Oracle® Communications

Diameter Signaling Router

Release 5.1/6.0/7.0/7.1

DSR GLA Feature Activation Procedure

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Oracle Communications Diameter Signaling Router GLA feature activation procedure, Release 5.1/6.0/7.0/7.1

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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 MOS in the Appendix section.

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This document defines the procedure that is executed to activate the Gateway Location Application (GLA) 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 GLA feature is activated during a planned maintenance window to minimize the impact to network traffic.

This document also provides a procedure to deactivate GLA after it has been activated. Please see Section 3.0 for a discussion of deactivation.
Configuration of GLA following successful activation is beyond the scope of this document. After succesful activation, the crafts person is expected to configure GLA for proper operation of GLA.

No additional software installation is required prior to executing this procedure. The standard DSR installation procedure has loaded all of the required software, even if the GLA feature is activated at a later time.

1.2 REFERENCES

[1] DSR 7.0/7.1 Software Installation and Configuration Procedure 2/2, E58954
[2] DSR 7.0 PCA Configuration, E58667
[3] DSR PDRA Configuration Work Instruction, WI006808
[4] DSR PDRA Activation/Deactivation Work Instruction, WI006835
[5] DSR 7.1 PCA Activation and Configuration, E63560

1.3 ACRONYMS

Table 1. Acronyms

BNS	Broadband Networking Solutions
COMAGENT	Communication Agent
DA-MP	Diameter Agent Message Processor
DB	Database
DPI	Diameter Plug-In
DSR	Diameter Signaling Router
GLA	Gateway Location Application
GUI	Graphical User Interface
HA	High Availability
IMI	Internal Management Interface
IP	Internet Protocol
IPFE	Internet Protocol Front End
MP	Message Processing or Message Processor
NE	Network Element
NO	Network OAM
NOAM	Network OAM
PDRA	Policy DIAMETER Routing Agent
PSBR	Policy Session Binding Repository
OAM	Operations, Administration and Maintenance
SSH	Secure Shell
UI	User Interface
VIP	Virtual IP
VPN	Virtual Private Network
XMI	External Management Interface
PSBR-B	Policy Session Binding Repository – Binding
PSBR-S	Policy Session Binding Repository – Session
SOAM	System OAM

1.4 TERMINOLOGY

Table 2. Terminology

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.
ComAgent	Same as Communication Agent
PSBR-B	Holds network-wide subscriber binding information. Maps subscriber keys to the PCRF that hosts the subscriber's policy rules.
PSBR-S	Holds session information that is used for routing in-session messages.
SOAM	System Operations and Maintenance

1.5 GENERAL PROCEDURE STEP FORMAT

Where it is necessary to explicitly identify the server on which a particular step is to be taken, the server name is given in the title box for the step (e.g. "ServerX" in **Figure 1**).

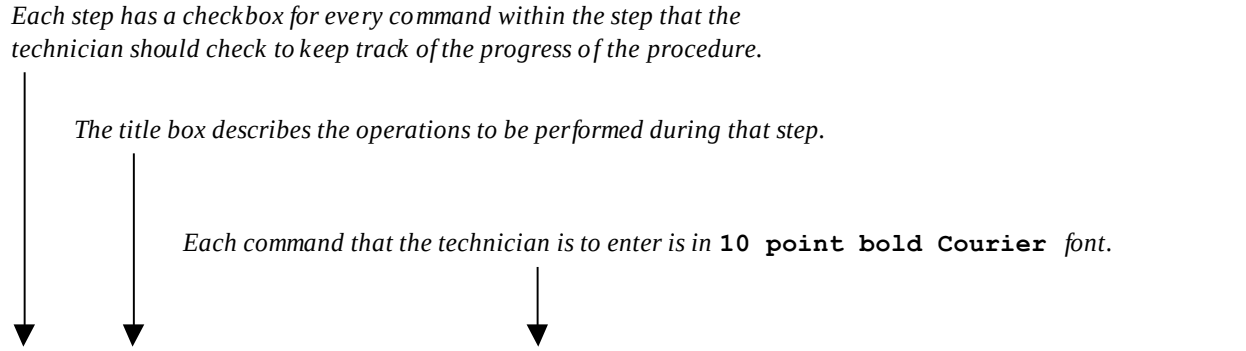


Figure 1. Example of a procedure step

1.6 RELEASE DOCUMENT MATRIX

Table 3: PCA Activation\Configuration Procedure Reference Table

DSR Release	Reference
DSR 5.1/6.0	[3] and [4]
DSR 7.0	[1] and [2]
DSR 7.1	[1] and [5]

2.0 FEATURE ACTIVATION OVERVIEW

This section lists the required materials and information needed to execute the feature activation. In addition, Table 4 through Table 9 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 5.0.

2.1 DEFINITION OF ACTIVATION FOR THE GLA FEATURE

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

The main components of a GLA system include the GLA (DSR) application, the binding database (hosted by the Policy Subscriber Binding Repository, i.e. pSBR), and finally the ComAgent which provides a interface and means to enable the GLA MPs and the pSBR MPs communicating to each other via reliable ComAgent routing services. Subscriber data concerning binding and session information is populated in the pSBR-B by the Policy Diameter Routing Agent (Policy DRA).

PDRA/PCA DSR application requires configuration of pSBR-Binding as well as pSBR-Session servers and comAgent connections to these pSBR servers. GLA will simply use rely on the configuration and comAgent connectivity, provided by PDRA. Please note that PDRA/PCA **must** be pre-activated and pre-configured in order for GLA to be activated. Refer to Table 3: PCA Activation\Configuration Procedure Reference Table for the appropriate DSR PCA release feature activation and configuration reference.

All software required to run GLA is available by default as part of a DSR release installation or upgrade. 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.

Prior to GLA feature activation, there are no GLA menu items visible on the SOAM GUI or NOAM GUI and there is no GLA-related processing taking place on the DA-MP(s).

