Oracle® Communications Diameter Signaling Router

Policy and Charging DRA Feature Activation Procedure Release 8.2

E88981 Revision 01

January 2018



Policy and Charging DRA Feature Activation Procedure

Oracle Communications Diameter Signaling Router PCA Feature Activation Procedure, Release 8.2.

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1. Introduction

1.1 Purpose and Scope

This document defines the procedures to activate the Policy and Charging Application (PCA) 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 PCA feature is activated during a planned maintenance window to minimize the impact to network traffic.

This document also provides a procedure to deactivate PCA after it has been activated. Refer to Section 3 for a discussion of deactivation.

Configuration of PCA following successful activation is beyond the scope of this document. Please refer to the PCA User's Guide for guidance on PCA configuration post activation.

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 PCA feature is activated at a later time.

1.2 References

- [1] DSR 8.2 Software Installation and Configuration Procedure 2/2
- [2] DSR 8.2 Policy Charging Application User's Guide
- [3] DSR PDRA Configuration Work Instruction, WI006808
- [4] DSR PDRA Activation/Deactivation Work Instruction, WI006835
- [5] DSR 8.2 PCA Activation and Configuration
- [6] DSR GLA Feature Activation Procedure
- [7] DSR Software Upgrade Guide

1.3 Acronyms

An alphabetized list of acronyms used in the document.

Table 1. Acronyms

Acronym	Definition			
DA-MP	Diameter Agent Message Processor			
DB	Database			
DPI	Diameter Plug-In			
DSR	Diameter Signaling Router			
GLA Gateway Location Application				
GUI	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				

Acronym	Definition			
NE	Network Element			
NO	Network OAM			
NOAM	Network OAM			
PDRA	Policy DIAMETER Routing Agent			
SBR	Session Binding Repository (when used without the "B" or "S" suffix, refers to both binding and session SBRs)			
PCA	Policy and Charging Application			
PCRF	Policy and Charging Rules Function			
OAM Operations, Administration and Maintenance				
SSH Secure Shell				
UI User Interface				
VIP Virtual IP				
VPN Virtual Private Network				
XMI External Management Interface				
SBR-B Session Binding Repository – Binding				
SBR-S	Session Binding Repository – Session			
SOAM System OAM				

1.4 Terminology

Table 2. Terminology

Term	Definition
Communication Agent	Software infrastructure that allows applications to communicate with the SBR databases in a reliable manner.
ComAgent	Same as Communication Agent
NOAM	Network Operations and Maintenance
SBR-B	Holds network-wide subscriber binding information. Maps subscriber keys to the PCRF that hosts the subscriber's policy rules.
SBR-S	Holds session information used for routing in-session messages.
SOAM	System Operations and Maintenance

1.5 General Procedure Step Format

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

Each step has a checkbox for every command within the step that the technician should check to keep track of the progress of the procedure.

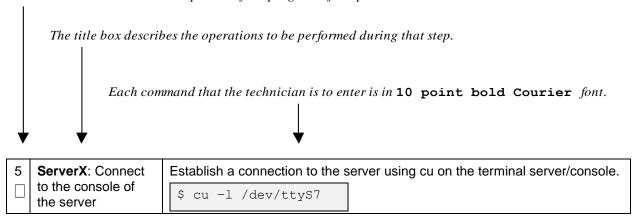


Figure 1. Example of a Procedure Step

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 7.1/7.2	[1] and [5]
DSR 7.3/7.4	[7]
DSR 8.x	[1], [2], and [6]

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2. Feature Activation Overview

This section lists the required materials and information needed to execute the feature activation. In addition, Table 4. Pre-Feature Activation Overview through Table 9. Post-Feature Deactivation Overview provide estimates of the time required to execute the procedures. These tables can be used to estimate the total time necessary to complete the feature activation. The timing values shown are estimates only – use these tables to plan the timing of the activation, not to execute the procedure. The detailed procedure steps to be executed begin in Section 5.

2.1 Definition of Activation for the PCA Feature

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

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

PDRA/PCA DSR application requires configuration of SBR-Binding as well as SBR-Session servers and ComAgent connections to these SBR servers.

All software required to run GLA is available by default as part of a DSR release installation or upgrade. GLA cannot be activated until after PCA is activated. The process of activating the feature simply makes proper use of software elements and file system files already present to change the behavior of the DSR

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

After feature activation, all selectable PCA menu items are present on the SOAM GUI and NOAM GUI, allowing full PCA configuration and provisioning. Specifically, for PCA application, the top-level PCA folder is visible on the Main Menu, and a new entry is added to the Diameter - > Maintenance -> Applications table, showing PCA and its state. Activation of PCA does not affect DSR signaling behavior except for process restarts necessary during the activation.

After activation:

DSR setup is ready to act as PCA application subject to the PCA configuration.

Important: Upon PCA feature activation, it is not automatically enabled. Activation simply means the mechanism for configuring PCA behavior is in place. But the DA-MP(s) acts on PCA provisioning information only after PCA has been enabled (via the Diameter -> Maintenance -> Applications screen). PCA should not be enabled until after the appropriate provisioning data has been entered. PCA provisioning is beyond the scope of this document, refer [2] for PCA configuration. Furthermore, for proper operation of PCA, Communication Agent and PCA application assumes 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. After PCA activation, please refer [2] for PCA configuration.

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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

	Elapsed Time (Hours:Minutes)		
Procedure	This Step	Cum.	Feature Activation Preparation Procedures
System Topology Check	0:00-1:00	0:00-1:00	Verify Network Element Configuration data.
(Procedure 1)			Verify Server Group Configuration data.
			Analyze and plan DA-MP restart sequence.
Perform Health Check	0:01-0:20	1:01-1:20	Verify server status.
(Procedure 2)			Log all current alarms.

2.2.2 Feature Activation Execution Overview

The procedures shown in the following table are executed inside a single maintenance window.

Either procedure 4 or procedure 5 should be executed as per the requirement. Procedure 4 should be executed when NOAM and SOAM servers for at least one DSR site are installed and configured. Procedure 5 must be repeated if one or more DSR sites are added to a DSR network and PCA is to be used on the new sites.

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

	Elapsed Time (Hours:Minutes)		
Procedure	This Step	Cum.	Feature Activation Execution Procedures
Perform Health Check (Procedure 3)	0:01-0:05	0:01-0:05	Verify all servers in the network are on the same DSR release.
			Verify proper PCA feature state.
			Verify server status.
			 Verify server and server group configurations.
			Log all current alarms.

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	Elapsed Time (Hours:Minutes)			
Procedure	This Step	Cum.	Feature Activation Execution Procedure	
Feature Activation for Entire	0:10-0:40	0:11-0:45	Log out of NOAM/SOAM GUI.	
Network (Procedure 4)			SSH to active NOAM.	
or			Login as the admusr.	
Feature Activation for Newly Added Sites (Procedure 5			Change directory to /usr/TKLC/dsr/prod/maint/loaders/activa	
or			te.	
Feature Activation on Active NOAM (Procedure 30)			Execute the feature activation script.	
or			Log into NOAM or SOAM GUI.	
Feature Activation on Standby			Verify the Policy and Charging folder.	
NOAM (Procedure 31)			Verify Maintenance screen.	
or			Log into NOAM GUI (Optional).	
Feature Activation on Active			Restart each active DA-MP server.	
SOAM (Procedure 32)			Verify Maintenance screen.	
or				
Feature Activation on Standby SOAM (Procedure 33)				
Restart Process (Procedure 6)			Restart process on DA-MP servers.	
			Restart process on SBR servers.	

2.2.3 Post-Feature Activation Overview

The procedures shown in the following table can be executed outside 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

	Elapsed Time (Hours:Minutes)			
Procedure	This Step	Cum.	Feature Activation Completion Procedures	
Perform Health Check	0:01-0:05	0:01-0:05	Establish GUI session on the NOAM VIP.	
(Procedure 7)			Verify the KPIs.	
			Verify the Measurements.	
			Verify GUI left hand menu item.	
Perform Health Check	0:01-0:05	0:02-0:10	Establish GUI session on the SOAM VIP.	
(Procedure 8)			Verify GUI left hand menu item.	

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3. Feature Deactivation Overview

3.1 Pre-Feature Deactivation Overview

The procedures shown in the following table can be executed outside 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

	Elapsed (Hours:M		
Procedure	This Step	Cum.	Pre-Feature Deactivation Procedures
Perform Health Check	0:01- 0:05	0:01-0:05	Establish GUI session on the SOAM VIP.
(Procedure 9)			Verify GUI left hand menu item.
			Establish GUI session on the NOAM VIP.
			Verify server status.
			Log current alarms.
Verify PCA application	00:01-00:05	0:02-0:10	Establish GUI session on the SOAM VIP.
state and deactivate GLA (Procedure 10)			 Verify PCA record in Diameter -> Maintenance -> Applications.
			 Verify GLA record in Diameter -> Maintenance -> Applications.
			Deactivate GLA, if activated.
Unconfigure PCA	00:10-00:40	0:12-0:50	Establish GUI session on the NOAM VIP.
Functions (PDRA and OCDRA) (Procedure 11)			Unconfigure PDRA function.
Cobinity (Froduction 11)			Unconfigure OCDRA function.
Disable Diameter	00:01-00:05	0:13-0:55	Establish GUI session on the SOAM VIP.
Connections (Procedure 12)			Disable PCA-specific diameter connection.
Disable application	00:01-00:05	0:14-1:00	Establish GUI session on the SOAM VIP.
(Procedure 13)			Disable PCA application.
Remove DSR	00:01-00:05	0:15-1:05	Establish GUI session on the SOAM VIP.
configuration data (Procedure 14)			Remove PCA-specific DSR configuration.
Remove Resource	00:01-00:05	0:16-1:10	Establish GUI session on the NOAM VIP.
Domain configuration data (Procedure 15)			Remove PCA-specific resource domain configuration.
Remove Place	00:01-00:05	0:17-1:15	Establish GUI session on the NOAM VIP.
Associations configuration data (Procedure 16)			Remove Place Association configuration.

