Oracle® Communications Diameter Signaling Router Policy and Charging Application Configuration Release 7.3 E67989, Revision 02

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Oracle Communications Diameter Signaling Router Policy and Charging Application Configuration Release 7.3

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1.0INTRODUCTION

1.1 PURPOSE AND SCOPE

This document defines the procedures required to configure the Policy and Charging Application (PCA) on a DSR system. This document contains information that is needed to configure and enable PCA which includes configuring:

- Resource Domains
- Place and Place Associations
- Diameter Stack, and
- SBR Databases

This document also provides the procedures to activate and deactivate PCA.

The audience for this document includes these Oracle CGBU Groups:

- Software Development
- Product Verification
- Documentation

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- Customer Service:
 - Design Support
 - Oracle TAC
 - Professional Services

No additional software installation is required prior to executing this procedure. The standard installation procedure documented in Reference [1] and [2] have installed all of the required software. PCA also requires SBR function for which software is also included in standard installation described in Reference [2].

The scope of this document is limited to guiding the user on mandatory configurations required to run Policy and Charging Application. This document does not intend to train the user on deployment options. Redundency Level of PCA Sites and Diameter Routing should be planned prior to executing the configuration steps listed in this document. Such planning is outside the scope of this document.

1.2 REFERENCES

- [1] DSR 7.3 Hardware and Software Installation Procedure 1/2, E53488-03
- [2] DSR 7.3 Software Installation and Configuration Part 2/2, E69409-02
- [3] IP Front End (IPFE) User's Guide, E73317-01
- [4] Policy Charging Application User's Guide, E73186-01
- [5] IDIH User's Guide, E69819-01
- [6] DSR Software Upgrade Guide, Release 7.3, E73343-01
- [7] Diameter User's Guide Release 7.3, E73184-01
- [8] DSR GLA Feature Activation Procedure, Release 7.3, E58659-04

1.3 GLOSSARY

Table 1. Acronyms

ART	Application Route Table
BBERF	Bearer Binding and Event Reporting Function (Policy Client)
COMAGENT	Communication Agent
CTF	Charging Trigger Function (Online Charging Client)

DA-MP	Diameter Agent Message Processor
DB	Database
DPI	Diameter Plug-In
DSR	Diameter Signaling Router
GUI	Graphical User Interface
НА	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
OAM	Operations, Administration and Maintenance
OC-DRA	Online Charging DIAMETER Routing Agent
OCS	Online Charging System (Online Charging Server)
P-DRA	Policy DIAMETER Routing Agent
PCA	Policy and Charging Application
PCEF	Policy and Charging Enforcement Function (Policy Client)
PCRF	Policy and Charging Rules Function (Policy Server)
PRT	Peer Route Table
SBR	Policy and Charging Subscriber Binding Repository
SO	System OAM
SOAM	System OAM
SSH	Secure Shell
UI	User Interface
VIP	Virtual IP
VPN	Virtual Private Network
XMI	External Management Interface

Table 2. Terminology

Term	Definition
PCA Application	The Policy and Charging Application hosts the Policy DRA and Online Charging DRA functionality for intelligent routing of policy and charging Diameter signaling. The PCA application is activated and deactivated using the PCA feature activation and deactivation scripts. The PCA application can be enabled and disabled per DA-MP server using the Main Menu: Diameter -> Maintenance -> Application Status GUI.
PCA Function	The PCA Application host two functions: Policy DRA and Online Charging DRA. The administrative state of these functions is controlled via the Main Menu: Policy and Charging Application -> Configuration -> General Options GUI – not by the Main Menu: Diameter -> Maintenance -> Application Status GUI. PCA Functions can be enabled and disabled independently of each other and without requiring feature deactivation or server restarts. PCA function enable and disable are system-wide in scope.
PCA Mated Sites	PCA Sites are said to be "mated" if they share an SBR Database for purposes of Site Redundancy.
PCA Site	The name of the Site where a DSR running the Policy and Charging Application is located. All of the DA-MP and SBR servers at a PCA Site must have the same Site Place name.

Term	Definition
Place	A Server can be assigned a "Place" that denotes its physical location. The Place type called "Site" is used to specify which DSR node a given server is located at. A Place is needed for each DSR node (DSR Site). The PCA application requires that all DA-MP servers and SBR servers be assigned to a "Site" Place.
Place Association	A container for Places (Sites) that have a relationship defined by the Place Association type. The PCA application defines two types of Place Associations: Policy Binding Region and Policy and Charging Mated Sites.
Policy and Charging Mated Sites Place Association	For a PCA network in which either the P-DRA function or the OC-DRA function are being used, a Policy and Charging Mated Sites Place Association is configured for each PCA Site or set of PCA Sites that will share an SBR Session Database. Typically there will be two Site Places in a Policy and Charging Mated Sites Place Association, but there could be one or three.
Policy and Charging DRA Resource Domain	A set of Server Groups having Function "DSR (multi-active cluster) that will be hosting the Policy and Charging DSR Application. One Policy and Charging DRA Resource Domain must be configured for each Policy and Charging Mated Sites Place Association.
Policy and Charging SBR Server Group	A Server Group with function set to "Policy and Charging SBR" – also known as an SBR Server Group. The SBR Binding Database and SBR Session Databases are hosted by one or more SBR Server Groups.
Policy Binding Region Place Association	For a PCA network in which the P-DRA function is being used, a Policy Binding Region Place Association is configured with all PCA Sites in the network.
Policy Binding Resource Domain	A set of SBR Server Groups that host the SBR Binding Database. See also Initial Resource Domain and Target Resource Domain.
Policy Session Resource Domain	A set of SBR Server Groups that host an instance of the SBR Session Database. See also Initial Resource Domain and Target Resource Domain.
Preferred Spare Server	A preference by a server in an SBR HA Policy to take on the role of spare server if other servers can successfully fulfill the active and standby roles. A preferred spare server can be promoted to standby if no other server is available for the standby role, or to active if no other servers are available for either active or standby roles.
Resource Domain	A container for Server Groups hosting a particular resource. See also Policy Binding Resource Domain and Policy Session Resource Domain.
Resource Provider	Resource Provider is a term used in the Communications Agent framework to refer literally to the provider of a software resource. A Resource Provider has a name, an identifier and an operational status. In the PCA application, an SBR Database consists of a number of resource providers equal to the number of Server Groups in the Resource Domain assigned to the database. Each resource provider hosts a portion of the logical database.
SBR Binding Database	The SBR Binding Database consists of Policy DRA binding records. The SBR Binding Database is hosted by Policy and Charging SBR Server Groups contained in a Policy Binding Resource Domain. The SBR Binding Database is accessible from all PCA Sites in the Policy Binding Region Place Association.
SBR Database	The PCA application supports two types of SBR Database: SBR Binding Database, used by the P-DRA function of PCA, and SBR Session Database, used by both P-DRA and OC- DRA functions of PCA. An SBR Database is hosted by Policy and Charging SBR Server Groups assigned to either a Policy Binding Resource Domain or a Policy Session Resource Domain.