After feature activation, all selectable GLA menu items are present on the SOAM GUI or NOAM GUI, allowing full GLA configuration and provisioning. Specifically, for GLA application, the top-level GLA folder is visible on the Main Menu, and a new entry is added to the **Diameter->Maintenance->Applications** table, showing GLA and its state.

After activation:

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

Important: once the GLA feature is activated, it is not automatically enabled. Activation simply means the mechanism for provisioning GLA behavior is in place. But the DA-MP(s) will act on GLA provisioning information only after GLA has been enabled (via the **Diameter->Maintenance->Applications** screen). GLA should not be enabled until after the appropriate provisioning data has been entered. GLA provisioning is beyond the scope of this document. Furthermore, for proper operation of GLA, Communication Agent and GLA application assumes that the Remote Servers IP addresses corresponding to the comAgent HA service (for Binding Resource) 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 4. Pre-Feature Activation Overview

Procedure	Elapsed Time (Hours: Minutes)		Activity	Impact
	This Step	Cum.	Feature Activation Preparation	
System Topology Check (Procedure 1)	0:00-0:20	0:00-0:20	• Verify Network Element Configuration data. • Verify Server Group Configuration data. • Analyze and plan DA-MP restart sequence.	None
Perform Health Check (Procedure 2)	0:01-0:05	0:21-1:05	• 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 5. Feature Activation Execution Overview

Procedure	Elapsed Time (Hours: Minutes)		Activity	Impact
	This Step	Cum.	Feature Activation Execution	
Perform Health Check (Procedure 3)	0:01-0:05	0:01-0:05	• Verify DSR Release. • Verify proper GLA feature state. • Verify proper PDRA feature state • Verify Server status. • Verify server and server group configurations. • Log all current alarms.	None
Feature Activation (Procedure 4)	0:10-0:40	0:11-0:45	• Log out of NOAM/SOAM GUI. • SSH to Active NOAM. • Log in as admusr • Change directory to /usr/TKLC/dsr/prod/maint/loaders/. • Execute the feature activation script. • Log into NOAM or SOAM GUI • Verify the GLA Folder. • Verify Maintenance screen. • Log into NOAM GUI (Optional). • Restart each active DA-MP server. • Verify Maintenance screen.	GLA 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 6. Post-Feature Activation Overview

Procedure	Elapsed Time (Hours: Minutes)		Activity	Impact
	This Step	Cum.	Feature Activation Completion	
Perform Health Check (Procedure 5)	0:01-0:05	0:01-0:05	• Establish GUI Session on the SOAM VIP • Verify Server status. • Log all current alarms. • Verify the KPIs • Verify the Measurements	GLA has been activated on DSR

3.0 FEATURE DEACTIVATION OVERVIEW

3.1.1 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 7. Pre-Feature Deactivation Overview

Procedure	Elapsed Time (Hours or Minutes)		Activity	Impact
	This Step	Cum.	Deactivation Procedures	
Perform Health Check (Procedure 6)	0:01-0:05	0:01-0:05	• Verify DSR Release. • Verify proper GLA feature state. • Verify server status. • Log current alarms.	None

3.1.2 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 8. Feature Deactivation Overview

Procedure	Elapsed Time (Hours or Minutes)		Activity	Impact
	This Step	Cum.	Deactivation Procedures	
Deactivation (Procedure 7)	00:10-00:40	0:10-1:05	• Log out of Active NOAM/SOAM GUI. • SSH into active NOAM. • Log in as admusr • Change directory to /usr/TKLC/dsr/prod/maint/loaders/.. • Execute the feature deactivation script. • Log into NOAM Or SOAM GUI • Verify the GLA folder. • Log into NOAM GUI • Restart each active DA-MP server. • Verify Maintenance screen.	GLA is deactivated

3.1.3 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 9. Post-Feature Deactivation Overview

Procedure	Elapsed Time (Hours or Minutes)		Activity	Impact
	This Step	Cum.	Deactivation Procedures	
Perform Health Check (Procedure 8)	0:01-0:05	0:01-0:05	• Verify Server status. • Log all current alarms. • Verify the KPIs. • Verify the Measurements. • Verify GUI Menu does not shows GLA sub-menu	None.

4.0 FEATURE ACTIVATION PREPARATION

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

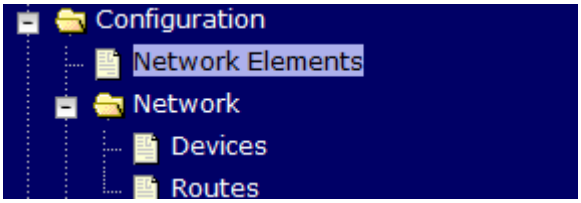
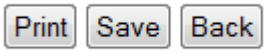
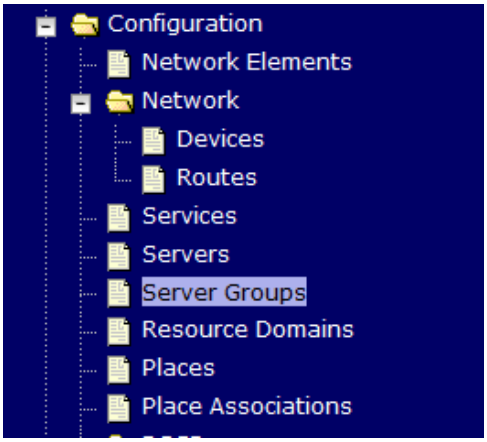
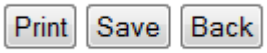
4.1 SYSTEM TOPOLOGY CHECK

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

S T E P #	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 IP 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: 

Procedure 1: System Topology Check

2 ☐	**NOAM VIP GUI:** Verify Network Configuration Data	Navigate to **Main Menu -> Configuration -> Network Elements**  Click the **Report** button.  Verify the configuration data is correct for your network. **Save** or **Print** this report, keep copies for future reference. 
3 ☐	**NOAM VIP GUI:** Verify Server Configuration	Navigate to **Main Menu -> Configuration -> Server Groups**  Click the **Report** button.  Verify the configuration data is correct for your network. **Save** or **Print** this report, keep copies for future reference. 