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	Elapsed Time (Hours:Minutes)		
Procedure	This Step	Cum.	Pre-Feature Deactivation Procedures
Remove Place configuration data (Procedure 17)	00:01-00:05	0:18-1:20	Establish GUI session on the NOAM VIP.Remove Place configuration.

3.2 Feature Deactivation Execution Overview

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

	Elapsed Time (Hours:Minutes)		
Procedure	This Step	Cum.	Feature Deactivation Procedures
Feature Activation for	0:01 - 0:40	0:01 - 0:40	Log out of active NOAM/SOAM GUI.
Entire network (Procedure 18)			SSH into active NOAM.
or			Login as the admusr.
Feature Deactivation on single site (Procedure			Change directory to /usr/TKLC/dsr/prod/maint/loaders/deactivate
19)			Execute the feature deactivation script.
			Log into NOAM or SOAM GUI
			Verify the Policy and Charging folder.
			Log into NOAM GUI
			Restart each active DA-MP server.
			Verify Maintenance screen.

3.3 Post-Feature Deactivation Overview

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

Table 9. Post-Feature Deactivation Overview

	Elapsed Time (Hours:Minutes)		
Procedure	This Step	Cum.	Post Feature Deactivation Procedures
Move SBR Servers to OOS State (Procedure 20)	0:01-0:05	0:01-0:05	Establish GUI session on the NOAM VIPMove SBR server to OOS
Remove SBR Servers from Server Groups (Procedure 21)	0:01-0:05	0:02-0:10	 Establish GUI session on the NOAM VIP Remove SBR server from server group

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	Elapsed Time (Hours:Minutes)		
Procedure	This Step	Cum.	Post Feature Deactivation Procedures
Reboot the Servers (Procedure 23)	0:10-1:00	0:12-1:05	Identify the sequence of the server to be rebooted
			Reboot the server in sequence
Perform Health	0:01-0:05	0:01-0:20	Verify server status.
Procedure 27, Procedure 28, and			Log all current alarms.
Procedure 29)			Verify the KPIs.
			Verify the Measurements.
			Verify GUI menu does not shows PCA sub-menu

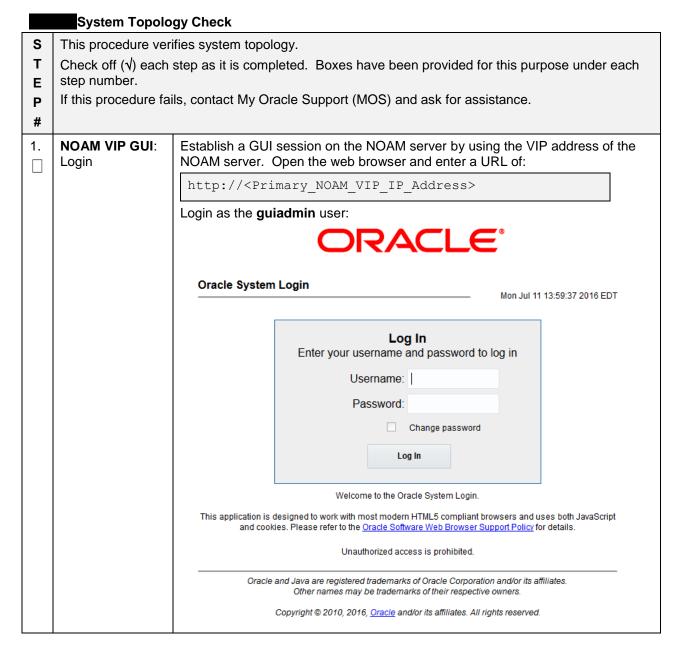
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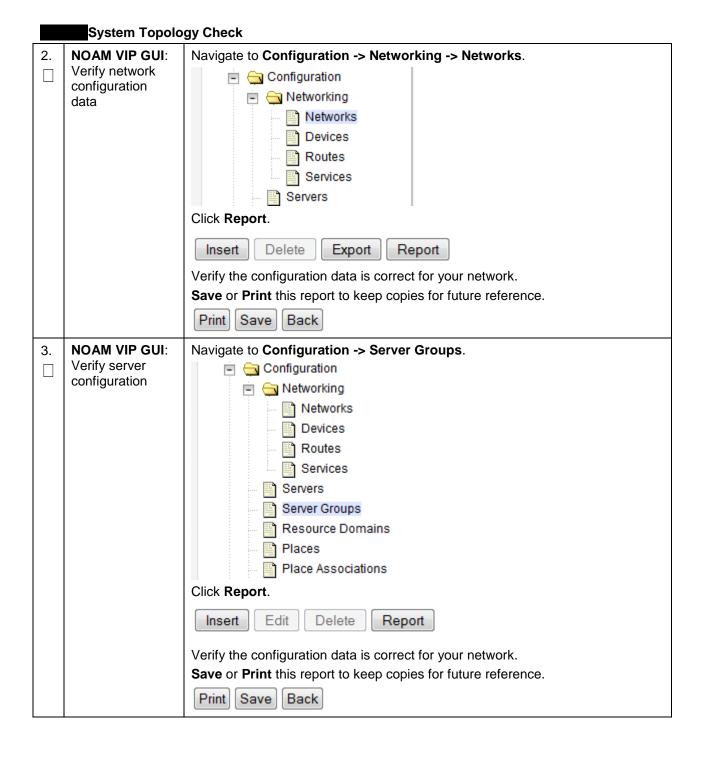
4. Feature Activation Preparation

This section provides detailed procedures to prepare a system for PCA 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.





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System Topology Check

4.	Analyze and plan DA-MP restart sequence	During PCA Activation procedure 6 for activation of PCA on an existing system it will be necessary to restart the application process on each DA-MP server. This step is to plan the order and level of parallelism for the process restarts such that signaling disruption is minimized.	
		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. This may be executed multiple times but must also be executed at least once within the time frame of 24-36 hours before the start of the maintenance window in which the feature activation will take place.

Perform Health Check (Feature Activation Preparation)

s	This procedure provides steps to perform needed health checks.				
Т	Check off ($\sqrt{\ }$) each step as it is completed. Boxes have been provided for this purpose under each				
E	step number.				
Р	If this procedure fa	ils, contact My Oracle Support (MOS) and ask for assistance.			
#					
1.	NOAM VIP GUI: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of:			
		http:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>			
		Login as the guiadmin user:			
		ORACLE"			
		CIEACEC			
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT			
		l a su la			
		Log In Enter your username and password to log in			
		Username:			
		Password:			
		Change password			
		Sittings passions			
		Log In			

Perform Health Check (Feature Activation Preparation) 2. **NOAM VIP GUI:** Navigate to Status & Manage -> Server. Verify server Status & Manage status Network Elements Server 🚮 Database KPIs Processes Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Reporting Status, and Processes (Proc). Alm DB **Appl State** Reporting Status Proc Enabled Norm Norm Norm Norm Enabled Norm Norm Norm Norm Enabled Norm Norm Norm Norm Do not proceed to feature activation if any of the above states are not Norm. If any of these are not Norm, corrective action should be taken to restore the non-Norm status to Norm before proceeding with the feature activation. If the Alarm (Alm) status is not Norm but only Minor alarms are present, it is acceptable to proceed with the feature activation. If there are Major or Critical alarms present, these alarms should be analyzed before proceeding with the feature activation. The activation may be able to proceed in the presence of certain Major or Critical alarms. Contact My Oracle Support (MOS) for assistance as necessary. **NOAM VIP GUI:** Navigate to Alarms & Events -> View Active. 3. Log current Alarms & Events alarms View Active View History View Trap Log Click Report. Clear Selections **Export** Report Save or Print this report to keep copies for future reference. Print Save Back

5. Feature Activation

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

***** WARNING *****

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

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

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.

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Perform Health Check (Pre Feature Activation)

S	This procedure performs needed health checks.				
Т	Check off $()$ each	step as it is completed. Boxes have been provided for this purpose under each			
Е	step number.				
Р	If this procedure fa	ils, contact My Oracle Support (MOS) and ask for assistance.			
#					
1.	NOAM VIP GUI: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of:			
		http:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>			
		Login as the guiadmin user:			
		ORACLE°			
		CITACLE			
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT			
		Log In Enter your username and password to log in			
		Username:			
		Password:			
		Change password			
		Log In			
		Welcome to the Oracle System Login.			
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.			

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Perform Health Check (Pre Feature Activation) 2. **NOAM VIP GUI:** Under Main Menu, verify the Policy and Charging folder is NOT present. Verify PCA Main Menu Folder is not Administration Present Configuration Alarms & Events Security Log Status & Manage Measurements Communication Agent Diameter Common Diameter RADIUS SBR Help Legal Notices ∠ Logout **NOAM VIP GUI:** 3. Navigate to Status & Manage -> Server. Verify server Status & Manage status Network Elements Server 🚮 HA 🚮 Database KPIs Processes Tasks Files Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Reporting 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 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.

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Perform Health Check (Pre Feature Activation) 4. **NOAM VIP GUI:** Navigate to Configuration -> Server Groups. Verify server Configuration configuration Networking Servers Server Groups Resource Domains Places Place Associations Verify the configuration data is correct for your network. Navigate to Alarms & Events -> View Active. 5. **NOAM VIP GUI:** Log current Alarms & Events alarms View Active View History View Trap Log Click Report. Export Report Clear Selections Save or Print this report to keep copies for future reference. Print Save Back 6. **NOAM VIP GUI:** Navigate to Administration -> Software Management -> Upgrade. Check the Verify the Upgrade ISO column shows the correct release number for all servers software version in the DSR network. on all servers **Note**: All servers in the network must be on the same DSR release when activating PCA. DSR_DR_NO_SG DSR_NO_SG DSR_SO_SG **Application Version Upgrade State** OAM HA Role Server Role **Function** Hostname Server Status Appl HA Role **Network Element** Upgrade ISO 8.0.0.0.0-80.18.1 Ready Standby Network OAM&P OAM&P DSR-NO2 Norm N/A NO_SetupA Ready Active Network OAM&P OAM&P 8.0.0.0.0-80.18.1 DSR-NO-1

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N/A

NO_SetupA

Norm

Perform Health Check (Pre Feature Activation) 7. **NOAM VIP GUI:** Navigate to Administration -> Software Management -> Upgrade. Check the Verify the Upgrade State column does not show ACCEPT or REJECT. Upgrade Upgrade must be accepted on all servers before activating PCA. Acceptance status on all DSR_DR_NO_SG DSR_NO_SG DSR_SO_SG servers. Upgrade State OAM HA Role Server Role Function Application Version Hostname Server Status Appl HA Role Network Element Upgrade ISO Ready Standby Network OAM&P 8.0.0.0.0-80.18.1 DSR-NO2 Norm N/A NO SetupA OAM&P Ready Active Network OAM&P 8.0.0.0.0-80.18.1 DSR-NO-1 NO SetupA Upgrade State should be Ready. If the Upgrade State is ACCEPT OR **REJECT**, follow the Installation Guide [1] or Upgrade Guide [7] (whichever applies) to accept the upgrade on all servers before activating PCA.