Term	Definition
SBR HA Policy	The high availability policy that runs on an SBR Server group. The SBR HA Policy supports one active server, one standby server and 0 to 2 spare servers. When site redundancy is not needed, 1 active and 1 standby are deployed at the same site. If two-site redundancy is needed, 1 active and optionally 1 standby are deployed at one site and a spare is deployed at the mate site. If three-site redundancy is needed, 1 active and optionally 1 standby are deployed at a mate site, and 1 spare is deployed at a second mate site.
SBR Session Database	An SBR Session Database consists of Policy DRA and/or Online Charging DRA session records. An SBR Session Database is hosted by Policy and Charging SBR Server Groups contained in a Policy Session Resource Domain. An SBR Session Database is accessible from all PCA Sites in a Policy and Charging Mated Sites Place Association. A PCA network can have many instances of an SBR Session Database.
Server Group	A container for servers having a common function. Example server group functions are Policy and Charging SBR, DSR Multi-Active Cluster, etc.
Site Redundancy	An HA arrangement in which one site can take over PCA functionality when one or two other PCA Mated Sites fail (e.g. due to flood, fire, etc.). See also, Two Site Redundancy and Three Site Redundancy.
Split Binding	A scenario when Diameter sessions for a given subscriber (identified by IMSI) originated from P-GW(s) having the same Access Point Name or routed to the same PCRF Pool exist on more than one PCRF that do not share state information.
Three Site Redundancy	An HA configuration in which SBR data is redundant across 3 typically geographically separate sites. In this configuration, SBR data integrity is preserved when at least one of the 3 sites remain operational.
Two Site Redundancy	An HA configuration in which SBR data is redundant across two typically geographically separate sites. In this configuration, SBR data integrity is preserved when one of the 2 sites remains operational.

1.4 GENERAL PROCEDURE STEP FORMAT

Figure 1 illustrates the general format of procedure steps as they appear in this document. 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).

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.

The title box describes the operations to be performed during that step.

Each command that the technician is to enter is in 10 point bold Courier font.

the console of the	
server \$ c	cu -1 /dev/ttyS7

Figure 1: Example of a procedure step

2.0 PCA CONFIGURATION OVERVIEW

Before starting PCA configuration steps, PCA activation is required. Please refer to Appendix A in the document for activation details.

This section lists the required information needed to configure PCA. This includes topology configuration (e.g. Resource Domains, Places and Place Associations), Diameter and PCA specific configurations.

2.1 REQUIRED CONFIGURATION DATA

The following information needs to be collected by conducting a system/site survey. The user needs to plan the redundancy model required prior to system configuration.

- Please refer to the Diameter User's Guide^[7] for details of paremeters required for configuring Diameter
- Please refer to the Policy Charging Application User's Guide^[4] for details of parameters required for configuration PCA Functions (Policy DRA, Online Charging DRA)
 - A. A 3-tier DSR system installed using [1] and [2]
 - B. Following Diameter configuration material
 - 1. List of supported Application Ids
 - 2. CEX Parameters
 - 3. Local and Peer Node(s) configuration parameters
 - 4. Diameter Connection parameters
 - 5. Routing configuration parameters
 - Route Groups
 - Route Lists
 - Peer Route Tables
 - Application Route Tables
 - IDIH Configuration Parameters (Optional)
 - C. Following PCA configuration material:
 - 1. Server Group configuration parameters
 - 2. Place configuration parameters
 - 3. Place Association configuration parameters
 - 4. Resource Domain configuration parameters
 - 5. SBR Databases
 - 6. Default Audit Options
 - 7. Access Point Names and the "Stale Session Timeout" for the APN
 - 8. Alarm Settings
 - 9. Congestion Settings

6.

- D. Depending upon the PCA function, following configuration items
 - 1. Policy DRA configuration parameters
 - PCRF Pools
 - PCRF Sub-Pools
 - Early Binding Options
 - Topology Hiding Options
 - Suspect Binding Removal Options
 - Session Integrity Option
 - 2. Online Charging DRA configuration parameters
 - OCS Realms/FQDNs and their session states
 - Realms that requrie Session State
 - CTFs that require Session State
 - Session State Scope
 - Session State Unavailable Action
 - OCS Pool Selection Mode.

2.2 PCA CONFIGURATION SUMMARY

An outline of the configurations required to run Policy and Charging Application on a DSR system is laid below.

- The information required to configure various components (for e.g. Diameter Common, Diameter Plugin and PCA is mentioned in Chapter 3.0.
 - Please use the references provided at the top of the procedures to gather details about the configuration parameters.
 - Please note that this document does not cover planning the site-redundancy levels or Diameter Routing.
 - The user needs to consult relevant Oracle contacts to discuss deployment and routing scenarios and figure out the deployment model most suitable for the given business needs. Once that is figured out, this document helps the user to feed the required configuration data into the DSR system to build the selected model.
- Policy and Charging Application feature needs to be activated prior to any configuration mentioned in this document. PCA activation instructions can be found in APPENDIX-A.
- If a new DSR system is being configured to run PCA, follow the configuration procedures in the following order:
 - Non Maintenance Window Procedures
 - Place Associations Configuration (Section 4.1)
 - Resource Domains Configuration (Section 4.2)
 - Diameter Configuration Procedures (Section 4.3)
 - PCA Function Configuration Procedures (Section 4.4)
 - Maintenance Window Procedures
 - Post-configuration Procedures (Section 4.9)
- If PCA is to be configured on an operational DSR system, follow the configuration procedures in the following order:
 - Non Maintenance Window Procedures
 - For Policy DRA Function Configuring Policy DRA Function on a running DSR PCA System (Section 4.6)
 - For Online Charging DRA Configuring Online Charging Function on a running DSR PCA System (Section 4.5)
 - Maintenance Window Procedures
 - Post-configuration Procedures (Section 4.9)

NOTE: Any site level configuration (steps that have **SOAM VIP** mentioned in the step name) must be repeated for each DSR site running PCA.

3.0 PCA CONFIGURATION PREPARATION

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

3.1 HARDWARE PREPARATION

This document assumes that all necessary hardware has already been installed.

3.2 REQUIRED MATERIALS CHECK

This procedure verifies that all required materials needed for configuration have been collected and recorded.

Procedure 1: Required Materials Check

S	This procedure verifies that all required materials are present.					
$\begin{bmatrix} I \\ E \\ P \end{bmatrix}$ Please refer to the Diameter User's Guide ^[7] for details of paremeters required for configurin $\begin{bmatrix} P \\ D \end{bmatrix}$ Diameter						
#	Please refer to the Policy Charging Application User's Guide ^[4] for details of parameters required for configuration PCA Functions (Policy DRA, Online Charging DRA)					
	Check off (√) each step as it is SHOULD THIS PROCEDURE	off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. D THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR <u>ORACLE TAC</u>.				
	Verify that the configuration data has	Required Information is listed in Section 2.1. Conduct a system survey to gather required information.				

3.3 SYSTEM TOPOLOGY CHECK

This procedure is part of PCA configuration preparation and is used to verify the system topology of the DSR 7.3 network and servers.