Procedure 1: System Topology Check

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.

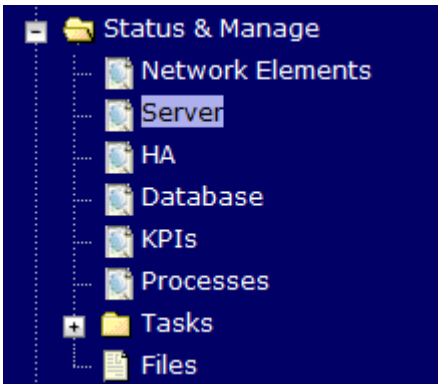
4.2 PERFORM HEALTH CHECK

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 prior to the start of the maintenance window in which the feature activation will take place.

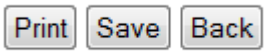
Procedure 2: Perform Health Check (Feature Activation Preparation)

S T E P #		
	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 IP 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: 

Procedure 2: Perform Health Check (Feature Activation Preparation)

2 ☐	**NOAM VIP GUI:** Verify Server Status	Navigate to **Main Menu -> 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 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.

Procedure 2: Perform Health Check (Feature Activation Preparation)

3 ☐	**NOAM VIP GUI:** Log Current Alarms	Navigate to **Main Menu -> Alarms & Events -> View Active**  Click on the **Report** button  **Save** or **Print** this report, keep copies for future reference. 

5.0 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)

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, there are multiple layers of menus selections. Make the selections in the sequence shown below on the Support telephone menu:

1. For the first set of menu options, select `2`, "New Service Request". You will hear another set of menu options.
2. In this set of menu options, select `3`, "Hardware, Networking and Solaris Operating System Support". A third set of menu options begins.
3. In the third set of options, select `2`, " Non-technical issue". Then you will be connected to a live agent who can assist you with MOS registration and provide Support Identifiers. Simply mention you are a Tekelec Customer new to MOS.

to diagnose those alarms and determine whether they need to be addressed or if it is safe to proceed with the feature activation.

Please 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.

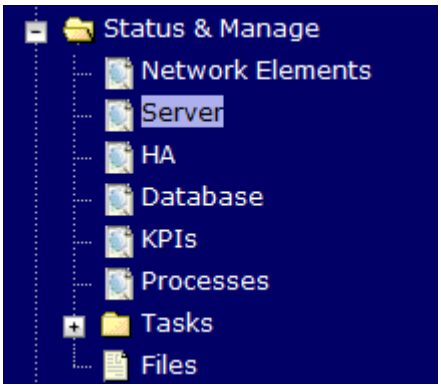
Procedure 3: Perform Health Check (Pre Feature Activation)

S T E P #	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 IP 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 ☐	**NOAM VIP GUI:** Verify GLA Folder is not Present	Under **Main Menu**, verify the GLA folder is NOT present.

Procedure 3: Perform Health Check (Pre Feature Activation)

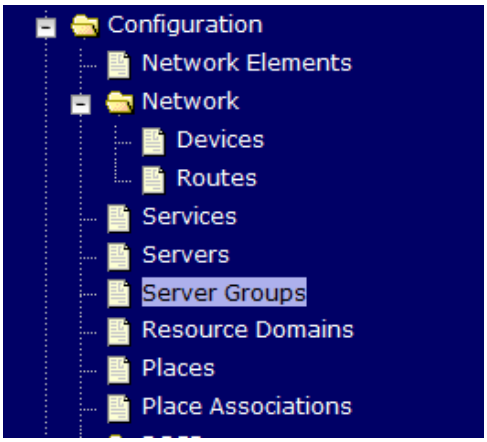
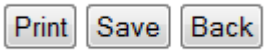
3 ☐	**NOAM VIP GUI:** Login	Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: `http://<Primary_NOAM_VIP_IP_Address>` Login as the ***guiadmin*** user: 

Procedure 3: Perform Health Check (Pre Feature Activation)

4 ☐	**NOAM VIP GUI:** Verify Server Status	Navigate to **Main Menu -> Status & Manage -> Server**  Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc). 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.

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

Procedure 3: Perform Health Check (Pre Feature Activation)

5 ☐	**NOAM VIP GUI:** Verify Server Configuration	Navigate to **Main Menu -> Configuration -> Server Groups**  Verify the configuration data is correct for your network.
6 ☐	**NOAM VIP GUI:** Log Current Alarms	Navigate to **Main Menu -> Alarms & Events -> View Active**  Click on the **Report** button  **Save** or **Print** this report, keep copies for future reference. 

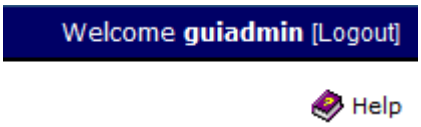
5.1.2 Activation Procedures

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

5.1.3 Feature Activation

Detailed steps for GLA feature activation are given in the procedure below.