5.2 Activation Procedures

This section provides the detailed procedure steps of the feature activation execution.

PCA activation can be performed either

- after all NOAM and SOAM servers are installed and configured. So if the fresh install is for a DSR system with 3 sites, the NOAMs and the SOAMs for all three sites should be installed and configured before performing PCA activation; or
- install and configure only the NOAMs and SOAMs for the first site and activate PCA using Procedure 4, then use Procedure 5 to activate PCA on additional sites later.

These procedures are executed inside a maintenance window.

The procedures in this section need to be executed in the following order:

- For PCA activation on the entire network:
 - Section 5.2.1 Feature Activation
 - Section 5.2.3 Restart Process
 - Section 5.3.2 System Health Check After Application Activation on NOAM Server
 - Section 5.3.3 System Health Check After Application Activation on SOAM Servers
- For PCA activation on a newly added site:
 - Section 5.2.2 PCA Activation on a Newly Added Site
 - Section 5.2.3 Restart Process
 - Section 5.3.2 System Health Check After Application Activation on NOAM Server
 - Section 5.3.3 System Health Check After Application Activation on SOAM Servers

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5.2.1 Feature Activation

PCA Activation on Entire Network

S T E P	This procedure activates the PCA on complete system. This procedure does not require a Maintenance window. 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.	Establish a secure shell session on the active NOAM	Establish a secure shell session on the active NOAM by using the XMI VIP address. Login as the admusr . Use your SSH client to connect to the server (ex. Putty). Note: You must consult your own software client's documentation to learn how to launch a connection. For example: # ssh <active address="" no="" vip="" xmi=""></active>		
2.	PCA Application Activation: Change directory	Change to the following directory: \$ cd /usr/TKLC/dsr/prod/maint/loaders/activate		
3.	PCA Activation: Execute the PCA application activation script	Run the feature activation script by executing the following command: \$./load.pcaActivationTopLevel Note: This command execution starts activation on NOAM servers and All Active SOAM servers. Check the /var/TKLC/log/pcaActivationTopLevel.log file to see if there is any execution failure. If the activation fails, then execute the procedure in Section 6.2.3 to restore the system back to state before start of activation.		
4.	PCA Application Activation (OPTIONAL): Clear the web server cache	Delete all GUI cache files on active SOAM and NOAM for quick view of changes or wait for some time so new changes are reflected. \$ clearCache		

5.2.2 PCA Activation on a Newly Added Site

This procedure needs to be executed only if a new site is added to an existing configured system.

This procedure activates the PCA on newly added site only. This section is only valid if system is already configured and a new site is added to the system at a later stage. **Skip this step if PCA is being activated during a fresh install of the system.**

PCA Activation on Newly Added Site

S T E P #	This procedure activates the PCA on a single site newly added to the DSR topology. This procedure does not require a maintenance window. 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.	Verify configuration of all SOAM servers for the newly added site	 Before continuing, verify all SOAM servers should be configured in the topology for the newly added site. Log into the NOAM VIP GUI. Navigate Status & Manage -> Server. See all required SOAM servers for the newly added site are configured and Application State is enabled. 	
2.	Execute the activation procedure	For PCA activation on new site, the activation procedure needs to be executed from the NOAM. Execute the Procedures in Section 5.2.1.	

5.2.3 Restart Process

Restart Process

- **S** This procedure restarts the DSR and SBR application processes.
- T | This procedure needs to be performed in a maintenance window.
- Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number.
- # Note: If PCA activation is being performed on a newly added site, this procedure is limited to the servers belonging to that site only. Skip this procedure if PCA is being activated before DA-MP and SBR servers are added to the topology.

	DA-MP and SBR servers are added to the topology.				
	If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.				
1.	NOAM VIP GUI: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of:			
		http:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>			
		Login as the guiadmin user:			
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT			
		Log In Enter your username and password to log in Username: Password: Change password Log In			
		Welcome to the Oracle System Login.			
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details.			
		Unauthorized access is prohibited.			
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Restart Process **NOAM VIP**: Restart Multiple iterations of this step may be executed during the feature activation process on DA-MP 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 servers performed. It is recommended that no more than 50% of the DA-MPs be restarted at once. Navigate to Status & Manage -> Server. Status & Manage Network Elements Server MH 📆 Database KPIs Processes Tasks Files Select the desired DA-MPs, you can use 'Ctrl' to select multiple DA-MPs at once. Click Restart. NTP Sync Reboot Restart Report Stop

Verify the server changes to the Err state and wait until it returns to the

Select all the SBR servers, click Restart and OK to confirm.

Click **OK** to confirm.

Enabled/Norm state.

NOAM VIP: Restart

process on SBR

servers

Repeat for the additional DA-MPs.

Navigate to Status & Manage -> Server.

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5.3 Post-Activation Procedures

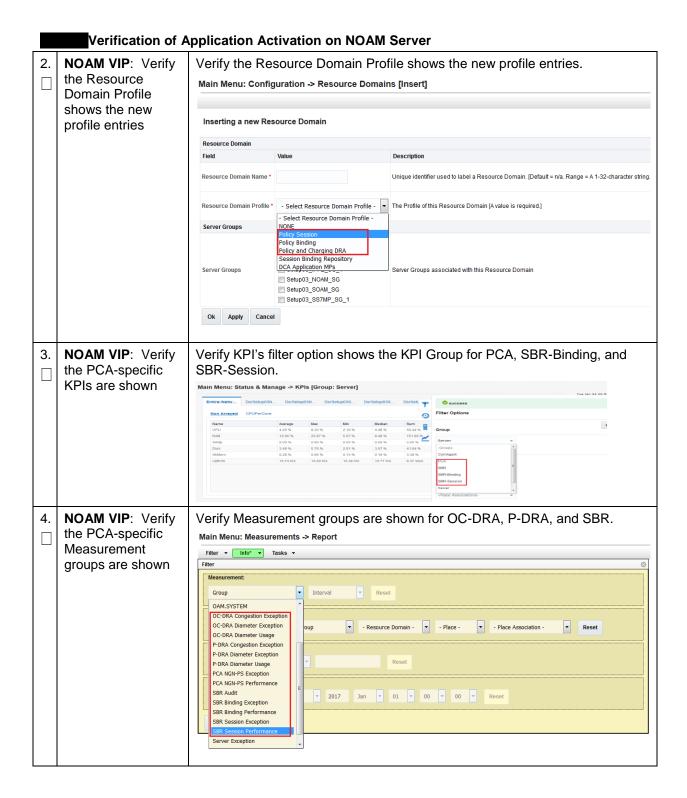
5.3.1 Perform Health Check

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

5.3.2 System Health Check After Application Activation on NOAM Servers

Verification of Application Activation on NOAM Server This procedure verifies the PCA application activation on NOAM server. S Т This procedure does not require a maintenance window Ε Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number. Ρ If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. # 1. **NOAM VIP GUI:** Establish a GUI session on the NOAM server by using the VIP address of Login the NOAM server. Open the web browser and enter a URL of: http://<Primary NOAM VIP IP Address> Login as the guiadmin user: DRACLE **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright @ 2010, 2016, Oracle and/or its affiliates. All rights reserved.

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Verification of Application Activation on NOAM Server **NOAM VIP**: Verify Verify the Main Menu on active NOAM shows the Policy and Charging the Main Menu submenu with Configuration and Maintenance screens. shows the Policy Policy and Charging and Charging Configuration submenu General Options Access Point Names Policy DRA PCRF Pools PCRF Sub-Pool Selection Rules Network-Wide Options Online Charging DRA

OCS Session State

Network-Wide Options

- 🖺 Realms

Alarm Settings
Congestion Options

Policy Database Query

😑 😋 Maintenance

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5.3.3 System Health Check After Application Activation on SOAM Servers

Verification of Application Activation on SOAM Servers

- **S** This procedure verifies the activation of PCA on SOAM servers.
- T | This procedure does not require a maintenance window.
- Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number.
- # If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.

1. SOAM VIP GUI: Login

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

http://<Primary_SOAM_VIP_IP_Address>

Login as the guiadmin user:



Oracle System Login

Mon Jul 11 13:59:37 2016 EDT



Welcome to the Oracle System Login.

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Verification of Application Activation on SOAM Servers **SOAM VIP**: Verify Verify the Policy and Charging folder appears on the left hand menu: the Policy and Policy and Charging Charging folder is Configuration visible in the left hand menu General Options Access Point Names Policy DRA PCRFs Binding Key Priority PCRF Pools PCRF Pool To PRT Mapping PCRF Sub-Pool Selection Rules Policy Clients Suspect Binding Removal Rules Site Options ig Garaging DRA - 🖺 OCSs CTFs OCS Session State Realms Error Codes Alarm Settings Congestion Options SOAM VIP: PCA is PCA is activated. Resume the remaining installation/configuration steps. activated

6. Feature Deactivation

Execute this section only if there is a problem, and it is required to deactivate PCA application and it is desired to revert to the pre-activation version of the software.

