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<th>Description</th>
<th>Page</th>
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</thead>
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</tbody>
</table>
Introduction to DCA

This section contains an overview of the available information for the Diameter Custom Applications (DCA) feature. The contents include sections on the organization, scope, and audience of the documentation, as well how to receive customer support assistance.

Revision History

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2016</td>
<td>Initial release of DCA</td>
</tr>
</tbody>
</table>

Understanding DCA

The Diameter Custom Applications (DCA) framework allows for the creation of applications on top of the Diameter Signaling Router (DSR), allowing for a faster development cycle.

DCA requires several elements to function:

- An interface that interprets a scripting language in order to manage the receipt of Diameter messages or U-SBR query results
- An interface that performs basic routing functions such as selecting an Application Route Table or Peer Route Table, forwarding or dropping a Diameter message, or sending a Diameter Answer
- An infrastructure to manage the DCA's business logic and the DCA application's configuration and to generate the script to be used by the interpreting interface

Intended Scope and Audience

This content is intended for personnel who plan to provision DCA.

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

Content Organization

This content is organized as follows:

- **Introduction to DCA** contains general information about DCA, including overview and logic information, the organization of this content, and how to get technical assistance.
- **User Interface Introduction** describes the organization and usage of the user interface. In it you can find information about how the interface options are
organized, how to use widgets and buttons, and how filtering and other page display options work.

- **Activation and Deactivation of DCA** provides information about activating and deactivating DCA.

## Documentation Admonishments

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

### Table 1-1 Admonishments

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![DANGER](image) | Danger:  
(This icon and text indicate the possibility of personal injury.) |
| ![WARNING](image) | Warning:  
(This icon and text indicate the possibility of equipment damage.) |
| ![CAUTION](image) | Caution:  
(This icon and text indicate the possibility of service interruption.) |

## Related Publications

For information about additional publications related to this document, refer to the Oracle Help Center site. See Locate Product Documentation on the Oracle Help Center Site for more information on related product publications.

## Locate Product Documentation on the Oracle Help Center Site

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

1. Access the Oracle Help Center site at [http://docs.oracle.com](http://docs.oracle.com).
2. Click Industries.
3. Under the Oracle Communications subheading, click the Oracle Communications documentation link.

   The Communications Documentation page displays. Most products covered by these documentation sets display under the headings "Network Session Delivery and Control Infrastructure" and "Platforms."

4. Click on your Product and then the Release Number.
A list of the entire documentation set for the selected product and release displays.

5. To download a file to your location, right-click the PDF link, select Save target as (or similar command based on your browser), and save to a local folder.

Customer Training

Oracle University offers training for service providers and enterprises. Visit our website to view, and register for, Oracle Communications training at http://education.oracle.com/communication

To obtain contact phone numbers for countries or regions, visit the Oracle University Education web site at www.oracle.com/education/contacts

My Oracle Support (MOS)

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

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

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

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

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

Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

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

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

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.
User Interface Introduction

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

User Interface Organization

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

The core framework presents a common set of Main Menu options that serve various applications. The common Main Menu options are:

- Administration
- Configuration
- Alarms and Events
- Security Log
- Status and Manage
- Measurements
- Help
- Legal Notices
- Logout

Applications build upon this framework to present features and functions. Depending on your application, some or all of the following Main Menu options may display on the Network Operation, Administration, and Maintenance (NOAM) GUI:

- Communication Agent
- Diameter Common
- Diameter
- **UDR** (User Data Repository)
- MAP-Diameter IWF
- **RADIUS** (Remote Authentication Dial-In User Service)
- **SBR** (Session Binding Repository)
The DSR System OAM GUI may present even more Main Menu options as listed below. The end result is a flexible menu structure that changes according to the application needs and features activated.

- Transport Manager
- SS7/Sigtran
- RBAR (Range Based Address Resolution)
- FABR (Full Address Based Resolution)
- **DCA** (DOIC Capabilities Announcement) Framework
- **GLA** (Gateway Location Application)
- MAP-Diameter IWF
- RADIUS
- SBR
- Mediation
- Policy and Charging
- DCA Framework
- IPFE (IP Front End)

Note that the System OAM (SOAM) Main Menu options differ from the Network OAM (NOAM) options. Some Main Menu options are configurable from the NOAM server and view-only from the SOAM (SOAM) server. This remains true for other applications.

**User Interface Elements**

*Table 2-1* describes elements of the user interface.
<table>
<thead>
<tr>
<th>Element</th>
<th>Location</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Banner</td>
<td>Top bar across the web page</td>
<td>The left side of the banner provides the following information:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Displays the company name,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• product name and version, and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• the alarm panel.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The right side of the banner:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Allows you to pause any software updates.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Links to the online help for all software.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Shows the user name of the currently logged-in user.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provides a link to log out of the GUI.</td>
</tr>
<tr>
<td>Main Menu</td>
<td>Left side of screen, under banners</td>
<td>A tree-structured menu of all operations that can be</td>
</tr>
<tr>
<td></td>
<td></td>
<td>performed through the user interface. The plus character (+) indicates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a menu item contains subfolders.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• To display submenu items, click the plus character, the folder, or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>anywhere on the same line.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• To select a menu item that does not have submenu items, click on the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>menu item text or its associated symbol.</td>
</tr>
</tbody>
</table>
Table 2-1  (Cont.) User Interface Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Location</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Area</td>
<td>Right side of panel under</td>
<td>Consists of three sections:</td>
</tr>
<tr>
<td></td>
<td>status</td>
<td>• Page Title Area: Occupies the top of the work area. It displays the title of the current page being displayed, date and time, and includes a link to context-sensitive help.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Page Control Area: Located below the Page Title Area, this area shows controls for the Page Area (this area is optional). When available as an option, filter controls display in this area. The Page Control Area contains the optional layout element toolbar, which displays different elements depending on which GUI page is selected. For more information, see Optional Layout Element Toolbar.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Page Area: Occupies the bottom of the work area. This area is used for all types of operations. It displays all options, status, data, file, and query screens. Information or error messages are displayed in a message box at the top of this section. A horizontal and/or vertical scroll bar is provided when the displayed information exceeds the page area of the screen. When a user first logs in, this area displays the application</td>
</tr>
</tbody>
</table>
Table 2-1 (Cont.) User Interface Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Location</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session Banner</td>
<td>Across the bottom of the web page</td>
<td>The left side of the banner provides the following session information:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The name of the machine to which the user is connected, and whether the user is connected via the VIP or directly to the machine.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The HA state of the machine to which the user is connected.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The role of the machine to which the user is connected.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The right side of the banner shows the alarm panel.</td>
</tr>
</tbody>
</table>

Main Menu Options

Table 2-2 describes all main menu user interface options.

**Note:** The menu options can differ according to the permissions assigned to a user's login account. For example, the Administration menu options do not display on the screen of a user who does not have administrative privileges.

**Note:** Some menu items are configurable only on the Network OAM and view-only on the System OAM; and some menu options are configurable only on the System OAM.

