

"System Options configuration elements" in the Charging Proxy Application (CPA) Help describes the configuration data elements listed in [Table 4-74](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-74 System Option CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Cpa)   |
| 1      | Option (Keyword)   |
| 2      | unavailableAction (SendAnswer)                                 |
| 3      | unavailableAppResultCode                                       |
| 4      | unavailableActionVendorId                                      |
| 5      | unavailableActionErrorMessage                                  |
| 6      | application InvokedAvpInsertion (Yes, No)                      |
| 7      | shutdownMode (Graceful, Force)                                 |
| 8      | shutdownTimer  |
| 9      | generateAnswerResultCode                                       |
| 10     | generateAnswerVendorId   |
| 11     | generateAnswerErrorMessage                                     |
| 12     | behaviorIfSessionLookupError (GenerateAnswer, ContinueRouting) |

"Message Copy elements" in the Charging Proxy Application (CPA) Help describes the **Message Copy** configuration data elements listed in [Table 4-75](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.



**Table 4-75 Message Copy CSV Format**

| Column | Data Description       |
|--------|------------------------|
| 0      | Application Type (Cpa) |
| 1      | Messagecopy (Keyword)  |
| 2      | messageCopyStatus      |
| 3      | messageCopyRouteList1  |
| 4      | messageCopyRouteList2  |
| 5      | messageCopyRouteList3  |
| 6      | messageCopyRouteList4  |
| 7      | messageCopyRouteList5  |
| 8      | messageCopyRouteList6  |
| 9      | messageCopyRouteList7  |
| 10     | messageCopyRouteList8  |
| 11     | messageCopyRouteList9  |
| 12     | messageCopyRouteList10 |
| 13     | calledStationIdString1 |
| 14     | calledStationIdString2 |
| 15     | calledStationIdString3 |
| 16     | calledStationIdString4 |

"SBR elements" describes the **Session Binding Repository (SBR)** configuration data elements listed in [Table 4-76](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-76 SBR CSV Format**

| Column | Data Description             |
|--------|------------------------------|
| 0      | Application Type (Sbr)       |
| 1      | Sbrconfig (Keyword)          |
| 2      | sbdbAuditStartTime           |
| 3      | sbdbAuditStopTime            |
| 4      | staleSbdbSessionBindingAge   |
| 5      | maximumActiveSessionBindings |
| 6      | mostlyStalePercent           |

#### 4.2.4.5 Charging Session Binding Repository (CSBR) CSV File Formats and Contents

The following tables describe the CSV file content and attribute column positions for all configuration data supported by the SBR.

"SBR elements" describes the **Session Binding Repository (SBR)** configuration data elements listed in [Table 4-76](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-77 SBR CSV Format**

| Column | Data Description             |
|--------|------------------------------|
| 0      | Application Type (CSBR)      |
| 1      | Sbrconfig (Keyword)          |
| 2      | sbdbAuditStartTime           |
| 3      | sbdbAuditStopTime            |
| 4      | staleSbdbSessionBindingAge   |
| 5      | maximumActiveSessionBindings |
| 6      | mostlyStalePercent           |

#### 4.2.4.6 IP Front End (IPFE) CSV File Formats and Contents

##### IP Front End CSV File Formats

The following tables describe the CSV file content and attribute column positions for all configuration data supported by the IP Front End (IPFE) Application Type.

 **Note:**

Both IPFE CSV formats must be included in the file for an IPFE Import operation (Insert or Delete). Bulk Import for IPFE does not support Insert or Delete for only IpfeOption or only IpfeListTsa.

"Configuration Options elements" in the IPFE Help describes the configuration data elements listed in [Table 4-78](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-78 IPFE IpfeOption CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type   |
| 1      | Options (Keyword)  |
| 2      | Ipfe1IpAddress   |
| 3      | Ipfe2IpAddress   |
| 4      | Ipfe3IpAddress   |
| 5      | Ipfe4IpAddress   |
| 6      | StatSyncTcpPort  |
| 7      | StateSyncReconnectS  |
| 8      | RejectOption (tcpreset, drop, icmphostunreachable, icmpportunreachable, icmpadminprohibited) |
| 9      | SctpRejectOption (drop, icmphostunreachable, icmpportunreachable, icmpadminprohibited)       |
| 10     | OverloadStart  |
| 11     | LeastLoadStart   |
| 12     | GratuitousArpType  |

