Oracle® Communications

Diameter Signaling Router Full-Address Based Resolution Feature Activation Guide

Release 9.0.0.0.0

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Oracle Communications Diameter Signaling Router Full-Address Based Resolution Feature Activation Guide, Release 9.0.0.0.0

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Contents

7   Engineering Notes

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Acronyms and Terminology

Listed below is an alphabetized list of acronyms used in the document:

Table   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
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

What's New in This Guide

This section introduces the documentation updates for release 9.0.0.0.0.

Release 9.0.0.0.0- F79475-01, April 2023

No updates made to this document.

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 is run in either of the following scenarios:

- As part of a new DSR installation, after the standard DSR installation is complete (before the NE is in service).

- 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, see the Feature Deactivation section.

Configuration of FABR and Communication Agent (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. For more information, see *Diameter Signaling Router Full Address Based Resolution (FABR) User's Guide*.

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.

1.1 References

- *Oracle Communications Diameter Signaling Router Full Address Based Resolution User Guide*

2
Feature Activation Overview

This section lists the required materials and information needed to activate the feature. In addition, the sections Pre-Feature Activation Overview through Post-Feature Deactivation Overview provide estimates of the time required to run 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 run the procedure. The detailed procedure steps to be run are described in Feature Activation.

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 the Communication Agent (ComAgent) which provides reliable connectivity and load sharing of multiple DP servers from the 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 or 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 or 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 **Application** table under **Maintenance** option in **Diameter**, 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 or provisioning) and SOAM (in case of FABR configuration or provisioning).

> ✎ **Note:**
>
> 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 (using the **Application** screen under **Maintenance** option in **Diameter**). 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 or reachable. However, these networking setup or concerns are beyond the scope of the activation procedure.

2.2 Pre-Feature Activation Overview

The pre-activation procedures shown in the following table can be run outside a maintenance window if required. 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 2-1   Pre-Feature Activation Overview

Procedure	Elapsed Time (Hours:Minutes)		Tasks	Impact
	This Step	**Cumulative**		
System Topology Check	0:20	0:20	• Verify Network Element Configuration data. • Verify System Group Configuration data. • Analyze and plan DA-MP restart sequence.	None

Table 2-1   (Cont.) Pre-Feature Activation Overview

Procedure	Elapsed Time (Hours:Minutes)		Tasks	Impact
Perform Health Check	0:05	0.25	• Verify DSR release. • Verify server status. • Log all current alarms.	None

2.3 Feature Activation Execution Overview

The procedures shown in the following table are run 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 2-2   Feature Activation Execution Overview

Procedure	Elapsed Time (Hours:Minutes)		Tasks	Impact
	This Step	Cumulative		
Perform Health Check (Pre-Feature Activation)	0:05	0:05	• Verify DSR release. • Verify proper FABR feature state. • Verify server status. • Log all current alarms.	None

Table 2-2   (Cont.) Feature Activation Execution Overview

Procedure	Elapsed Time (Hours:Minutes)		Tasks	Impact
Feature Activation	0:20	0.25	• Log out of NOAM or SOAM GUI. • SSH to active NOAM. • Log in as admusr. • Change directory to /usr/TKLC/dsr/prod/maint/loaders/. • Run 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

2.4 Post-Feature Activation Overview

The procedures shown in the following table are run 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 2-3   Post-Feature Activation Overview

Procedure	Elapsed Time (Hours:Minutes)		Tasks	Impact
	This Step	**Cumulative**		
Perform Health Check (Post-Feature Activation)	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 run inside a maintenance window. Deactivation procedure times are only estimates as the reason to run 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 3-1   Pre-Feature Deactivation Overview

Procedure	Elapsed Time (Hours:Minutes)	Elapsed Time (Hours:Minutes)	Tasks	Impact
	This Step	Cumulative		
Perform Health Check (Pre-Feature Deactivation)	0:05	0:05	• Verify DSR release. • Verify proper FABR feature state. • Verify server status. • Log current alarms.	None

3.2 Feature Deactivation Overview

The procedures shown in the following table are run inside a maintenance window. Deactivation procedure times are only estimates as the reason to run 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 3-2   Feature Deactivation Overview

Procedure	Elapsed Time (Hours:Minutes)		Tasks	Impact
	This Step	Cumulative		

Table 3-2   (Cont.) Feature Deactivation Overview

Procedure	Elapsed Time (Hours:Minutes)		Tasks	Impact
Deactivation Setup	0:30	0:30	• The reason to deactivate has a direct impact on any additional back-out 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
Feature Deactivation	0:20	0:50	• Log out of active. NOAM/ SOAM GUI. • SSH into active NOAM. • Log in as admusr. • Change directory to /usr/ TKLC/dsr/ prod/maint/ loaders/ • Run 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 run inside a maintenance window. Deactivation procedure times are only estimates as the reason to run 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 3-3   Post-Feature Deactivation Overview

Procedure	Elapsed Time (Hours:Minutes)		Tasks	Impact
	This Step	**Cumulative**		
Perform Health Check (Post-Feature Deactivation)	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 run 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.

