Oracle® Communications

Diameter Signaling Router

FABR Feature Activation Guide

Release 8.5.1

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Oracle Communications Diameter Signaling Router FABR Feature Activation Procedure, Release 8.5.1

CAUTION: Use only the Upgrade procedure included in the Upgrade Kit.

Before upgrading any system, please access My Oracle Support (MOS) (https://support.oracle.com) and review any Technical Service Bulletins (TSBs) that relate to this upgrade.

My Oracle Support (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.

See more information on My Oracle Support (MOS).

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1. Introduction

1.1 Purpose and Scope

This document defines the procedure that is executed to activate the Full-Address Based Resolution (FABR) feature on a DSR network element (NE). This procedure may be run either 1) as part of a new DSR installation, after the standard DSR installation is complete, but before the NE is in service, or 2) on an in-service DSR NE, where the FABR feature is activated during a planned maintenance window to minimize the impact to network traffic.

This document also provides a procedure to deactivate FABR after it has been activated. Refer to Section 6 for a discussion of deactivation.

Configuration of FABR and ComAgent following successful activation is beyond the scope of this document. After successful activation, the crafts person is expected to configure ComAgent and FABR in that order for proper operation of FABR by following [1].

No additional software installation is required before executing this procedure. The standard DSR installation procedure has loaded all of the required software, even if the FABR feature is activated later.

1.2 References

[1] Diameter Signaling Router Full Address Based Resolution (FABR) User's Guide, Latest Revision

1.3 Acronyms and Terminology

An alphabetized list of acronyms used in the document.

Table 1. Acronyms and Terminology

Acronym	Definition
BNS	Broadband Networking Solutions
ComAgent	Communication Agent. An EXG common infrastructure component delivered as part of a common plug-in that uses the COMCOL MX framework in support of communicating Stack Events between EXG application processes on different servers
DA-MP	Diameter Agent Message Processor
DB	Database
DP	Data Processor
DSR	Diameter Signaling Router
FABR	Full-Address Based Resolution
FOA	First Office Application
GUI	Graphical User Interface
HA	High Availability
IMI	Internal Management Interface
IP	Internet Protocol
MP	Message Processing or Message Processor
NE	Network Element
NOAM	Network OAM

Acronym	Definition
OAM	Operations, Administration and Maintenance
SDS	Subscriber Database Server
SOAM	System OAM
SSH	Secure Shell
UI	User Interface
VIP	Virtual IP
VPN	Virtual Private Network
XMI	External Management Interface

1.4 General Procedure Step Format

Where it is necessary to identify the server explicitly on which a particular step is to be taken, the server name is given in the title box for the step (for example, **ServerX** in Figure 1. Example of a Procedure Step).

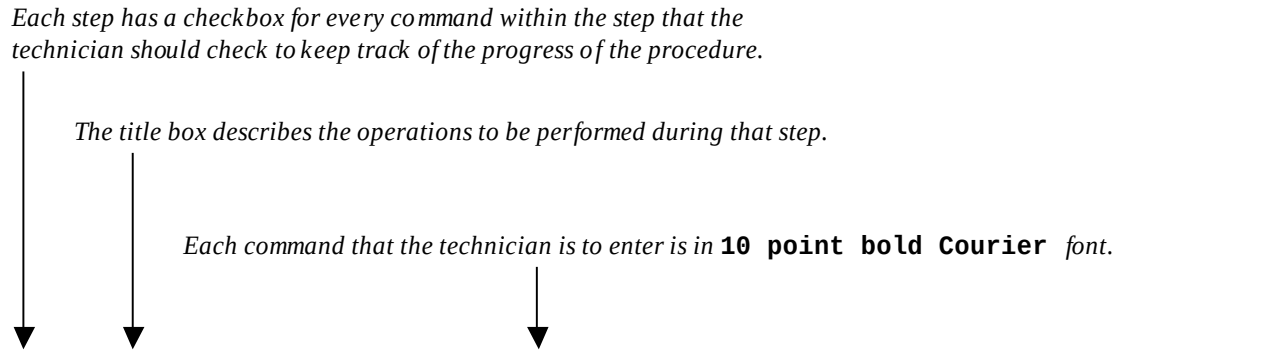


Figure 1. Example of a Procedure Step

2. Feature Activation Overview

This section lists the required materials and information needed to execute the feature activation. In addition, Table 2 through Table 7 provide estimates of the time required to execute the procedure. These tables can be used to estimate the total time necessary to complete the feature activation. The timing values shown are estimates only – use these tables to plan the timing of the activation, **not** to execute the procedure. The detailed procedure steps to be executed begin in Section 5.

2.1 Definition of Activation for the FABR Feature

The precise meaning of activation varies from feature to feature. This section briefly defines what activation means with respect to the FABR feature.

The main components of a FABR system include the FABR (DSR) application, the subscriber database (hosted by the DP/SDS system that supports one or more DPs), and finally the ComAgent which provides reliable connectivity and load sharing of multiple DP servers from FABR application.

ComAgent is a component, which is also used by other features to enable connectivity to servers required by such features. Hence, ComAgent, as a component, is not unique to FABR. However, certain aspects of this component are used by FABR to provide connectivity to the DP servers. Configuration/provisioning of these aspects of ComAgent is beyond the scope of this document. However, the activation procedure initializes the ComAgent component in such a way that it becomes possible to further configure/provision this component for use by FABR.

The configuration and setup of the DP/SDS is beyond the scope of this document. The configuration and setup of FABR (DSR) application and ComAgent (on DSR) post activation is beyond the scope of this document.

All software required to run FABR is available by default as part of a DSR release installation or upgrade (This includes the ComAgent libraries and GUI/OAM code required to configure communication with the subscriber database). The process of activating the feature simply makes proper use of software elements and file system files that are already present, to change the behavior of the DSR NE.

Before FABR feature activation, there are no FABR menu items visible on the SOAM GUI, and there is no FABR-related processing taking place on the DA-MP(s).

All ComAgent-related menu items are present on the NOAM GUI, allowing full ComAgent configuration and provisioning. The ComAgent managed objects are under the Communication Agent folder on the GUI menu. For the ComAgent, this means that the top level Communication Agent folder is visible on the Main Menu, for example, the ComAgent Configuration screens (Remote servers, Connection Groups, and Routed Services), and the ComAgent Maintenance screens (Connection Status, Routed Services Status, HA Services Status) are visible.

After feature activation, all selectable FABR menu items are present on the SOAM GUI, allowing full FABR configuration and provisioning. Specifically, for FABR application, the top-level FABR folder is visible on the Main Menu, and a new entry is added to the **Diameter -> Maintenance -> Applications** table, showing FABR and its state. After successful feature activation, a Connection Group named DpSvcGroup is added, to the Connection Groups screen, a Routed Service named DpService is added to the Routed Services screen and is mapped to use the DpSvcGroup Connection Group at default priority 10.

After activation:

The DA-MP(s) are prepared to act on FABR and ComAgent configuration and provisioning information entered at and replication from the NOAM (in case of ComAgent configuration/provisioning) and SOAM (in case of FABR configuration/provisioning).

Important: Once the FABR feature is activated, it is not automatically enabled. Activation simply means the mechanism for provisioning FABR behavior is in place. But the DA-MP(s) acts on FABR provisioning information only after FABR has been enabled (via the **Diameter -> Maintenance -> Applications** screen). FABR should not be enabled until after the appropriate provisioning data has been entered. FABR provisioning is beyond the scope of this document. Furthermore, for proper operation of FABR, Communication Agent and FABR applications assume the Remote server IP addresses are routable/reachable. However, these networking setup/concerns are beyond the scope of the activation procedure.

2.2 Feature Activation Overview

2.2.1 Pre-Feature Activation Overview

The pre-activation procedures shown in the following table may be executed outside a maintenance window if desired. Procedure completion times shown here are estimates. Times may vary due to differences in database size, network configuration and loading, user experience, and user preparation.

Table 2. Pre-Feature Activation Overview

Procedure	Elapsed Time (Hours:Minutes)		Activity Feature Activation Preparation	Impact
	This Step	Cum.		
System Topology Check (Procedure 1)	0:20	0:20	• Verify Network Element Configuration data. • Verify System Group Configuration data. • Analyze and plan DA-MP restart sequence.	None
Perform Health Check (Procedure 2)	0:05	0.25	• Verify DSR release. • Verify server status. • Log all current alarms.	None

2.2.2 Feature Activation Execution Overview

The procedures shown in the following table are executed inside a single maintenance window. Procedure completion times shown here are estimates. Times may vary due to differences in database size, network configuration and loading, user experience, and user preparation.