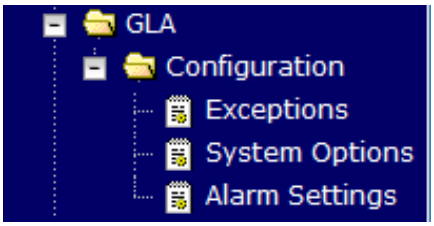
Procedure 4: Feature Activation

S T E P #	This procedure provides steps to Activate GLA. 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/`

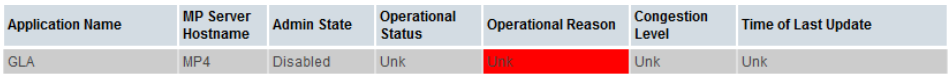
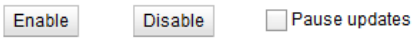
Procedure 4: Feature Activation

4 ☐	**NOAM VIP:** Execute the Feature Activation Script	Run the feature activation script by executing the following command:
		`$ ./featureActivateDeactivate`
		
		Choose **Activate**
		`You want to Activate or Deactivate the Feature :`
		`1.Activate`
		`2.Deactivate`
		
		`Enter your choice :`
		
		Choose **GLA**
		`List of Feature you can Activate :`
		`1.CPA`
		`2.RBAR`
		`3.FABR`
		`4.Mediation`
		`5.LoadGen`
		`6.GLA`
		`7.MAP Interworking`
		
		`Enter the choice :`
		
		Choose 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 7.1** for output Example.

Procedure 4: Feature Activation

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 GLA Folder is Visible	Locate and verify the GLA folder from Main Menu is visible and the configuration folder items are present 

Procedure 4: Feature Activation

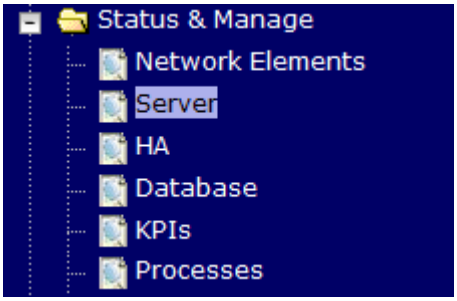
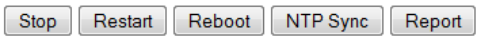
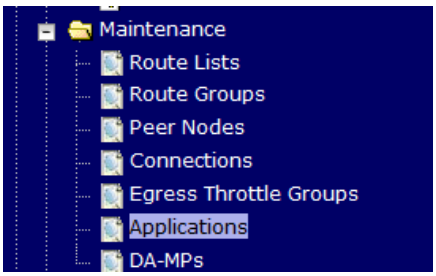
7 ☐	**Active SOAM GUI:** Verify Application Maintenance Screen is Visible	Verify the GLA Application is present in the Application Status screen Navigate to **Main Menu -> Diameter -> Maintenance -> Applications**.  Verify GLA status is uninitialized. Admin State = Disabled Operational State = Unk Operational Reason = Unk Congestion Level = Unk Click the **Enable** Button 
8 ☐	**Standby SOAM GUI:** Repeat Verification Steps	Repeat **Steps 5-7** for the Standy SOAM **Note:** If the verifications for the standby SOAM differ from the Active SOAM, stop and contact My Oracle Support (MOS)

9 ☐	**Spare SOAM GUI:** Verify and Activate	Repeat **Steps 5-7** for any spare SOAMs present.
		
		For DSR 5.1, 6.0, and 7.0, you will have to run the following command to activate GLA on each spare SOAM:
		
		Note: For DSR 7.1, skip this step.
		
		`$ cd /usr/TKLC/dsr/prod/maint/loaders/activate`
		`$ ./load.glaActivateBsourced`

Procedure 4: Feature Activation

10 ☐	**SOAM VIP GUI:** Login	Establish a GUI session on the SOAM server by using the VIP IP 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: 

Procedure 4: Feature Activation

12 ☐	**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 **Main Menu -> Status & Manage -> Server**  Select the desired DA-MPs, you can use 'Ctrl' to select multiple DA-MPs at once. Click the **Restart** button.  Verify the Server changes to the Err state and wait until it returns to the Enabled/Norm state. Repeat for the additional DA-MPs.
13 ☐	**SOAM VIP GUI:** Verify Application Maintenance Screen is Visible	Navigate to **Main Menu -> Diameter -> Maintenance -> Applications**  Verify GLA status is initialized. The following data should be displayed: Admin State = Enabled Operational State = Available Operational Reason = Normal Congestion Level = Normal Application Name | MP Server Hostname | Admin State | Operational Status | Operational Reason | Congestion Level | Time of Last Update GLA | MP4 | Enabled | Available | Normal | Normal | 2015-May-26 15:18:29 EDT

5.2 POST-ACTIVATION PROCEDURES

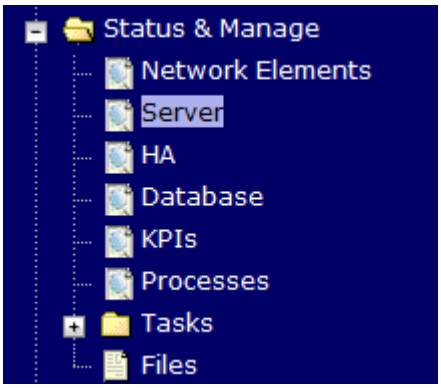
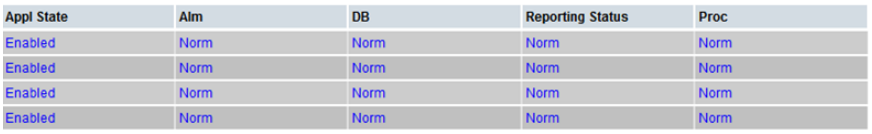
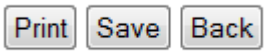
5.2.1 Perform Health Check

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

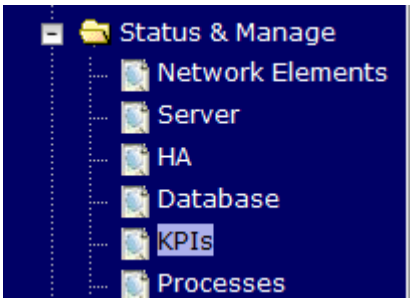
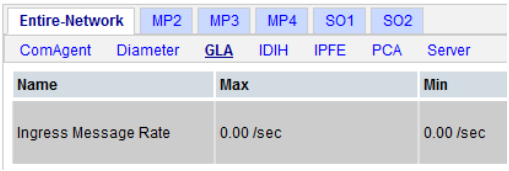
Procedure 5: Perform Health Check (Post-Feature Activation)