Procedure	2:	System	Topology	Check
-----------	----	--------	----------	-------

S	This procedure verifies System Topology.					
T	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.					
P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.					
#						
1	Verify Network Element View the Network Elements configuration data; verify the data; save and print report:					
	Comgulation data	1. Log into the NOAM VIP GUI.				
		 Select Configuration > Network Elements to view Network Elements Configuration 				
		 Click Report at the bottom of the table to generate a report for all entries. 				
		4. Verify the configuration data is correct for your network.				
		5. Save the report and/or print the report. Keep these copies for future reference.				
2 П	Verify Services Configuration data	View the Services configuration data; verify the data; save and print report:				
		1. Select Configuration > Services to view Services screen.				
		 Click Report at the bottom of the table to generate a report for all entries. Verify the configuration data is correct for your network. 				
		 Save the report and/or print the report. Keep these copies for future reference. 				
3	Verify Place	View the Place configuration date: verify the date: save and print report:				
ň	Configuration data	view the made conliguration data, verify the data, save and print report.				
		 Select Configuration > Places to view Server Group screen. Click Papert of the bettern of the table to generate a report for all entries. 				
		 Click Report at the bottom of the table to generate a report for all entries. Verify that all DAMP servers that will be running the PCA application and all SBR MP 				
		Servers have a Site Place configured.				
		4. Save the report and/or print the report. Keep these copies for future reference.				
4	Verify Server Group	View the Server Group configuration data; verify the data; save and print report:				
	Configuration data	5. Select Configuration > Server Group to view Server Group screen.				
		6. Click Report at the bottom of the table to generate a report for all entries.				
		 verify that all Server Group(s) that have been identified to host the SBR Database(s) have the function "Policy and Charging SBR". 				
		8. Save the report and/or print the report. Keep these copies for future reference.				
5	Analyza and plan DA	If the DCD system is supplied troffic other than DCA then all the DAMD converse must not be				
n n	MP restart sequence	If the DSR system is running traffic other than PCA then all the DAMP servers must not be restarted/rebooted simultaneously. Doing so will cause a network/site wide outage.				
		Instead a groups of DAMP servers must be selected and restarted one group at a time such				
		Analyze system topology and plan for any DA-MPs which will be out-of-service during the				
		PCA configuration sequence.				
		1. Analyze system topology gathered in Step 1 and 2.				
		2. Determine exact sequence which DA-MP servers will be restarted (with the expected				
		APPENDIX-B				
6	Configuration data	View the Network configuration data; verify the data; save and print report:				
		1. Select Configuration > Network to view Network screen.				
		 Click Report at the bottom of the table to generate a report for all entries. Verify the configuration data is correct for your network. 				
		4. Save the report and/or print the report. Keep these copies for future reference.				
7	Verify Devices	View the Devices configuration data: verify the data: save and print report:				
Π ή	Configuration data	view the Devices configuration data, verify the data, save and print report.				
		 Select Configuration > Network > Devices to view Devices screen. Click Penett All of the bettern of the table to generate a report for all entries. 				
	 Click Report An at the bottom of the table to generate a report for all entries. Verify the configuration data is correct for your network. 					

	4.	Save the report and/or print the report. Keep these copies for future reference.

3.4 PCA / POLICY AND CHARGING SBR TOPOLOGY CHECK

This procedure is part of PCA configuration preparation to identify the 3-tiered PCA topology for the deployed system. The following diagram depicts an example of a 2 site Mated-Pair PCA system. The topology configuration will depend on the customer's choice of deployment options: standalone (no site-redundancy), mated pair (2 site-redundancy) or mated triplet (3 site-redundancy).





Figure 2: Example – Mated Pair PCA / Policy and Charging SBR Topology

Notes of Figure 2:

1. The standby SOAM and SBR servers shown in the diagram are optional and not needed if the user does not desire server-level redundancy.

- 2. The spare SOAM and SBR servers are not optional in a mated pair deployment.
- 3. The OAM servers can be virtualized. Please refer to [1] and [2] for installation procedures for virtualized OAM servers.
- 4. The IP Front End (IPFE) servers shown in the diagram are optional. Each DSR Node can have upto 4 IPFE Servers Groups (deployed as active-standby pairs) with one IPFE server in each Server Group. IPFE servers help in load distribution to DA-MP servers. Please refer to [3] for more information on IPFE servers.
- 5. Disaster Recovery NOAMs (DR-NOs) can be optionally setup to handle Disaster Recovery scenarios. Please refer to [2] for DR-NO installation procedures.
- 6. The Policy Binding Resource Domain can span across more than one mated site.
- 7. The Policy Binding Resource Domain can have upto 8 Server Groups.
- 8. Each Policy and Charging Session Resource Domain can have upto 8 Server Groups.

Procedure 3: Record Required Configuration Information

S T	This procedure gathers and records PCA Topology for the setup. This information must be gathered before configuring the PCA system.					
E P #	Please refer to the Policy Charging Application User's Guide ^[4] for details of parameters required for configuration PCA Functions (Policy DRA, Online Charging DRA)					
	Check off (\checkmark) each step as it is	is completed. Boxes have been provided for this purpose under each step number.				
	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.				
	Identify the Place and Place Association	1. Identify and note the number of places and place names below – 2 in example, there might be upto 32 places.				
	momaton.	Number of Places:				
		Place Names:				
		2. Identify the level of site redundancy to be deployed in the PCA system.				
		 a) In case site-redundancy is not required, the number of non-redundant PCA sites will be the same as the number of Places recorded above. 				
		b) In case a two-site redundancy model is chosen for some or all sites, Identify and note the number of PCA mated pairs – LabC and Lab D in example.				
		Number of PCA Mated Pairs:				
		OR				
		 c) In case a three site redundancy model is chosen for some or all sites, Identify and note the number of PCA mated triplets 				
		Number of PCA Mated Triplets:				
		3. If Policy DRA function is being configured, then identify and note the places that are associated to the Place Association type – "Policy Binding Region".				
		Note: This step is required for Policy DRA functionality only.				
		Policy Binding Region (Only 1 Binding Region since this is network wide) - LabC and Lab D are associated places (since these are the only 2 sites/places, there might be more depending on the number of sites/places).				
		Number of Places in Binding Region:				
		4. Identify and note the places that are associated to the Place Association type "Policy and Charging Mated Sites".				
		NOTE: The Policy and Charging Mated Sites Place Association type is used for all levels of site redundancy chosen in item 2 above (no site redundancy, two-site redundancy, or 3-site redundancy). For example, if no site redundancy is chosen, you would configure a Policy and Charging Mated Sites Place Association for each Site Place (DSR node). If two-site redundancy is chosen and you have 3 pairs of DSR nodes, you would configure 3 Policy and Charging Mated Sites Place Associations - one for each pair.				
		PCA Mated Sites – Identify and Log the site names for single sites, mated pairs or mated triplets				

	PCA Mated Site 1: Lab C and Lab D	
	PCA Mated Site 2:	
	PCA Mated Site 3:	
	PCA Mated Site 4:	
	PCA Mated Site 5:	
	PCA Mated Site 6:	
	PCA Mated Site 7:	
	Use additional space for recording more Mated Sites type Place Associations.	
		l

2	Identify and log the	1 Identify and log the number of 'Policy and Charging	DRA ' resource domains and their
	Resource Domain information.	Server Groups – In this example it is 2 since there is NOTE: Depending on the redundancy-model chos Groups in one Policy and Charging DRA Resourc	only one mated pair. Sen there can be up to 3 Server e Domain.
			l
		DRA RD1 - LabCDRASG	
		DRA RD2 - LabDDRASG	
		DRA RD3 -	
		DRA RD4 -	
		DRA RD5 -	
		DRA RD6 -	
		DRA RD7 -	
		Use additional space for recording more	
		Resource Domains.	
		2. Identify and log the ' Policy Binding ' resource dom	ain and its Server Groups.
		Note 1: This step is required for Policy DRA funct	ionality only.
		Note 2: Depending on the capacity chosen there of Policy Binding Posource Domain	an be up to 8 Server Groups in one
		Policy Binding RD1 – LabCBindingSR1SG	
		O block the section of the section o	
		3. Identify and log the number of Policy Session ' readers.	source domains and their Server
		Note: Depending on the capacity chosen there ca	n be up to 8 Server Groups in one
		Policy Session Resource Domain.	
			l
		Policy Session RD1 – LabCSessionSR1SG	
		Policy Session RD2 – LabDSessionSR2SG	
		Policy Session RD3 – LabCSessionSR3SG	
		Policy Session RD4 – LabDSessionSR4SG	
		Policy Session RD5 -	
		Policy Session RD6 -	
		Policy Session RD7 - Use additional space	
		Tor recording more Resource Domains.	