**Note:** Some features do not display in the main menu until the features are activated.
### Table 2-2  Main Menu Options

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>The Administration menu allows the user to:</td>
</tr>
<tr>
<td></td>
<td>• General Options. Configure options such as password history and expiration, login message, welcome message, and the number of failed login attempts before an account is disabled</td>
</tr>
<tr>
<td></td>
<td>• Set up and manage user accounts</td>
</tr>
<tr>
<td></td>
<td>• Configure group permissions</td>
</tr>
<tr>
<td></td>
<td>• View session information</td>
</tr>
<tr>
<td></td>
<td>• Manage sign-on certificates</td>
</tr>
<tr>
<td></td>
<td>• Authorize IP addresses to access the user interface</td>
</tr>
<tr>
<td></td>
<td>• Configure SFTP user information</td>
</tr>
<tr>
<td></td>
<td>• View the software versions report</td>
</tr>
<tr>
<td></td>
<td>• Upgrade management including backup and reporting</td>
</tr>
<tr>
<td></td>
<td>• Authenticate LDAP servers</td>
</tr>
<tr>
<td></td>
<td>• Configure SNMP trapping services</td>
</tr>
<tr>
<td></td>
<td>• Configure an export server</td>
</tr>
<tr>
<td></td>
<td>• Configure DNS elements</td>
</tr>
<tr>
<td>Configuration</td>
<td>On the NOAM, allows the user to configure:</td>
</tr>
<tr>
<td></td>
<td>• Network Elements</td>
</tr>
<tr>
<td></td>
<td>• Network Devices</td>
</tr>
<tr>
<td></td>
<td>• Network Routes</td>
</tr>
<tr>
<td></td>
<td>• Services</td>
</tr>
<tr>
<td></td>
<td>• Servers</td>
</tr>
<tr>
<td></td>
<td>• Server Groups</td>
</tr>
<tr>
<td></td>
<td>• Resource Domains</td>
</tr>
<tr>
<td></td>
<td>• Places</td>
</tr>
<tr>
<td></td>
<td>• Place Associations</td>
</tr>
<tr>
<td></td>
<td>• Interface and Port DSCP</td>
</tr>
<tr>
<td>Alarms and Events</td>
<td>Allows the user to view:</td>
</tr>
<tr>
<td></td>
<td>• Active alarms and events</td>
</tr>
<tr>
<td></td>
<td>• Alarm and event history</td>
</tr>
<tr>
<td></td>
<td>• Trap log</td>
</tr>
<tr>
<td>Security Log</td>
<td>Allows the user to view, export, and generate reports from security log history.</td>
</tr>
<tr>
<td>Status and Manage</td>
<td>Allows the user to monitor the individual and collective status of Network Elements, Servers, HA functions, Databases, KPIs, system Processes, and Tasks. The user can perform actions required for server maintenance, database management, data, and ISO file management.</td>
</tr>
<tr>
<td>Measurements</td>
<td>Allows the user to view and export measurement data.</td>
</tr>
<tr>
<td>Menu Item</td>
<td>Function</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Transport Manager (optional)</td>
<td>On the SOAM, allows the user to configure adjacent nodes, configuration sets, or transports. A maintenance option allows the user to perform enable, disable, and block actions on the transport entries. This option only displays with the DSR application.</td>
</tr>
<tr>
<td>Communication Agent (optional)</td>
<td>Allows the user to configure Remote Servers, Connection Groups, and Routed Services. The user can perform actions to enable, disable, and block connections. Also allows the user to monitor the status of Connections, Routed Services, and HA Services.</td>
</tr>
<tr>
<td>SS7/Sigtran (optional)</td>
<td>On the SOAM, allows the user to configure various users, groups, remote signaling points, links, and other items associated with SS7/Sigtran; perform maintenance and troubleshooting activities; and provides a command line interface for bulk loading SS7 configuration data. This option only displays with the DSR application.</td>
</tr>
<tr>
<td>Diameter Common (optional)</td>
<td>Allows the user to view or configure:</td>
</tr>
<tr>
<td></td>
<td>• Dashboard, configure on the NOAM; view on both OAMs</td>
</tr>
<tr>
<td></td>
<td>• Network Identifiers on the SOAM - MCC Ranges</td>
</tr>
<tr>
<td></td>
<td>• Network Identifiers on the NOAM - MCCMNC and MCCMNC Mapping</td>
</tr>
<tr>
<td></td>
<td>• MPs (on the SOAM) - editable Profile parameters and Profile Assignments</td>
</tr>
<tr>
<td></td>
<td>The DSR Bulk Import and Export functions are available on both OAMs for the data configured on that OAM.</td>
</tr>
<tr>
<td>Diameter (optional)</td>
<td>Allows the user to configure, modify, and monitor Diameter routing:</td>
</tr>
<tr>
<td></td>
<td>• On the NOAMP, Diameter Topology Hiding and Egress Throttle List configuration</td>
</tr>
<tr>
<td></td>
<td>• On the SOAM, Diameter Configuration, Maintenance, Reports, Troubleshooting with IDIH, AVP Dictionary, and Diameter Mediation configuration</td>
</tr>
<tr>
<td>UDR (User Data Repository) (optional)</td>
<td>Allows the user to add, edit, store, and manage subscriber and pool data. The user can also monitor the import, export, and subscribing client status. This option only displays with the UDR application.</td>
</tr>
</tbody>
</table>
**Table 2-2  (Cont.) Main Menu Options**

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBAR (Range-Based Address Resolution)</td>
<td>Allows the user to configure the following Range-Based Address Resolution (RBAR) settings:</td>
</tr>
<tr>
<td>(optional)</td>
<td>• Applications</td>
</tr>
<tr>
<td></td>
<td>• Exceptions</td>
</tr>
<tr>
<td></td>
<td>• Destinations</td>
</tr>
<tr>
<td></td>
<td>• Address Tables</td>
</tr>
<tr>
<td></td>
<td>• Addresses</td>
</tr>
<tr>
<td></td>
<td>• Address Resolutions</td>
</tr>
<tr>
<td></td>
<td>• System Options</td>
</tr>
<tr>
<td></td>
<td>This is accessible from the SOAM only. This option only displays with the DSR application.</td>
</tr>
<tr>
<td>FABR (Full Address Based Resolution)</td>
<td>Allows the user to configure the following Full Address Based Resolution (FABR) settings:</td>
</tr>
<tr>
<td>(optional)</td>
<td>• Applications</td>
</tr>
<tr>
<td></td>
<td>• Exceptions</td>
</tr>
<tr>
<td></td>
<td>• Default Destinations</td>
</tr>
<tr>
<td></td>
<td>• Address Resolutions</td>
</tr>
<tr>
<td></td>
<td>• System Options</td>
</tr>
<tr>
<td></td>
<td>This is accessible from the SOAM only. This option is only available with the DSR application.</td>
</tr>
<tr>
<td>Gateway Location Application (optional)</td>
<td>On the SOAM, allows the user to perform configuration tasks, edit options, and view elements for:</td>
</tr>
<tr>
<td></td>
<td>• Exceptions</td>
</tr>
<tr>
<td></td>
<td>• Options</td>
</tr>
<tr>
<td></td>
<td>GLA can deploy with Policy DRA (in the same DA-MP or a separate DA-MP). This option only displays with the DSR application.</td>
</tr>
<tr>
<td>MAP-Diameter Interworking (optional)</td>
<td>On the SOAM, allows the user to perform configuration tasks, edit options, and view elements for the DM-IWF DSR Application:</td>
</tr>
<tr>
<td></td>
<td>• DM-IWF Options</td>
</tr>
<tr>
<td></td>
<td>• Diameter Exception</td>
</tr>
<tr>
<td></td>
<td>On the NOAMP, allows the user to perform configuration tasks, edit options, and view elements for the MD-IWF SS7 Application:</td>
</tr>
<tr>
<td></td>
<td>• MD-IWF Options</td>
</tr>
<tr>
<td></td>
<td>• Diameter Realm</td>
</tr>
<tr>
<td></td>
<td>• Diameter Identity GTA</td>
</tr>
<tr>
<td></td>
<td>• GTA Range to PC</td>
</tr>
<tr>
<td></td>
<td>• MAP Exception</td>
</tr>
<tr>
<td></td>
<td>• CCND Mapping</td>
</tr>
<tr>
<td></td>
<td>This option only displays with the DSR application.</td>
</tr>
</tbody>
</table>
### Table 2-2 (Cont.) Main Menu Options