S T E P #	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 IP 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: 

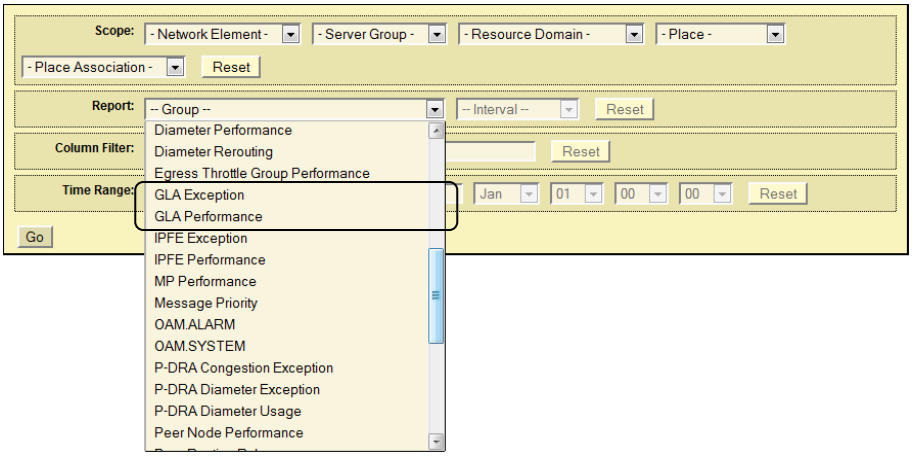
Procedure 5: Perform Health Check (Post-Feature Activation)

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

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

5 ☐	**SOAM VIP GUI:** Login	Establish a GUI session on the SOAM server by using the VIP IP 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: 
6 ☐	**SOAM VIP GUI:** Verify GLA KPI Screen	Navigate to **Main Menu -> Status & Manage -> KPIs**  Verify the GLA tab is present 

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

7 ☐	**SOAM VIP GUI:** Verify GLA Measurement Group	Verify that Measurement groups are shown for GLA. 

6.0 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 GLA application, it will have no impact on the system and does not need to be deactivated. The deactivation procedure will cause all the GLA related configuration data (including the Application Routing Rules using GLA) to be removed.

6.1 PRE-DEACTIVATION PROCEDURES

Before beginning the feature deactivation, complete the Pre-Deactivation procedure below.

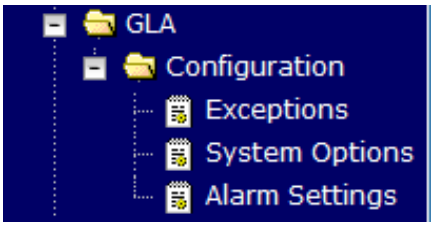
6.1.1 Perform Health Check

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

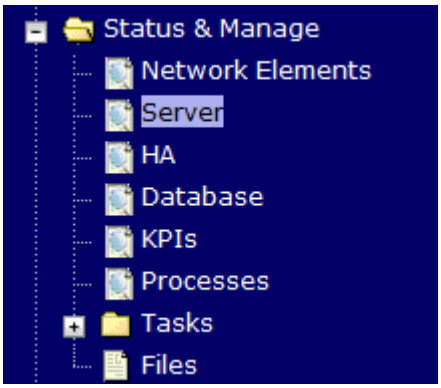
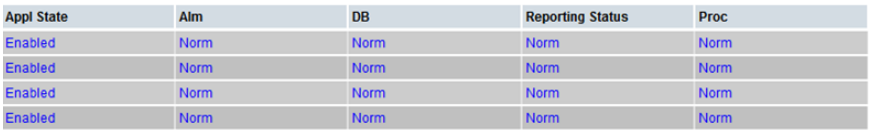
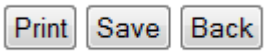
Procedure 6: Perform Health Check (Pre-Feature Deactivation)

S T E P #	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 IP 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: 

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

2 ☐	**SOAM VIP GUI:** Verify the GLA Folder is Visible	Locate and verify the GLA 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 IP 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: 

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

4 ☐	**NOAM VIP GUI:** Verify Server Status	Navigate to **Main Menu -> 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 **Main Menu -> Alarms & Events -> View Active**  Click on the **Report** button  **Save** or **Print** this report, 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

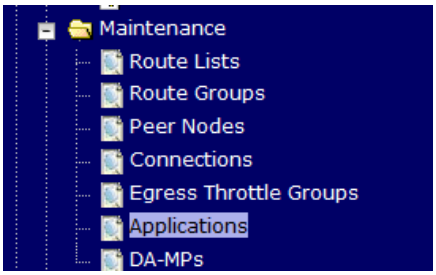
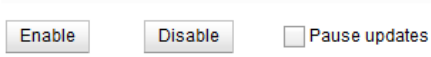
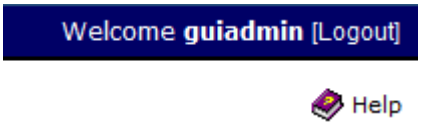
6.2.1 Feature Deactivation