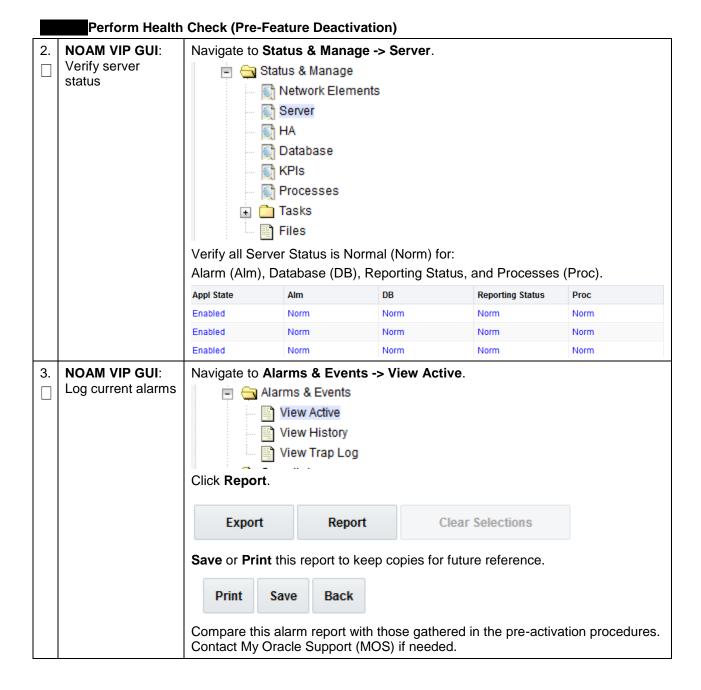
6.1 Pre-Deactivation Procedures

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

6.1.1 Perform Health Check

This procedure determines the health and status of the DSR network and servers.

	Perform Health	Check (Pre-Feature Deactivation)				
S	This procedure perf	orms needed health checks.				
T E	Check off $()$ each step number.	heck off $()$ each step as it is completed. Boxes have been provided for this purpose under each tep number.				
Р	If this procedure fail	s, contact My Oracle Support (MOS) and ask for assistance.				
#						
1.	NOAM VIP GUI: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of:				
		http:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>				
		Login as the guiadmin user:				
		ORACLE°				
		Oracle System Login				
		Mon Jul 11 13:59:37 2016 EDT				
		Log In				
		Enter your username and password to log in				
		Username:				
		Password:				
		☐ Change password				
		Log In				
ı		Welcome to the Oracle System Login.				
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.				



6.2 Deactivation Procedures

6.2.1 Feature Deactivation

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

The procedures in this section need to be executed in the following order:

- For PCA deactivation on the entire network
 - Section 6.2.2 Pre PCA Deactivation Steps
 - Section 6.2.3 PCA Deactivation Procedure
 - Section 6.2.5 Post PCA Deactivation Steps
 - Section 6.2.6 Post PCA Deactivation System Health Check
- For PCA deactivation on a site (in the case when the site is being decommissioned)
 - Section 6.2.4 Site Specific PCA Deactivation Procedure
 - Section 6.2.5 Post PCA Deactivation Steps
 - Section 6.2.6.2 System Health Check after Application Deactivation on SOAM Servers

6.2.2 Pre PCA Deactivation Steps

servers

6.2.2.1 Deactivate the GLA Application

Deactivate GLA Application S This procedure deactivates the GLA application. Т Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number. Ε **Note**: Repeat this procedure for all the sites on which GLA deactivation is required. Ρ # If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. 1. **SOAM VIP GUI:** Establish a GUI session on the SOAM server by using the VIP address of the Login on the PCA SOAM server. Open the web browser and enter a URL of: server to be http://<Primary_SOAM_VIP_IP_Address> deactivated Login as the guiadmin user: PACLE **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. **SOAM VIP:** Navigate to **Diameter -> Maintenance -> Applications**. Navigate to the **Applications** screen SOAM VIP: If a GLA record is present on the Applications screen, then execute the steps to Deactivate the deactivate the GLA application as per deactivation procedures defined in [6] **GLA** application DSR GLA Feature Activation Procedure. **SOAM VIP:** Repeat Step 1-3 on those active SOAM servers on which PCA is activated. Perform steps on all active SOAM

6.2.2.2 Unconfigure PCA Functions

Unconfigure PCA Functions (PDRA and OCDRA)

S	This procedure unco	nfigures the PCA functions – Policy DRA and Online Charging DRA.
T E	Check off $()$ each st step number.	ep as it is completed. Boxes have been provided for this purpose under each
P #	be rejected u unavailable.	this procedure causes all Diameter requests routed to the PCA application to using the Diameter result code configured for Error Condition PCA function. Before this step, the network operator should take steps to divert policy client marging trigger function signaling away from the PCA DSR.
	If this procedure fails	, contact My Oracle Support (MOS) and ask for assistance.
1.	NOAM VIP GUI: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of:
		http:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>
		Login as the guiadmin user:
		ORACLE°
		CIRACLE
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT
		molisui 11 13.59.37 2010 ED1
		Log In Enter your username and password to log in
		Username:
		Password:
		☐ Change password
		Log In
		Welcome to the Oracle System Login.
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details.
		Unauthorized access is prohibited.
2.	NOAM VIP: Unconfigure Policy DRA	Navigate to Policy and Charging -> Configuration -> General Options . If Policy DRA is enabled, execute the steps in reference [2], Section 4.7, to unconfigure Policy DRA.
3.	NOAM VIP:	Navigate to Policy and Charging -> Configuration -> General Options.
	Unconfigure Online Charging DRA	If Online Charging DRA is enabled, execute the steps in reference [2], Section 4.8, to unconfigure Online Charging DRA.

6.2.2.3 Disable Diameter Connections

Disable Diameter Connections S This procedure disables the Diameter connections. Т This procedure does not require a maintenance window. Ε Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number. Ρ If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. Repeat this procedure for all the sites on which PCA deactivation is required. **SOAM VIP GUI:** Establish a GUI session on the SOAM server by using the VIP address of 1. the SOAM server. Open the web browser and enter a URL of: Login http://<Primary SOAM VIP IP Address> Login as the guiadmin user: ORACLE **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In 2. SOAM VIP: Navigate to **Diameter -> Maintenance -> Connections**. Disable DSR Select all the PCA-specific diameter connections and click **Disable** or click connections Disable All (if applicable). The Admin State of connections should displays as Disabled. Main Menu: Diameter -> Maintenance -> Connections Filter* ▼ Info* ▼ Tasks ▼ Note: PCA-specific connection includes connections to PCRFs, PCEFs, AFs, CTFs, and OCSes. 3. SOAM VIP: Repeat Steps 1 to 2 on all active SOAM servers on which PCA deactivation Perform steps on is required. all active SOAM servers

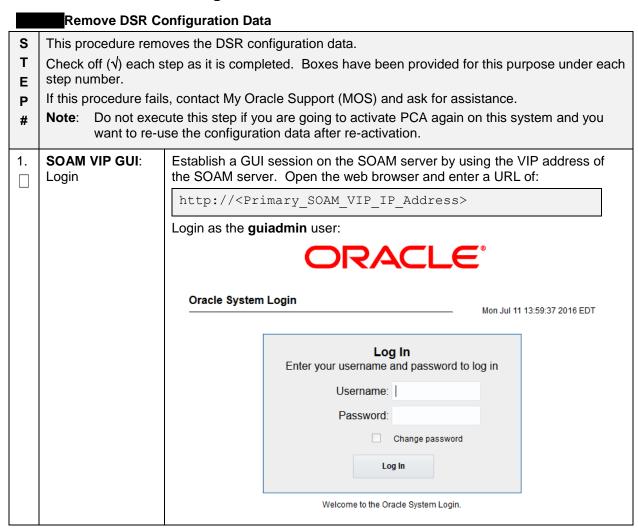
6.2.2.4 Disable Application

Disable Application

S	This procedure disab	les the PCA application.
Т	This procedure does	not require a maintenance window.
Ε	Check off $()$ each st	ep as it is completed. Boxes have been provided for this purpose under each
Р	step number.	
#	Note: Repeat this p	procedure for all the sites on which PCA deactivation is required.
	If this procedure fails	, contact My Oracle Support (MOS) and ask for assistance.
1.	SOAM VIP GUI: Login	Establish a GUI session on the SOAM server by using the VIP address of the SOAM server. Open the web browser and enter a URL of:
		http:// <primary_soam_vip_ip_address></primary_soam_vip_ip_address>
		Login as the guiadmin user:
		ORACLE
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in
		Username:
		Password:
		☐ Change password
		Log In
		Walcome to the Oracle System Logic
		Welcome to the Oracle System Login.
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details.
		Unauthorized access is prohibited.
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2.	SOAM VIP: Navigate to Applications screen	Navigate to Diameter -> Maintenance -> Applications .
3.	SOAM VIP:	Select the PCA row and click Disable .
	Disable the PCA application	If there are multiple DA-MPs under this SOAM, then there are multiple entries of PCA in this screen. Select all the entries and click Disable .