1. Log in to the NOAM VIP GUI, establish a GUI session on the NOAM server by using the VIP address of the NOAM server.

2. Open the web browser and enter the URL, `http://<Primary_NOAM_VIP_IP_Address>`

3. Log in as the `guiadmin` user.

Figure 4-1   Oracle System Login
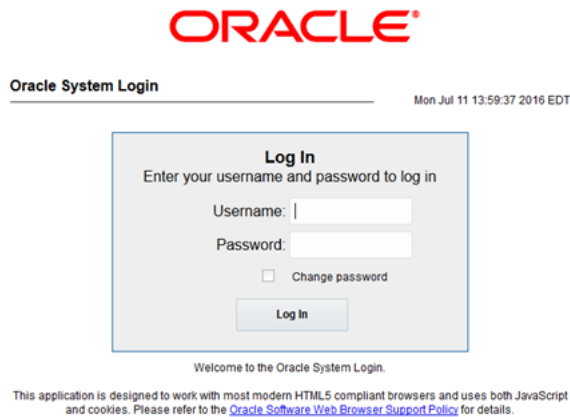
4. Verify the network configuration data.

5. Expand the **Configuration** option, click **Networking** and select **Networks**.

Figure 4-2   Networks Folder
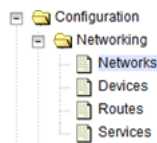
6. Select the site specific network element tab.

Figure 4-3   Network Element Tab

7. Click **Report**.

Figure 4-4   Report
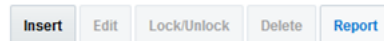
8. Verify if the configuration data is correct for your network. **Save** or **Print** this report to keep copies for future reference.

Figure 4-5   Save or Print

9. Verify the server configuration. Expand the **Configuration** and click the **Server Groups** option.

Figure 4-6   Server Groups

10. Click **Report**.

Figure 4-7   Report

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

Figure 4-8   Save or Print
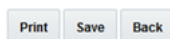
12. Analyze and plan the DA-MP restart sequence. Analyze the system topology and plan for any DA-MPs, which will be out-of-service during the feature activation sequence. Analyze system topology gathered in Step 5 and Step 9. Determine exact sequence which DA-MP servers will be restarted (with the expected out-of-service periods).

> ✏ **Note:**
>
> It is recommended that no more than 50% of the MPs be restarted at once.

If this procedure fails, contact My Oracle Support (MOS) for assistance.

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 step may be run multiple times, but must also be run at least once within the time frame of 24 to 36 hours before the start of the maintenance window in which the feature activation takes place.

Log in to the NOAM VIP GUI, establish a GUI session on the NOAM server by using the VIP address of the NOAM server.

1. Open the web browser and enter the URL:

   `http://<Primary_NOAM_VIP_IP_Address>`

2. Log in as the `guiadmin` user.

Figure 4-9   Oracle System Login

3. Expand **Status & Manage** option and click **Server** to verify the server status.

Figure 4-10   Server Folder
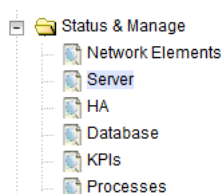
4. Verify if Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Reporting Status, and Processes (Proc).

Figure 4-11   Server Status

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 prior to proceeding with the feature activation. The activation may be able to proceed in the presence of certain Major or Critical alarms.

5. Log current alarms, expand **Alarms & Events** option and click **View Active**.

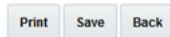**Figure 4-12   View Active Folder**
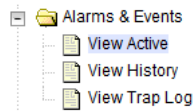
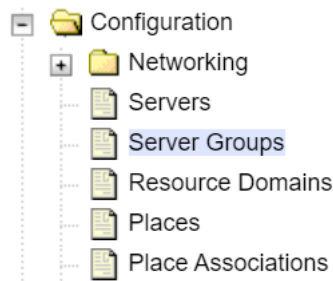6. Click **Report**.