3.5 DIAMETER NETWORK CHECK

3.5.1 Diameter Network Check for Policy DRA

NOTE: EXECUTE THIS PROCEDURE FOR POLICY DRA FUNCTION

SKIP THIS PROCEDURE IF ONLINE CHARGING DRA FUNCTION ONLY

Please refer to Section 2.1 for the information required to be logged.

Procedure 4: Record Required P-DRA Diameter Configuration

S	This procedure gathers and records PCA – Policy DRA function Diameter Configuration.					
T E P	Please refer to the Diameter User's Guide ^[7] for details of paremeters required for configuring Diameter					
#	Check off (\checkmark) each step as it is	s completed. Boxes have been provided for this purpose under each step number.				
	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.				
	Identify the diameter	1. Identify and log the hardware profile type for each of the DA-MP Servers (PCA)				
	notificitie and properties.	2. Identify and log the number of policy clients (PCEFs, BBERFs and AFs) and policy servers (PCRFs) in the network.				
		3. Identify and log the diameter attributes for all the policy clients and policy servers in the network – FQDN, Realm, IP address.				
		4. Identify and log the type of diameter Transport Protocol needed for all the policy clients and policy Servers - TCP/SCTP				
		5. Identify and log the type of diameter connection mode needed for all the policy clients and policy server- Responder/Initiator/Responder-Initiator				
		6. Identify and log the 'Peer Node Indentification' for all the policy clients and policy servers- IP Address/FQDN.				
		7. Identify and log the route groups and route lists needed for Policy Servers and Policy Clients. Routing configuration is required for Policy Clients if the Policy Servers send Diameter request messages to be routed to the Policy Clients.				
		8. Identify and log the Policy Server configuration needed – Both Gx and Rx on same Policy Server or are they on different servers.				
		9. Identify and log the number of peer route tables needed for the diameter configuration – e.g. one for Rx Policy Servers and One for Gx Policy Servers .				
		10. Identify and log the number of Application Route Table entries – one for Gx Application and one for Rx Application message processing.				
		11. Identify and log the TSA used for local nodes if IPFE is used.				
2	Policy DRA Network	1. Identify and log the SBR Databases of Session and Binding types to be configured				
ń	configuration (NO scoped)	2. Identify and log the Assess Daint Names used and the "Stels Session Timesut" for the				
		same.				
		3. Identify and log the PCRF Pools and the Sub-Pool Selection Rules. Note that PCRF Sub Pool Selection Rules are optional.				
		4. Identify and log the General Options parameters for the Policy DRA network –				
		Default Stale Session Timeout				
		Binding Audit Session Query Rate				
		Audit Operation Rate				
		5. Identify and log the Network Wide Options parameters for the Policy DRA network –				
		Early Binding Options				
		Topology Hiding Options				
		Suspect Binding Removal Options				
		Session Integrity Options				
		6. Identify and log the Alarm Settings for "DSR Application ingress Message Rate".				
		7. Identify and log the Congestion Alarm Thresholds and Message Throttling Rules				
3	Policy DRA Site	1.Identify and log the all the PCRFs handling the Policy Traffic for this site.				
	Configuration (SO	2.Identify and log the Binding Key Priority settings, i.e. the order in which subscriber keys				
	0000000					

messages and route them to final bound PCRFs.
3. Identify and log the Policy Clients for which the topology hiding is needed.
4. Identify and log the PCRF Pool to PRT mapping configuration.
5. Identify and log the error code configuration for each of the 'Error Condition' in the table per the policy client team request/ inteoperability requirements for Policy Client Vendor.
6. Identify and log the Suspect Binding Removal Rules.
7. Identify and log the Site Options parameters.for this site.

3.5.2 Diameter Network Check for Online Charging DRA

NOTE: EXECUTE THIS PROCEDURE FOR ONLINE CHARGING DRA FUNCTION SKIP THIS PROCEDURE IF POLICY DRA FUNCTION ONLY

Procedure 5: Record Required OC-DRA Diameter Configuration

-	This procedure gathers and records PCA – Online Charging DRA function Diameter					
T	Configuration.					
E P	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.					
#	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.					
1	Identify the diameter	1. Identify and log the hardware profile type for each of the DA-MP Servers (PCA)				
	network and properties.	2. Identify and log the number of Online Charging clients (CTFs) and Online Charging servers (OCSs) in the network.				
		3. Identify and log the diameter attributes for all the Online Charging clients and Online Charging servers in the network – FQDN, Realm, IP address.				
		4. Identify and log the type of diameter Transport Protocol needed for all the Online Charging clients and Online Charging servers - TCP/SCTP				
		5. Identify and log the type of diameter connection mode needed for all the Online Charging clients and Online Charging servers - Responder/Initiator/Responder-Initiator				
		6. Identify and log the 'Peer Node Indentification' for all the Online Charging clients and Online Charging servers - IP Address/FQDN.				
		7. Identify and log the route groups and route lists needed for Online charging Servers.				
		8. Identify and log the number of peer route tables and peer route rules needed for the diameter configuration for Online charging Servers .				
	9. Identify and log the number of Application Route Table entries –for RBAR (rerouting configuration) and for PCA message processing.					
		10. Identify and log the TSA used for local nodes if IPFE is used.				
2	Online Charging DRA Network configuration	1. Identify and log the SBR Database of Session type to be configured.NOTE: Skip this step if Session type SBR Database was added during Policy DRA Function configuration in 3.5.1				
	(NO second)	······································				
	(NO scoped)	 Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) 				
	(NO scoped)	 Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) Identify and log the General Options parameters for the Online Charging DRA network – 				
	(NO scoped)	 Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) Identify and log the General Options parameters for the Online Charging DRA network – Default Stale Session Timeout 				
	(NO scoped)	 2. Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) 3. Identify and log the General Options parameters for the Online Charging DRA network – Default Stale Session Timeout Audit Operation Rate 				
	(NO scoped)	 2. Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) 3. Identify and log the General Options parameters for the Online Charging DRA network – Default Stale Session Timeout Audit Operation Rate 4. Identify and log the Online Charging Network Realms to be configured for Session State maintenance. 				
	(NO scoped)	 2. Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) 3. Identify and log the General Options parameters for the Online Charging DRA network – Default Stale Session Timeout Audit Operation Rate 4. Identify and log the Online Charging Network Realms to be configured for Session State maintenance. 5. Identify and log the Network Wide Options for the Online Charging DRA network – 				
	(NO scoped)	 2. Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) 3. Identify and log the General Options parameters for the Online Charging DRA network – Default Stale Session Timeout Audit Operation Rate 4. Identify and log the Online Charging Network Realms to be configured for Session State maintenance. 5. Identify and log the Network Wide Options for the Online Charging DRA network – Session State Options 				
	(NO scoped)	 2. Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) 3. Identify and log the General Options parameters for the Online Charging DRA network – Default Stale Session Timeout Audit Operation Rate 4. Identify and log the Online Charging Network Realms to be configured for Session State maintenance. 5. Identify and log the Network Wide Options for the Online Charging DRA network – Session State Options OCS Selection Options 				
	(NO scoped)	 Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) Identify and log the General Options parameters for the Online Charging DRA network Default Stale Session Timeout Audit Operation Rate Identify and log the Online Charging Network Realms to be configured for Session State maintenance. Identify and log the Network Wide Options for the Online Charging DRA network – Session State Options OCS Selection Options Identify and log the Alarm Settings for "DSR Application ingress Message Rate". 				
	(NO scoped)	 Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) Identify and log the General Options parameters for the Online Charging DRA network Default Stale Session Timeout Audit Operation Rate Identify and log the Online Charging Network Realms to be configured for Session State maintenance. Identify and log the Network Wide Options for the Online Charging DRA network – Session State Options OCS Selection Options Identify and log the Alarm Settings for "DSR Application ingress Message Rate". Identify and log the Congestion Alarm Thresholds and Message Throttling Rules 				
3	(NO scoped)	 Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) Identify and log the General Options parameters for the Online Charging DRA network Default Stale Session Timeout Audit Operation Rate Identify and log the Online Charging Network Realms to be configured for Session State maintenance. Identify and log the Network Wide Options for the Online Charging DRA network – Session State Options OCS Selection Options Identify and log the Alarm Settings for "DSR Application ingress Message Rate". Identify and log the Congestion Alarm Thresholds and Message Throttling Rules 				
	(NO scoped)	 Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) Identify and log the General Options parameters for the Online Charging DRA network Default Stale Session Timeout Audit Operation Rate Identify and log the Online Charging Network Realms to be configured for Session State maintenance. Identify and log the Network Wide Options for the Online Charging DRA network – Session State Options OCS Selection Options Identify and log the Alarm Settings for "DSR Application ingress Message Rate". Identify and log the all the OCSs handling the Gy/Ro Traffic for this site. Identify and log the all the CTFs to be configured for Session State maintenance. 				
	(NO scoped) Online Charging DRA Site Configuration (SO scoped)	 Identify and log the Access Point Names used and the "Stale Session Timeout" for the same. (Optional) Identify and log the General Options parameters for the Online Charging DRA network Default Stale Session Timeout Audit Operation Rate Identify and log the Online Charging Network Realms to be configured for Session State maintenance. Identify and log the Network Wide Options for the Online Charging DRA network – Session State Options OCS Selection Options Identify and log the Alarm Settings for "DSR Application ingress Message Rate". Identify and log the all the OCSs handling the Gy/Ro Traffic for this site. Identify and log the all the CTFs to be configured for Session State maintenance. Identify and Log the error code configuration for each of the 'Error Condition' in the table for the Gy/Ro interface. 				