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RADIUS (Remote Authentication Dial-In User Service) (optional)</strong></td>
<td>Allows the user to perform configuration tasks, edit system options, and view elements for:</td>
</tr>
<tr>
<td></td>
<td>• Network Options</td>
</tr>
<tr>
<td></td>
<td>• Message Authenticator Configuration Sets</td>
</tr>
<tr>
<td></td>
<td>• Shared Secret Configuration Sets</td>
</tr>
<tr>
<td></td>
<td>• Ingress Status Server Configuration Sets</td>
</tr>
<tr>
<td></td>
<td>• Message Conversion Configuration Sets</td>
</tr>
<tr>
<td></td>
<td>• <strong>NAS Node</strong></td>
</tr>
<tr>
<td></td>
<td>This option only displays with the DSR application.</td>
</tr>
<tr>
<td><strong>SBR (Session Binding Repository) (optional)</strong></td>
<td>Allows the user to perform configuration tasks, edit system options, and view elements for:</td>
</tr>
<tr>
<td></td>
<td>• <strong>SBR Databases</strong></td>
</tr>
<tr>
<td></td>
<td>• SBR Database Resizing Plans</td>
</tr>
<tr>
<td></td>
<td>• SBR Data Migration Plans</td>
</tr>
<tr>
<td></td>
<td>• Database Options</td>
</tr>
<tr>
<td></td>
<td>Additionally, on the NOAMP, users are allowed to perform maintenance tasks, edit options, and view elements for:</td>
</tr>
<tr>
<td></td>
<td>• Maintenance</td>
</tr>
<tr>
<td></td>
<td>• SBR Database Status</td>
</tr>
<tr>
<td></td>
<td>• SBR Status</td>
</tr>
<tr>
<td></td>
<td>• SBR Database Reconfiguration Status</td>
</tr>
<tr>
<td></td>
<td>This option only displays with the DSR application.</td>
</tr>
<tr>
<td><strong>Mediation</strong></td>
<td>Allows the user to make routable decisions to end the reply, drop the message, or set the destination realm.</td>
</tr>
</tbody>
</table>
Table 2-2 (Cont.) Main Menu Options

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy and Charging (optional)</td>
<td>On the NOAMP, allows the user to perform configuration tasks, edit options, and view elements for:</td>
</tr>
<tr>
<td></td>
<td>• General Options</td>
</tr>
<tr>
<td></td>
<td>• Access Point Names</td>
</tr>
<tr>
<td></td>
<td>• Policy DRA</td>
</tr>
<tr>
<td></td>
<td>- PCRF Pools</td>
</tr>
<tr>
<td></td>
<td>- PCRF Sub-Pool Selection Rules</td>
</tr>
<tr>
<td></td>
<td>- Network-Wide Options</td>
</tr>
<tr>
<td></td>
<td>• Online Charging DRA</td>
</tr>
<tr>
<td></td>
<td>- OCS Session State</td>
</tr>
<tr>
<td></td>
<td>- Realms</td>
</tr>
<tr>
<td></td>
<td>- Network-Wide Options</td>
</tr>
<tr>
<td></td>
<td>• Alarm Settings</td>
</tr>
<tr>
<td></td>
<td>• Congestion Options</td>
</tr>
<tr>
<td></td>
<td>Additionally on the NOAMP, users are allowed to perform maintenance tasks, edit options, and view elements for:</td>
</tr>
<tr>
<td></td>
<td>• Maintenance</td>
</tr>
<tr>
<td></td>
<td>- SBR Database Status</td>
</tr>
<tr>
<td></td>
<td>- SBR Status</td>
</tr>
<tr>
<td></td>
<td>- SBR Database Reconfiguration Status</td>
</tr>
<tr>
<td></td>
<td>- Policy Database Query</td>
</tr>
<tr>
<td></td>
<td>On the SOAM, allows the user to perform configuration tasks, edit options, and view elements for:</td>
</tr>
<tr>
<td></td>
<td>• General Options</td>
</tr>
<tr>
<td></td>
<td>• Access Point Names</td>
</tr>
<tr>
<td></td>
<td>• Policy DRA</td>
</tr>
<tr>
<td></td>
<td>- PCRFs</td>
</tr>
<tr>
<td></td>
<td>- Binding Key Priority</td>
</tr>
<tr>
<td></td>
<td>- PCRF Pools</td>
</tr>
<tr>
<td></td>
<td>- PCRF Pool to PRT Mapping</td>
</tr>
<tr>
<td></td>
<td>- PCRF Sub-Pool Selection Rules</td>
</tr>
<tr>
<td></td>
<td>- Policy Clients</td>
</tr>
<tr>
<td></td>
<td>- Suspect Binding Removal Rules</td>
</tr>
<tr>
<td></td>
<td>- Site Options</td>
</tr>
<tr>
<td></td>
<td>• Online Charging DRA</td>
</tr>
<tr>
<td></td>
<td>- OCSs</td>
</tr>
<tr>
<td></td>
<td>- CTFs</td>
</tr>
<tr>
<td></td>
<td>- OCS Session State</td>
</tr>
<tr>
<td></td>
<td>- Realms</td>
</tr>
<tr>
<td></td>
<td>• Error Codes</td>
</tr>
<tr>
<td></td>
<td>• Alarm Settings</td>
</tr>
<tr>
<td></td>
<td>• Congestion Options</td>
</tr>
<tr>
<td></td>
<td>This option only displays with the DSR application.</td>
</tr>
<tr>
<td>Menu Item</td>
<td>Function</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>DCA Framework (optional)</td>
<td>Allows the user to perform configuration tasks, edit system options, and view elements for DCA applications:</td>
</tr>
<tr>
<td></td>
<td>• Custom MEALs (Measurements, Events, Alarms, and Logs)</td>
</tr>
<tr>
<td></td>
<td>• General Options</td>
</tr>
<tr>
<td></td>
<td>• Trial MPs assignment</td>
</tr>
<tr>
<td></td>
<td>• Application Control</td>
</tr>
<tr>
<td></td>
<td>• System Options</td>
</tr>
<tr>
<td>IPFE (optional)</td>
<td>Allows the user to configure IP Front End (IPFE) options and IP List TSA's.</td>
</tr>
<tr>
<td></td>
<td>This is accessible from the SOAM server only. This option only displays with the DSR application.</td>
</tr>
<tr>
<td>Help</td>
<td>Launches the Help system for the user interface</td>
</tr>
<tr>
<td>Legal Notices</td>
<td>Product Disclaimers and Notices</td>
</tr>
<tr>
<td>Logout</td>
<td>Allows the user to log out of the user interface</td>
</tr>
</tbody>
</table>