Disable Application SOAM VIP: Verify Navigate to **Diameter -> Maintenance -> Applications**. the PCA Verify the Application status has changed to **Disabled**. application has Main Menu: Diameter -> Maintenance -> Applications (Filtered) been disabled Filter* ▼ Info* ▼ Table Description: Applications Table Application Name Admin State Operational Reason Time of Last Update DsrSetup03 Disabled Unavailable Shut Down 2017-Jan-24 23:54:05 EST DsrSetup03 Damp1 2017-Jan-24 23:54:05 EST Disabled Shut Down Normal **SOAM VIP:** Repeat Steps 1 to 4 on all active SOAM servers on which PCA deactivation Perform steps on is required. all active SOAM servers

6.2.2.5 Remove DSR Configuration Data



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Remove DSR Configuration Data

2.	SOAM VIP: Remove Application Routing Rules	Navigate to Diameter -> Configuration -> Application Route Tables . Select PCA-specific Application Route Table Name. Either click Delete to delete the entire table or click View/Edit Rules , select PCA-specific Application Route Rules and click Delete .
3.	SOAM VIP: Remove Peer Routing Rules	Navigate to Diameter -> Configuration -> Peer Route Tables . Select PCA-specific Peer Route Table Name. Either click Delete to delete the entire table or click View/Edit Rules , select PCA-specific Peer Route Rules and click Delete .
4.	SOAM VIP: Remove Route Lists	Navigate to Diameter -> Configuration -> Route Lists . Select and delete the PCA-specific or the complete configuration data (as applicable) from this screen.
5.	SOAM VIP: Remove Route Groups	Navigate to Diameter -> Configuration -> Route Groups . Select and delete the PCA-specific or the complete configuration data (as applicable) from this screen.
6.	SOAM VIP: Remove Connections	Navigate to Diameter -> Configuration -> Connections . Select and delete the PCA-specific or the complete configuration data (as applicable) from this screen. PCA-specific connection includes connections to PCRFs, PCEFs, AFs, CTFs, and OCSes.
7.	SOAM VIP: Remove Peer Nodes	Navigate to Diameter -> Configuration -> Peer Nodes . Select and delete the PCA-specific or the complete configuration data (as applicable) from this screen.
8.	SOAM VIP: Remove Local Nodes	Navigate to Diameter -> Configuration -> Local Nodes . Select and delete the PCA-specific or the complete configuration data (as applicable) from this screen.
9.	SOAM VIP: Remove CEX Configuration Sets	Navigate to Diameter -> Configuration -> Configuration Sets -> CEX Configuration Sets. Select and delete the PCA-specific or the complete configuration data (as applicable) from this screen.
10.	SOAM VIP: Remove CEX parameters	Navigate to Diameter -> Configuration -> CEX Parameters . Select and delete the PCA-specific or the complete configuration data (as applicable) from this screen.
11.	SOAM VIP: Remove application IDs	Navigate to Diameter -> Configuration -> Application IDs . Select and delete the PCA-specific or the complete configuration data (as applicable) from this screen.
12.	SOAM VIP: Perform steps on all active SOAM servers	Repeat Steps 1 to 11 on all active SOAM servers.

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6.2.2.6 Remove Resource Domain Configuration Data

Remove Resource Domain Configuration Data

S T E P	This procedure removes the Resource Domain configuration data. 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.	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as the guiadmin user.
2.	NOAM VIP: Remove all the data from Place screen as mentioned	Navigate to Configuration -> Resource Domains . Delete the Resource Domain of type 'Policy Binding' and 'Policy Session' and 'Policy and Charging DRA' from this screen.

6.2.2.7 Remove Place Associations Configuration Data

Remove Place Associations Configuration Data

	-101110101	ASSOCIATIONS CONTINUE DATA
S T E P	This procedure removes the Place Association configuration data. 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.	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as the guiadmin user.
2.	NOAM VIP: Unconfigure the associated Places from the Place Associations as mentioned	Navigate to Configuration -> Place Associations. Select the Place Associations of type Policy and Charging Mated Sites. Click Edit. Insert Edit Delete Report Uncheck all the Places associated with this Place Associations and click OK. Ok Apply Cancel Repeat this step for all other Place Associations of type Policy and Charging Mated Sites and Policy Binding Region from this screen.
3.	NOAM VIP: Remove all the data from Place Associations screen as mentioned	Navigate to Configuration -> Place Associations. Delete the Place Associations of type Policy and Charging Mated Sites, and Policy Binding Region from this screen.

6.2.2.8 Remove Place Configuration Data

Remove Place Configuration Data

S T E P	DCA application. Check off (√) each st step number.	ves the Place configuration data. Skip this step if places are being used by ep as it is completed. Boxes have been provided for this purpose under each , contact My Oracle Support (MOS) and ask for assistance.
1.	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as the guiadmin user.
2.	NOAM VIP: Remove all the data from the Places screen as mentioned	Navigate to Configuration -> Places . Edit the Places and remove servers from it.

6.2.3 PCA Deactivation Procedure

PCA Application Deactivation

	i CA Application	. 2 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0
S T E P #	This procedure deactivates the PCA application. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. **Note: Skip this step if PCA is to be activated on a particular site. Execute Procedure 19 instead. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.	
1.	Establish a secure shell session on the active NOAM	Establish an SSH session to the NOAM VIP. Login as the admusr.
2.	PCA Deactivation:	Change to the following directory:
	Change directory	\$ cd /usr/TKLC/dsr/prod/maint/loaders/deactivate
3.	PCA Deactivation: Execute the PCA	\$./load.pcaDeactivationTopLevel
	application deactivation script	Note: This command execution will starts Deactivation on Active NOAM and all active SOAM servers.
		Check log file /var/TKLC/log/pcaDeactivationTopLevel.log to see if there is any execution failure.
4.	PCA Deactivation (Optional): Clear	Delete all GUI cache files on active SOAM and NOAM for quick view of changes or wait for some time so new changes can reflect.
	the web server cache	\$ clearCache

6.2.4 Site Specific PCA Deactivation Procedure

Execute this section when PCA needs to be deactivated from a particular site.

PCA Application Deactivation on a Particular Site

S	This procedure deact	tivates the PCA application on a particular site.
T E	Check off $()$ each state step number.	ep as it is completed. Boxes have been provided for this purpose under each
Р	If this procedure fails	, contact My Oracle Support (MOS) and ask for assistance.
#		
1.	Establish a secure shell session on the active SOAM or on which deactivation is required	Establish an SSH session to the SOAM VIP. Login as the admusr .
2.	PCA Deactivation:	Change to the following directory:
	Change directory	\$ cd /usr/TKLC/dsr/prod/maint/loaders/deactivate
3.	PCA Deactivation: Execute the PCA	\$./load.pcaDeactivateBscoped
	application deactivation script	Note : This command execution will start Deactivation on selected active SOAM server.
		Check log file /var/TKLC/log/pcaDeactivateBscoped.log to see if there is any execution failure.
4.	PCA Deactivation (Optional): Clear	Delete all GUI cache files on active SOAM and NOAM for quick view of changes or wait for some time so new changes can reflect.
	the web server cache	\$ clearCache

6.2.5 Post PCA Deactivation Steps

Navigate to HA

screen

If PCA Deactivation is being performed on a single site, the procedures in this section apply to the servers belonging to that site only.

6.2.5.1 Move SBR Servers to OOS State

Move SBR Servers to OOS State This procedure puts all the MP servers in SBR Server Groups in OOS. Т Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number. Ε Note: Please do not execute this step if you are going to activate PCA again on this system and you want to re-use the configuration data after re-activation. # If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. NOAM VIP GUI: Establish a GUI session on the NOAM server by using the VIP address of 1. the NOAM server. Open the web browser and enter a URL of: Login http://<Primary_NOAM_VIP_IP_Address> Login as the guiadmin user: DRACLE' **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In **NOAM VIP:** Navigate to Configuration -> Server Groups. 2. Navigate to Server Groups screen NOAM VIP: Find Find the servers with Function as SBR. the server list SBR can be used for DCA application as well, skip SBR servers being used for DCA application. **NOAM VIP:** 4. Navigate to Status & Manage -> HA.

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Allowed HA Role to OOS.

Edit the servers from list created in Step 3. Change the value of Max

6.2.5.2 Remove SBR Servers from Server Groups

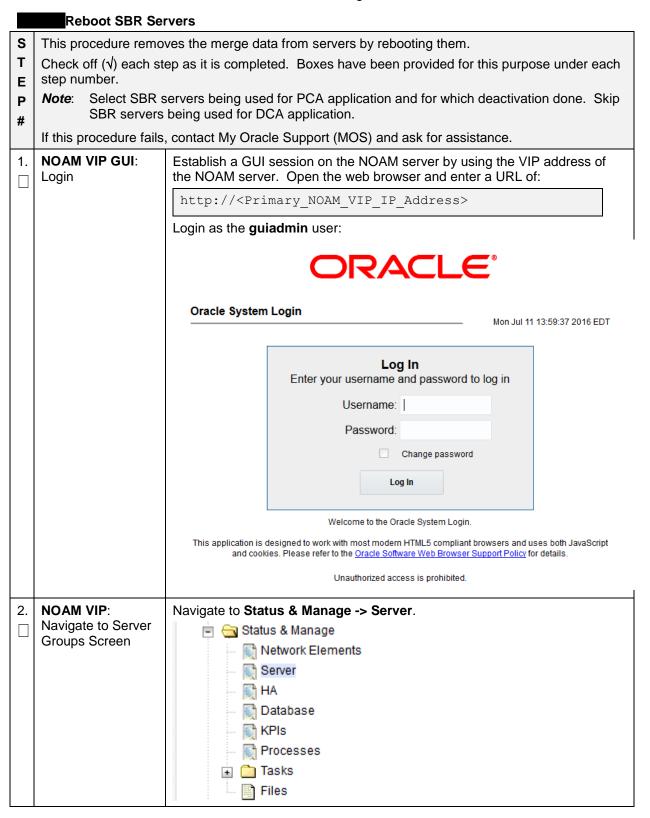
Remove SBR Servers from Server Groups S This procedure removes all the MP servers in SBR Server Groups from their respective Server Groups. Т Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each Ε step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. **NOAM VIP GUI:** Establish a GUI session on the NOAM server by using the VIP address of 1. the NOAM server. Open the web browser and enter a URL of: Login http://<Primary NOAM VIP IP Address> Login as the guiadmin user: **ORACLE Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password I og In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. **NOAM VIP:** Navigate to Configuration -> Server Groups. Navigate to Server Groups screen NOAM VIP: Find Find the servers with Function as SBR, which were configured for PCA. 3. the server list SBR can be used for DCA application as well, skip SBR Server Group being used for DCA application. NOAM VIP: Edit Navigate to Configuration -> Server Groups. 4. the Server Groups Edit the Server Group with SBR function and remove the servers from it. Repeat the steps with all server groups with SBR function, which are listed in step 3 of this procedure.