3.6 PERFORM HEALTH CHECK

This procedure is part of PCA configuration preparation and is used to determine the health and status of the DSR 7.0 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 PCA configuration will take place.

Procedure 6: Perform Health Check (PCA configuration Preparation)

S	This procedure performs a Health Check.				
T E P #	Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR <u>ORACLE TAC</u> .				
1	Verify Server status:				
		 Select Status & Manage > Server; the Server Status screen is shown. Verify all Server Status is Normal (Norm) for Application Status (Appl State), Alarms (Alm), Database (DB), Collection (Reporting Status), and Processes (Proc). Do not proceed to PCA configuration if any of the following statuses is not Norm: DB, Reporting Status, Proc. If any of these are not Norm, corrective action should be taken to restore the non-Norm status to Norm before proceeding with the PCA configuration. Contact Engineering for assistance as necessary. If the Alarm (Alm) status is not Norm but only Minor alarms are present, it is acceptable to proceed with the PCA configuration. If there are Major or Critical alarms present, these alarms should be analyzed prior to proceeding with the PCA configuration. The activation may be able to proceed in the presence of certain Major or Critical alarms. Contact Oracle Support for assistance as necessary. 			
2	Log all current alarms	 Log all current alarms in the system: Select Alarms & Events > View Active; the Alarms & Events > View Active view is shown. Click Report button to generate an Alarms report. Save the report and print the report. Keep these copies for future reference. Note: the system should be alarm free unless the user is aware of the alarms and understands the impact. Select Alarms & Events > View History and repeat steps 2 and 3. 			

4.0 PCA CONFIGURATION

Before PCA configuration, execute the site survey and the system health check specified in Section3.0.. This ensures that all the data is ready for PCA configuration. Performing the system health check determines which alarms are present in the system and if PCA configuration 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 PCA configuration process is started.

If alarms are present on the server, contact PCA Development to diagnose those alarms and determine whether they need to be addressed or if it is safe to proceed with the PCA configuration.

Please read the following notes on PCA configuration procedures:

- Command steps that require user entry are indicated with white-on-black step numbers.
- The shaded area within response steps must be verified in order to successfully complete that step.
- 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 Node names* 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, and toolbars and button layouts.
- After completing each step and at each point where data is recorded from the screen, the technician performing the PCA configuration 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.

NOTE: Refer to the data captured in Section 3.4 and Section 3.5 before proceeding with the configuration in below sections.

The maintenance operations performed in Section 4.9 should be performed in a maintenance window. Configuration of Policy and Charging Application can be done outside of the maintenance window.

4.1 PLACE ASSOCIATIONS CONFIGURATION

If all the required place associations are not already configured, then follow the procedures defined in this section, else skip this section.

The following type of Place Association is required for both functions (Policy DRA and Online Charging DRA) of PCA:

Policy and Charging Mated Sites

The following type of Place Association is required for Policy DRA function ONLY:

Policy Binding Region

4.1.1 Policy and Charging Places

NOTE: EXECUTE THIS PROCEDURE ONLY IF NEW MP SERVERS ARE TO BE CONFIGURED IN THE TOPOLOGY OTHER THAN THOSE CONFIGURED DURING INSTALLATION PROCEDURE FROM [1]

Procedure 7: Policy and Charging Places configuration

S	This procedure configu	res the Place	es.		
Т	Charle off (d) each star as it is commisted. Deres have been married for this number and star number				
Е	Check off (v) each step as it	is completed. B	oxes have been pr	ovided for this purpose under each step number.	
P	SHOULD THIS PROCEDURE	FAIL, CONTA	CT ORACLE TECH	INICAL SERVICES AND ASK FOR <u>ORACLE TAC</u> .	
#					
1	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".			
2	NOAM VIP: Navigate	Navigate to	Main Menu	-> Configuration -> Places	
	to Places screen	Screen.			
2					
3	noawi vir: Add a	Click on In	sert in the lo	wer left corner.	
		You will see	a screen similar	to:	
		Main Menus Configuration -> Diaces [Insert]			
				Tue Nov 25 15:41:45	
		Inserting a r	new Place		
		Place Field	Value	Description	
		Place Name	PlaceName *	Unique identifier used to label a Place. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric, underscore, dash, and space.]	
		Parent	NONE *	The Parent of this Place	
		Place Type	Site •	The Type of this Place	
		GTXA 1111101 NO	GTXA-NO1	Available servers in GTXA 1111101 NO	
		GTXA_1111101_SO	GTXA-NO2	No servers available	
				Ok Apply Cancel	
		 Enter the Place Name Select "None" as the Parent Select "Site" as the Place Type Select all DAMP servers (running PCA) and all SBR servers that belong to this Place (DSR Site). Click Ok. 			
4	NOAM VIP: Add other Places.	Repeat Step	4 for all other P	laces that are to be added.	