**Missing Main Menu options**

Permissions determine which Main Menu options are visible to users. Permissions are defined through the Group Administration page. The default group, admin, is permitted access to all GUI options and functionality. Additionally, members of the admin group set permissions for other users.

Main Menu options vary according to the group permissions assigned to a user's account. Depending on your user permissions, some menu options may be missing from the Main Menu. For example, Administration menu options do not display on your screen if you do not have administrative permissions. For more information about user permissions, see *Group Administration* in the OAM section of the online help, or contact your system administrator.

**Common Graphical User Interface Widgets**

Common controls allow you to easily navigate through the system. The location of the controls remains static for all pages that use the controls. For example, after you become familiar with the location of the display filter, you no longer need to search for the control on subsequent pages because the location is static.

**Supported Browsers**

This application supports the use of Microsoft® Internet Explorer 8.0, 9.0, or 10.0. It is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details.
System Login Page

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

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

Customizing the Login Message

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

1. From the Main Menu, click Administration > General Options.
2. Locate LoginMessage in the Variable column.
3. Enter the login message text in the Value column.
4. Click **OK** or **Apply** to submit the information.

A status message displays at the top of the Configuration Administration page to inform you if the operation was successful.

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

**Accessing the DSR Graphical User Interface**

In DSR, some configuration is done at the **NOAM** server, while some is done at the **SOAM** server. Because of this, you need to access the DSR graphical user interface (GUI) from two servers. Certificate Management (Single Sign-On) can be configured to simplify accessing the DSR GUI on the NOAM and the SOAM.

For information on configuring Single Sign-On certificates, see **OAM > Administration > Access Control > Certificate Management** in the DSR online help.

After the certificates have been configured, you can log into the DSR GUI on any NOAM or SOAM, and access the DSR GUI on other servers (NOAM or other SOAMs) without having to re-enter your login credentials.

1. In the browser URL field, enter the fully qualified hostname of the NOAM server, for example https://dsr-no.yourcompany.com.

   When using Single Sign-On, you cannot use the IP address of the server.

2. When prompted by the browser, confirm that the server can be trusted.

   The System Login page displays.

3. Enter the Username and Password for your account.

   The DSR GUI for the NOAM displays.

4. To access the DSR GUI for the SOAM, open another browser window and enter the fully qualified hostname of the SOAM.

   The DSR GUI for the SOAM displays.

You can toggle between the DSR GUI on the NOAM and the DSR GUI on the SOAM as you perform configuration tasks.

**Main Menu Icons**

This table describes the icons used in the Main Menu.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>📁</td>
<td>Folder</td>
<td>Contains a group of operations. If the folder is expanded by clicking the plus (+) sign, all available operations and sub-folders are displayed. Clicking the minus (-) collapses the folder.</td>
</tr>
</tbody>
</table>
Table 2-3  (Cont.) Main Menu Icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="config-file.png" alt="Icon" /></td>
<td>Config File</td>
<td>Contains operations in an Options page.</td>
</tr>
<tr>
<td><img src="magnifying-glass.png" alt="Icon" /></td>
<td>File with Magnifying Glass</td>
<td>Contains operations in a Status View page.</td>
</tr>
<tr>
<td><img src="file.png" alt="Icon" /></td>
<td>File</td>
<td>Contains operations in a Data View page.</td>
</tr>
<tr>
<td><img src="multiple-files.png" alt="Icon" /></td>
<td>Multiple Files</td>
<td>Contains operations in a File View page.</td>
</tr>
<tr>
<td><img src="question-mark.png" alt="Icon" /></td>
<td>File with Question Mark</td>
<td>Contains operations in a Query page.</td>
</tr>
<tr>
<td><img src="user.png" alt="Icon" /></td>
<td>User</td>
<td>Contains operations related to users.</td>
</tr>
<tr>
<td><img src="group.png" alt="Icon" /></td>
<td>Group</td>
<td>Contains operations related to groups.</td>
</tr>
<tr>
<td><img src="task.png" alt="Icon" /></td>
<td>Task</td>
<td>Contains operations related to Tasks</td>
</tr>
<tr>
<td><img src="help.png" alt="Icon" /></td>
<td>Help</td>
<td>Launches the Online Help.</td>
</tr>
<tr>
<td><img src="logout.png" alt="Icon" /></td>
<td>Logout</td>
<td>Logs the user out of the user interface.</td>
</tr>
</tbody>
</table>

Work Area Displays

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

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

Tables

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

Figure 2-2  Paginated Table

<table>
<thead>
<tr>
<th>Action</th>
<th>System ID</th>
<th>IP Address</th>
<th>Permission</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit</td>
<td>Isla</td>
<td>10.25.62.4</td>
<td>READ_WRITE</td>
<td>Delete</td>
</tr>
</tbody>
</table>

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

Figure 2-3  Scrollable Table

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Alarm ID</th>
<th>Timestamp</th>
<th>Severity</th>
<th>Product</th>
<th>Process</th>
<th>NE</th>
<th>Server</th>
<th>Type</th>
<th>Instance</th>
<th>Alarm Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>3190</td>
<td>3190</td>
<td>2009-Jun-11 18:07:41.214 UTC</td>
<td>MAJOR</td>
<td>Middleware</td>
<td>procng</td>
<td>CPMPE</td>
<td>test011000</td>
<td>PROC</td>
<td>editHelp</td>
<td>A managed process cannot be started or has unexpectedly terminated</td>
</tr>
<tr>
<td>3445</td>
<td>3445</td>
<td>2009-Jun-11 18:07:23.423 UTC</td>
<td>MAJOR</td>
<td>Middleware</td>
<td>procng</td>
<td>SWAMP</td>
<td>test011000</td>
<td>PROC</td>
<td>editHelp</td>
<td>A managed process cannot be started or has unexpectedly terminated</td>
</tr>
<tr>
<td>3443</td>
<td>3443</td>
<td>2009-Jun-11 18:07:24.704 UTC</td>
<td>MAJOR</td>
<td>Middleware</td>
<td>instmerge</td>
<td>SWAMP</td>
<td>test011000</td>
<td>COLL</td>
<td>inst01100x</td>
<td>66 merging from a child Source Node has failed</td>
</tr>
<tr>
<td>3444</td>
<td>3444</td>
<td>2009-Jun-11 18:07:24.704 UTC</td>
<td>MAJOR</td>
<td>Middleware</td>
<td>instmerge</td>
<td>SWAMP</td>
<td>test011000</td>
<td>COLL</td>
<td>inst03100x</td>
<td>66 merging from a child Source Node has failed</td>
</tr>
<tr>
<td>3441</td>
<td>3441</td>
<td>2009-Jun-11 18:07:22.640 UTC</td>
<td>MAJOR</td>
<td>Middleware</td>
<td>reportmap</td>
<td>SWAMP</td>
<td>test011000</td>
<td>SW</td>
<td>test03100x</td>
<td>Unable to execute a hostname specified in the Command line.</td>
</tr>
</tbody>
</table>