Figure 4-13   Report
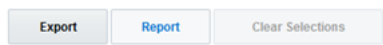
7. Verify if the configuration data is correct for your network. **Save** or **Print** this report to keep copies for future reference.

Figure 4-14   Save or Print

If this procedure fails, contact My Oracle Support (MOS) for assistance.

5

Feature Activation

Before feature activation, perform the system health check in Perform Health Check. 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.

Figure 5-1   Warning


```
*****   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 Error! Reference source not found. 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 host names.

    - 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, tool bars, 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 track each step. The technician must track each iteration of the step that is executed.

- Captured data is required for future support reference.

5.1 Pre-Activation Procedures

Perform Health Check

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

> **✎ Note:**
>
> The health check procedure below is the same as the health check procedure described in Perform Health Check when preparing for feature activation, but it is repeated here to emphasize that it is being rerun if the procedure was performed outside the maintenance window.

5.1.1 Perform Health Check (Pre-Feature Activation)

This procedure provides steps to perform the required health checks.

Log in to the SOAM VIP GUI, establish a GUI session on the SOAM server by using the VIP address of the SOAM server.

1. Open the web browser and enter the URL:

   `http://<Primary_SOAM_VIP_IP_Address>`

2. Log in as the `guiadmin` user.

Figure 5-2   Oracle System Login

3. Under the **Main Menu**, verify if the FABR folder is not present.

4. Log in to the NOAM VIP GUI, establish a GUI session on the NOAM server by using the VIP address of the NOAM server.

5. Open the web browser and enter the URL:

   `http://<Primary_NOAM_VIP_IP_Address>`

6. Log in as the `guiadmin` user.

Figure 5-3   Oracle System Login

7. Verify the server status, expand **Status & Manage** option and click **Server**.

Figure 5-4   Server
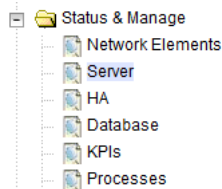
8. Verify if the Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Reporting Status, and Processes (Proc).

Figure 5-5   Server Status

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.

9. Verify the Server Configuration, expand **Configuration** option and click **Server Groups**.

Figure 5-6   Server Groups
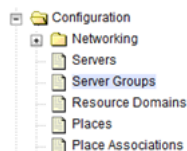
Verify if the configuration data is correct for your network.

10. Log current alarms, expand **Alarms & Events** option and click **View Active**.

Figure 5-7   Alarms and Events
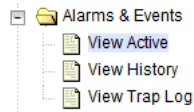
11. Click **Report**.

Figure 5-8   Report
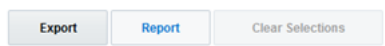
12. Verify if the configuration data is correct for your network. **Save** or **Print** this report to keep copies for future reference.

Figure 5-9   Save or Print
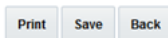
If this procedure fails, contact My Oracle Support (MOS) for assistance.

5.2 Activation Procedures

This section provides the detailed procedure for the feature activation. These procedures are run inside a maintenance window.

5.2.1 Feature Activation

This procedure provides detailed steps for FABR feature activation.

1. Log out from any active NOAM and/or SOAM GUI sessions.

Figure 5-10   Logout
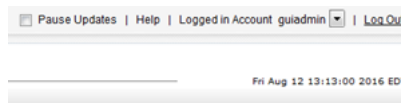
2. Establish an SSH session to the NOAM VIP. Log in as `admusr`.

3. Navigate to the feature activation directory by running the following command:

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

4. Run the feature activation script using the following command:

```
$ ./featureActivateDeactivate
```

Figure 5-11   Feature Activation Script

Refer to Sample Output of Activation (Active NOAM) for output example.

5. Establish a GUI session on the Active SOAM Server by using IP address of the SOAM server. Open the web browser and enter the following URL:

```
http://<Active_SOAM_IP_Address>
```

6. Log in as the `guiadmin` user.

Figure 5-12   Oracle System Login

7. Verify if the FABR folder is visible. Locate and verify the FABR folder from Main Menu, check if it is visible and verify if the configuration folder items are present.

Figure 5-13   Configuration Folder
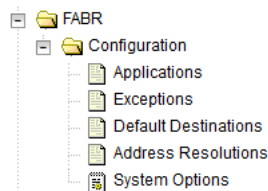
8. Verify if the application maintenance screen is visible. Verify if the FABR application is present in the Application Status screen. Expand the **Diameter** option, click **Maintenance** and select **Applications**.

Figure 5-14   Application Status

Verify if the FABR status is uninitialized. The following data should be displayed:

- Admin State = Disabled
- Operational Status = Unk
- Operational Reason = Unk
- Congestion Level = Unk

Where, Unk means Unknown.

9. In the stand by SOAM GUI, repeat the verification step 5 up to step 8.

> **Note:**
>
> If the verifications for the standby SOAM differ from the active SOAM, stop and contact My Oracle Support (MOS).

10. Establish a GUI session on the SOAM Server by using the VIP address of the SOAM server. Open the web browser and enter the URL `http://<Active_SOAM_IP_Address>`

11. Log in as the `guiadmin` user.

Figure 5-15   Oracle System Login

12. 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. Expand the **Status & Manage** and click the option **Server.**

Figure 5-16   Server Folder
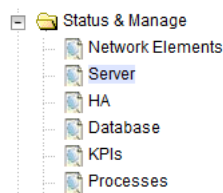
Select the desired DA-MPs, use the **Ctrl** button to select multiple DA-MPs at once.

13. Click **Restart**.

    a. Click **OK** to confirm.

    b. Verify the server changes to the `Err` state and wait until it returns to the `Enabled/Norm` state.

    c. Repeat for the additional DA-MPs.

14. Enable the application. Expand the **Diameter** option, click **Maintenance** and select **Applications**. Select the MP servers on which FABR is present, press **Ctrl** to select multiple servers at once. Click **Enable**.

Figure 5-17   Enable

Enable   Disable   ☐ Pause updates

15. Click **OK** to confirm the operation.

> ✎ **Note:**
>
> If ComAgent remote server DP connections have not already been setup, you will receive the following **Status** after enabling:

Figure 5-18   Status

FABR   ZombieDAMP2   Enabled   Unavailable   DP Service: Down   Normal   2016-Aug-16 09:57:53 EDT

> ✎ **Note:**
>
> If not already done so, refer *Diameter Signaling Router Full Address Based Resolution (FABR) User's Guide* to configure the needed ComAgent connections.

16. Complete the FABR configuration. Follow the instructions in *Diameter Signaling Router Full Address Based Resolution (FABR) User's Guide* to complete FABR configuration.

17. In the SOAM VIP GUI, verify if the application maintenance screen is visible. Assuming SDS is installed, and ComAgent remote server connections are configured, the following should be displayed. Expand the **Diameter** option, click **Maintenance** and select **Applications**.

Figure 5-19   Applications Folder

- Diameter
  - Configuration
  - Maintenance
    - Route Lists
    - Route Groups
    - Peer Nodes
    - Connections
    - Egress Throttle Groups
    - Applications
    - DA-MPs
    - Peer Discovery
    - Signaling Firewall
    - Traffic Throttle Points
    - Traffic Throttle Groups
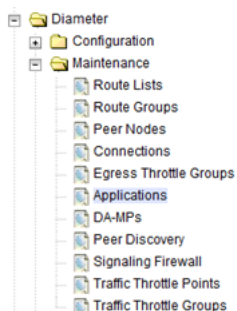
Verify if the FABR status is initialized. The following data should be displayed:

- Admin State = Enabled
- Operational Status = Available
- Operational Reason = Normal
- Congestion Level = Normal

Figure 5-20   FABR Status

FABR	ZombieDAM P1	Enabled	Available	Normal	Normal	2016-Aug-16 09:57:53 EDT

If this procedure fails, contact My Oracle Support (MOS) for assistance.

5.3 Post-Activation Procedures

This section describes the procedures to be followed after FABR feature activation.

5.3.1 Perform Health Check (Post-Feature Activation)

This procedure is used to determine the health and status of the DSR release network and servers. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.

1. Log in to the NOAM VIP GUI. Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter the URL:

   ```
   http://<Primary_NOAM_VIP_IP_Address>
   ```

2. Log in as the `guiadmin` user.

Figure 5-21   Oracle System Login

3. Verify the server status. Expand **Status & Manage** option and click **Server**.

Figure 5-22   Server Folder
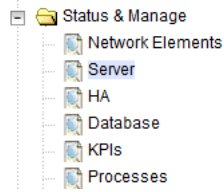
4. Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Reporting Status, and Processes (Proc).

Figure 5-23   Server Status

5. Log current alarms. Expand **Alarms & Events** option and click **View Active**

Figure 5-24   Alarms
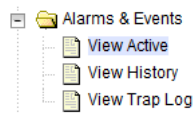
6. Click **Report**.

Figure 5-25   Report
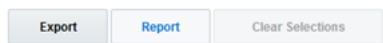
7. Click **Save** or **Print**. Keep the report copies for future reference.

Figure 5-26   Save or Print
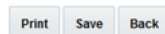
Compare this alarm report with those gathered in the pre-activation procedures.

If this procedure fails, contact My Oracle Support (MOS) for assistance.

6

Feature Deactivation

This section describes the FABR feature deactivation procedure. Run 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 described below.

6.1.1 Perform Health Check (Pre-Feature Deactivation)

This procedure is used to determine the health and status of the DSR network and servers. This procedure performs a health check. If this procedure fails, contact My Oracle Support (MOS) for assistance.

1. Log in to the SOAM VIP GUI. Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter the URL:

   `http://<Primary_SOAM_VIP_IP_Address>`

2. Log in as the `guiadmin` user.

Figure 6-1   Oracle System Login

3. In the SOAM VIP GUI, verify if the FABR folder is visible. Locate and verify the FABR folder from Main Menu is visible and the configuration folder items are present.

Figure 6-2   Configuration Folder
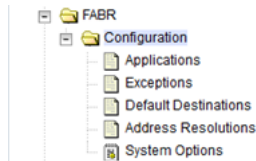
> **Note:**
>
> It should only be present after feature activation, so if it is not present, then the feature is already deactivated and there is no need to complete this deactivation procedure.

4. Log in to the NOAM VIP GUI. Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter the URL:

   ```
   http://<Primary_NOAM_VIP_IP_Address>
   ```

5. Log in as the `guiadmin` user.

Figure 6-3   Oracle System Login

6. Verify the server status. Expand **Status & Manage** option and click **Server**.

Figure 6-4   Server Folder
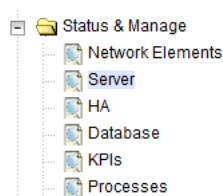
7. Verify if all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).

Figure 6-5   Server Status

| 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

8. Log the current alarms. Expand **Alarms & Events** option and click **View Active**.

Figure 6-6   Alarms

Alarms & Events
  View Active
  View History
  View Trap Log
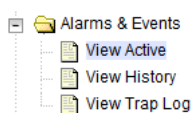
9. Click **Report**.

Figure 6-7   Report

Export   Report   Clear Selections

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

Figure 6-8   Save or Print
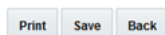
Print   Save   Back

Compare this alarm report with those gathered in the pre-activation procedures.

If this procedure fails, contact My Oracle Support (MOS) for assistance.

6.2 Deactivation Procedures

This chapter describes the FABR feature deactivation procedures.

6.2.1 Feature Deactivation

This section provides the detailed steps of the FABR deactivation procedures.

1. Log in to the SOAM VIP GUI. Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter the URL:

```
http://<Active_SOAM_IP_Address>
```

2. Log in as the `guiadmin` user.

Figure 6-9   Oracle System Login

3. Disable FABR application, expand the **Diameter** option, click **Maintenance** and select **Applications**.

Figure 6-10   Applications Folder
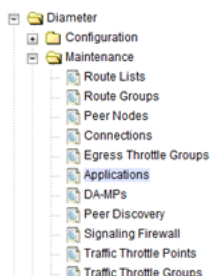
4. Select the FABR applications to disable, click **Disable**.

Figure 6-11   Disable

5. Click **OK** to confirm.

6. Log out of any active NOAM and/or SOAM GUI sessions.

Figure 6-12   Log out GUI
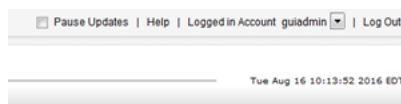
7. Establish a SSH session to the NOAM VIP. Log in as `admusr`.

8. Navigate to the feature activation directory by running the command:

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

9. In the NOAM VIP GUI, run the feature activation script by running the following command:

```
$ ./featureActivateDeactive
```

Figure 6-13   Run Script

Refer to Sample Output of Deactivation (Active NOAM) for sample output.

10. Log in to the active SOAM GUI, establish a GUI session on the active SOAM server by using IP address of the SOAM server. Open the web browser and enter the URL:

```
http://<Primary_SOAM_VIP_IP_Address>
```

11. Log in as the guiadmin user.

Figure 6-14   Oracle System Login

12. In the active SOAM GUI, verify if the FABR folder is not visible under Main Menu.

13. In the standby SOAM GUI repeat verification steps. Repeat Step 10, Step 11 and Step 12 for the standby SOAM.

> **Note:**
>
> If the verifications for the standby SOAM differ from the Active SOAM, stop and contact My Oracle Support (MOS).

14. Log in to the SOAM VIP GUI. Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter the URL:

   `http://<Active_SOAM_IP_Address>`

15. Log in as the `guiadmin` user.

Figure 6-15   Oracle System Login

16. In the SOAM VIP GUI, restart the DA-MPs. Multiple iterations of this step may be executed during the feature deactivation 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. Expand **Status & Manage** option and click **Server**.

Figure 6-16   Server Folder
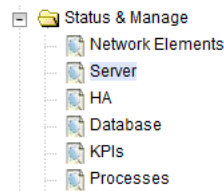
17. Select the desired DA-MPs, press **Ctrl** to select multiple DA-MPs at once. Click **Restart**.

    a.   Click **OK** to confirm.

    b.   Verify if the server changes to the `Err` state and wait until it returns to the `Enabled/ Norm` state.

    c.   Repeat for the additional DA-MPs.

18. In the SOAM VIP GUI, verify the maintenance screen. Expand the **Diameter** option, click **Maintenance** and select **Applications**.

Figure 6-17   Applications Folder
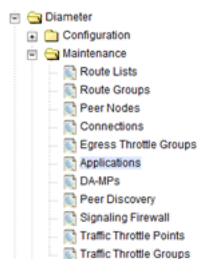
Verify if the FABR application is not present.

If this procedure fails, contact My Oracle Support (MOS) for assistance.

6.3 Post-Deactivation Procedures

To deactivate the FABR feature, follow the procedures in this chapter.

6.3.1 Perform Health Check (Post-Feature Deactivation)

This procedure performs a post deactivation health check. This procedure is used to determine the health and status of the network and servers. If this procedure fails, contact My Oracle Support (MOS) for assistance.

1. Log in to the NOAM VIP GUI. Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter the URL:

    `http://<Primary_NOAM_VIP_IP_Address>`

2. Log in as the `guiadmin` user.

Figure 6-18   Oracle System Login

Figure 6-19   Server Folder
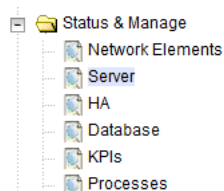
3. In the NOAM VIP GUI, verify the server status. Expand **Status & Manage** option and click **Server**.

4. Verify if all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Reporting Status, and Processes (Proc).

Figure 6-20   Server Status

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

5. Log the current alarms. Expand **Alarms & Events** option and click **View Active**.

Figure 6-21   Alarms

- Alarms & Events
  - View Active
  - View History
  - View Trap Log
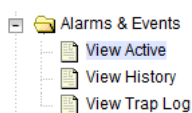
6. Click **Report**.

Figure 6-22   Report

Export   Report   Clear Selections

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

Figure 6-23   Save or Print

Print   Save   Back
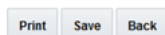
Compare this alarm report with those gathered in the pre-deactivation procedures.

> **Note:**
>
> No routed service alarms should exist. These include the following alarms:

Table 6-1   Alarm Condition

Alarm - ID	Alarm Condition
19820	Communication Agent Routed Service Unavailable
19821	Communication Agent Routed Service Degraded

Table 6-1   (Cont.) Alarm Condition

Alarm - ID	Alarm Condition
19822	Communication Agent Routed Service Congested
19823	Communication Agent Routed Service Using Low-Priority Connection Group

If this procedure fails, contact My Oracle Support (MOS) for assistance.

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 or deactivation output, this message is expected and harmless.

7.1 Sample Output of Activation (Active NOAM)

This is the sample output of the feature activation.

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

```
PerformanceVisibility=VIS_SO
========================================================
Meas_Group=Full Address Resolution Exception
Visibility=VIS_SO
========================================================
========================================================
Add FABR GUI Configuration Permissions.
========================================================
_appid=17
group_id=7051group_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=DPSvc
GrouppreDefined=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:
```

```
2Activate/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]$
```

7.2 Sample Output of Deactivation (Active NOAM)

This is the sample output of the feature deactivation.

```
====================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-22.
ALL SOs
Enter your choice on which SO you want to Activate or Deactivate the
Feature :
1Verifying 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
```