4.1.2 Policy and Charging Mated Sites Place Associations

Procedure 8: Policy and Charging Mated Sites Place Associations configuration

S	This procedure configures Place Association							
Т	Check off ($\sqrt{2}$) each step as it is completed. Boxes have been provided for this purpose under each step number.							
E P #	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC. ASSUMPTION: PCA FEATURE IS ALREADY ACTIVATED USING SECTION 8.1.							
1	Establish GUI Session on the NOAM VIP	Establish a GUI session	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".					
2	NOAM VIP: Navigate to Place Associations screen	Navigate to Main Menu -> Configuration -> Place Associations Screen.						
3	NOAM VIP: Add Policy and Charging Mated Sites Place Association	Click on Insert in the You will see a screen sin	he lower left corner. milar to:					
		Place Association [Insert] Inserting a new Place Association Place Association Place Association Place Association Place Association Place Association Place Association Name Place Association Name • Celect Place Association Type • • * The Type of this Place Association Place Association Type • • * The Type of this Place Association						
		Places DSR70PCASite Places in this Place Association Ok Apply Cancel 1. Enter the Place Association Name 2. Select "Policy and Charging Mated Sites" as the Place Association Type 3. Select the Places to associate with the Place Association. Please use the data recorded in Section 3.4. 4. Click Ok.						
4	NOAM VIP: Add other Policy and Charging Mated Sites Place Associations.	Repeat Step 3 for all oth added	ner Policy and Charging Mated Sites P	lace Associations that are to be				

4.1.3 Policy Binding Region Place Associations NOTE: EXECUTE THIS PROCEDURE FOR POLICY DRA FUNCTION SKIP THIS PROCEDURE IF ONLINE CHARGING DRA FUNCTION ONLY

Procedure 9: Policy Binding Region Place Associations configuration

S	This procedure configu	res the Policy Binding	Region Place Associations	This procedure configures the Policy Binding Region Place Associations					
т									
I F	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.								
L' D	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE	TECHNICAL SERVICES AND ASK FOR O	RACLE TAC.					
ľ	ASSUMPTION: PCA	A FEATURE IS ALR	EADY ACTIVATED USING S	SECTION 8.1.					
#		ſ							
1	Establish GUI Session on the NOAM VIP	Establish a GUI sessior	on the NOAM by using the XMI VIP ac	ddress. Login as user "guiadmin".					
2	NOAM VIP: Navigate	Navigate to Main Me	nu -> Configuration ->	Place Associations					
	to Place Associations screen	Screen.	-						
3	NOAM VIP: Add	Click on Insert in t	he lower left corner.						
	Policy Binding Region	You will see a screen si	milar to:						
	Place Association								
		Main Menu: Cont	figuration -> Place Associati	ons [Insert]					
		Inserting a new	Place Association						
		Place Association							
		Field	Value	Description					
		Place Association Name	*	Unique identifier used to label a Pla characters are alphanumeric, under					
		Place Association Type	- Select Place Association Type - 💌 *	The Type of this Place Association					
		Places							
		Places DSR70PCASite Places in this Place Association							
		Ok Apply Cancel							
		 Enter the Place Association Name Select "Policy Binding Region" as the Place Association Type Select all the Places to associate with the Place Association. Select all the sites (Places) in the network Click Ok. 							

4.2 RESOURCE DOMAINS CONFIGURATION

If all the required resource domains are not already configured, then follow the procedures defined in this section, else skip this section.

The following Resource Domains are required for both functions (Policy DRA and Online Charging DRA) of PCA:

- Policy and Charging DRA
- Policy Session

The following Resource Domain is required for Policy DRA function ONLY:

Policy Binding

4.2.1 Policy and Charging DRA Resource Domain Configuration

Procedure 10: Policy and Charging DRA Resource Domain configuration

S	This procedure configu	This procedure configures the Policy and Charging Resource Domain						
Т	Check off (ψ) each step as it is completed. Boxes have been provided for this purpose under each step number.							
E P	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE	TECHNICAL SERVICES AND ASK FOR O	RACLE TAC.				
#	ASSUMPTION: PCA	A FEATURE IS ALR	EADY ACTIVATED USING S	SECTION 8.1.				
1	Establish GUI Session on the NOAM VIP	Establish a GUI session	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".					
2	NOAM VIP: Navigate to Resource Domain Screen	Navigate to Main Me Screen.	enu -> Configuration ->	Resource Domains				
3	NOAM VIP: Add	Click on Insert in t	he lower left corner.					
	Policy and Charging DRA Resource Domain	You will see a screen si	milar to:					
		Main Menu: Conf	iguration -> Resource Doma	ins [Insert]				
			5					
		Inserting a new	Resource Domain					
		Resource Domain						
		Field	Value	Description				
		Resource Domain Name	*	Unique identifier used to label a Res characters are alphanumeric and un				
		Resource Domain Profile	- Select Resource Domain Profile - 💌	The Profile of this Resource Domain				
		Server Groups	_					
	C_BIND C_MP Server Groups C_SESS NOAM_SG SOAM_SG							
		Ok Apply Cancel						
		 Enter the Resource Domain Name Select "Policy and Charging DRA" as the Resource Domain Profile Select the Server Groups to associate with the Resource Domain Click Ok. 						
		NOTE: For Mated DSR sites, o	create one Policy and Charging DRA	Resource Domain and add the				

		DA-MP Server Groups from both sites into this Policy and Charging DRA Resource Domain. For Mated DSR Triplets, create one Policy and Charging DRA Resource Domain and add the DA-MP Server Groups from three sites into this Policy and Charging DRA Resource Domain. For non-mated pair DSRs and standalone DSR: Configure a Policy and Charging DRA Resource Domain per Site.		
4	NOAM VIP: Add other Policy and Charging DRA Resource Domains.	Repeat Step 3 for all other Policy and Charging DRA Resource Domains that are to be added.		
5	NOAM VIP: Restart the Servers	Navigate to Main Menu -> Status & Manage -> Server screen. Select the Servers just added to the Resource Domain and click 'Restart' button.		

4.2.2 Policy Session Resource Domain Configuration

Procedure 11: Policy Session Resource Domain configuration

S	This procedure configures the Policy Session Resource Domain								
Т	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.								
E	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.								
r #	ASSUMPTION: PCA FEATURE IS ALREADY ACTIVATED USING SECTION 8.1.								
1	Establish GUI Session on the NOAM VIP	Establish a GUI session	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".						
2	NOAM VIP: Navigate to Resource Domain Screen	Navigate to Main Me Screen.	nu -> Configuration ->	Resource Domains					
3	NOAM VIP: Add	Click on Insert in the	ne lower left corner.						
	Session Resource Domain	You will see a screen si	nilar to:						
		Main Manue Conf	guration > Decourse Doma	ing [Incort]					
		Inserting a new	Resource Domain						
		Province Pressie							
		Resource Domain	Mahaa	Description					
		Field	value	Description					
		Resource Domain Name	*	Unique identifier used to label a Res characters are alphanumeric and un					
		Resource Domain Profile	- Select Resource Domain Profile - 💌	The Profile of this Resource Domain					
		Server Groups							
		C_BIND C_MP Server Groups C_SESS NOAM_SG SOAM_SG							
		Ok Apply Cancel							
		 Enter the Resource Domain Name Select "Policy Session" as the Resource Domain Profile Select the Server Groups to associate with the Resource Domain Click Ok. NOTE:							

		For Mated DSR sites, create one Policy Session Resource Domain and add all the Policy and Charging SBR Server Groups from both sites that will be hosting the Session SBR Database for the Mated Pair into this Policy Session Resource Domain. For Mated DSR triplets, create one Policy Session Resource Domain and add all the Policy and Charging SBR Server Groups from three sites that will be hosting the Session SBR Database for the Mated triplet into this Policy Session Resource Domain. For non-mated pair DSRs and standalone DSR: Configure a Policy Session Resource Domain per site and add all the Policy and Charging SBR Server Groups in the site that will be hosting the Session SBR Database.
4	NOAM VIP: Add other Session Resource Domains.	Repeat Step 3 for all other Policy Session Resource Domains that are to be added.