Table 4-78 (Cont.) IPFE IpfeOption CSV Format

| Column | Data Description  |
|--------|---|
| 13     | Accounting Support (enabled, disabled)  |
| 14     | ConnectTryPort  |
| 15     | ConnectTimeoutS   |
| 16     | ConnectTryIntervals   |
| 17     | MonitorProtocol (tcpconnectonly, fullmonitoring, disabled)                              |
| 18     | PacketRateLimit   |
| 19     | Tsa1DeleteAge   |
| 20     | Tsa1IPAddress   |
| 21     | Tsa1IPSecondaryAddress  |
| 22     | Tsa1IPSecondaryPreferredIpfe  |
| 23     | Tsa1LoadAlgorithm (hash, roundrobin, leasttraff, leastconns, leastload, leastloadtest)  |
| 24     | Tsa1PreferredIpfe (1, 2, 3, 4)  |
| 25     | Tsa1Protocols (SCTP, TCP, SCTP_AND_TCP)   |
| 26     | Tsa1TsDisable (0, 1)  |
| 27     | Tsa1AllowedDeviation (0-50)   |
| 28     | Tsa1LoadFactorMPS (0-100)   |
| 29     | Tsa1LoadFactorConn (0-100)  |
| 30     | Tsa1PeerGroup (enabled, disabled)   |
| 31     | Tsa1PeerGroupDelta (1-10)   |
|        | (fields 19 thru 31 repeated x 31 times) . . .   |
| 422    | Tsa32DeleteAge  |
| 423    | Tsa32IPAddress  |
| 424    | Tsa32IPSecondaryAddress   |
| 425    | Tsa32IPSecondaryPreferredIpfe   |
| 426    | Tsa32LoadAlgorithm (hash, roundrobin, leasttraff, leastconns, leastload, leastloadtest) |
| 427    | Tsa32PreferredIpfe  |
| 428    | Tsa32Protocols (SCTP, TCP, SCTP_AND_TCP)  |
| 429    | Tsa32TsDisable (0, 1)   |
| 430    | Tsa32AllowedDeviation (0-50)  |
| 431    | Tsa32LoadFactorMPS (0-100)  |
| 432    | Tsa32LoadFactorConn (0-100)   |
| 433    | Tsa32PeerGroup (enabled, disabled)  |
| 434    | Tsa32PeerGroupDelta (1-10)  |

"Target Sets configuration elements" in the IPFE Help describes the configuration data elements listed in [Table 4-79](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-79 IPFE IpfeListTsa CSV Format**

| Column | Data Description        |
|--------|-------------------------|
| 0      | Application Type (Ipfe) |
| 1      | IPLISTTsa (Keyword)     |
| 2      | tsa                     |
| 3      | server                  |
| 4      | ipAddress               |
| 5      | description             |
| 6      | ipSecondaryAddress      |
| 7      | Initiator Port Start    |
| 8      | Initiator Port Mid      |
| 9      | Initiator Port End      |

#### 4.2.4.7 Policy and Charging Application (PCA) CSV File Formats and Contents

The following tables describe the CSV file content and attribute column positions for all configuration data supported by the Policy and Charging Application Type.

"PCRFs elements" in the PCA Help describes the configuration data elements listed in [Table 4-80](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-80 PCRFs CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | Pcrf (Keyword)   |
| 2      | PCRF Peer Node Name (Key)                                |
| 3      | Comments   |

"Binding Key Priority elements" in the PCA Help describes the configuration data elements listed in [Table 4-81](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-81 Binding Key Priority CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | BindPriority (Keyword)                                   |
| 2      | Priority 1   |
| 3      | Binding Key Type 1 (Imsi, Msisdn, Ipv4, Ipv6)            |
| 4      | Priority 2   |
| 5      | Binding Key Type 2 (Imsi, Msisdn, Ipv4, Ipv6)            |
| 6      | Priority 3   |
| 7      | Binding Key Type 3 (Imsi, Msisdn, Ipv4, Ipv6)            |

**Table 4-81 (Cont.) Binding Key Priority CSV Format**

| Column | Data Description                              |
|--------|---|
| 8      | Priority 4                                    |
| 9      | Binding Key Type 4 (Imsi, Msisdn, Ipv4, Ipv6) |

"Site Options elements" and "Network-Wide Options elements" in the PCA Help describes the configuration data elements listed in [Table 4-82](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-82 Policy DRA Options CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | PdraOptions (Keyword)                                    |
| 2      | Enable Topology Hiding                                   |
| 3      | Topology Hiding Scope                                    |
| 4      | Default Topology Hiding FQDN                             |
| 5      | Default Topology Hiding Realm                            |
| 6      | Topology Hiding Host                                     |
| 7      | Topology Hiding Realm                                    |
| 8      | Peer Route Table Name                                    |
| 9      | Enable PCRF Pooling                                      |
| 10     | PCRF Pooling Mode  |
| 11     | Default APN for Non Specific Binding Correlation         |
| 12     | Early Binding Polling Interval                           |
| 13     | Maximum Early Binding Lifetime                           |
| 14     | Suspect Binding Removal Events Ignore Interval           |
| 15     | Suspect Binding Removal Events Reset Interval            |
| 16     | Suspect Binding Removal Events Threshold                 |
| 17     | RAR Origin Host and Realm Option                         |
| 18     | Max Query RAR Rate Per Session Server Group              |
| 19     | RarAttemptedThreshold                                    |
| 20     | Max Release RAR Rate Per Session Server Group            |
| 21     | Max Attempts Per Release RAR                             |
| 22     | Query RAR Queue Capacity Per Session Server Group        |
| 23     | Release RAR Queue Capacity Per Session Server Group      |