Table 3. Feature Activation Execution Overview

Procedure	Elapsed Time (Hours:Minutes)		Activity Feature Activation Execution	Impact
	This Step	Cum.		
Perform Health Check (Procedure 3)	0:05	0:05	• Verify DSR release. • Verify proper FABR feature state. • Verify server status. • Log all current alarms.	None
Feature Activation (Procedure 4)	0:20	0:25	• Log out of NOAM/SOAM GUI. • SSH to active NOAM. • Login as admusr. • Change directory to /usr/TKLC/dsr/prod/maint/loaders/. • Execute the feature activation script. • Log into SOAM GUI. • Verify the FABR Folder. • Verify Maintenance screen. • Log into NOAM GUI. • Verify Maintenance screen. • Close SSH connections to NOAM.	FABR is activated

2.2.3 Post-Feature Activation Overview

The procedures shown in the following table are executed inside a maintenance window. Procedure completion times shown here are estimates. Times may vary due to differences in database size, network configuration and loading, user experience, and user preparation.

Table 4. Post-Feature Activation Overview

Procedure	Elapsed Time (Hours:Minutes)		Activity Feature Activation Completion	Impact
	This Step	Cum.		
Perform Health Check (Procedure 5)	0:05	0:05	• Verify server status. • Log all current alarms.	FABR has been activated on DSR

3. Feature Deactivation Overview

3.1 Pre-Feature Deactivation Overview

The procedures shown in the following table are executed inside a maintenance window. Deactivation procedure times are only estimates as the reason to execute a deactivation has a direct impact on any additional deactivation preparation that must be done. Times may vary due to differences in database size, network configuration and loading, user experience, and user preparation.

Table 5. Pre-Feature Deactivation Overview

Procedure	Elapsed Time (Hours:Minutes)		Activity Deactivation Procedures	Impact
	This Step	Cum.		
Perform Health Check (Procedure 6)	0:05	0:05	• Verify DSR release. • Verify proper FABR feature state. • Verify server status. • Log current alarms.	None

3.2 Feature Deactivation Execution Overview

The procedures shown in the following table are executed inside a maintenance window. Deactivation procedure times are only estimates as the reason to execute a deactivation has a direct impact on any additional deactivation preparation that must be done. Times may vary due to differences in database size, network configuration and loading, user experience, and user preparation.

Table 6. Feature Deactivation Overview

Procedure	Elapsed Time (Hours:Minutes)		Activity Deactivation Procedures	Impact
	This Step	Cum.		
Deactivation Setup	0:30	0:30	The reason to deactivate has a direct impact on any additional backout preparation that must be done. Since not all possible reasons can be predicted ahead of time, only estimates are given here. Execution time will vary.	None

Procedure	Elapsed Time (Hours:Minutes)		Activity Deactivation Procedures	Impact
	This Step	Cum.		
Deactivation (Procedure 7)	0:20	0:50	• Log out of active NOAM/SOAM GUI. • SSH into active NOAM. • Login as admusr • Change directory to /usr/TKLC/dsr/prod/maint/loaders/ • Execute the feature deactivation script. • Log into NOAM or SOAM GUI. • Verify the FABR folder. • Log into NOAM GUI • Verify Maintenance screen.	FABR is deactivated

3.3 Post-Feature Deactivation Overview

The procedures shown in the following table are executed inside a maintenance window. Deactivation procedure times are only estimates as the reason to execute a deactivation has a direct impact on any additional deactivation preparation that must be done. Times may vary due to differences in database size, network configuration and loading, user experience, and user preparation.

Table 7. Post-Feature Deactivation Overview

Procedure	Elapsed Time (Hours:Minutes)		Activity Deactivation Procedures	Impact
	This Step	Cum.		
Perform Health Check (Procedure 8)	0:05	0:05	• Verify server status. • Log all current alarms.	None

4. Feature Activation Preparation

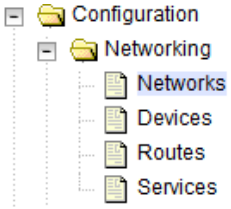
This section provides detailed procedures to prepare a system for FABR feature activation. These procedures are executed outside a maintenance window.

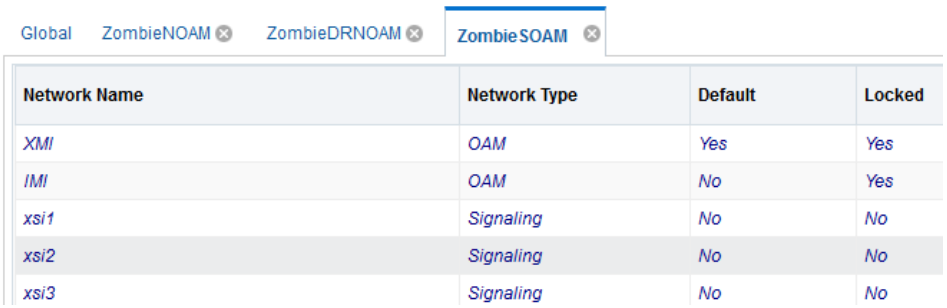
4.1 System Topology Check

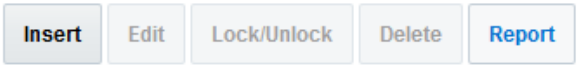
This procedure is part of feature activation preparation and is used to verify the system topology of the DSR network and servers.

Procedure 1: System Topology Check

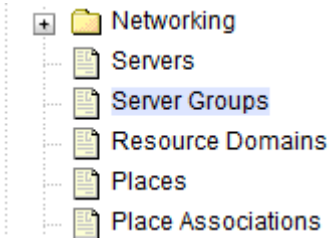
STEP#	Procedure	Description
This procedure verifies system topology. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. ☐	**NOAM VIP GUI**: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of: `http://<Primary_NOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

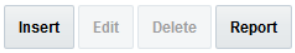
<table>
<tr><th>STEP#</th><th>Procedure</th><th>Description</th></tr>
<tr><td>2. ☐</td><td>NOAM VIP GUI: Verify network configuration data</td><td>
Navigate to Configuration -> Networking -> Networks.


Select the site network element tab:


<table>
<tr><th>Network Name</th><th>Network Type</th><th>Default</th><th>Locked</th></tr>
<tr><td>XMI</td><td>OAM</td><td>Yes</td><td>Yes</td></tr>
<tr><td>IMI</td><td>OAM</td><td>No</td><td>Yes</td></tr>
<tr><td>xsi1</td><td>Signaling</td><td>No</td><td>No</td></tr>
<tr><td>xsi2</td><td>Signaling</td><td>No</td><td>No</td></tr>
<tr><td>xsi3</td><td>Signaling</td><td>No</td><td>No</td></tr>
</table>
Click Report.


Verify the configuration data is correct for your network.
Save or Print this report to keep copies for future reference.


</td></tr>
<tr><td>3. ☐</td><td>NOAM VIP GUI: Verify server configuration</td><td>
Navigate to Configuration -> Server Groups.


Click Report.


Verify the configuration data is correct for your network.
Save or Print this report to keep copies for future reference.


</td></tr>
</table>

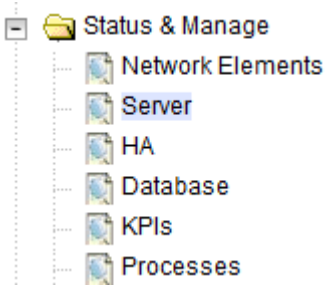
STEP#	Procedure	Description
4. ☐	Analyze and plan DA-MP restart sequence	Analyze system topology and plan for any DA-MPs, which will be out-of-service during the feature activation sequence. Analyze system topology gathered in Steps 2 and 3. Determine exact sequence which DA-MP servers will be restarted (with the expected out-of-service periods). ***Note:*** It is recommended that no more than 50% of the MPs be restarted at once.

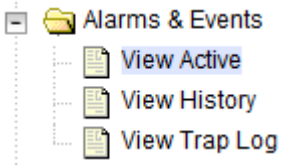
4.2 Perform Health Check

This procedure is part of feature activation preparation and is used to determine the health and status of the DSR release network and servers. This may be executed multiple times, but must also be executed at least once within the time frame of 24-36 hours before the start of the maintenance window in which the feature activation will take place.

Procedure 2: Perform Health Check (Feature Activation Preparation)

STEP#	Procedure	Description
This procedure provides steps to perform needed health checks. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. ☐	**NOAM VIP GUI**: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of: `http://<Primary_NOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

<table>
<tr><th>STEP#</th><th>Procedure</th><th>Description</th></tr>
<tr><td>2. ☐</td><td>NOAM VIP GUI: Verify server status</td><td>Navigate to Status & Manage -> Server.
 