6.2.5.3 Delete Server Groups related to SBR

Delete Server Groups related to SBR S This procedure removes the server groups related to SBR. Т Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number. Ε Prerequisite: Previous procedure has been executed. Ρ # If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. **NOAM VIP GUI:** 1. Establish a GUI session on the NOAM server by using the VIP address of Login the NOAM server. Open the web browser and enter a URL of: http://<Primary NOAM VIP IP Address> Login as the **guiadmin** user: DRACLE **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright @ 2010, 2016, Oracle and/or its affiliates. All rights reserved. 2. **NOAM VIP:** Navigate to Configuration -> Server Groups. Navigate to Server **Groups Screen NOAM VIP:** 3. Remove the Server Groups, which has Function value **SBR**. Remove Server **Groups Resource Domains**

6.2.5.4 Reboot the Servers

Rebooting SBR, DA-MPs, SOAM, and NOAM servers. Use caution while selecting SBR and DA-MP servers. Select SBR and DA-MP servers, which were being used for PCA.



Reboot SBR Servers Reboots all the relevant SBR servers. Select all the MP servers having Function "SBR" which were being used for PCA application and click Reboot. Stop Restart Reboot NTP Sync Report Note: Skip SBR servers being used for DCA applications. Verify the server changes to the Err state and wait until it returns to the Enabled/Norm state.

Reboot DA-MP Servers

S	This procedure remo	oves the merge data from servers by rebooting them.
T E	Check off (√) each st step number.	tep as it is completed. Boxes have been provided for this purpose under each
P		·
#	If this procedure fails	, contact My Oracle Support (MOS) and ask for assistance.
1.	NOAM VIP GUI: Login	Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of:
		http:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>
		Login as the guiadmin user:
		Oracle System Login Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login.

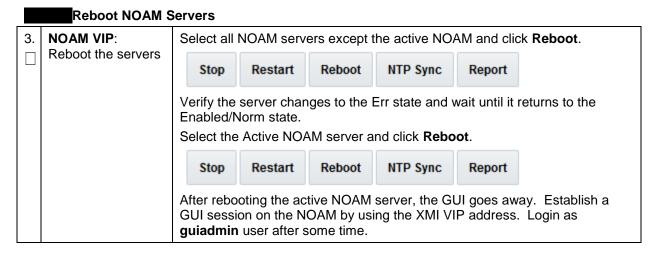
Reboot DA-MP Servers NOAM VIP: Navigate to Status & Manage -> Server. Navigate to Server Status & Manage Groups Screen Metwork Elements Server M HA 🔐 Database M KPIs Processes Tasks Files NOAM VIP: 3. Multiple iterations of this step may be executed during the feature activation Reboot the servers procedure. This is dependent on the number of DA-MP servers within your system. Make a written record of the number of times the step was performed. It is recommended that no more than 50% of the DA-MPs be restarted at once. Navigate to Status & Manage -> Server. 📺 🚖 Status & Manage Network Elements Server THA 😭 Database 🔐 KPIs Processes Select DA-MP servers running PCA. Press Ctrl to select multiple DA-MPs at Click Reboot. Restart Reboot NTP Sync Stop Report Verify the server changes to the Err state and wait until it returns to the Enabled/Norm state. Repeat for the additional DA-MPs.

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Reboot SOAM Servers This procedure removes the merge data from servers by rebooting them. Т Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number. Ε **Note**: Select SOAM servers belonging to the sites running PCA. P If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. **NOAM VIP GUI:** 1. Establish a GUI session on the NOAM server by using the VIP address of Login the NOAM server. Open the web browser and enter a URL of: http://<Primary NOAM VIP IP Address> Login as the guiadmin user: ORACLE **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In **NOAM VIP:** Navigate to Status & Manage -> Server Navigate to Server Status & Manage Groups screen Network Elements Server 🚮 HA Database M KPIs Processes Tasks Files **NOAM VIP:** 3. Reboots all the relevant SOAM servers. Reboot the servers Select all the SOAM servers belonging to sites running PCA and click Reboot. Restart Reboot NTP Sync Stop Report Verify the server changes to the Err state and wait until it returns to the Enabled/Norm state.

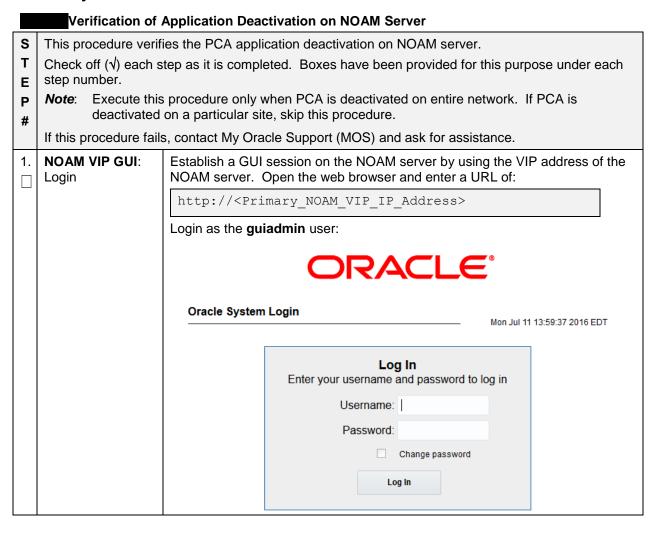
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Reboot NOAM Servers This procedure removes the merge data from servers by rebooting them. Т Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each Ε step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. P # **NOAM VIP GUI:** 1. Establish a GUI session on the NOAM server by using the VIP address of the NOAM server. Open the web browser and enter a URL of: Login http://<Primary_NOAM_VIP_IP_Address> Login as the guiadmin user: DRACLE **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright @ 2010, 2016, Oracle and/or its affiliates. All rights reserved. NOAM VIP: Navigate to Status & Manage -> Server. 2. Navigate to Server 📋 😋 Status & Manage Groups screen Network Elements Server 🚮 HA 🚮 Database 🚮 KPIs Processes Tasks Files



6.2.6 Post PCA Deactivation System Health Check

6.2.6.1 System Health Check after PCA Deactivation on NOAM Server



Go

Verification of Application Deactivation on NOAM Server NOAM VIP: Verify Verify the Resource Domain Profile list does not show the profile entries of the Resource Policy and Charging DRA, Policy Session, and Policy Binding. Domain Profile Main Menu: Configuration -> Resource Domains [Insert] does not show the Inserting a new Resource Domain profile entries of Binding and Session profiles NONE Session Binding Repository DCA Application MPs **NOAM VIP**: Verify Verify KPIs filter option do not show the KPI groups for PCA, SBR-Binding and the KPIs are not SBR-Session. shown for PCA, Main Menu: Status & Manage -> KPIs [Group: Server] SBR-Binding, and Entire... DSR-N... DSR-D... DSR-D... DSR-S... DSR-S... DA-MP1 Filter Options SBR-Session Sum 80.08 % 267.25 % 0.00 % NOAM VIP: Verify Verify Measurement groups are not shown for OC-DRA, P-DRA, SBR-Binding, the Measurement and SBR-Session. groups are not Main Menu: Measurements -> Report shown for OC-Filter ▼ Info* ▼ Tasks ▼ DRA, P-DRA and Filter SBR-Binding, and Measurement: SBR-Session ComAgent Exception ComAgent Performance Server Group Reset OAM, ALARM OAM.SYSTEM Server Exception USBR Performance

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▼ 2017 Jan ▼ 01 ▼ 00 ▼ 00 ▼ Reset

Verification of Application Deactivation on NOAM Server **NOAM VIP**: Verify Verify Main Menu on active NOAM does not show the Policy and Charging the Main Menu submenu. don't show the Main Menu Policy and Administration Charging submenu 🛕 🧰 Alarms & Events Security Log 🛓 🧰 Status & Manage Measurements Communication Agent i Diameter Common Diameter i RADIUS i SBR Help Legal Notices Logout

6.2.6.2 System Health Check after Application Deactivation on SOAM Servers

Verification of Application Deactivation on SOAM Servers S This procedure verifies the PCA application deactivation on SOAM servers. Т Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number. Ε If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. Ρ # SOAM VIP GUI: 1. Establish a GUI session on the SOAM server by using the VIP address of Login the SOAM server. Open the web browser and enter a URL of: http://<Primary SOAM VIP IP Address> Login as the guiadmin user: DRACLE **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright @ 2010, 2016, Oracle and/or its affiliates. All rights reserved.

all active SOAM

servers

Verification of Application Deactivation on SOAM Servers **SOAM VIP**: Verify Verify the Policy and Charging folder does not appear on the left hand menu: the Policy and 🖃 💂 Main Menu Charging folder is Administration not visible in the left hand menu Configuration Alarms & Events Security Log Status & Manage Measurements Communication Agent Diameter Common Diameter RADIUS SBR i iPFE Help ■ I enal Motices **SOAM VIP**: Verify Verify the Diameter maintenance application menu do not show the entry of the Diameter PCA application maintenance Main Menu: Diameter -> Maintenance -> Applications application menu Filter* ▼ do not show the entry of PCA Table Description: Applications Table application MP Server Operational Status Time of Last Update Application Name Admin State Operational Reason **SOAM VIP**: Verify Repeat Steps 1 to 3 on all active SOAM servers for which PCA has been PCA application on deactivated.

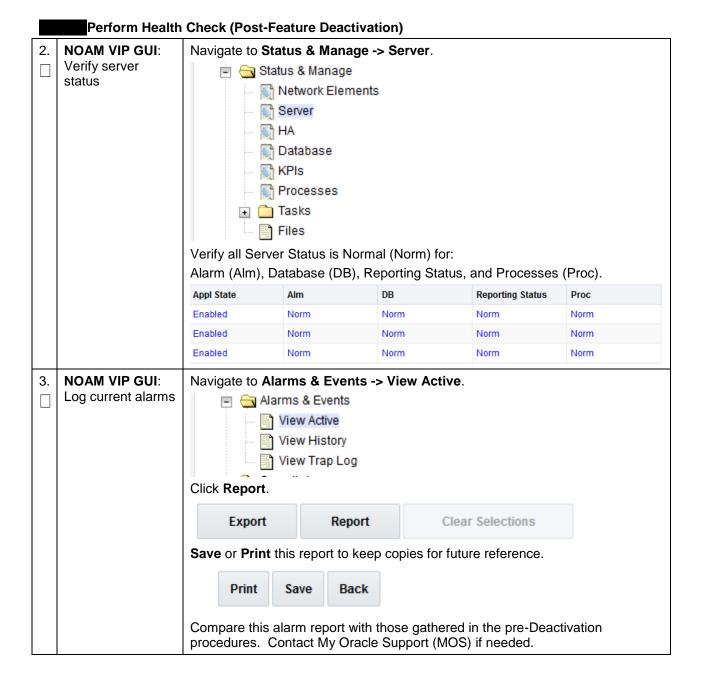
6.3 Post-Deactivation Procedures

To complete a deactivation, complete this post-deactivation procedure.