"Error Codes elements" in the PCA Help describes the configuration data elements listed in [Table 4-83](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-83 PCA Error Codes CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Pca - Policy and Charging Application)  |
| 1      | ErrorCodes (Keyword)  |
| 2      | Error Condition (Key) (PdraUnavailCong, PcaFuncUnavailableOrDisabled, BindingNotFound, UnableToRoute, SbrError, BindingKeyNotFoundCondition, SessionNotFound, MissingOrUnconfiguredApn) |
| 3      | Gx/Gxx Result Code  |
| 4      | Gx/Gxx Vendor ID  |
| 5      | Rx Result Code  |
| 6      | Rx Vendor ID  |
| 7      | S9 Result Code  |
| 8      | S9 Vendor ID  |
| 9      | Gx-Prime Result Code  |
| 10     | Gx-Prime Vendor ID  |
| 11     | Gy/Ro Result Code   |
| 12     | Gy/Ro Vendor ID   |
| 13     | All Result Code   |
| 14     | All Vendor ID   |

"PCA Access Point Names elements" in the PCA Help describes the configuration data elements listed in [Table 4-84](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-84 PCA Access Point Names CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | AccessPointName (Keyword)                                |
| 2      | Access Point Name  |
| 3      | Function Name  |
| 4      | PCRF Pool Name   |
| 5      | Maximum Allowed Sessions per IMSI                        |
| 6      | Per IMSI Session Exceeded Treatment (Reject, Route)      |
| 7      | Stale Session Timeout                                    |
| 8      | PCRF Sub-Pool Count (Read Only)                          |
| 9      | Last Updated Timestamp (Read Only)                       |

"Alarm Settings elements" in the PCA Help describes the configuration data elements listed in [Table 4-85](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-85 Alarm Settings CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application)                       |
| 1      | AlarmSupp (Keyword)  |
| 2      | Alarm Name 1 (PcalngressMessageRate, OutstandingPdraSessionsThresholdExceeded) |
| 3      | Critical Alarm Threshold (Percent) 1   |
| 4      | Suppress Critical 1 (Yes, No)  |
| 5      | Major Alarm Threshold (Percent) 1  |
| 6      | Suppress Major 1 (Yes, No)   |
| 7      | Minor Alarm Threshold (Percent) 1  |
| 8      | Suppress Minor 1 (Yes, No)   |
| 9      | Alarm Name 2 (PsbrActiveSessionsThreshold)                                     |
| 10     | Critical Alarm Threshold (Percent) 2   |
| 11     | Suppress Critical 2 (Yes, No)  |
| 12     | Major Alarm Threshold (Percent) 2  |
| 13     | Suppress Major 2 (Yes, No)   |
| 14     | Minor Alarm Threshold (Percent) 1  |
| 15     | Suppress Minor 2 (Yes, No)   |
| 16     | Alarm Name 3 (PsbrActiveBindingsThreshold)                                     |
| 17     | Critical Alarm Threshold (Percent) 3   |
| 18     | Suppress Critical 3 (Yes, No)  |
| 19     | Major Alarm Threshold (Percent) 3  |
| 20     | Suppress Major 3 (Yes, No)   |
| 21     | Minor Alarm Threshold (Percent) 3  |
| 22     | Suppress Minor 3 (Yes, No)   |

"Congestion Options elements" in the PCA Help describes the configuration data elements listed in [Table 4-86](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-86 Congestion Options CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | CongOptions (Keyword)                                    |
| 2      | Critical Alarm Onset Threshold 1                         |
| 3      | Critical Alarm Abatement Threshold 1                     |
| 4      | Major Alarm Onset Threshold 1                            |
| 5      | Major Alarm Abatement Threshold 1                        |
| 6      | Minor Alarm Onset Threshold 1                            |
| 7      | Minor Alarm Abatement Threshold 1                        |

**Table 4-86 (Cont.) Congestion Options CSV Format**

| Column | Data Description                                       |
|--------|--|
| 8      | Congestion Level 1- Discard Session Creation Requests  |
| 9      | Congestion Level 1- Discard Session Update Requests    |
| 10     | Congestion Level 1- Discard Session Terminate Requests |
| 11     | Congestion Level 2- Discard Session Creation Requests  |
| 12     | Congestion Level 2- Discard Session Update Requests    |
| 13     | Congestion Level 2- Discard Session Terminate Requests |
| 14     | Congestion Level 3- Discard Session Creation Requests  |
| 15     | Congestion Level 3- Discard Session Update Requests    |
| 16     | Congestion Level 3- Discard Session Terminate Requests |