Verify all Server Status is Normal (Norm) for:
Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).
<table>
<tr><th>Appl State</th><th>Alm</th><th>DB</th><th>Reporting Status</th><th>Proc</th></tr>
<tr><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr>
<tr><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr>
<tr><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr>
<tr><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr>
</table>
Do not proceed to feature activation if any of the above states are not Norm. If any of these are not Norm, corrective action should be taken to restore the non-Norm status to Norm before proceeding with the feature activation.
If the Alarm (Alm) status is not Norm but only Minor alarms are present, it is acceptable to proceed with the feature activation. If there are Major or Critical alarms present, these alarms should be analyzed prior to proceeding with the feature activation. The activation may be able to proceed in the presence of certain Major or Critical alarms. Contact My Oracle Support (MOS) for assistance as necessary.</td></tr>
<tr><td>3. ☐</td><td>NOAM VIP GUI: Log current alarms</td><td>Navigate to Alarms & Events -> View Active.
 

Click Report.
 

Save or Print this report to keep copies for future reference.
 
</td></tr>
</table>

5. Feature Activation

Before feature activation, perform the system health check in Section 4.2. This check ensures that the system is ready for feature activation. Performing the system health check determines which alarms are present in the system and if feature activation can proceed with alarms.

******* WARNING *******

If there are servers in the system, which are not in Normal state, these servers should be brought to the Normal or the Application Disabled state before the feature activation process is started.

If alarms are present on the server, contact My Oracle Support (MOS) to diagnose those alarms and determine whether they need to be addressed or if it is safe to proceed with the feature activation.

Read the following notes on feature activation procedures:

- Where possible, command response outputs are shown as accurately as possible. EXCEPTIONS are as follows:
  - Session banner information such as time and date.
  - System-specific configuration information such as hardware locations, IP addresses, and hostnames.
  - ANY information marked with “XXXX” or “YYYY” where appropriate, instructions are provided to determine what output should be expected in place of “XXXX or YYYY”
  - Aesthetic differences unrelated to functionality such as browser attributes: window size, colors, toolbars, and button layouts.
- After completing each step and at each point where data is recorded from the screen, the technician performing the feature activation must initial each step. A check box should be provided. For procedures which are executed multiple times, the check box can be skipped, but the technician must initial each iteration the step is executed. The space on either side of the step number can be used (margin on left side or column on right side).
- Captured data is required for future support reference.

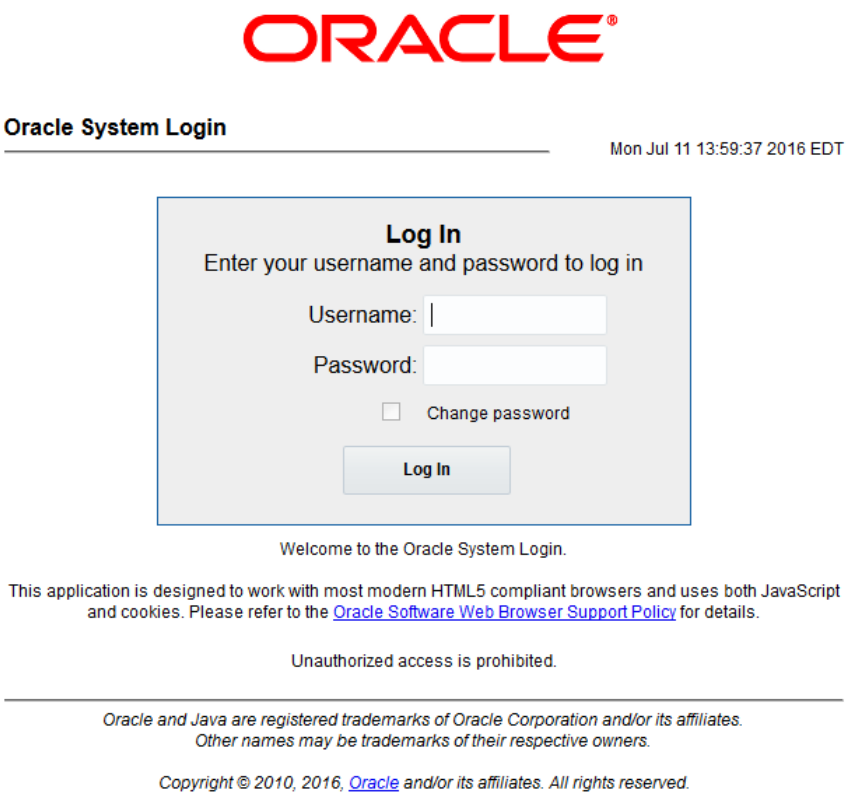
5.1 Pre-Activation Procedures

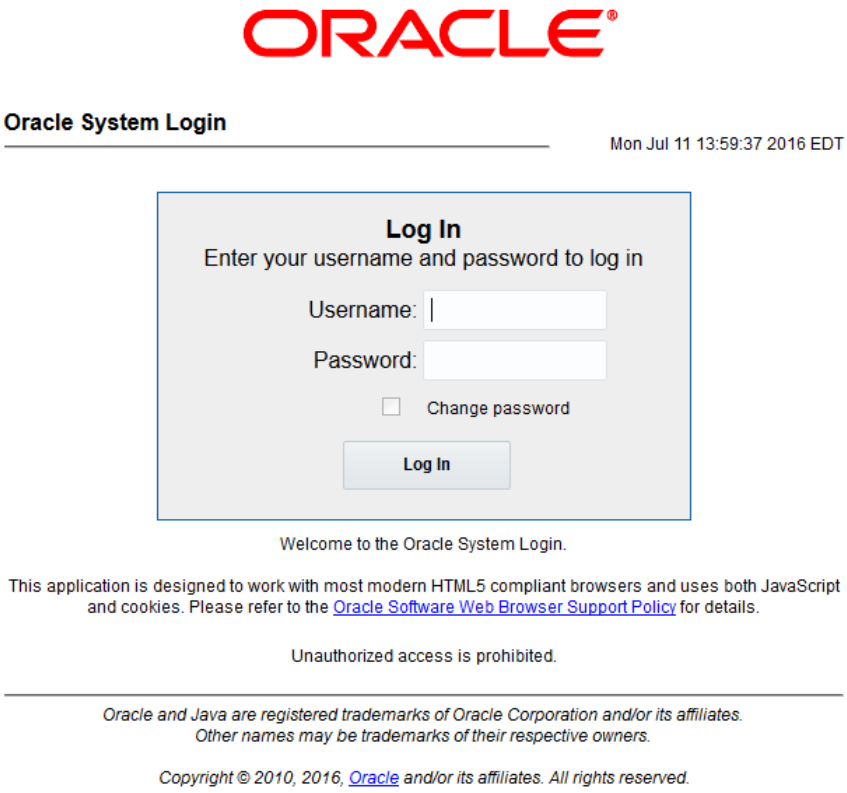
5.1.1 Perform Health Check

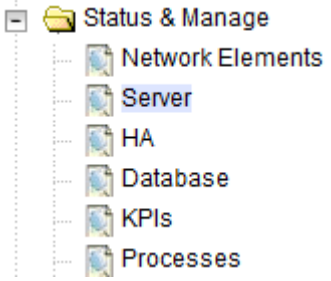
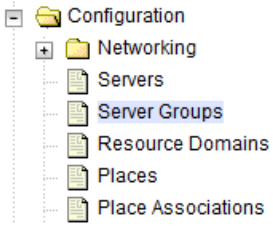
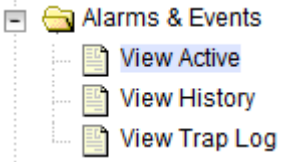
This procedure is used to determine the health and status of the network and servers. This must be executed at the start of every maintenance window.

Note: The Health Check procedure below is the same as the Health Check procedure described in Section 4.2 when preparing for feature activation, but it is repeated here to emphasize that it is being re-executed if Section 4.2 was performed outside the maintenance window.

Procedure 3: Perform Health Check (Pre Feature Activation)

STEP#	Procedure	Description
This procedure provides steps to perform needed health checks. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. ☐	**SOAM VIP GUI**: Login	Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter a URL of: http://<Primary_SOAM_VIP_IP_Address> Login as the ***guiadmin*** user: 
2. ☐	**SOAM VIP GUI**: Verify FABR folder is not present	Under **Main Menu**, verify the FABR folder is NOT present.