6.3.1 Perform Health Check

This procedure determines the health and status of the network and servers.

Perform Health Check (Post-Feature Deactivation) S This procedure performs a post activation health check. Т Check off $(\sqrt{})$ each step as it is completed. Boxes have been provided for this purpose under each step number. Ε If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. Ρ # 1. **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 a URL of: Login http://<Primary NOAM VIP IP Address> Login as the guiadmin user: DRACLE **Oracle System Login** Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright @ 2010, 2016, Oracle and/or its affiliates. All rights reserved.



7. Engineering Notes

<u>FIPS integrity verification test failed</u>: 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@DsrSetup03Noam1 activate]$ ./load.pcaActivationTopLevel
====== Start of Log Data in file /var/TKLC/log/pcaActivationTopLevel.log ========
Log file location: /var/TKLC/log/pcaActivationTopLevel.log
Note: -
In case of any failure please execute
/usr/TKLC/dsr/prod/maint/loaders/deactivate/load.pcaDeactivationTopLevel script to
revert the changes.
______
Execution of Activation Process Starts
______
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.pcaActivateAscoped script on
DsrSetup03Noam1
====== Start of Log Data in file /var/TKLC/log/pcaActivateAscoped.log =========
Server Name : DsrSetup03Noam1
Server Role : NETWORK OAMP
Node Id
        : DsrSetup03Noam1
HA State
        : Active
Cluster Role : Primary
______
Add PCA to DsrApplication.
______
______
Verify that PCA is in the table
_____
id=6
name=PCA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=Policy and Charging Application Unavailable Or Degraded
resExhResultCode=3004
```

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```
resExhVendorId=0
resExhErrorString=PCA Resource Exhausted
routeListId=65535
realm=
fqdn=
mcl=0
_____
Add PCA KPI group
_____
Add PDRA Measurement groups
_____
Add Permission Group headers for PCA
_____
Add Resource Domain Profiles
Add Place Association Types
______
Add mapping between ResourceDomainName to ComAgentResourceId
______
RdName2ComAgentResId do not have any data. So, adding placeholders for comAgentResId
reserved for PCA
 === changed 1 records ===
Taking backup of current system values of ComAgent HA Service timeout configuration.
Setting the ComAgent HA Service timeout configuration values.
 === changed 1 records ===
 === changed 1 records ===
Execution status of activation script on DsrSetup03Noam1: PASSED
Please check /var/TKLC/log/pcaActivateAscoped.log for more details.
______
Starting Activation on StandBy NOAMP Server if it exists in the topology.
DsrSetup03Noam1 is Active and Primary NOAMP Server. So, proceeding with next NOAMP
______
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.pcaActivateStandByAscoped
```

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```
script on DsrSetup03Noam2
FIPS integrity verification test failed.
====== Start of Log Data in file /var/TKLC/log/pcaActivateStandbyAscoped.log =======
Server Name : DsrSetup03Noam2
Server Role: NETWORK OAMP
_____
Add PCA to DsrApplication.
_____
Verify that PCA is in the table
_____
id=6
name=PCA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=Policy and Charging Application Unavailable Or Degraded
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=PCA Resource Exhausted
routeListId=65535
realm=
fqdn=
mcl=0
_____
Add Permission Group headers for PCA
Execution status of activation script on DsrSetup03Noam2: PASSED
Please check /var/TKLC/log/pcaActivateStandbyAscoped.log.DsrSetup03Noam2 for more
details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
pcaActivateStandbyAscoped.log
100% 2218 2.2KB/s 00:00
===== Activation done on all Network OAMP Servers ======
====== Starting Activation on System OAM servers ======
DsrSetup03Soam1 is Active. So, proceeding with Activation.
```

```
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/load.pcaActivateBscoped script on
DsrSetup03Soam1
FIPS integrity verification test failed.
====== Start of Log Data in file /var/TKLC/log/pcaActivateBscoped.log ========
Server Name : DsrSetup03Soam1
Server Role: SYSTEM OAM
Node Id : DsrSetup03Soam1
HA State : Active
______
Add PCA to DsrApplication. If already present then skip.
_____
Verify that PCA is in the table
_____
id=6
name=PCA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=Policy and Charging Application Unavailable Or Degraded
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=PCA Resource Exhausted
routeListId=65535
realm=
fqdn=
______
Add Permission Group headers for PCA
_____
FIPS integrity verification test failed.
FIPS integrity verification test failed.
====== Start of Log Data in file /var/TKLC/log/pcaActivateStandbyBscoped.log ======
Server Name : DsrSetup03Soam2
Server Role: SYSTEM_OAM
Node Id : DsrSetup03Soam2
_____
```

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```
Add Permission Group headers for PCA
Execution status of activation script on DsrSetup03Soam2: PASSED
Please check /var/TKLC/log/pcaActivateStandbyBscoped.log.DsrSetup03Soam2 for more
details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
Execution status of activation script on DsrSetup03Soam1: PASSED
Please check /var/TKLC/log/pcaActivateBscoped.log.DsrSetup03Soam1 for more details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
pcaActivateBscoped.log
100% 3004
        2.9KB/s
               00:00
______
DsrSetup03Soam2 is not Active. Proceeding with next system oam server for activation
process.
______
Execution of PCA Activation Script complete.
[admusr@DsrSetup03Noam1 activate]$
```

7.2 Sample Output of Deactivation (Active NOAM)

```
[admusr@DsrSetup03Noam1 deactivate] $ ./load.pcaDeactivationTopLevel
Log file location: /var/TKLC/log/pcaDeactivationTopLevel.log
Execution of Deactivation Process Starts
______
All policy binding and session data is clean, proceed ahead with PCA deactivation
______
DsrSetup03Soam1 is Active. So, proceeding with Deactivation.
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.pcaDeactivateBscoped script
on DsrSetup03Soam1
FIPS integrity verification test failed.
====== Start of Log Data in file /var/TKLC/log/pcaDeactivateBscoped.log ========
Server Name : DsrSetup03Soam1
Server Role: SYSTEM OAM
Node Id : DsrSetup03Soam1
HA State : Active
```

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```
GLA is not activated, proceed ahead with PCA deactivation
_____
Remove PCA Application from DsrApplicationPerMp table
______
 === deleted 3 records ===
_____
Remove PCA Application from DsrApplication table
_____
 === deleted 1 records ===
______
Remove permission group headers for PCA
______
 === deleted 1 records ===
 === deleted 1 records ===
FIPS integrity verification test failed.
FIPS integrity verification test failed.
===== Start of Log Data in file /var/TKLC/log/pcaDeactivateStandbyBscoped.log ======
Server Name : DsrSetup03Soam2
Server Role: SYSTEM OAM
Node Id : DsrSetup03Soam2
Remove permission group headers for PCA on SOAM server
 === deleted 1 records ===
 === deleted 1 records ===
Execution status of deactivation script on DsrSetup03Soam2: PASSED
Please check /var/TKLC/log/pcaDeactivateStandbyBscoped.log.DsrSetup03Soam2 for more
details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
Execution status of deactivation script on DsrSetup03Soam1: PASSED
Please check /var/TKLC/log/pcaDeactivateBscoped.log.DsrSetup03Soam1 for more details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
pcaDeactivateBscoped.log
100% 2885
        2.8KB/s 00:00
______
DsrSetup03Soam2 is not Active. Proceeding with next server for de-activation process.
______
```

```
Starting Deactivation on Standby NOAMP server if present in topology.
______
DsrSetup03Noam1 is Active NOAMP Server. Proceeding with next NOAMP server in the list.
______
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.pcaDeactivateStandByAscoped
script on DsrSetup03Noam2
FIPS integrity verification test failed.
======== S-T-A-R-T of log pcaDeactivateAscoped.log =================
Server Name : DsrSetup03Noam2
Server Role : NETWORK OAMP
______
Remove PCA Application from DsrApplication table
______
 === deleted 1 records ===
_____
Remove permission group headers for PCA
______
 === deleted 1 records ===
 === deleted 1 records ===
Execution status of deactivation script on DsrSetup03Noam2: PASSED
Please check /var/TKLC/log/pcaDeactivateAscoped.log.DsrSetup03Noam2 for more details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
pcaDeactivateAscoped.log
100% 963
         0.9KB/s
                00:00
______
Starting Deactivation on Active NOAMP server.
______
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/load.pcaDeactivateAscoped script
on DsrSetup03Noam1
====== Start of Log Data in file /var/TKLC/log/pcaDeactivateAscoped.log ========
Server Name : DsrSetup03Noam1
Server Role : NETWORK OAMP
Node Id
        : DsrSetup03Noam1
HA State
        : Active
Cluster Role : Primary
GLA is not activated, proceed ahead with PCA deactivation
All policy binding and session data is clean, proceed ahead with PCA deactivation
_____
Remove PCA and pSBR KPI groups
```

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```
_____
 === deleted 1 records ===
 === deleted 1 records ===
 === deleted 1 records ===
_____
Remove PDRA and PSBR Measurement groups
_____
 === deleted 1 records ===
 === deleted 1 records ===
_____
Remove permission group headers for PCA
_____
 === deleted 1 records ===
 === deleted 1 records ===
_____
Remove PCA from DsrApplicationPerMp table
_____
 === deleted 0 records ===
_____
Remove PCA Application from DsrApplication table
______
 === deleted 1 records ===
_____
Remove routing profile data
_____
 === deleted 1 records ===
 === deleted 1 records ===
_____
Remove Psbr capacity constraints
_____
 === deleted 1 records ===
```