This section provides the detailed steps of the GLA De-Activation procedures

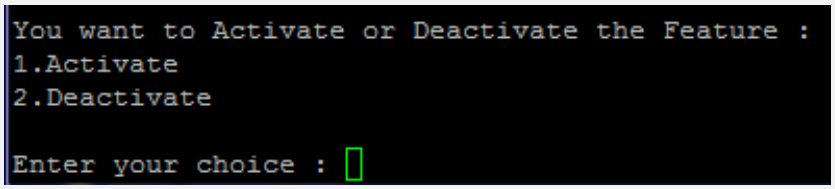
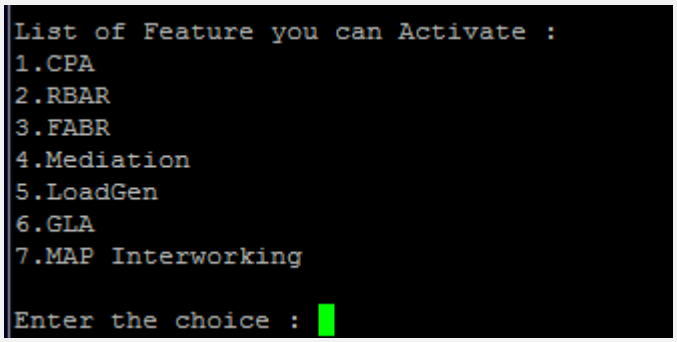
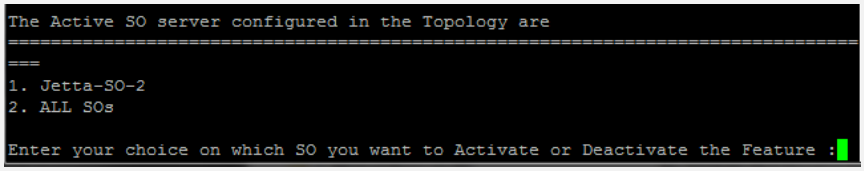
Procedure 7: Feature Deactivation

S T E P #	This procedure provides steps to Deactivate GLA. 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 IP 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: 

Procedure 7: Feature Deactivation

2 ☐	**Active SOAM GUI:** Disable GLA Application	Navigate to **Main Menu -> Diameter -> Maintenance -> Applications**  Select the GLA applications to disable.  Click the **Disable** button. 
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/`

Procedure 7: Feature Deactivation

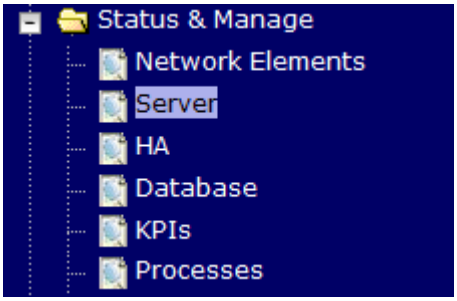
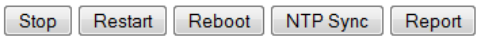
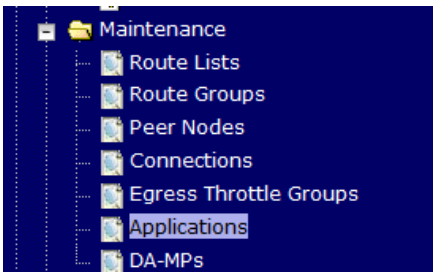
6 ☐	**NOAM VIP:** Execute the Feature Activation Script	Run the feature activation script by executing the following command: `$ ./featureActivateDeactivate` Choose **Deactivate**  Choose **GLA**  Choose the SOAM site for which the application will be deactivated: **Note:** As an alternative, you can also deactivate on all SOAM sites:  Refer to **Section 7.2** for output Example.

Procedure 7: Feature Deactivation

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 GLA Folder	Verify the GLA folder is not visible.
9 ☐	**Standby SOAM GUI:** Repeat Verification Steps	Repeat **Steps 7-8** for the Standy SOAM **Note:** If the verifications for the standby SOAM differ from the Active SOAM, stop and contact My Oracle Support (MOS)

10
☐
	Spare SOAM GUI: Verify and Deactivate	Repeat **Steps 7-8** for any spare SOAMs present.
		
		For DSR 5.1, 6.0, and 7.0, you will have to run the following command to Deactivate GLA on each spare SOAM:
		
		Note: For DSR 7.1, skip this step.
		
		`$ cd /usr/TKLC/dsr/prod/maint/loaders/deactivate`
		`$ ./load.glaDeactivateBsourced`

Procedure 7: Feature Deactivation

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 **Main Menu -> Status & Manage -> Server**  Select the desired DA-MPs, you can use 'Ctrl' to select multiple DA-MPs at once. Click the **Restart** button.  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 **Main Menu -> Diameter -> Maintenance -> Applications**  Verify the GLA application is not present.

6.3 POST-DEACTIVATION PROCEDURES

To complete a deactivation, complete the Post-Deactivation procedure below.

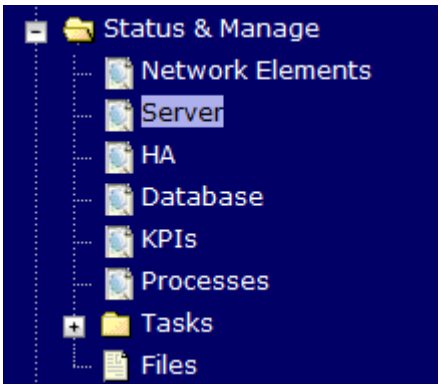
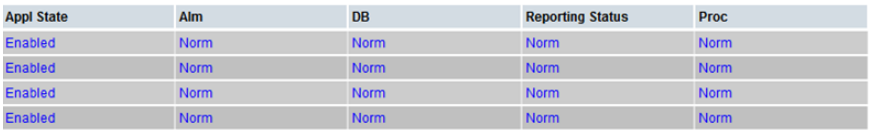
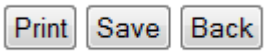
6.3.1 Perform Health Check