STEP#	Procedure	Description
3. ☐	**NOAM VIP GUI**: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of: `http://<Primary_NOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

STEP#	Procedure	Description
4. ☐	**NOAM VIP GUI**: Verify server status	Navigate to **Status & Manage -> Server**.  Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc). Appl State | Alm | DB | Reporting Status | Proc Enabled | Norm | Norm | Norm | Norm Enabled | Norm | Norm | Norm | Norm Enabled | Norm | Norm | Norm | Norm Enabled | Norm | Norm | Norm | Norm Do not proceed to feature activation if any of the above states are not Norm. If any of these are not Norm, corrective action should be taken to restore the non-Norm status to Norm before proceeding with the feature activation. If the Alarm (Alm) status is not Norm but only Minor alarms are present, it is acceptable to proceed with the feature activation. If there are Major or Critical alarms present, these alarms should be analyzed before proceeding with the feature activation. The activation may be able to proceed in the presence of certain Major or Critical alarms. Contact My Oracle Support (MOS) for assistance as necessary.
5. ☐	**NOAM VIP GUI**: Verify server configuration	Navigate to **Configuration -> Server Groups**.  Verify the configuration data is correct for your network.
6. ☐	**NOAM VIP GUI**: Log current alarms	Navigate to **Alarms & Events -> View Active**.  Click **Report**.  **Save** or **Print** this report to keep copies for future reference. 

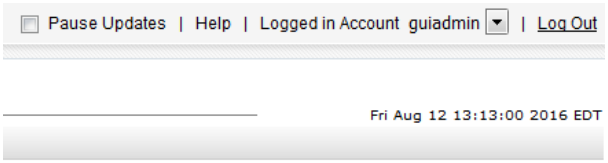
5.2 Activation Procedures

This section provides the detailed procedure steps of the feature activation execution. These procedures are executed inside a maintenance window.

5.2.1 Feature Activation

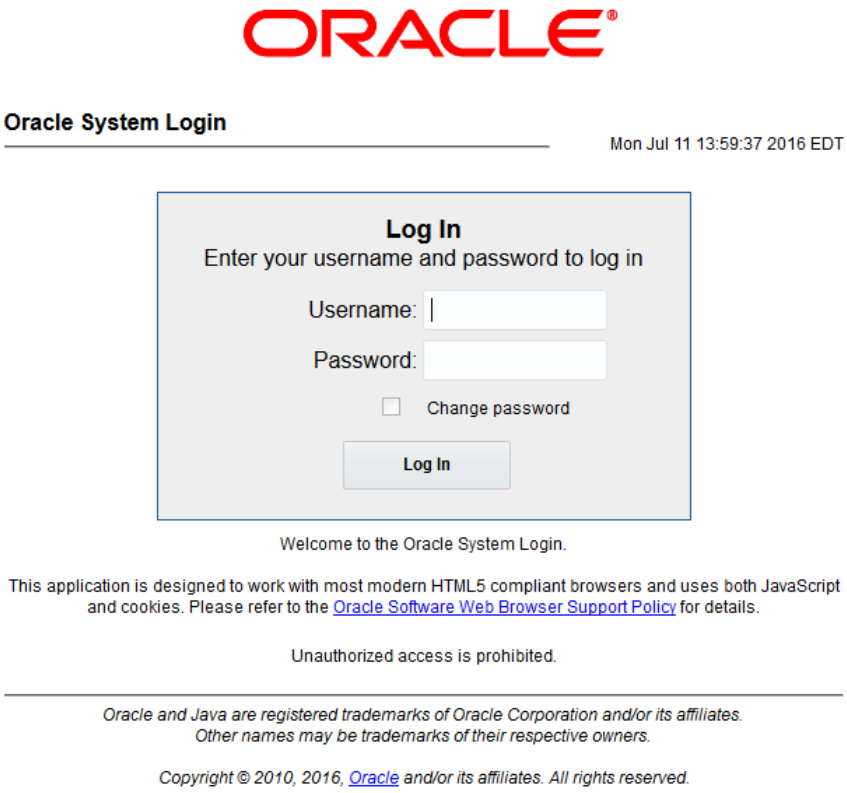
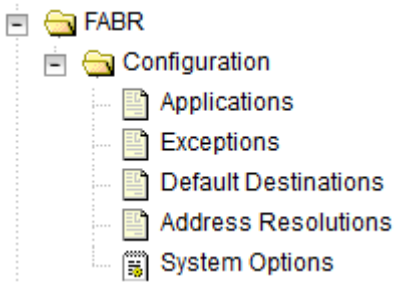
Detailed steps for FABR feature activation are provided in this procedure.

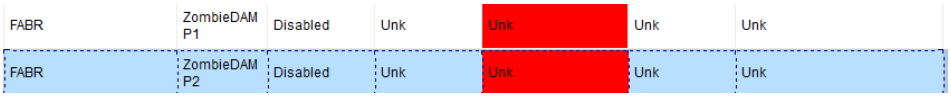
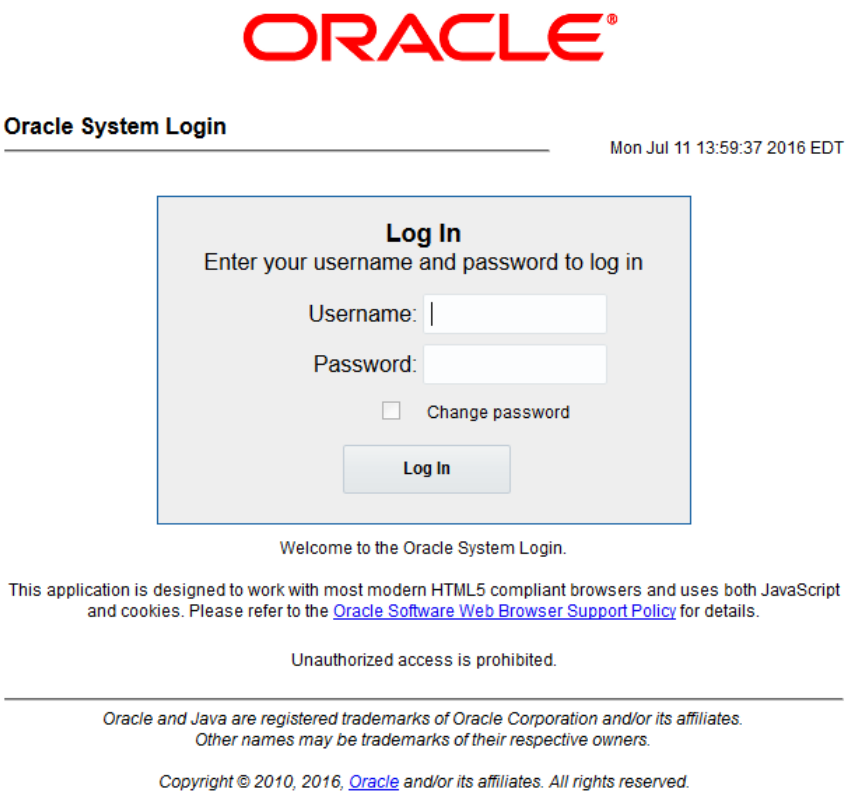
Procedure 4: Feature Activation

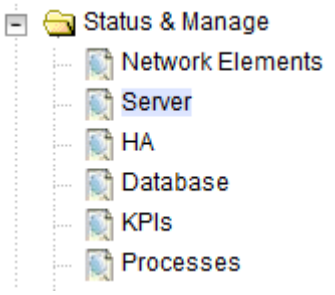
STEP#	Procedure	Description
This procedure provides steps to activate FABR. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. ☐	**NOAM/SOAM VIP GUI**: Logout	Logout of any active NOAM and/or SOAM GUI sessions: 
2. ☐	**NOAM VIP**: Establish an SSH session	Establish an SSH session to the NOAM VIP. Login as ***admusr***.
3. ☐	**NOAM VIP**: Navigate to the feature activation directory	Navigate to the feature activation directory by executing the following command: `$ cd /usr/TKLC/dsr/prod/maint/loaders/`

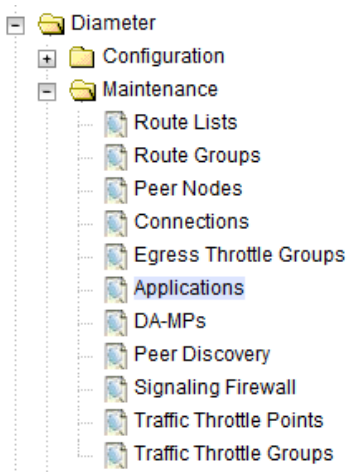
STEP#	Procedure	Description

4. ☐	**NOAM VIP**: Execute the feature activation script	Run the feature activation script by executing the following command:
		`$ ./featureActivateDeactivate`
		Select **Activate**.
		`You want to Activate or Deactivate the Feature :`
		`1.Activate`
		`2.Deactivate`
		`Enter your choice :`
		Select **FABR**.
		`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`
		Select the SOAM site for which the application will be activated:
		Note: As an alternative, you can also activate on all SOAM sites:
		`The Active SO server configured in the Topology are`
		`1. Jetta-SO-2`
		`2. ALL SOs`
		`Enter your choice on which SO you want to Activate or Deactivate the Feature :`
		Refer to Section 0 for output example.