"**PCRF Pools** elements" in the PCA Help describes the PCRF Pools CSV Record elements listed in [Table 4-87](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-87 PCRF Pools CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | PcrfPool (Keyword)                                       |
| 2      | PCRF Pool Name (Key)                                     |
| 3      | Is Pcrf SubPool  |
| 4      | Comments   |

"**PCRF Sub-Pool** Selection Rules elements" in the PCA Help describes the PCRF Sub-Pool Selection Rules CSV Record elements listed in [Table 4-88](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-88 PCRF Sub-Pool Selection Rules CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | SubPoolSelRules (Keyword)                                |
| 2      | Rule Name (Key)  |
| 3      | Priority   |
| 4      | PCRF Pool Name   |
| 5      | Condition Parameter (Origin-Host)                        |



**Table 4-88 (Cont.) PCRF Sub-Pool Selection Rules CSV Record Format**

| Column | Data Description                                  |
|--------|---|
| 6      | Condition Operator (Equals, StartsWith, EndsWith) |
| 7      | Condition Value                                   |
| 8      | PCRF Sub-Pool Name                                |
| 9      | Last Updated Timestamp (Read Only)                |

"PCRF Pool To PRT Mapping CSV Record elements" in the PCA Help describes the PCRF Pool To PRT Mapping CSV Record elements listed in [Table 4-89](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-89 PCRF Pool To PRT Mapping CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | PcrfPoolToPrt (Keyword)                                  |
| 2      | PCRF Pool Name (Key)                                     |
| 3      | Peer Route Table Name                                    |

"General Options CSV Record elements" in the PCA Help describes the General Options CSV Record elements listed in [Table 4-90](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-90 General Options CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | GeneralOptions (Keyword)                                 |
| 2      | Policy DRA Enabled                                       |
| 3      | Online Charging DRA Enabled                              |
| 4      | Number of Policy Binding Server Groups                   |
| 5      | Number of Policy and Charging Session Sever Groups       |
| 6      | Default Stale Session Timeout                            |
| 7      | Maximum Audit Frequency                                  |

"Online Charging DRA OCS Session State CSV Record elements" in the PCA Help describes the OCS Session State CSV Record elements listed in [Table 4-91](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-91 Online Charging DRA OCS Session State CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | OcsSessionState (Keyword)                                |
| 2      | OCS Realm  |
| 3      | OCS FQDN   |
| 4      | OCS Session State Enabled                                |

"Online Charging DRA Realm CSV Record elements" in the PCA Help describes the OC-DRA Realm CSV Record elements listed in [Table 4-92](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-92 Online Charging DRA Realm CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | Realm (Keyword)  |
| 2      | OCS Realm  |
| 3      | Comment  |

"Online Charging DRA Network-Wide Options CSV Record elements" in the PCA Help describes the OC-DRA Network-Wide Options CSV Record elements listed in [Table 4-93](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-93 Online Charging DRA Network-Wide Options CSV Record Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Pca - Policy and Charging Application)      |
| 1      | OcdraNwOptions (Keyword)                                      |
| 2      | Session State Scope (None, All Messages, Specific Message)    |
| 3      | Session State Unavailable Action (Send Answer, Route To Peer) |
| 4      | OCS Pool Selection Mode (Single Pool, Multiple Pools)         |

"PCA Policy Clients Options CSV Record elements" in the PCA Help describes the OC-DRA Network-Wide Options CSV Record elements listed in [Table 4-94](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-94 PDRA Policy Clients CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | PolicyClients (Keyword)                                  |
| 2      | Policy Client Peer Node Name                             |
| 3      | Topology Hiding Enabled                                  |
| 4      | Comments   |

"Online Charging DRA OCSs CSV Record elements" in the PCA Help describes the OC-DRA OCSs CSV Record elements listed in [Table 4-95](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-95 Online Charging DRA OCSs CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | Ocs (Keyword)  |
| 2      | OCS Peer Node Names                                      |
| 3      | Comments   |

"Online Charging DRA CTFs CSV Record elements" in the PCA Help describes the OC-DRA CTFs CSV Record elements listed in [Table 4-96](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-96 Online Charging DRA CTFs CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | Ctf (Keyword)  |
| 2      | CTF Peer Node Names                                      |
| 3      | Comments   |

"Suspect Binding Removal Rules Elements" in the PCA Help describes the Suspect Binding Removal Rules CSV elements listed in [Table 4-97](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-97 Suspect Binding Removal Rules CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Pca - Policy and Charging Application) |
| 1      | SuspectBindingRemovalRules (Keyword)                     |

**Table 4-97 (Cont.) Suspect Binding Removal Rules CSV Record Format**

| Column | Data Description                   |
|--------|------------------------------------|
| 2      | Rule Name (Key)                    |
| 3      | Application Name                   |
| 4      | Command Code                       |
| 5      | Error Scenario Category            |
| 6      | Result Code                        |
| 7      | Vendor ID                          |
| 8      | Remove Suspect Binding Immediately |
| 9      | Comments                           |

#### 4.2.4.8 MAP-Diameter Interworking Function CSV File Formats and Contents

The following tables describe the CSV file content and attribute column positions for all configuration data supported by the MDIWF Application Type, for the MD-IWF and DM-IWF applications.