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

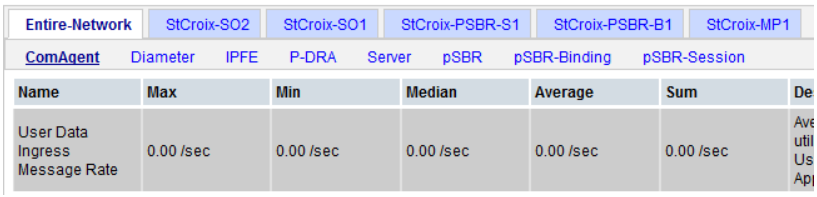
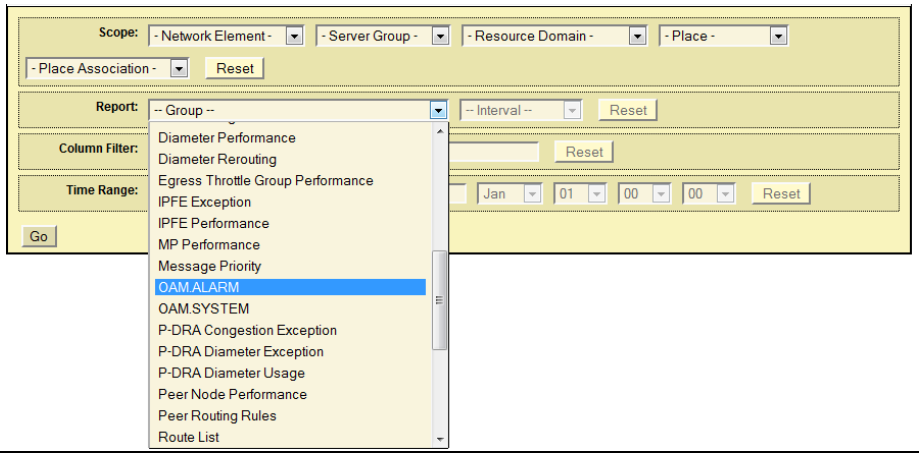
Procedure 8: Perform Health Check (Post-Feature Deactivation)

S T E P #	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 IP 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: 

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

2 ☐	**NOAM VIP GUI:** Verify Server Status	Navigate to **Main Menu -> 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 **Main Menu -> Alarms & Events -> View Active**  Click on the **Report** button  **Save** or **Print** this report, keep copies for future reference.  Compare this alarm report with those gathered in the pre-Deactivation procedures. Contact My Oracle Support (MOS) if needed.

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

4 ☐	**NOAM VIP GUI:** Verify that the KPIs are not shown for GLA.	Verify that KPIs menu do not show the KPI tabs for GLA 
5 ☐	**NOAM VIP GUI:** Verify that the Measurement groups are not shown for	Verify that Measurement groups are not shown for GLA 

7.0 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.

7.1 SAMPLE OUTPUT OF ACTIVATION (ACTIVE NOAM)

```
[admusr@NO1 loaders]$ ls
activate                  helper           upgrade
deactivate                install          verifyFeatureActivation
featureActivateDeactivate  load.dsr.install
[admusr@NO1 loaders]$ ./featureActivateDeactivate
Tue May 26 13:22:30 EDT 2015::Starting featureActivateDeactivate main...
Start the Automation script , To run the Feature Activation/DeActivation on Acti
ve NO.

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

Enter your choice : 1

List of Feature you can Activate :
1.CPA
2.RBAR
3.FABR
4.Mediation
5.LoadGen
6.GLA
7.MAP Interworking

Enter the choice : 6

Run script to Activate gla 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.glaActivateAsourced scr
ipt on NO1
================================================================================
Policy DRA is enabled, proceeding ahead with GLA activation
================================================================================
================================================================================
PCRF Pooling is enabled, proceeding ahead with GLA activation
================================================================================
================================================================================
Add GLA to DsrApplication.
================================================================================
id=13
name=GLA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Forced
shutdownTimer=0
resultCode=3002
vendorId=0
errorString=GLA: Unavailable
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=GLA: Resource Exhausted
routeListId=-1
realm=
fqdn=
mcl=0
================================
================================================================================
Add GLA KPI group
================================================================================
KPI_Group=GLA
Visibility=VIS_SO
================================
================================================================================
Add GLA Measurement groups
```

```
================================================================================
Meas_Group=GLA Performance
Visibility=VIS_SO
==================================
Meas_Group=GLA Exception
Visibility=VIS_SO
==================================
================================================================================
Add GLA GUI Configuration Permissions.
================================================================================
_appid=17
group_id=9000
group_name=GLA Configuration Permissions
==================================
================================================================================
===
Starting to Execute the Loaders on Mate server
================================================================================
===
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.glaActivateAsourced scr
ipt on NO2
================================================================================
===
FIPS integrity verification test failed.
================================================================================
Add GLA to DsrApplication.
================================================================================
id=13
name=GLA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Forced
shutdownTimer=0
resultCode=3002
vendorId=0
errorString=GLA: Unavailable
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=GLA: Resource Exhausted
routeListId=-1
realm=
fqdn=
mcl=0
==================================
KPI_Group=GLA
Visibility=VIS_SO
==================================
Meas_Group=GLA Performance
Visibility=VIS_SO
==================================
Meas_Group=GLA Exception
Visibility=VIS_SO
==================================
================================================================================
Add GLA GUI Configuration Permissions.
================================================================================
_appid=17
group_id=9000
group_name=GLA Configuration Permissions
==================================
FIPS integrity verification test failed.
================================================================================
===
The Active SO server configured in the Topology are
================================================================================
===
1. SO1
2. ALL SOs

Enter your choice on which SO you want to Activate or Deactivate the Feature :1

================================================================================
===
This is a 3 Tier Setup , So run the B sourced loaders on SO server : SO1
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.glaActivateBsourced scr
ipt on SO1
FIPS integrity verification test failed.
================================================================================
Current server is HA ACTIVE
================================================================================
================================================================================
PCA is already activated, Proceeding ahead
================================================================================
================================================================================
Policy DRA is enabled, proceeding ahead with GLA activation
================================================================================
================================================================================
PCRF Pooling is enabled, proceeding ahead with GLA activation
================================================================================
================================================================================
Add GLA to DsrApplication.
================================================================================
id=13
name=GLA
unavailableAction=SendAnswer
```

```
avpInsertion=Yes
shutdownMode=Forced
shutdownTimer=0
resultCode=3002
vendorId=0
errorString=GLA: Unavailable
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=GLA: Resource Exhausted
routeListId=-1
realm=
fqdn=
mcl=0
==================================
================================================================================
Add Common DSR Application measurements for GLA.
================================================================================
repgrp=DSR Application Performance
measid=15900
subgrp=
==================================
repgrp=DSR Application Exception
measid=15904
subgrp=
==================================
repgrp=DSR Application Performance
measid=15902
subgrp=
==================================
repgrp=DSR Application Performance
measid=15903
subgrp=
==================================
repgrp=DSR Application Performance
measid=15905
subgrp=
==================================
repgrp=DSR Application Performance
measid=15906
subgrp=
==================================
================================================================================
Add GLA GUI Configuration Permissions.
================================================================================
_appid=17
group_id=9000
group_name=GLA Configuration Permissions
==================================
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/activate/load.glaActivateBsourced scr
ipt on SO2
================================================================================
===
FIPS integrity verification test failed.
================================================================================
Current server is HA STANDBY
================================================================================
================================================================================
PCA is already activated, Proceeding ahead
================================================================================
================================================================================
Policy DRA is enabled, proceeding ahead with GLA activation
================================================================================
================================================================================
PCRF Pooling is enabled, proceeding ahead with GLA activation
================================================================================
id=13
name=GLA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Forced
shutdownTimer=0
resultCode=3002
vendorId=0
errorString=GLA: Unavailable
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=GLA: Resource Exhausted
routeListId=-1
realm=
fqdn=
mcl=0
==================================
================================================================================
Add Common DSR Application measurements for GLA.
```

```
================================================================================
repgrp=DSR Application Performance
measid=15900
subgrp=
================================
repgrp=DSR Application Exception
measid=15904
subgrp=
================================
repgrp=DSR Application Performance
measid=15902
subgrp=
================================
repgrp=DSR Application Performance
measid=15903
subgrp=
================================
repgrp=DSR Application Performance
measid=15905
subgrp=
================================
repgrp=DSR Application Performance
measid=15906
subgrp=
================================
================================================================================
Add GLA GUI Configuration Permissions.
================================================================================
_appid=17
group_id=9000
group_name=GLA Configuration Permissions
================================
FIPS integrity verification test failed.
================================================================================
===
Do you want to activate/deactivate this feature on another System OAM Server[Y/N
] : n
[admusr@NO1 loaders]$
```