STEP#	Procedure	Description
5. ☐	**Active SOAM GUI**: Login	Establish a GUI session on the active SOAM server by using IP address of the SOAM server. Open the web browser and enter a URL of: `http://<Active_SOAM_IP_Address>` Login as the ***guiadmin*** user: 
6. ☐	**Active SOAM GUI**: Verify the FABR folder is visible	Locate and verify the FABR folder from Main Menu is visible and the configuration folder items are present. 

STEP#	Procedure	Description
7. ☐	**Active SOAM GUI**: Verify application maintenance screen is visible	Verify the FABR application is present in the Application Status screen. Navigate to **Diameter -> Maintenance -> Applications**.  Verify FABR status is uninitialized. The following data should be displayed: Admin State = Disabled Operational Status = Unk Operational Reason = Unk Congestion Level = Unk
8. ☐	**Standby SOAM GUI**: Repeat verification steps	Repeat Steps 5-7 for the standby SOAM. ***Note:*** If the verifications for the standby SOAM differ from the active SOAM, stop and contact My Oracle Support (MOS).
9. ☐	**SOAM VIP GUI**: Login	Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter a URL of: `http://<Primary_SOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

STEP#	Procedure	Description
10. ☐	**SOAM VIP GUI**: Restart DA-MPs	Multiple iterations of this step may be executed during the feature activation procedure. This is dependent on the number of DA-MP servers within your system. Make a written record of the number of times the step was performed. It is recommended that no more than 50% of the DA-MPs be restarted at once. Navigate to **Status & Manage -> Server**.  Select the desired DA-MPs, press **Ctrl** to select multiple DA-MPs at once. Click **Restart**. Click **OK** to confirm. Verify the server changes to the Err state and wait until it returns to the Enabled/Norm state. Repeat for the additional DA-MPs.
11. ☐	**SOAM VIP GUI**: Enable application	Navigate to **Diameter -> Maintenance -> Applications**. Select the MP servers on which FABR is present, press **Ctrl** to select multiple servers at once. Click **Enable**.  Click **OK** to confirm ***Note:*** If ComAgent remote server DP connections have not already been setup, you will receive the following Status after enabling:  ***Note:*** If not already done so, follow [1] to configure the needed ComAgent connections.
12. ☐	Complete FABR configuration	Follow the instructions in [1] to complete FABR configuration.

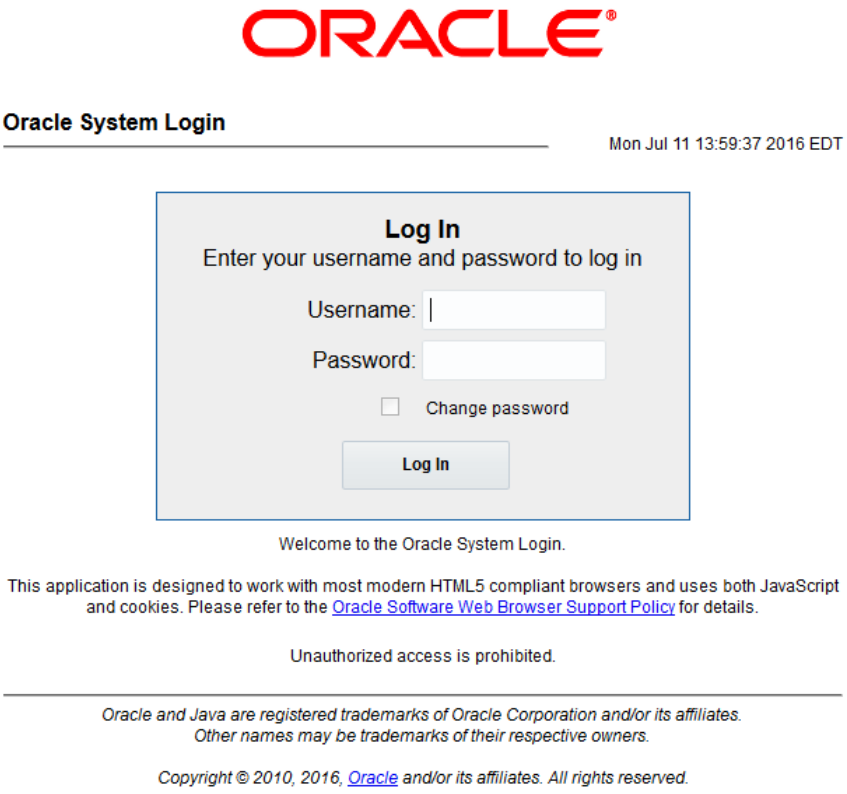
STEP#	Procedure	Description
13. ☐	**SOAM VIP GUI**: Verify application maintenance screen is visible	Assuming SDS is installed, and ComAgent remote server connections are configured, the following should be displayed. Navigate to **Diameter -> Maintenance -> Applications**.  Verify FABR status is initialized. The following data should display: Admin State = Enabled Operational Status = Available Operational Reason = Normal Congestion Level = Normal 

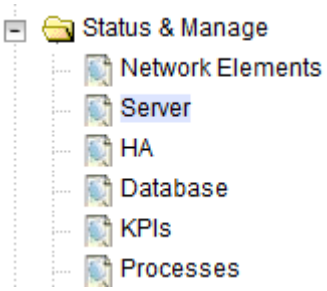
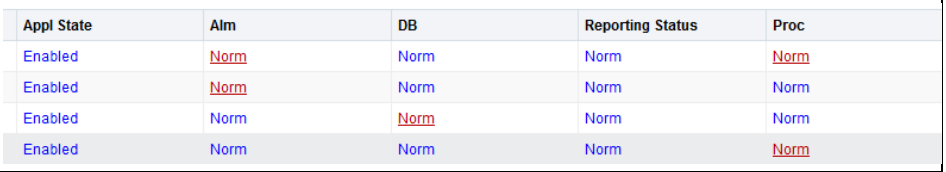
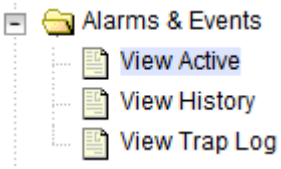
5.3 Post-Activation Procedures

5.3.1 Perform Health Check

This procedure is used to determine the health and status of the DSR release network and servers.

Procedure 5: Perform Health Check (Post-Feature Activation)

STEP #	Procedure	Description
This procedure performs a post activation health check. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. ☐	**NOAM VIP GUI**: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of: `http://<Primary_NOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

STEP #	Procedure	Description
2. ☐	**NOAM VIP GUI**: Verify server status	Navigate to **Status & Manage -> Server**.  Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc). 
3. ☐	**NOAM VIP GUI**: Log current alarms	Navigate to **Alarms & Events -> View Active**.  Click **Report**.  **Save** or **Print** this report to keep copies for future reference.  Compare this alarm report with those gathered in the pre-activation procedures. Contact My Oracle Support (MOS) if needed.

6. Feature Deactivation

Execute this section only if there is a problem and it is desired to revert back to the pre-activation version of the software. In general, as long as there are no Application Routing Rules using the FABR application, it will have no impact on the system and does not need to be deactivated. The deactivation procedure will cause all the FABR related configuration data (including the ComAgent DP service related configuration and Application Routing Rules using FABR) to be removed. The crafts person must ensure that this is acceptable.

6.1 Pre-Deactivation Procedures

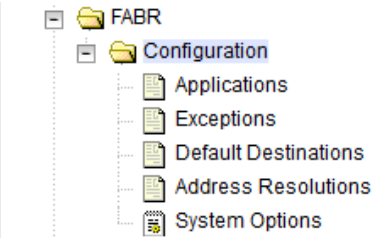
Before beginning the feature deactivation, complete the pre-deactivation procedure below.

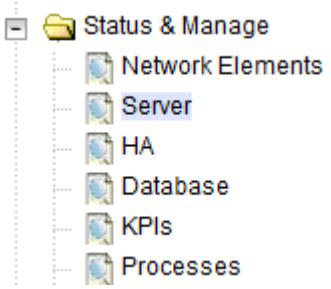
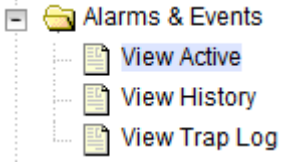
6.1.1 Perform Health Check

This procedure is used to determine the health and status of the DSR network and servers.