"Diameter Realm elements" in the MAP-Diameter Interworking Help describes the configuration data elements listed in [Table 4-98](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-98 Mapiwf Diameter Realm CSV Format**

| Column | Data Description                                      |
|--------|---|
| 0      | Application Type (Mapiwf - MAP-Diameter Interworking) |
| 1      | DiameterRealm (Keyword)                               |
| 2      | Realm   |
| 3      | Network (ANSI, ITUI, ITUN)                            |
| 4      | MGT Conversion Needed (Yes, No, NA)                   |

"Diameter Identity Global Title Address elements" in the MAP-Diameter Interworking Help describes the configuration data elements listed in [Table 4-99](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-99 Mapiwf DiamIdGta CSV Format**

| Column | Data Description                                      |
|--------|---|
| 0      | Application Type (Mapiwf - MAP-Diameter Interworking) |
| 1      | DiamIdGta (Keyword)                                   |
| 2      | Host  |
| 3      | Realm   |
| 4      | GTA   |

"Global Title Address Range to Point Code elements" in the MAP-Diameter Interworking Help describes the configuration data elements listed in [Table 4-100](#) and configuration

considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-100 Mapiwf GtaRangeToPc CSV Format**

| Column | Data Description                                      |
|--------|---|
| 0      | Application Type (Mapiwf - MAP-Diameter Interworking) |
| 1      | GtaRangeToPc (Keyword)                                |
| 2      | Default Configuration (Yes, No)                       |
| 3      | GTA Start   |
| 4      | GTA End   |
| 5      | Network (ANSI, ITUI, ITUN)                            |
| 6      | Primary Point Code                                    |
| 7      | Secondary Point Code                                  |
| 8      | Load Sharing (Solitary, ActiveActive, ActiveStandby)  |

"MD-IWF Options elements" in the MAP-Diameter Interworking Help describes the configuration data elements listed in [Table 4-101](#) [Table 4-82](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-101 Mapiwf MD-IWF Option CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Mapiwf - MAP-Diameter Interworking)                   |
| 1      | MdiwfOption (Keyword)   |
| 2      | Diameter Timeout  |
| 3      | MAP Timeout   |
| 4      | EIR Host Name   |
| 5      | EIR Realm   |
| 6      | IWF HSS Destination Host  |
| 7      | IWF HSS Destination Realm   |
| 8      | EIR Destination GTA   |
| 9      | Shutdown Mode (Forced, Graceful)  |
| 10     | Shutdown Timer  |
| 11     | ECR No Destination Host Action (Discard, SendAnswer, TranslateUsingEir) |
| 12     | ECR No Destination Host Result Code                                     |
| 13     | ECR No Destination Host Vendor ID                                       |
| 14     | ECR No Destination Host Error String                                    |
| 15     | ECR Destination Host Action (Discard, SendAnswer, TranslateUsingEir)    |
| 16     | ECR Destination Host Result Code  |
| 17     | ECR Destination Host Vendor ID  |
| 18     | ECR Destination Host Error String                                       |
| 19     | DSR Node GTA (entityId_1)   |

**Table 4-101 (Cont.) Mapiwf MD-IWF Option CSV Format**

| Column | Data Description  |
|--------|---|
| 20     | DSR Node GTA (gta_1)<br>-entityId and gta repeated total of 32 times... |
| 81     | DSR Node GTA (entityId_32)  |
| 82     | DSR Node GTA (gta_32)   |

"DM-IWF Option elements" in the MAP-Diameter Interworking Help describes the configuration data elements listed in [Table 4-102](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-102 Mapiwf DM-IWF Option CSV Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (Mapiwf - MAP-Diameter Interworking)          |
| 1      | DmiwfOption (Keyword)  |
| 2      | Unavailable Action (ContinueRouting, DefaultRoute, SendAnswer) |
| 3      | Route List Name  |
| 4      | Unavailable Action Result Code                                 |
| 5      | Unavailable Action Vendor ID                                   |
| 6      | Unavailable Action Error Message                               |
| 7      | AVP Insertion (Yes, No)  |
| 8      | Shutdown Mode (Forced, Graceful)                               |
| 9      | Shutdown Timer   |
| 10     | Realm  |
| 11     | FQDN   |
| 12     | Application Route Table (ART)                                  |
| 13     | Peer Route Table (PRT)   |

"Diameter Exception elements" in the MAP-Diameter Interworking Help describes the configuration data elements listed in [Table 4-103](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-103 Mapiwf Diameter Exception CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Mapiwf - MAP-Diameter Interworking)                             |
| 1      | DiameterException (Keyword)   |
| 2      | Exception Type (InternalProcessingError, DiamToMapTransTimeout, TranslationError) |
| 3      | Exception Name  |
| 4      | Action (Discard, SendAnswer, ApplyUnavailAction)                                  |
| 5      | Result Code   |
| 6      | Vendor ID   |