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

Forms

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

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

Reports

Reports provide a formatted display of information. Reports are generated from data tables by clicking Report. Reports can be viewed directly on the user interface, or they can be printed. Reports can also be saved to a text file.
Figure 2-7  Report Output

User Account Usage Report

Report Generated: Fri Jun 19 19:00:56 2009 UTC
From: unknown Network SAM6P on host teas901701
Report Version: 1.0
User: guiadmin

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

<table>
<thead>
<tr>
<th>Username</th>
<th>Date of Last Login</th>
<th>Days Since Last Login</th>
<th>Account Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>guiadmin</td>
<td>2009-06-19 19:00:17</td>
<td>0</td>
<td>enabled</td>
</tr>
</tbody>
</table>

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

End of User Account Usage Report

Customizing the Splash Page Welcome Message

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

1. From the Main Menu, click Administration > General Options.
2. Locate Welcome Message in the Variable column.
3. Enter the desired welcome message text in the Value column.
4. Click OK to save the change or Cancel to undo the change and return the field to the previously saved value.

A status message displays at the top of the page to inform you if the operation was successful.

The next time you log into the user interface, the new welcome message text displays.

Column Headers (Sorting)

You can sort a table by a column by clicking the column header. However, sorting is not necessarily available on every column. Sorting does not affect filtering.

When you click the header of a column in a table that can be sorted, an indicator displays in the column header showing the direction of the sort. See Figure 2-8. Clicking the column header again reverses the direction of the sort.

Figure 2-8  Sorting a Table by Column Header

<table>
<thead>
<tr>
<th>Local Node Name</th>
<th>Realm</th>
<th>FQDN</th>
<th>SCTP Listen Port</th>
<th>TCP Listen Port</th>
<th>Connection Configuration Set</th>
<th>CEX Configuration Set</th>
</tr>
</thead>
</table>

Page Controls

User interface pages contain controls, such as buttons and links, that perform specified functions. The functions are described by the text of the links and buttons.
**Note:** Disabled buttons are grayed out. Buttons that are irrelevant to the selection or current system state, or which represent unauthorized actions as defined in Group Administration, are disabled. For example, **Delete** is disabled for users without Global Data Delete permission. Buttons are also disabled if, for example, multiple servers are selected for an action that can only be performed on a single server at a time.

Table 2-4 contains examples of Action buttons.

<table>
<thead>
<tr>
<th>Action Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert</td>
<td>Inserts data into a table.</td>
</tr>
<tr>
<td>Edit</td>
<td>Edits data within a table.</td>
</tr>
<tr>
<td>Delete</td>
<td>Deletes data from table.</td>
</tr>
<tr>
<td>Change</td>
<td>Changes the status of a managed object.</td>
</tr>
</tbody>
</table>

Some Action buttons take you to another page.

Submit buttons, described in Table 2-5, are used to submit information to the server. The buttons are located in the page area and accompanied by a table in which you can enter information. The Submit buttons, except for **Cancel**, are disabled until you enter some data or select a value for all mandatory fields.

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

**Clear Field Control**

The clear field control allows you to clear the value from a list. The clear field control is available only on some lists.

Click the X next to a list to clear the field.

*Figure 2-9  Clear Field Control X*

| - Select -  | X |

**Optional Layout Element Toolbar**

The optional layout element toolbar displays in the Page Control Area of the GUI.
Figure 2-10  Optional Layout Element Toolbar

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

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

Notifications

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

Figure 2-11  Automatic Error Notification

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

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

Opening an Element in the Toolbar

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

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

2. Click X to close the element display.
Filters

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

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

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

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

- Collection Interval – When enabled, the collection interval filter limits the data to entries collected in a specified time range.

- Display Filter – The display filter limits the data viewed to data matching the specified criteria.

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

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

**Figure 2-12 Examples of Filter Styles**

<table>
<thead>
<tr>
<th>Network Element</th>
<th>Collection Interval</th>
<th>Display Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Days</td>
<td>Severity</td>
</tr>
<tr>
<td>Go</td>
<td>Ending</td>
<td>MINOR</td>
</tr>
<tr>
<td>Reset</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Filter Control Elements**

This table describes filter control elements of the user interface.

**Table 2-6 Filter Control Elements**

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>=</td>
<td>Displays an exact match.</td>
</tr>
<tr>
<td>!=</td>
<td>Displays all records that do not match the specified filter parameter value.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Displays all records with a parameter value that is greater than the specified value.</td>
</tr>
</tbody>
</table>
Table 2-6 (Cont.) Filter Control Elements

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=</td>
<td>Displays all records with a parameter value that is greater than or equal to the specified value.</td>
</tr>
<tr>
<td>&lt;</td>
<td>Displays all records with a parameter value that is less than the specified value.</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Displays all records with a parameter value that is less than or equal to the specified value.</td>
</tr>
<tr>
<td>Like</td>
<td>Enables you to use an asterisk (*) as a wildcard as part of the filter parameter value.</td>
</tr>
<tr>
<td>Is Null</td>
<td>Displays all records that have a value of Is Null in the specified field.</td>
</tr>
</tbody>
</table>

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

Filtering on the Network Element

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

1. Click **Filter** in the optional layout element toolbar.
2. Select a Network Element from the **Network Element** list.
3. Click **Go** to filter on the selection or click **Reset** to clear the selection.
4. For data tables that support compound filtering, click **Add** to add another filter condition and repeat steps 2 through 4.

Multiple filter conditions are joined by an AND operator.

Records are displayed according to the specified criteria.

Filtering on Collection Interval

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

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

   The duration must be a numeric value.
3. Select a unit of time from the list.
   The unit of time can be seconds, minutes, hours, or days.

4. Select **Beginning** or **Ending** from the list.

5. Click **Go** to filter on the selection, or click **Reset** to clear the selection.

Records are displayed according to the specified criteria.

**Filtering Using the Display Filter**

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

**Note:** Display Filter does not support compound filtering. For example, you cannot filter on both severity and a server name. Try to filter on a single filter criteria, such as the server hostname for server-scoped metric cells; or the application name for St- and NE-scoped metric cells. You can also sort by congestion level (descending) to help improve your filter.