Procedure 6: Perform Health Check (Pre-Feature Deactivation)

STEP#	Procedure	Description
This procedure performs a health check. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. ☐	**SOAM VIP GUI**: Login	Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter a URL of: `http://<Primary_SOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

STEP#	Procedure	Description
2. ☐	**SOAM VIP GUI**: Verify the FABR folder is visible	Locate and verify the FABR folder from Main Menu is visible and the configuration folder items are present.  ***Note:*** It should only be present after feature activation, so if it is not present, then the feature is already deactivated and there is no need to complete this deactivation procedure.
3. ☐	**NOAM VIP GUI**: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of: `http://<Primary_NOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

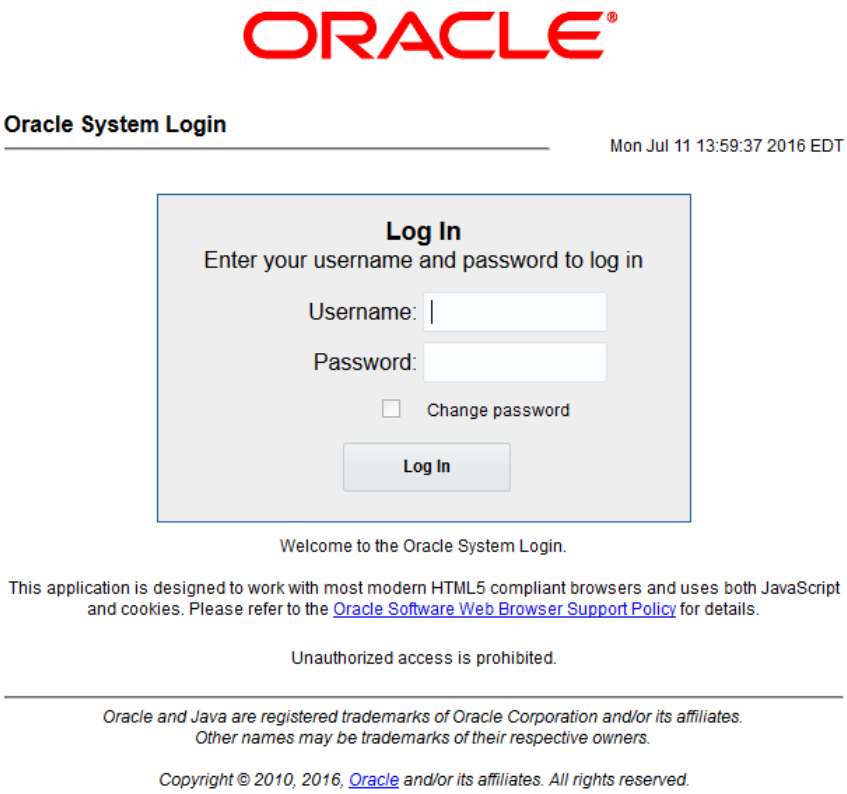
STEP#	Procedure	Description
4. ☐	**NOAM VIP GUI**: Verify server status	Navigate to **Status & Manage -> Server**.  Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc). 
5. ☐	**NOAM VIP GUI**: Log current alarms	Navigate to **Alarms & Events -> View Active**.  Click **Report**.  **Save** or **Print** this report to keep copies for future reference.  Compare this alarm report with those gathered in the pre-activation procedures. Contact My Oracle Support (MOS) if needed.

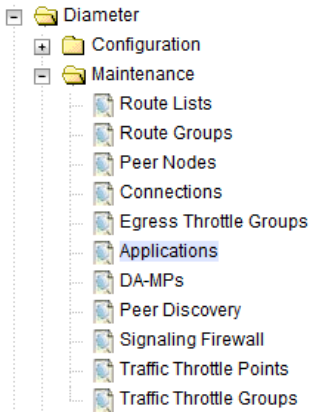
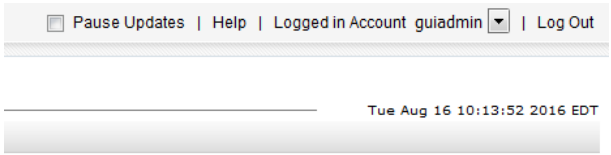
6.2 Deactivation Procedures

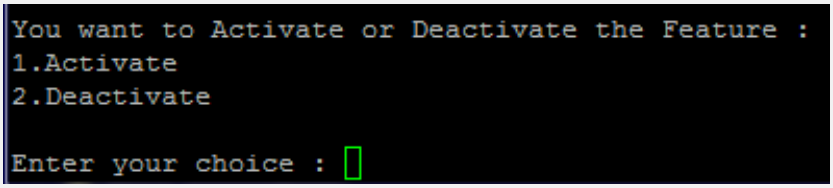
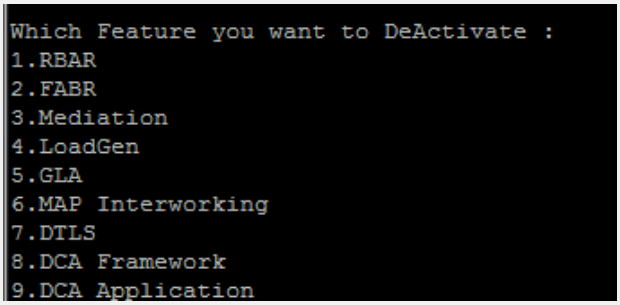
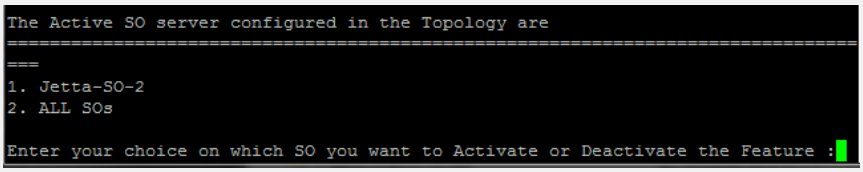
6.2.1 Feature Deactivation

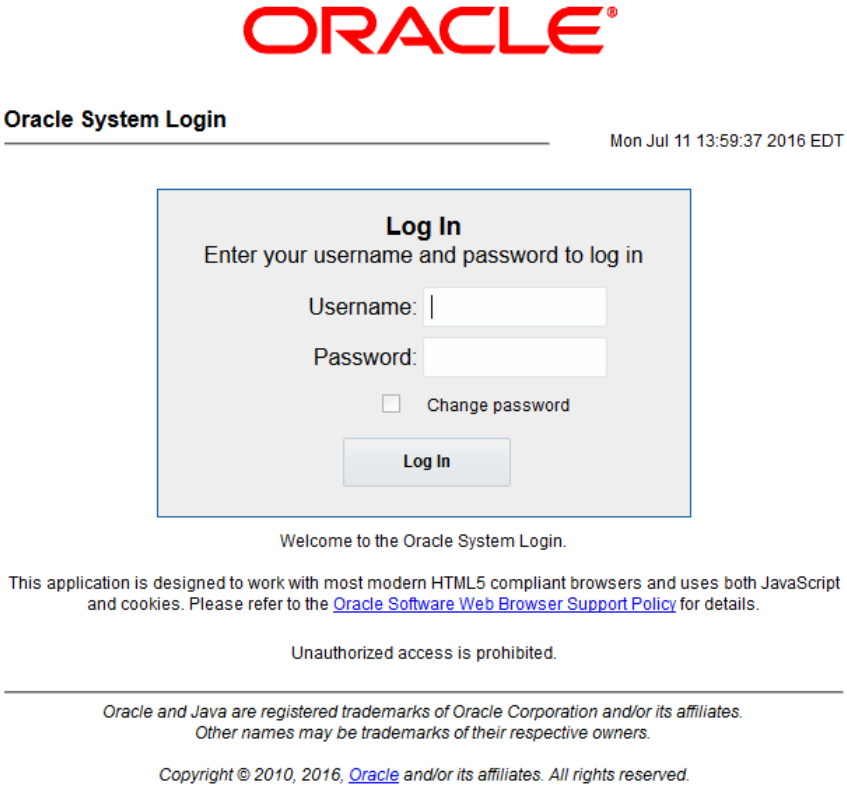
This section provides the detailed steps of the FABR de-activation procedures.