7.2 SAMPLE OUTPUT OF DEACTIVATION (ACTIVE NOAM)

```
[admusr@NO2 loaders]$ ./featureActivateDeactivate
Tue Apr  1 02:21:17 EDT 2014::Starting featureActivateDeactivate main...
Start the Automation script , To run the Feature Activation/DeActivation on Active NO.

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

Enter your choice : 2

Which Feature you want to DeActivate :
1.CPA
2.RBAR
3.FABR
4.Mediation
5.LoadGen
6.GLA
7.MAP Interworking

Enter your choice : 6

Run script to Deactivate gla Feature

====================================S-T-A-R-T=====================================


================================================================================
Execution of Activation/Deactivation Process Starts
================================================================================
Starting Activation/Deactivation process....
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.glaDeactivateAsourced script on NO2
================================================================================
Hiding GLA KPI group and Measurement Groups
================================================================================
  === deleted 1 records ===
================================================================================
Hiding GLA measurement groups
================================================================================
  === deleted 1 records ===
  === deleted 1 records ===
================================================================================
Removing GLA from the DSR Application Table
================================================================================
  === deleted 1 records ===
================================================================================
Removing GLA GUI permissions.
================================================================================
  === deleted 1 records ===
================================================================================
Starting to Execute the Loaders on Standby server
================================================================================
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.glaDeactivateAsourced script on NO1
================================================================================
================================================================================
Removing GLA GUI permissions.
================================================================================
  === deleted 0 records ===
================================================================================
The Active SO server configured in the Topology are
================================================================================
1. SO1
2. ALL SOs

Enter your choice on which SO you want to Activate or Deactivate the Feature :1

================================================================================
This is a 3 Tier Setup , So run the B sourced loaders on SO server : SO1
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.glaDeactivateBsourced script on SO1
================================================================================
Current server is HA ACTIVE
================================================================================
================================================================================
Removing all ART rules pointing to GLA
================================================================================
  === deleted 0 records ===
================================================================================
Removing applicationId=13(GLA) from the DSR Application Per Mp Table
================================================================================
  === deleted 0 records ===
================================================================================
Removing GLA from the DSR Application Table
================================================================================
  === deleted 1 records ===
================================================================================
Removing common DSR Application measurements for GLA
================================================================================
  === deleted 1 records ===
  === deleted 1 records ===
```

```
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
================================================================================
Removing GLA GUI permissions.
================================================================================
  === deleted 1 records ===
================================================================================
Executing the Loaders and Clearing Cache on Standby SO servers.
================================================================================
================================================================================
Starting to Execute the Loaders on Standby server
================================================================================
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.glaDeactivateBsourced script on SO2
================================================================================
================================================================================
Current server is HA STANDBY
================================================================================
================================================================================
Removing common DSR Application measurements for GLA
================================================================================
  === deleted 0 records ===
  === deleted 0 records ===
  === deleted 0 records ===
  === deleted 0 records ===
  === deleted 0 records ===
  === deleted 0 records ===
================================================================================
Removing GLA GUI permissions.
================================================================================
  === deleted 0 records ===
================================================================================
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, there are multiple layers of menus selections. Make the selections in the sequence shown below on the Support telephone menu:

4. For the first set of menu options, select `2,` "New Service Request". You will hear another set of menu options.
5. In this set of menu options, select `3,` "Hardware, Networking and Solaris Operating System Support". A third set of menu options begins.
6. In the third set of options, select `2,` " Non-technical issue". Then you will be connected to a live agent who can assist you with MOS registration and provide Support Identifiers. Simply mention you are a Tekelec Customer new to MOS.