1. Click **Filter** in the optional layout element toolbar.

2. Select a field name from the **Display Filter** list.
   
   This selection specifies the field in the table that you want to filter on. The default is **None**, which indicates that you want all available data displayed.

3. Select an operator from the operation selector list.

4. Enter a value in the value field.
   
   This value specifies the data that you want to filter on. For example, if you specify Filter=Severity with the equals (=) operator and a value of MINOR, the table would show only records where Severity=MINOR.

5. Click **Go** to filter on the selection, or click **Reset** to clear the selection.

Records are displayed according to the specified criteria.

**Note:** PCA was known as PDRA and may still be seen in some filtering.

**Pause Updates**

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

**Max Records Per Page Controls**

Max Records Per Page is used to control the maximum number of records displayed in the page area. If a page uses pagination, the value of Max Records Per Page is used. Use this procedure to change the Max Records Per Page.
1. From the **Main Menu**, click **Administration > General Options**.

2. Change the value of the **MaxRecordsPerPage** variable.

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

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

   **OK** saves the change and returns to the previous page.
   **Apply** saves the change and remains on the same page.

   The maximum number of records displayed is changed.
Activation and Deactivation of DCA

This chapter provides basic descriptions for activating and deactivating the DCA Framework and DCA applications.

DCA Activation

In order to use new applications for DCA, the DCA Framework must be activated on the NO. Activation needs to be performed only once.

Once developed, a new application then must be activated on the NO. Activation needs to be performed once per application.

Note: There may be limits on the number of DCA applications that can be simultaneously activated. Old DCA applications may need to be deactivated in order to make room for new applications.

Activating the DCA Framework

This procedure is used to activate the DCA Framework.

1. Log out of any active NOAM GUI sessions.
2. Use an SSH client to connect to the server as admusr.
   
   # ssh <active NOAM XMI IP Address>
3. Change to the feature activation directory.
   
   # cd /usr/TKLC/dsr/prod/maint/loaders/
4. Execute the feature activation script.
   
   # ./featureActivateDeactivate
   
   a. Choose the Activate and DCA Framework options.
   
   b. There is an option to choose to activate this feature on all SOAMs or on a specific SOAM.

   If a new site is added or if, on some site, framework was not activated, the activation script can be executed again to add the application on new sites. The script won’t have any impact on the sites on which the framework is already active.

   c. Verify that the screen output is similar to:

   [admusr@HPC07-NO1 loaders]$ ./featureActivateDeactivate
   Tue Feb  2 17:47:18 EST 2016::Starting featureActivateDeactivate main...
Start the Automation script, To run the Feature Activation/DeActivation on Active NO.

You want to Activate or Deactivate the Feature:
1. Activate
2. Deactivate

Enter your choice: 1

List of Feature you can Activate:
1. RBAR
2. FABR
3. Mediation
4. LoadGen
5. GLA
6. MAP Interworking
7. DTLS
8. Dca Framework
9. Dca Application

Enter the choice: 8

Run script to Activate DcaFramework Feature

===========================================================================
Execution of Activation/Deactivation Process Starts
===========================================================================
Starting Activation/Deactivation process....
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.DcaFrameworkActivateAsourced script on HPC07-NO1

Current server is HA ACTIVE
===========================================================================
Add Dca Framework KPI Group
KPI_Group=Dca Framework
Visibility=VIS_ALL
Add Dca Framework Measurement groups
Meas_Group=Dca Framework Performance
Visibility=VIS_ALL
Add Dca Framework GUI Configuration Permissions.

DCA Activation
3-2 Diameter Signaling Router Diameter Custom Applications
Set Dca Framework Entry in the DcaFrmEngOption table

=== changed 1 records ===

There is no Standby NOAMP server configured in the Topology

The Active SO server configured in the Topology are

1. HPC07-SO1
2. ALL SOs

Enter your choice on which SO you want to Activate or Deactivate the Feature: 2

Activate/Deactivate DcaFramework on all SOs configured in the Topology

This is a 3 Tier Setup, So run the B sourced loaders on SO server: HPC07-SO1

Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.DcaFrameworkActivateBsourced script on HPC07-SO1

FIPS integrity verification test failed.

Add Dca Framework GUI Configuration Permissions.

FIPS integrity verification test failed.

Executing the Loaders and Clearing Cache on Standby SO servers.

There is no Standby/Spare SOAMP server configured in the Topology

5. Log into the Active NOAM and SOAM GUI.

6. Verify that DCA Framework appears as a menu item on the NOAM and SOAM.

7. Log out of the NOAM login shells using the # exit command and close the SSH connections.

Post Framework Activation

Once the DCA Framework is activated, the DCA Framework folder and Configuration file becomes visible on the left hand menu as shown in Figure 3-1.
All the KPIs and measurements associated with the DCA Framework also become visible as shown in Figure 3-2 and Figure 3-3 respectively.

---

**Activating a DCA Application**

This procedure is used to activate a DCA application.

1. Log out of any active NOAM GUI sessions.
2. Use an SSH client to connect to the server as **admusr**.
# ssh <active NOAM XMI IP Address>

3. Change to the feature activation directory.

```bash
# cd /usr/TKLC/dsr/prod/maint/loaders/
```

4. Execute the feature activation script.

```bash
# ./featureActivateDeactivate
```

a. Choose **Activate** and **DCA Application**.

b. Enter a long name for the new application when prompted.

---

**Note:** The DCA application long name consists of a combination of letters, numbers, and spaces. It can't begin with a space and has a maximum of 32 characters.

---

c. Enter a short name for the application when prompted.

---

**Note:** The DCA application short name consists of a combination of letters and numbers. It has a maximum of 6 characters.

---

d. Verify that the screen output is similar to:

```
[admusr@HPC07-NO1 loaders]$ ./featureActivateDeactivate
Tue Feb  2 17:52:59 EST 2016::Starting featureActivateDeactivate main...
Start the Automation script, To run the Feature Activation/DeActivation on Active NO.

You want to Activate or Deactivate the Feature:
1. Activate
2. Deactivate

Enter your choice: 1

List of Feature you can Activate:
1. RBAR
2. FABR
3. Mediation
4. LoadGen
5. GLA
6. MAP Interworking
7. DTLS
8. Dca Framework
9. Dca Application

Enter the choice: 9

================== Start of Log Data in file /var/TKLC/log/
DcaActivationTopLevel.log ===============
====================================S-T-A-R-T===================================
Log file location: /var/TKLC/log/DcaActivationTopLevel.log
```
Note:-
In case of any failure please execute /usr/TKLC/dsr/prod/maint/loaders/
deactivate/load.DcaDeactivationTopLevel script to revert the changes.