4.2.3 Policy Binding Resource Domain Configuration

The Policy Binding Resource Domain is only required for Policy DRA function of PCA. Skip this section if not configuring the Policy DRA function.

Procedure 12: Policy Binding Resource Domain configuration

S	This procedure configures the Policy Binding Resource Domain							
T F	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.							
E D	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.							
r #	ASSUMPTION: PCA FEATURE IS ALREADY ACTIVATED USING SECTION 8.1.							
1	Establish GUI Session on the NOAM VIP	n Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".						
2	NOAM VIP: Navigate to Resource Domain	Navigate to Main Me	enu -> Configuration ->	Resource Domains				
	Screen	Screen.						
3	NOAM VIP: Add	Click on Insert in t	he lower left corner.					
	DRA Resource Domain	You will see a screen si	milar to:					
		Main Menu: Conf	iguration -> Resource Doma	ins [Insert]				
		Inserting a new	Resource Domain					
		Resource Domain						
		Field	Value	Description				
		Resource Domain Name	*	Unique identifier used to label a Res characters are alphanumeric and un-				
		Resource Domain Profile	- Select Resource Domain Profile - 🔻 🔹	The Profile of this Resource Domain				
		Server Groups						
	C_BIND C_MP Server Groups C_SESS NOAM_SG SOAM_SG							
	Ok Apply Cancel							
		 Enter the Resource Domain Name Select "Policy Binding" as the Resource Domain Profile Select the Server Groups to associate with the Resource Domain Click Ok. 						

	NOTE: Create only one Policy Binding Resource Domain and add all the Policy and Charging SBR Server Groups from all sites that will be hosting the Binding SBR Database into this Policy Binding Resource Domain.
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4.3 DIAMETER CONFIGURATION PROCEDURES

4.3.1 Diameter Configuration for Policy DRA

Detailed steps are given in the procedures below. The procedures in this section mention the parts of Diameter configuration that are needed by Policy and Charging Application with some example sets of configuration. For extensive information on the fields and screens or for planning your Diameter configuration please refer to the Diameter User's Guide ^[7]

Procedure 13: Diameter configuration for Policy DRA

NOTE: EXECUTE THIS PROCEDURE FOR POLICY DRA FUNCTION

SKIP THIS PROCEDURE IF ONLINE CHARGING DRA FUNCTION ONLY

S	This procedure configures the Diameter stack.							
T	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.							
E P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.							
#								
1	Establish GUI Session	Establish a GUI sess	ion on the SOAM by using the XMI VIP add	ress. Login as user "guiadmin".				
	on the SOAM VIF							
2	SOAM VIP: Navigate	Navigate to Main	Menu -> Diameter -> Config	uration ->				
	to Application Id Configuration Screen	Application 3	Ids					
3	SOAM VIP: Add	Click on Insert i	in the lower left corner.					
	Application id for Gx Interface	You will see a screer	n similar to:					
		Main Menu: Diar	meter -> Configuration -> Applicat	tion Ids -> [Insert]				
			5 11					
		Field	Value	Description				
		Name	*	Application Id Name				
		Application Id Value						
		Application Route Table Default De						
		Peer Route Table	Default 🔻	Peer Route Table associa Used for routing Requests Peer Node does not have				
		Routing Option Set	Default 🔻	Routing Option Set assoc Used when processing tra Peer Node does not have				
		Pending Answer Timer Default Default Default Pending Answer Timer as Used when processing tra Peer Node does not have						
		Ok Apply Cancel						
		 Select Application Id for Gx Interface "16777238 - 3GPP Gx" (This will automatically fill in the "Name" field, please make changes to the name as necessary). Click Ok. 						
		NOTE: This Applicati	ion-Id is also used for Gx-Prime interface.					