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```
=== deleted 1 records ===
 === deleted 1 records ===
 === deleted 1 records ===
______
Remove data for mapping between ResourceDomainName to ComAgentResourceId
reserved for policy binding and session profiles
______
 === deleted 66 records ===
_____
Remove Resource Domain Profiles
_____
 === deleted 1 records ===
 === deleted 1 records ===
 === deleted 1 records ===
______
Remove Place Association data
______
Remove Place Association Types
_____
 === deleted 1 records ===
 === deleted 1 records ===
_____
Set HandleProtocolErrorAnswers flag in LongParam to default(No)
 === changed 1 records ===
_____
/var/TKLC/db/filemgmt/TempPcaActivationDataFile.log exists. Reading ComAgent
Configuration data from it.
 === changed 1 records ===
 === changed 1 records ===
Execution status of deactivation script on DsrSetup03Noam1: PASSED
______
Execution of PCA Deactivation Script complete.
[admusr@DsrSetup03Noam1 deactivate]$
```

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Appendix A. PCA Activation on Active/Standby NOAM and SOAM Server

The following procedures activate PCA on active/standby NOAM and SOAM servers. Follow the appropriate procedure as needed for your disaster recovery.

Note: These procedures need to be executed during disaster recovery and are not part of installation.

Appendix A.1 PCA Activation on Active NOAM

PCA Activation on Active NOAM Server

	TO A ACTIVATION OF ACTIVE	
S T E P	This procedure activates the PCA on a NOAM system. This procedure does not require a Maintenance window. 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.	Establish a secure shell session on the active NOAM	Establish a secure shell session on the active NOAM by using the XMI VIP address. Login as the admusr. Use your SSH client to connect to the server (ex. Putty). Note: You must consult your own software client's documentation to learn how to launch a connection. For example: # ssh <active address="" no="" vip="" xmi=""></active>
2.	PCA Application Activation: Change directory	Change to the following directory: \$ cd /usr/TKLC/dsr/prod/maint/loaders/activate
3.	PCA Activation: Execute the PCA application activation script	Run the feature activation script by executing the following command: \$./load.pcaActivateAscoped Check the /var/TKLC/log/pcaActivateAscoped.log file to see if there is any execution failure. If the activation fails, then execute the procedure in Section 6.2.3 to restore the system back to state before start of activation.
4.	PCA Application Activation (OPTIONAL): Clear the web server cache	Delete all GUI cache files on active NOAM for quick view of changes or wait for some time so new changes are reflected. \$ clearCache

Appendix A.1.1 Sample Output of Activation (Active NOAM)

[admusr@NO2 activate]\$./load.pcaActivateAscoped
======== Start of Log Data in file /var/TKLC/log/pcaActivateAscoped.log =========
Server Name : NO2
Server Role : NETWORK_OAMP
Node Id : NO2
HA State : Active
Cluster Role : Primary

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```
_____
Add PCA to DsrApplication.
______
Verify that PCA is in the table
id=6
name=PCA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=Policy and Charging Application Unavailable Or Degraded
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=PCA Resource Exhausted
routeListId=65535
realm=
fqdn=
mcl=0
Add PCA KPI group
_____
Add PDRA Measurement groups
_____
Add Permission Group headers for PCA & SBR
_____
Add Resource Domain Profiles
_____
Add Place Association Types
_____
Add mapping between ResourceDomainName to ComAgentResourceId
______
RdName2ComAgentResId do not have any data. So, adding placeholders for comAgentResId
reserved for PCA
_____
Add PSBR record in AppProcControl table
_____
 === changed 1 records ===
```

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```
Taking backup of current system values of ComAgent HA Service timeout configuration.

Setting the ComAgent HA Service timeout configuration values.

=== changed 1 records ===

=== changed 1 records ===
```

Appendix A.2 PCA Activation on Standby NOAM

PCA Activation on Standby NOAM Server

		in Standby NOAW Server
S T	This procedure activates the PCA on a NOAM system. This procedure does not require a Maintenance window.	
E P #	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.	
#	ii tilis procedure falls,	contact my Gracic Support (MOS) and ask for assistance.
1.	Establish a secure shell session on the active NOAM	Establish a secure shell session on the standby NOAM by using the XMI VIP address. Login as the admusr . Use your SSH client to connect to the server (ex. Putty). Note: You must consult your own software client's documentation to learn how to launch a connection. For example:
		# ssh <active address="" no="" vip="" xmi=""></active>
2.	PCA Application Activation: Change directory	Change to the following directory: \$ cd /usr/TKLC/dsr/prod/maint/loaders/activate
3.	PCA Activation: Execute the PCA application activation script	Run the feature activation script by executing the following command:
		\$./load.pcaActivateStandByAscoped
		Note : This command execution starts activation on NOAM servers and All Active SOAM servers.
		Check the /var/TKLC/log/pcaActivateStandbyAscoped.log file to see if there is any execution failure.
		If the activation fails, then execute the procedure in Section 6.2.3 to restore the system back to state before start of activation.
4.	PCA Application Activation (OPTIONAL): Clear the web server cache	Delete all GUI cache files on active NOAM for quick view of changes or wait for some time so new changes are reflected.
		\$ clearCache

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Appendix A.2.1 Sample Output of Activation (Standby NOAM)

```
[admusr@NO1 activate]$ ./load.pcaActivateStandByAscoped
===== Start of Log Data in file /var/TKLC/log/pcaActivateStandbyAscoped.log =======
Server Name : NO1
Server Role: NETWORK_OAMP
_____
Add PCA to DsrApplication.
_____
Verify that PCA is in the table
_____
name=PCA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=Policy and Charging Application Unavailable Or Degraded
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=PCA Resource Exhausted
routeListId=65535
realm=
fqdn=
mcl=0
_____
Add Permission Group headers for PCA
```

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Appendix A.3 PCA Activation on Active SOAM

PCA Activation on Active SOAM Server

S	This procedure activa	tes the PCA on an SOAM system.
Т	This procedure does	not require a Maintenance window.
E P	Check off (√) each ste step number.	ep as it is completed. Boxes have been provided for this purpose under each
#	If this procedure fails,	contact My Oracle Support (MOS) and ask for assistance.
1.	Establish a secure shell session on the	Establish a secure shell session on the active SOAM by using the XMI VIP address. Login as the admusr .
	active SOAM	Use your SSH client to connect to the server (ex. Putty).
		Note : You must consult your own software client's documentation to learn how to launch a connection. For example:
		# ssh <active address="" soam="" vip="" xmi=""></active>
2.	PCA Application	Change to the following directory:
	Activation: Change directory	\$ cd /usr/TKLC/dsr/prod/maint/loaders/activate
3.	PCA Activation: Execute the PCA application activation script	Run the feature activation script by executing the following command:
		\$./load.pcaActivateBscoped
		Check the /var/TKLC/log/pcaActivateBscoped.log file to see if there is any execution failure.
		If the activation fails, then execute the procedure in Section 6.2.3 to restore the system back to state before start of activation.
4 .	PCA Application Activation (OPTIONAL): Clear the web server cache	Delete all GUI cache files on active SOAM for quick view of changes or wait for some time so new changes are reflected.
		\$ clearCache

Appendix A.3.1 Sample Output of Activation (Active SOAM)

Policy and Charging DRA Feature Activation Procedure

```
name=PCA
unavailableAction=SendAnswer
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=Policy and Charging Application Unavailable Or Degraded
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=PCA Resource Exhausted
routeListId=65535
realm=
fadn=
mcl=0
______
Add Permission Group headers for PCA & SBR on SOAM server
______
FIPS integrity verification test failed.
FIPS integrity verification test failed.
===== Start of Log Data in file /var/TKLC/log/pcaActivateStandbyBscoped.log =======
Server Name : SO2
Server Role: SYSTEM OAM
Node Id : SO2
HA State : Stby
_____
Add Permission Group headers for PCA
Execution status of activation script on SO2: PASSED
Please check /var/TKLC/log/pcaActivateStandbyBscoped.log.SO2 for more details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
pcaActivateStandbyBscoped.log
100% 785
        0.8KB/s
                 00:00
```

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Appendix A.4 PCA Activation on Standby SOAM

PCA Activation on Standby SOAM Server

S		
Т		
E P	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.	Establish a secure shell session on the active SOAM	Establish a secure shell session on the active SOAM by using the XMI VIP address. Login as the admusr .
		Use your SSH client to connect to the server (ex. Putty).
		Note : You must consult your own software client's documentation to learn how to launch a connection. For example:
		# ssh <active address="" soam="" vip="" xmi=""></active>
2.	PCA Application Activation: Change directory	Change to the following directory:
		\$ cd /usr/TKLC/dsr/prod/maint/loaders/activate
3.	PCA Activation: Execute the PCA application activation script	Run the feature activation script by executing the following command:
		\$./load.pcaActivateStandByBscoped
		Check the /var/TKLC/log/pcaActivateStandbyBscoped.log file to see if there is any execution failure.
		If the activation fails, then execute the procedure in Section 6.2.3 to restore the system back to state before start of activation.
4.	PCA Application Activation (OPTIONAL): Clear the web server cache	Delete all GUI cache files on active SOAM for quick view of changes or wait for some time so new changes are reflected.
		\$ clearCache
	Cacile	

Appendix A.4.1 Sample Output of Activation (Standby SOAM)

Appendix B. My Oracle Support (MOS)

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

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

- 1. Select 2 for New Service Request.
- 2. Select 3 for Hardware, Networking and Solaris Operating System Support.
- 3. Select one of the following options:

For technical issues such as creating a new Service Request (SR), select 1.

For non-technical issues such as registration or assistance with MOS, select 2.

You are connected to a live agent who can assist you with MOS registration and opening a support ticket. MOS is available 24 hours a day, 7 days a week, 365 days a year.