Execution of Activation Process Starts

Dca framework is activated on the setup..Continuing
Following Dca apps are activated on the system:
First Dca App
Enter the long name for the Dca application:Second DCA App
Entered dca name Second DCA App consist of valid characters
Entered Name is Second DCA App
next available dal id is 129
Enter the short name for the Dca application:sda
length of shortName is 3.continuing..
Entered dca name sda consist of valid characters
Entered Name is sda

Verify that Dca Application is in the DalId table

dalId=129
birthTime=02/02/2016 17:53:22.000
name=Second DCA App
shortName=sda
activated=No

Verify that Dca Application is in the DcaDalId table

dalId=129
name=Second DCA App
shortName=sda

Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.DcaActivateAscoped script on HPC07-NO1

Add Dca application entry to the DsrApplication table.

Verify that Dca Application is in the table

id=129
name=sda
unavailableAction=ContinueRouting
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=Dca Application Unavailable Or Degraded
crExhResultCode=3004
crExhVendorId=0
crExhErrorString=Dca Resource Exhausted
routeListId=-1
realm=
fqdn=
mci=0

Add Dca Application KPI group

Add Dca Application Measurement groups

Add Permission Group headers for Dca Application

Add network configuration parameters for Dca

Execution status of activation script on HPC07-NO1: PASSED
Please check /var/TKLC/log/DcaActivateAscoped.log for more details.

Starting Activation on StandBy NOAMP Server if it exists in the topology.

HPC07-NO1 is Active and Primary NOAMP Server. So, proceeding with next NOAMP Server.

Activation done on all Network OAMP Servers

Starting Activation on System OAM servers

HPC07-SO1 is Active. So, proceeding with Activation.
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.DcaActivateBscoped script on HPC07-SO1
FIPS integrity verification test failed.

Start of Log Data in file /var/TKLC/log/DcaActivateBscoped.log

Server Name : HPC07-SO1
Server Role: SYSTEM_OAM
Node Id : HPC07-SO1
HA State : Active

Add Dca application to DsrApplication. If already present then skip.

Verify that Dca application is in the table

id=129
name=sda
unavailableAction=ContinueRouting
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=Dca Resource Exhausted
routeListId=-1
realm=
fqdn=
mcl=0

Add Permission Group headers for Dca app on SOAM server

Add system configuration parameters for Dca

===============================================END==========================

Execution status of activation script on HPC07-SO1: PASSED
Please check /var/TKLC/log/DcaActivateBscoped.log.HPC07-SO1 for more
details.
FIPS integrity verification test failed.

--- changed 1 records ---

Verify that activated field is updated for Dca Application in the DalId
table

dalId=129
birthTime=02/02/2016 17:53:22.000
name=Second DCA App
shortName=sda
activated=Yes

Execution of Dca Application Activation Script complete.

---

e. Restart the DSR MP from **Main Menu > Status & Manage > Server.**

5. Log into an Active NOAM and SOAM GUI.

6. Verify that DCA Application folder appears under the DCA Framework menu item
on an NOAM and SOAM.

   a. Verify that the folder for the new DCA application appears under DCA
Framework on an NOAM. Under the application folder has General Options,
Trial MP assignment, and Application Control sub-options.
b. Verify that the folder for the new DCA application appears under DCA Framework on an SOAM. Under the application folder has General Options, Trial MP assignment, and Application Control, and System Options sub-options.

7. Log out of the NOAM login shells using the `exit` command and close the SSH connections.

Post Application Activation

When the new DCA application is activated, the application subfolder with the name provided by the user during the activation procedure becomes visible on the left side menu as shown in Figure 3-4. The application subfolder includes the pages for enabling the business logic and provisioning configuration data. The application becomes visible across DSR. For further details on a specific application, refer to the user's guide for that specific application.

![DCA Application Menu](image)

Post-Activation DCA Application State

After activation, a DCA application is in the disabled state. While in the disabled state, Diameter traffic is not delivered to the application. The application must be enabled from Diameter > Maintenance > Applications. The application is identified by the name configured by the user during the activation of the application.

Regardless of whether or not a DCA application is enabled or disabled, no version of the application is provisioned. No version is in the production or trial state. As long as no production or trial version is available for a DA-MP to run, the application’s operational status is unavailable (see Diameter > Maintenance > Applications on the SO). An Application Route Table (ART) must also be defined for the new application (see Diameter > Configuration > Application Route Tables).
Afterward, the configuration and business logic for the DCA application are
provisioned.

DCA Deactivation

To deactivate DCA, an application and the DCA Framework must be removed.

Deactivating a DCA Application

This procedure is used to deactivate a DCA application.

1. Log out of any active NOAM GUI sessions.

2. Use an SSH client to connect to the server as admusr.
   
   \[
   \# \text{ssh <active NO XMI IP Address>}
   \]

3. Change to the feature deactivation directory.
   
   \[
   \# \text{cd /usr/TKLC/dsr/prod/maint/loaders/}
   \]

4. Execute the feature activation script.
   
   \[
   \# \text{./featureActivateDeactivate}
   \]

   a. Choose **Deactivate** and **DCA Application**.

   b. Enter the name for the application to be deactivated when prompted.

   c. Verify that the screen output is similar to:

   ```
   [admusr@HPC07-N01 loaders]$ pwd
   /usr/TKLC/dsr/prod/maint/loaders
   [admusr@HPC07-N01 loaders]$ ./featureActivateDeactivate
   Tue Feb  2 17:59:21 EST 2016::Starting featureActivateDeactivate main...
   Start the Automation script, To run the Feature Activation/DeActivation on Active NO.
   
   You want to Activate or Deactivate the Feature :
   1. Activate
   2. Deactivate
   
   Enter your choice : 2
   
   Which Feature you want to Deactivate :
   1. RBAR
   2. FABR
   3. Mediation
   4. LoadGen
   5. GLA
   6. MAP Interworking
   7. DTLS
   8. Dca Framework
   9. Dca Application
   
   Enter your choice : 9
   
   =================================  S-T-A-R-T of log
   DcaDeactivationTopLevel.log ===========
   Log file location: /var/TKLC/log/DcaDeactivationTopLevel.log
   ==============================================================
   ```
Execution of Deactivation Process Starts

Following Dca apps are activated on the system
1. FDA
2. sda

Enter the name for the Dca application to be deactivated: sda

The name of application selected to deactivate is: sda

changed 1 records

DalId Table successfully updated with deactivated status.

HPC07-SO1 is Active. So, proceeding with Deactivation.
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.DcaDeactivateBscoped script on HPC07-SO1
FIPS integrity verification test failed.

Start of Log Data in file /var/TKLC/log/DcaDeactivateBscoped.log

Server Name : HPC07-SO1
Server Role: SYSTEM_OAM
Node Id : HPC07-SO1
HA State : Active

Remove the ART rules corresponding to the DCA
No rules configured for the current application.

Remove Dca from DcaAppSystemUserOption table

deleted 5 records

Remove Dca Application from DsrApplicationPerMp table

deleted 0 records

Remove Dca Application from DsrApplication table

deleted 1 records

Remove permission group headers for Dca Application on SOAM server

deleted 1 records

END

Execution status of deactivation script on HPC07-SO1: PASSED
Please check /var/TKLC/log/DcaDeactivateBscoped.log.HPC07-SO1 for more details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.