**Table 4-103 (Cont.) Mapiwf Diameter Exception CSV Format**

| Column | Data Description |
|--------|------------------|
| 7      | Error String     |

"MAP Exception elements" in the MAP-Diameter Interworking Help describes the configuration data elements listed in [Table 4-104](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-104 Mapiwf MAP Exception CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (Mapiwf - MAP-Diameter Interworking)   |
| 1      | MapException (Keyword)  |
| 2      | Exception Type (InternalProcessingError, MapToDiamTransTimeout, TranslationError)   |
| 3      | Exception Name  |
| 4      | Action (Discard, SendAnswer)  |
| 5      | Abort Reason (UserDefined, ContextNotSupported, DialogRefused)  |
| 6      | Error Cause (SystemFailure, DataMissing, UnexpectedDataValue, FacilityNotSupported, IncompatibleTerminal, ResourceLimitation) |
| 7      | Abort Choice (SpecificReason, ResourceLimitation, ResourceUnavailable)  |
| 8      | Resource Unavailable Reason (ShortTermLimitation, LongTermLimitation)   |

"CCNDC Mapping elements" in the MAP-Diameter Interworking Help describes the configuration data elements listed in [Table 4-86](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-105 Mapiwf CCNDC Mapping CSV Format**

| Column | Data Description                                      |
|--------|---|
| 0      | Application Type (Mapiwf - MAP-Diameter Interworking) |
| 1      | CcNdcMapping (Keyword)                                |
| 2      | Ccndc   |
| 3      | Realm   |
| 4      | Description   |

#### 4.2.4.9 Gateway Location Application (GLA) CSV File Formats and Contents

"Configure GLA Exceptions elements" in the GLA Help describes the Gateway Location Application (GLA) CSV Record elements listed in [Table 4-106](#) and

configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-106 GLA Exception CSV Record Format**

| Column | Data Description   |
|--------|--|
| 0      | Application Type (GLA)   |
| 1      | Exception (Keyword)  |
| 2      | Exception Type (EdlDecodeError, UnknownAppId, UnknownCmdCode, ImsiMsisdnPresent, ImsiMsisdnAbsent, PsbrQueryFailure, PsbrQueryTimeout, ResourceExhausted, UnableToProcess) |
| 3      | Exception Name   |
| 4      | Action ( SendAnswer, SendAnsExp, AbandonRequest )  |
| 5      | Result Code  |
| 6      | Vendor ID  |
| 7      | Error String   |

"Configure GLA System Options elements" in the GLA Help describes the Gateway Location Application (GLA) CSV Record elements listed in [Table 4-107](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-107 GLA Option CSV Record Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (GLA)  |
| 1      | Option (Keyword)  |
| 2      | Unavailable Action (ContinueRouting, DefaultRoute, SendAnswer, Discard) |
| 3      | Unavailable Application Result Code                                     |
| 4      | Unavailable Application Vendor ID                                       |
| 5      | Unavailable Application Error Message                                   |
| 6      | Realm   |
| 7      | FQDN  |
| 8      | Unavailable Application Route List                                      |

"Configure GLA Alarm Settings elements" in the GLA Help describes the Gateway Location Application (GLA) CSV Record elements listed in [Table 4-108](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-108 GLA Alarm CSV Record Format**

| Column | Data Description          |
|--------|---------------------------|
| 0      | Application Type (GLA)    |
| 1      | Alarm (Keyword)           |
| 2      | Alarm Type (RxGlaMsgRate) |



**Table 4-108 (Cont.) GLA Alarm CSV Record Format**

| Column | Data Description                 |
|--------|----------------------------------|
| 3      | Severity(Critical, Major, Minor) |
| 4      | Action(Set, Clear)               |
| 5      | Level                            |

#### 4.2.4.10 RADIUS CSV File Formats and Contents

##### RADIUS CSV File Formats

The following tables describe the CSV file content and attribute field or column positions for all RADIUS configuration data supported by the RADIUS Application Type.