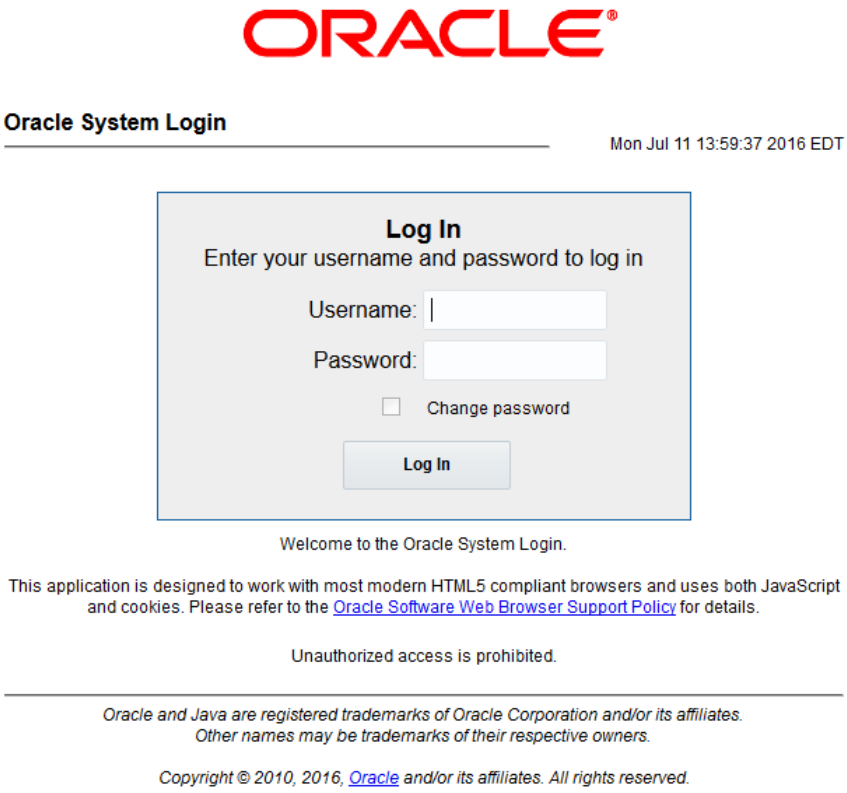
Procedure 7: Feature Deactivate

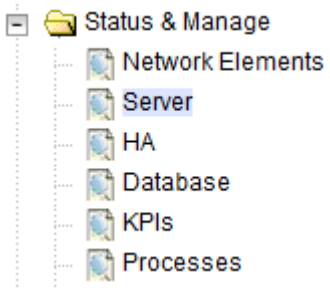
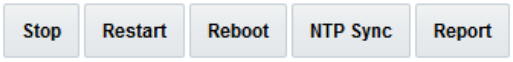
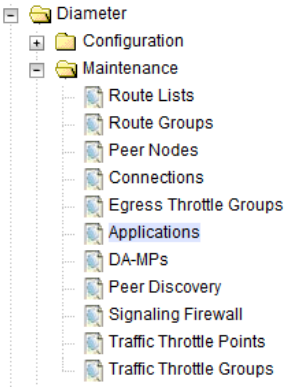
STEP#	Procedure	Description
This procedure provides steps to activate FABR. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. ☐	**SOAM VIP GUI**: Login	Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter a URL of: `http://<Primary_SOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

STEP#	Procedure	Description
2. ☐	**Active SOAM GUI**: Disable FABR application	Navigate to **Diameter -> Maintenance -> Applications**.  Select the FABR applications to disable. Click **Disable**.  Click **OK** to confirm. 
3. ☐	**NOAM/SOAM VIP GUI**: Logout	Logout of any active NOAM and/or SOAM GUI sessions: 
4. ☐	**NOAM VIP**: Establish an SSH session	Establish an SSH session to the NOAM VIP. Login as ***admusr***.
5. ☐	**NOAM VIP**: Navigate to the feature activation directory	Navigate to the feature activation directory by executing the following command: `$ cd /usr/TKLC/dsr/prod/maint/loaders/`

STEP#	Procedure	Description
6. ☐	**NOAM VIP**: Execute the feature activation script	Run the feature activation script by executing the following command: `$ ./featureActivateDeactivate` Select **Deactivate**.  Select **FABR**.  Select the SOAM site for which the application will be Deactivated: ***Note:*** As an alternative, you can also deactivate on all SOAM sites:  Refer to Section 0 for output example.

STEP#	Procedure	Description
7. ☐	**Active SOAM GUI**: Login	Establish a GUI session on the active SOAM server by using IP address of the SOAM server. Open the web browser and enter a URL of: `http://<Active_SOAM_IP_Address>` Login as the ***guiadmin*** user: 
8. ☐	**Active SOAM GUI**: Verify the FABR folder is not visible	Verify the FABR folder is not visible under Main Menu.
9. ☐	**Standby SOAM GUI**: Repeat verification steps	Repeat **Steps 7-8** for the standby SOAM ***Note:*** If the verifications for the standby SOAM differ from the Active SOAM, stop and contact My Oracle Support (MOS).

STEP#	Procedure	Description
10. ☐	**SOAM VIP GUI**: Login	Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter a URL of: `http://<Primary_SOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

STEP#	Procedure	Description
11. ☐	**SOAM VIP GUI**: Restart DA-MPs	Multiple iterations of this step may be executed during the feature activation procedure. This is dependent on the number of DA-MP servers within your system. Make a written record of the number of times the step was performed. It is recommended that no more than 50% of the DA-MPs be restarted at once. Navigate to **Status & Manage -> Server**.  Select the desired DA-MPs, press **Ctrl** to select multiple DA-MPs at once. Click **Restart**.  Click **OK** to confirm. Verify the server changes to the Err state and wait until it returns to the Enabled/Norm state. Repeat for the additional DA-MPs.
12. ☐	**SOAM VIP GUI**: Verify maintenance screen	Navigate to **Diameter -> Maintenance -> Applications**.  Verify the FABR application is not present.

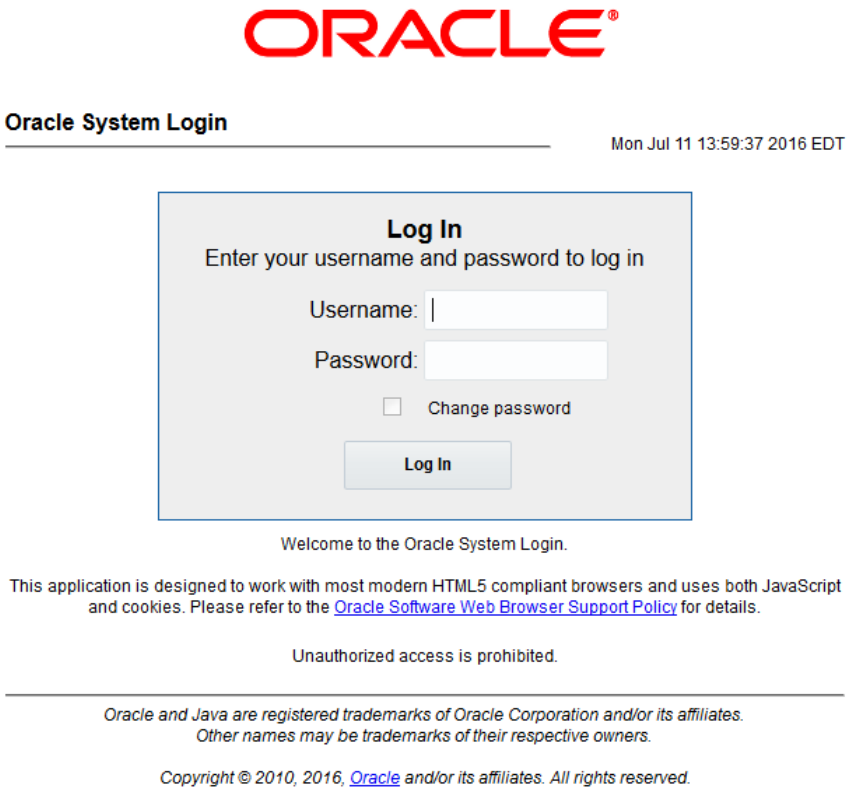
6.3 Post-Deactivation Procedures

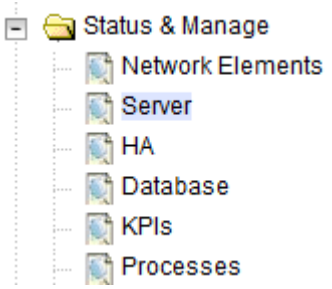
To complete a deactivation, complete the Post-Deactivation by following the procedures in this chapter.

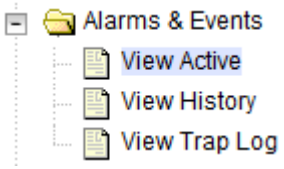
6.3.1 Perform Health Check

This procedure is used to determine the health and status of the network and servers.