Starting Deactivation on Standby NOAMP server if present in topology.
HPC07-NO1 is Active NOAMP Server. Proceeding with next NOAMP server in the list.

Starting Deactivation on Active NOAMP server.

Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.DcaDeactivateAscoped script on HPC07-NO1

---------- Start of Log Data in file /var/TKLC/log/DcaDeactivateAscoped.log ----------

Server Name  : HPC07-NO1
Server Role  : NETWORK_OAMP
Node Id      : HPC07-NO1
HA State     : Active
Cluster Role : Primary

Remove Dca Application KPI groups

=== deleted 1 records ===

Remove Dca Application Measurement groups

=== deleted 1 records ===

Remove permission group headers for Dca Application

=== deleted 1 records ===

Remove logical to physical sbr db mapping from DcaLog2PhySbr and DcaLogicalSbr table

Remove Dca from DcaLifecycleNoam table

=== deleted 0 records ===

Remove Dca from DcaAppNetworkUserOption table

=== deleted 3 records ===

Remove Dca from DcaTrialMp table

=== deleted 0 records ===

Remove Dca from DsrApplicationPerMp table

=== deleted 0 records ===

Remove Dca Application from DsrApplication table

=== deleted 1 records ===
=== deleted 0 records ===
=== deleted 1 records ===
**Execution status of deactivation script on HPC07-NO1: PASSED**

=====Execution of Dca Application Deactivation Script complete.=====

---

d. Restart the DSR MP from **Main Menu > Status & Manage > Server**.

5. Log into an Active NOAM and SOAM GUI.

6. Verify that the specific DCA application folder disappears as a menu item on the NOAM and SOAM.

7. Log out of the NOAM login shells using the `exit` command and close the SSH connections.

**Post Application Deactivation**

Deactivating a DCA application is not allowed as long as versions of the application are still in the production and/or trial states.

After deactivation, the application’s GUI folder under the **DCA Framework** menu item disappears. The application is deregistered from the ART, its KPIs and measurements are no longer displayed, and are no longer reported.

**Deactivating the DCA Framework**

This procedure is used to deactivate the DCA Framework.

1. Log out of any active NOAM GUI sessions.

2. Use an SSH client to connect to the server as **admusr**.

   ```
   # ssh <active NO XMI IP Address>
   ```

3. Change to the feature deactivation directory.

   ```
   # cd /usr/TKLC/dsr/prod/maint/loaders/
   ```

4. Execute the feature activation script.

   ```
   # ./featureActivateDeactivate
   ```

   **a.** Choose the **Deactivate** and **DCA Framework** options.

   **b.** For 3-Tiered Architecture, you can deactivate this feature on all SOAMs or on a specific SOAM

   **c.** Verify that the screen output is similar to:

   ```
   [admusr@HPC07-NO1 loaders]$ pwd
   /usr/TKLC/dsr/prod/maint/loaders
   [admusr@HPC07-NO1 loaders]$ ./featureActivateDeactivate
   Tue Feb 2 17:59:21 EST 2016::Starting featureActivateDeactivate main...
   Start the Automation script, To run the Feature Activation/DeActivation
   on Active NO.
   ```
You want to Activate or Deactivate the Feature:
1. Activate
2. Deactivate

Enter your choice: 2

Which Feature you want to Deactivate:
1. RBAR
2. FABR
3. Mediation
4. LoadGen
5. GLA
6. MAP Interworking
7. DTLS
8. Dca Framework
9. Dca Application

Enter your choice: 9

================================= S-T-A-R-T of log
DcaDeactivationTopLevel.log ==========
Log file location: /var/TKLC/log/DcaDeactivationTopLevel.log
=================================================================================
=====Execution of Deactivation Process Starts
=================================================================================
=====Following Dca apps are activated on the system
1. FDA
2. sda
Enter the name for the Dca application to be deactivated: sda
The name of application selected to deactivate is: sda
=== changed 1 records ===
=======================================================
DalId Table successfully updated with deactivated status.
========================================================

=================================================================================
=====HPC07-SO1 is Active. So, proceeding with Deactivation.
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.DcaDeactivateBscoped script on HPC07-SO1
FIPS integrity verification test failed.

================================== Start of Log Data in file /var/TKLC/log/
DcaDeactivateBscoped.log ===========

Server Name: HPC07-SO1
Server Role: SYSTEM_OAM
Node Id: HPC07-SO1
HA State: Active
=================================================================================
Remove the ART rules corresponding to the DCA
No rules configured for the current application.
=================================================================================
Remove Dca from DcaAppSystemUserOption table
=================================================================================
=== deleted 5 records ===
=================================================================================
Remove Dca Application from DsrApplicationPerMp table
=== deleted 0 records ===

Remove Dca Application from DsrApplication table
=== deleted 1 records ===

Remove permission group headers for Dca Application on SOAM server

=== deleted 1 records ===

Execution status of deactivation script on HPC07-SO1: PASSED
Please check /var/TKLC/log/DcaDeactivateBscoped.log.HPC07-SO1 for more details.
FIPS integrity verification test failed.

Starting Deactivation on Standby NOAMP server if present in topology.

HPC07-NO1 is Active NOAMP Server. Proceeding with next NOAMP server in the list.

Starting Deactivation on Active NOAMP server.

Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.DcaDeactivateAscoped script on HPC07-NO1

Start of Log Data in file /var/TKLC/log/DcaDeactivateAscoped.log

Server Name : HPC07-NO1
Server Role : NETWORK_OAMP
Node Id : HPC07-NO1
HA State : Active
Cluster Role : Primary

Remove Dca Application KPI groups

=== deleted 1 records ===

Remove Dca Application Measurement groups

=== deleted 1 records ===

Remove permission group headers for Dca Application

=== deleted 1 records ===

Remove logical to physical sbr db mapping from
DcaLog2PhySbr and DcaLogicalSbr table
=================================================================================================
Remove Dca from DcaLifecycleNoam table
=================================================================================================
  === deleted 0 records ===
=================================================================================================
Remove Dca from DcaAppNetworkUserOption table
=================================================================================================
  === deleted 3 records ===
=================================================================================================
Remove Dca from DcaTrialMp table
=================================================================================================
  === deleted 0 records ===
=================================================================================================
Remove Dca from DsrApplicationPerMp table
=================================================================================================
  === deleted 0 records ===
=================================================================================================
Remove Dca Application from DsrApplication table
=================================================================================================
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
=================================================================================================

Execution status of deactivation script on HPC07-N01: PASSED
=================================================================================================
=====Execution of Dca Application Deactivation Script complete.
=================================================================================================

5. Log into an Active NOAM and SOAM GUI.

6. Verify that DCA Framework disappears as a menu item on the NOAM and SOAM.

7. Log out of the NOAM login shells using the `exit` command and close the SSH connections.

Post Framework Deactivation

Deactivating the DCA Framework is not allowed as long at least one DCA application is activated in the network.

Following deactivation, the DCA Framework GUI folder disappears from the left hand menu.