"RADIUS Message Authentication Cfg Set elements" in the *RADIUS User's Guide* describes the configuration data elements listed in [Table 4-109](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-109 RADIUS Message Authentication Cfg Sets CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (RADIUS)   |
| 1      | MsgAuthCfgSet (Keyword)   |
| 2      | Message Authenticator Set Name (Keyword)                            |
| 3      | Encode Message-Authenticator in egress CoA-Request (YES, NO)        |
| 4      | Encode Message-Authenticator in egress Disconnect-Request (YES, NO) |
| 5      | Encode Message-Authenticator in response to Status-Server (YES, NO) |
| 6      | Encode Message-Authenticator in egress CoA-NACK (YES, NO)           |
| 7      | Encode Message-Authenticator in egress CoA-ACK (YES, NO)            |
| 8      | Encode Message-Authenticator in egress Disconnect-ACK (YES, NO)     |
| 9      | Encode Message-Authenticator in egress Disconnect NACK (YES, NO)    |
| 10     | Encode Message-Authenticator in egress Access-Request (YES, NO)     |
| 11     | Encode Message-Authenticator in egress Access-Accept (YES, NO)      |
| 12     | Encode Message-Authenticator in egress Access-Reject (YES, NO)      |
| 13     | Encode Message-Authenticator in egress Access-Challenge (YES, NO)   |

"RADIUS Shared Secret Cfg Set elements" in the *RADIUS User's Guide* describes the configuration data elements listed in [Table 4-110](#) and configuration considerations for

the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-110 RADIUS Shared Secret Cfg Set CSV Format**

| Column | Data Description                     |
|--------|--------------------------------------|
| 0      | Application Type (RADIUS)            |
| 1      | SharedSecretCfgSet (Keyword)         |
| 2      | Shared Secret Configuration Set Name |
| 3      | Shared Secret Configuration Set Key  |
| 4      | Iv                                   |
| 5      | Index                                |

"RADIUS Ingress Status Server Cfg Set elements" in the *RADIUS User's Guide* describes the configuration data elements listed in [Table 4-111](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-111 RADIUS Ingress Status Server Cfg Set CSV Format**

| Column | Data Description  |
|--------|---|
| 0      | Application Type (RADIUS)   |
| 1      | IngressStatusServerCfgSet (Keyword)                                       |
| 2      | Ingress Status-Server Set Name  |
| 3      | Send Response to Status-Server (Yes, No)                                  |
| 4      | Status Server Response Message Type<br>(AccountingResponse, AccessAccept) |

"RADIUS Message Conversion Cfg Set elements" in the *RADIUS User's Guide* describes the data elements listed in [Table 4-112](#) and considerations for the data elements that must be observed when the elements are edited in the CSV files.

 **Note:**

Import of the Message Conversion Cfg Set is not supported because user configuration of this data is not supported.

**Table 4-112 RADIUS Message Conversion Cfg Set CSV Format**

| Column | Data Description             |
|--------|------------------------------|
| 0      | Application Type (RADIUS)    |
| 1      | MsgConvCfgSet (Keyword)      |
| 2      | Message Conversion Set Name  |
| 3      | Message Conversion Set Rules |

"RADIUS NAS Node elements" in the *RADIUS User's Guide* describes the configuration data elements listed in [Table 4-113](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-113 RADIUS NAS Node CSV Format**

| Column | Data Description                       |
|--------|--|
| 0      | Application Type (RADIUS)              |
| 1      | NasNode (Keyword)                      |
| 2      | NAS Node Name                          |
| 3      | FQDN                                   |
| 4      | Realm                                  |
| 5      | NAS Node Identifier                    |
| 6      | NAS IP Addresses [0]<br>(repeated x 4) |
| 9      | NAS IP Addresses [3]                   |

"RADIUS Network Options elements" in the *RADIUS User's Guide* describes the configuration data elements listed in [Table 4-114](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-114 RADIUS Network Options CSV Format**

| Column | Data Description          |
|--------|---------------------------|
| 0      | Application Type (RADIUS) |
| 1      | NetworkOptions (Keyword)  |
| 2      | Name                      |
| 3      | Shared Secret             |
| 4      | lv                        |
| 5      | Index                     |

#### 4.2.4.11 Subscriber Binding Repository (SBR) CSV File Formats and Contents

The following tables describe the CSV file content and attribute column positions for all configuration data supported by the SBR.

"SBR Database Elements" in the PCA Help describes the SBR Database CSV elements listed in [Table 4-115](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-115 SBR Database CSV Record Format**

| Column | Data Description                   |
|--------|------------------------------------|
| 0      | Application Type (SBR)             |
| 1      | SbrDatabase (Keyword)              |
| 2      | SBR Database Name (Key)            |
| 3      | Database Type (Binding or Session) |
| 4      | Resource Domain Name               |
| 5      | Number of Server Groups            |
| 6      | Place Association Name             |

"SBR Database Resizing Elements" in the PCA Help describes the SBR Database Resizing CSV elements listed in [Table 4-116](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-116 SBR Database Resizing CSV Record Format**

| Column | Data Description                      |
|--------|---------------------------------------|
| 0      | Application Type (SBR)                |
| 1      | SbrDatabaseResizingPlan (Keyword)     |
| 2      | SBR Database Resizing Plan Name (Key) |
| 3      | SBR Database Name                     |
| 4      | Target Resource Domain Name           |
| 5      | Target Number of Server Groups        |

"SBR Data Migration Plan Elements" in the PCA Help describes the SBR Migration Plan CSV elements listed in [Table 4-117](#) and configuration considerations for the data elements that must be observed when the elements are edited in the CSV files.