Procedure 8: Perform Health Check (Post-Feature Deactivation)

STEP#	Procedure	Description
This procedure performs a post activation health check. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. ☐	**NOAM VIP GUI**: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of: `http://<Primary_NOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

<table>
<tr><th>STEP#</th><th>Procedure</th><th>Description</th></tr>
<tr><td>2. ☐</td><td>NOAM VIP GUI: Verify server status</td><td>
Navigate to Status & Manage -> Server.


Verify all Server Status is Normal (Norm) for:
Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).
<table>
<tr><th>Appl State</th><th>Alm</th><th>DB</th><th>Reporting Status</th><th>Proc</th></tr>
<tr><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr>
<tr><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr>
<tr><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr>
<tr><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr>
</table>
</td></tr>
<tr><td>3. ☐</td><td>NOAM VIP GUI: Log current alarms</td><td>
Navigate to Alarms & Events -> View Active.


Click Report.


Save or Print this report to keep copies for future reference.


Compare this alarm report with those gathered in the pre-Deactivation procedures. Contact My Oracle Support (MOS) if needed.
Note: No routed service alarms should exist. These include the following alarms:
<table>
<tr><th>Alarm-ID</th><th>Alarm Condition</th></tr>
<tr><td>19820</td><td>Communication Agent Routed Service Unavailable</td></tr>
<tr><td>19821</td><td>Communication Agent Routed Service Degraded</td></tr>
<tr><td>19822</td><td>Communication Agent Routed Service Congested</td></tr>
<tr><td>19823</td><td>Communication Agent Routed Service Using Low-Priority Connection Group</td></tr>
</table>
</td></tr>
</table>

7. Engineering Notes

FIPS integrity verification test failed: In DSR 7.1+, you may see 'FIPs integrity verification test failed' message displayed during the activation/Deactivation output, this message is expected and harmless.

Sample Output of Activation (Active NOAM)

```
Run script to activate FABR feature:
====================================S-T-A-R-T====================================
Execution of Activation/Deactivation Process Starts
================================================================================
Starting Activation/Deactivation process....
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.fabrActivateAsourced script
on E1B180NOAM1
================================================================================
Add COM Agent Routed service Configuration.
================================================================================
id=14
name=DPService
preDefined=No
editableOnGui=Yes
birthTime=12/31/1969 19:00:00.000
================================================================================
Add COM Agent connection group for the DP service.
================================================================================
id=1
name=DPSvcGroup
preDefined=No
================================================================================
Add DP Service and Connection group mapping.
================================================================================
routedServiceId=14
connGroupId=1
priority=10
================================================================================
Add FABR KPI group
================================================================================
KPI_Group=FABR
Visibility=VIS_SO
================================================================================
Add FABR Measurement groups
================================================================================
```

```
Add FABR Measurement groups
================================================================================
Meas_Group=Full Address Resolution Performance
Visibility=VIS_SO
================================
Meas_Group=Full Address Resolution Exception
Visibility=VIS_SO
================================================================================
Add FABR GUI Configuration Permissions.
================================================================================
_appid=17
group_id=7051
group_name=FABR Configuration Permissions
================================================================================
Starting to Execute the Loaders on Mate server
================================================================================
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.fabrActivateAsourced script
on E1B280NOAM2
================================================================================
FIPS integrity verification test failed.
id=14
name=DPService
preDefined=No
editableOnGui=Yes
birthTime=12/31/1969 19:00:00.000
================================
id=1
name=DPSvcGroup
preDefined=No
================================
routedServiceId=14
connGroupId=1
priority=10
================================
KPI_Group=FABR
Visibility=VIS_SO
================================
Meas_Group=Full Address Resolution Performance
Visibility=VIS_SO
================================
```

```
Meas_Group=Full Address Resolution Exception
Visibility=VIS_SO
================================================================================
Add FABR GUI Configuration Permissions.
================================================================================
_appid=17
group_id=7051
group_name=FABR Configuration Permissions
================================
FIPS integrity verification test failed.
================================================================================
The Active SO server configured in the Topology are
================================================================================
1. E1B380SOAM1
2. ALL SOs
Enter your choice on which SO you want to Activate or Deactivate the Feature :2
Activate/Deactivate fabr on all SOs configured in the Topology
================================================================================
This is a 3 Tier Setup , So run the B sourced loaders on SO server : E1B380SOAM1
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.fabrActivateBsourced script
on E1B380SOAM1
FIPS integrity verification test failed.
================================================================================
Current server is HA ACTIVE
================================================================================
Add FABR to DsrApplication.
================================================================================
id=4
name=FABR
unavailableAction=ContinueRouting
avpInsertion=Yes
shutdownMode=Forced
shutdownTimer=0
resultCode=3002
vendorId=0
errorString=FABR Unavailable
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=FABR Resource Exhausted
routeListId=-1
```

```
realm=
fqdn=
mcl=0
================================================================================
Add FABR GUI Configuration Permissions.
================================================================================
_appid=17
group_id=7051
group_name=FABR 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
================================================================================
[admusr@Jetta-NO-2 loaders]$
```

Sample Output of Deactivation (Active NOAM)

```
Run script to deactivate FABR feature:
====================================S-T-A-R-T====================================
Execution of Activation/Deactivation Process Starts
================================================================================
Starting Activation/Deactivation process....
================================================================================
The Active SO server configured in the Topology are
================================================================================
1. Jetta-SO-2
2. ALL SOs
Enter your choice on which SO you want to Activate or Deactivate the Feature :1
Verifying feature is activated or not on Jetta-SO-2
FIPS integrity verification test failed.
================================================
FABR is activated on Jetta-SO-2
================================================
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.fabrDeactivateAsourced
script on Jetta-NO-2
================================================================================
Hiding FABR KPI group and Measurement Groups
```

```
================================================================================
  === deleted 1 records ===
================================================================================
Hiding FABR measurement groups
================================================================================
  === deleted 1 records ===
  === deleted 1 records ===
================================================================================
Removing DP Service COM Agent Loader Entries
================================================================================
Log path: /var/TKLC/db/filemgmt/dpservice_deactivate.log
================================================================================
Since remote servers are not deleted on FABR Deactivation, operator should
manually delete all the remote server entries from configuration.
================================================================================
Removing FABR GUI permissions.
================================================================================
  === deleted 1 records ===
================================================================================
Starting to Execute the Loaders on Mate server
================================================================================
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.fabrDeactivateAsourced
script on Jetta-NO-1
================================================================================
FIPS integrity verification test failed.
================================================================================
Removing FABR GUI permissions.
================================================================================
  === deleted 1 records ===
FIPS integrity verification test failed.
================================================================================
This is a 3 Tier Setup , So run the B sourced loaders on SO server : Jetta-SO-2
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.fabrDeactivateBsourced
script on Jetta-SO-2
FIPS integrity verification test failed.
================================================================================
Current server is HA ACTIVE
================================================================================
Removing all ART rules pointing to FABR
================================================================================
```

```
  === deleted 0 records ===
================================================================================
Removing applicationId=4(FABR) from the DSR Application Per Mp Table
================================================================================
  === deleted 3 records ===
================================================================================
Removing FABR from the DSR Application Table
================================================================================
  === deleted 1 records ===
================================================================================
Removing common DSR Application measurements for FABR
================================================================================
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
================================================================================
Removing FABR GUI permissions.
================================================================================
  === deleted 1 records ===
FIPS integrity verification test failed.
================================================================================
Executing the Loaders and Clearing Cache on Standby SO servers.
================================================================================
Starting to Execute the Loaders on Mate server
================================================================================
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.fabrDeactivateBsourced
script on Jetta-SO-1
================================================================================
FIPS integrity verification test failed.
================================================================================
Current server is HA STANDBY
================================================================================
Removing common DSR Application measurements for FABR
================================================================================
  === deleted 1 records ===
  === deleted 1 records ===
```

```
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
================================================================================
Removing FABR GUI permissions.
================================================================================
  === deleted 1 records ===
FIPS integrity verification test failed.
================================================================================
Do you want to activate/deactivate this feature on another System OAM Server[Y/N] :
n
```

Appendix A. 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 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.

Locate Product Documentation on the Oracle Help Center

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

1. Access the **Oracle Help Center** site at http://docs.oracle.com.
2. Click Industries.
3. Under the **Oracle Communications** subheading, click the **Oracle Communications documentation** link. The Communications Documentation page appears. Most products covered by these documentation sets display under the headings N**etwork Session Delivery and Control Infrastructure** or **Platforms**.
4. Click on your Product and then the Release Number. A list of the entire documentation set for the selected product and release displays. 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.