**Table 4-117 SBR Data Migration Plan CSV Record Format**

| Column | Data Description                   |
|--------|------------------------------------|
| 0      | Application Type (SBR)             |
| 1      | SbrDataMigrationPlan (Keyword)     |
| 2      | SBR Data Migration Plan Name (Key) |
| 3      | Migration Type                     |
| 4      | Initial SBR Database Name          |
| 5      | Target SBR Database Name           |

# 5

## Visualization Server

Visualization Server displays all the logs in a graphical format. It logs vulnerable messages into a log file on MPs. The Active SO collects these log files from MPs and exports them in the configured path of Visualization Server.

### 5.1 Visualization Server Elements

The following table describes elements required for configuring Visualization Server for logging vulnerable messages.

**Table 5-1 Visualization Server Elements**

| Element               | Description  |
|-----------------------|--|
| Task Name             | Periodic log export task name.<br>The task name must be unique for each entry.   |
| Hostname List         | IP address of the remote server.<br>This value must be a valid IP address that can be pinged.<br>You can add multiple IP addresses by using the <b>Add</b> button.   |
| Username              | User name to access the export server.<br>The user name must be common for all the remote servers.   |
| Remote Directory Path | Filesystem directory <b>absolute path</b> on the export server. For example, <code>/root/ftp/</code> . The exported data files are transferred to this directory.  |
| Source Directory      | Source directory path in the file management area on the local server. The files are transferred from the source directory to the remote export server. <ul style="list-style-type: none"><li>For VSTP = <code>\$filemgmt/export/SecurityLogs/vstp_logs</code></li><li>For DSA = <code>\$filemgmt/export/SecurityLogs/dca_logs</code></li></ul>  |
| Key exchange Status   | The status of key exchange is done with remote servers. If the status is <b>PENDING</b> , file export is not possible. Provide a common password for the user name of the remote servers to change the status to <b>COMPLETE</b> . The key exchange status is <b>PARTIAL</b> when the key exchange is done for one or more servers but not for all servers.<br>By default, this status value is <b>PENDING</b> . |
| Upload Frequency      | Indicates the frequency of exporting files.<br>By default, in every 2 minutes, all the files are exported to the visualization server.   |

### 5.2 Configuring Visualization Server for Logging Vulnerable Messages

1. From the SO GUI main menu, click **Diameter Common**, and then **Visualization Server**.

2. In the Table Description: Visualization Server Table section, click **Insert**.
3. In the Adding a new Visualization Server Task Configuration section, complete the following configuration as described in [Visualization Server Elements](#):
  - **Task Name**: Enter a task name.
  - **Hostname List**: Enter the IP address of the remote server.
  - **Username**: Enter an user name to access the export server.
  - **Key Exchange Status**: Ensure that the default status is **PENDING**.
  - **Remote Directory Path**: Enter the directory path for transferring exported data files.
  - **Source Directory**: Enter the source directory path.
  - **Upload Frequency**: Ensure that the default value is set to 2 minutes.
4. Click one of the following buttons:
  - **OK**: For the changes to take effect.  
A record with the task name is added to Table Description: Visualization Server Table.
  - **Cancel**: To go back to the previous page.

Perform the ssh key exchange so that jobs start sending the data automatically to all Visualization Servers in a round-robin method.

## 5.3 Editing the Existing Visualization Server Configuration

Perform this procedure to modify the existing configuration settings of a specific export job.

Ensure that Visualization Server is configured for logging vulnerable messages.

1. From the SO GUI main menu, click **Diameter Common**, and then **Visualization Server**.
2. From the Table Description: Visualization Server Table, select a task name that you want to edit, and then click **Edit**.
3. Modify the required fields.  
  
Note that some options cannot be modified. The buttons, text boxes, or lists are grayed out. Some options might become active based on other selections, for example, **Upload Frequency**.
4. Click one of the following buttons:
  - **OK**: For the changes to take effect.
  - **Cancel**: To go back to the previous page.

## 5.4 Deleting an Existing Visualization Server Configuration

Perform this procedure to remove an existing configuration settings of a specific export job.

Ensure that Visualization Server is configured for logging vulnerable messages.

1. From the SO GUI main menu, click **Diameter Common**, and then **Visualization Server**.

2. From the Table Description: Visualization Server Table, select a task name that you want to remove.
3. Click **Delete** and respond to the displayed confirmation dialogue box.
4. Click **OK**.

## 5.5 Generating SSH Key Exchange

Perform this procedure to generate the public key of the remote server.

Ensure that Visualization Server is configured for logging vulnerable messages.

1. From the SO GUI main menu, click **Diameter Common**, and then **Visualization Server**.
2. From the Table Description: Visualization Server Table, select a task name for generating the SSH key.
3. Click **SSH Key Exchange** and respond to the displayed dialogue box and enter the remote server password.
4. Click **OK**.