4	SOAM VIP: Add	Click on Insert i	Click on Insert in the lower left corner.					
	Application Id for Rx Interface	You will see a screen	You will see a screen similar to:					
		Main Menu: Diameter -> Configuration -> Application Ids -> [Insert]						
		Field	Value			Description		
		Name			*	Application	ld Name	
		Application Id Value	 Select Select 			 Application [Default = r 16777216 	n Id is used to ic n/a; Range = 1 - - 42949672941	
		Application Route Table	Default 👻			Application Used for ro when the d	n Route Table a: buting Request: lownstream Pe	
		Peer Route Table	Default 🔻			Peer Route Used for ro Peer Node	e Table associa outing Request: does not have	
		Routing Option Set	Default 🔻			Routing Op Used when Peer Node	otion Set assoc n processing tra e does not have	
		Pendng Answer Timer	Default 🔻			Pending Ar Used wher Peer Node	nswer Timer as n processing tra e does not have	
		 Select Application Click Ok. 	Id for Rx Inter	face "16777236) - 3GPP Rx"	Ok Apply Can	cel	
5	SOAM VIP: Add Application Ids for any other required Interfaces for Policy DRA	Repeat Step 6 for all flows. For example, 1	Repeat Step 6 for all other Application Ids that are expected to be involved in the Diameter call- flows. For example, 16777266 (for 3GPP Gxx) etc.					
6	SOAM VIP: Verify that all Application Ids have been configured	Navigate to Main M Application	enu -> D Ids	iameter -	> Configu	ration ->		
	successfully.	You should see a scr	een containin	g all the configu	red Application	n Ids.		
		Main Menu: Diameter ->	> Configuration	-> Application Id	S			
		Filter 🔻					I NU AUG 07 16:4:	
		Application Id	Name	Application Route Table	Peer Route Table	Routing Option Set	Pending Answer Timer	
		16777238	3GPP KX 3GPP GX	Default	Default	Default	Default	
		4294967295	Relay	Default	Default	Default	Default	
7	SOAM VIP: Navigate to CEX Parameters Screen	Navigate to Main M Parameters	lenu -> D)iameter -	> Configu	ration ->	CEX	
8	SOAM VIP: Add CEX	Click on Insert i	n the lower le	ft corner.				
	Parameter for Gx Interface	You will see a screen	You will see a screen similar to:					
		Main Menu: Diameter	-> Configuration -> Cl	EX Parameters -> [Insert]				
----	---	--	--	--	--	--	--	--
		Field	Value	Description				
		Application Id	16777238 - 3GPP Gx 💌 *	Application to is used to identify a specific Diamete Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard / 16777216 - 4294967294 for Vendor specific Applic:				
		Application Id Type	Authentication Accounting	Type of Application Id.				
		Vendor Specific Application Id	V	If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Appplication Id AVP. [Default = Unchecked, Range = n/a]				
		Vendor Id	10415	A vendor Id value for this Vendor Specific Application Vendor Id will be placed in Vendor Id AVP. [Default = n/a; Range = 1 - 4294967295]				
				Ok Apply Cancel				
		 Select Application Id Gx I Check the Vendor Specif Enter the Vendor Id "104" Click Ok. 	nterface "16777238" ïc Application Id button 15"					
9	SOAM VIP: Add CEX	Click on Insert in the lo	ower left corner.					
	Parameter for Rx Interface	You will see a screen simila	ır to:					
		Main Menu: Diameter	-> Configuration -> CE	X Parameters -> [Insert]				
		Field	Value	Description				
		Field Application Id	Value 16777236 - 3GPP Rx 💌 *	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applica				
		Field Application Id Application Id Type	Value 16777236 - 3GPP Rx • • • Authentication • Accounting	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applica Type of Application Id.				
		Field Application Id Application Id Type Vendor Specific Application Id	Value 16777236 - 3GPP Rx • Authentication · Accounting · / · /	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Application Type of Application Id. If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Application Id AVP. [Default = Unchecked, Range = n/a]				
		Field Application Id Application Id Type Vendor Specific Application Id Vendor Id	Value 16777236 - 3GPP Rx * • Authentication • Accounting · 10415 · 10415 · · ·	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applica Type of Application Id. If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Application Id AVP. [Default = Unchecked, Range = n/a] A vendor Id value for this Vendor Specific Application Vendor Id will be placed in Vendor Id AVP. [Default = n/a; Range = 1 - 4294967295]				
		Field Application Id Application Id Type Vendor Specific Application Id Vendor Id	Value 16777236 - 3GPP Rx Authentication Accounting I0415	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applicat Type of Application Id. If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Application Id AVP. [Default = Unchecked, Range = n/a] A vendor Id value for this Vendor Specific Application Vendor Id will be placed in Vendor Id AVP. [Default = n/a; Range = 1 - 4294967295] [Ok] [Apply] [Cancel]				
		Field Application Id Application Id Type Vendor Specific Application Id Vendor Id 1. Select Application Id Rx I 2. Check the Vendor Specif 3. Enter the Vendor Id "104" 4. Click Ok .	Value Value 16777236 - 3GPP Rx • • Authentication • Authentication • Accounting I 10415 10415 nterface "16777236" ic Application Id button 15"	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applicat Type of Application Id. If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Application Id AVP. [Default = Unchecked, Range = n/a] A vendor Id value for this Vendor Specific Application Vendor Id will be placed in Vendor Id AVP. [Default = n/a; Range = 1 - 4294967295] Ok Apply Cancel				
10	SOAM VIP: Add CEX	Field Application Id Application Id Type Vendor Specific Application Id Vendor Id 1. Select Application Id Rx I 2. Check the Vendor Specif 3. Enter the Vendor Id "104" 4. Click Ok. Repeat Step 9 for all other of	Value 16777236 - 3GPP Rx Authentication Accounting 10415 nterface "16777236" ic Application Id button 15" configured Application Ids. I	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applicat Type of Application Id. If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Application Id AVP. [Default = Unchecked, Range = n/a] A vendor Id value for this Vendor Specific Application Vendor Id will be placed in Vendor Id AVP. [Default = n/a; Range = 1 - 4294967295] Ok Apply Cancel				
.0	SOAM VIP: Add CEX Parameters for any other required Interfaces	Field Application Id Application Id Type Vendor Specific Application Id Vendor Id 1. Select Application Id Rx I 2. Check the Vendor Specif 3. Enter the Vendor Id "104" 4. Click Ok. Repeat Step 9 for all other of	Value 16777236 - 3GPP Rx * Authentication Accounting 10415 Interface "16777236" ic Application Id button 15" configured Application Ids.	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applicat Type of Application Id. If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Application Id AVP. [Default = Unchecked, Range = n/a] A vendor Id value for this Vendor Specific Application Vendor Id will be placed in Vendor Id AVP. [Default = n/a; Range = 1 - 4294967295] Ok Apply Cancel				
10	SOAM VIP: Add CEX Parameters for any other required Interfaces	Field Application Id Application Id Type Vendor Specific Application Id Vendor Id 1. Select Application Id Rx I 2. Check the Vendor Specif 3. Enter the Vendor Id "104" 4. Click Ok. Repeat Step 9 for all other of	Value 16777236 - 3GPP Rx • • Authentication • Authentication • Accounting Interface "16777236" ic Application Id button 15" configured Application Ids. I	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applicat Type of Application Id. If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Application Id AVP. [Default = Unchecked, Range = n/a] A vendor Id value for this Vendor Specific Application Vendor Id will be placed in Vendor Id AVP. [Default = Unchecked, Range = 1 - 4294967295] Ok Apply Cancel				
.0	SOAM VIP: Add CEX Parameters for any other required Interfaces SOAM VIP: Verify that all CEX Parameters have been configured	Field Application Id Application Id Type Vendor Specific Application Id Vendor Id 1. Select Application Id Rx I 2. Check the Vendor Specif 3. Enter the Vendor Id "104" 4. Click Ok. Repeat Step 9 for all other of Navigate to Main Menu Parameters	Value Value 16777236-3GPP Rx • • Authentication • Authentication • Accounting Interface "16777236" ic Application Id button 15" configured Application Ids. If -> Diameter -> C	Description Application Id is used to identify a specific Diameter Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Standard A 16777216 - 4294967294 for Vendor specific Applicat Type of Application Id. If checked, Vendor Id and Application Id AVP will be grouped in Vendor specific Application Id AVP. [Default = Unchecked, Range = n/a] A vendor Id value for this Vendor Specific Application Vendor Id will be placed in Vendor Id AVP. [Default = Unchecked, Range = 1 - 4294967295] Øk Apply Cancel				

		Main Menu: Diameter ->	Configuration -> CEX Parameters	5	
		Filter -			
			Application Id	Application Id Type	Vendor Id
			16777236 - 3GPP Rx	Authentication	10415
			16777238 - 3GPP Gx	Authentication	10415
			4294967295 - Relay	Authentication	
10	004443				
12	SOAM VIP: Navigate to CEX Configuration Sets screen	Navigate to Main Menu Configuration Se	-> Diameter -> Confi ts -> CEX Configurati	guration · .on Sets	->
13	SOAM VIP: Configure the CEX Configuration	Click on Insert in the I	ower left corner. ar to:		
	Connections with the PCEF nodes.	Main Menu: Diameter -> Co	nfiguration -> Configuration Sets ->	CEX Configurat	ion Sets -> [Insert]
		Field	Value		
		CEX Configuration Set Name	Gx *		
			Available CEX Parameters	•	
			4294967295-"Relay"-Authentication- 16777236-"3GPP Rx"-Authentication-10415	*	
			Add v Remove ^	Ŧ	
			Selected CEX Parameters Application Id-"Name"-Type-Vendorld		
		CEX Parameters	16777238-"3GPP Gx"-Authentication-10415	A 	
			Add v Remove ^		
				A 	
		Supported Vendor Ids	Available Supported Vendor Ids		
			Ok Apply	Cancel	
		 Enter the CEX Configura Select the 3GPP Gx App Click Add just below the Select the Vendor Id "10- Click Add just below that Click Add just below that 	tion Set Name "Gx" lication Id "16777238" from Availab e list 415" from Available Supported Ven tt list	le Application Ic	ls
14					
14	SUAM VIP: Configure the CEX Configuration	Click on Insert in the l	ower left corner.		

	Set to be used for	You will see a screen simila	r to:					
	Connections with the AF	Main Menu: Diameter -> Configuration -> Configuration Sets -> CEX Configuration Sets -> [Insert]						
		Field	Value					
		CEX Configuration Set Name	By *					
			Available CEX Parameters * Application Id-"Name"-Type-Vendor Id					
			4294967295-"Relay"-Authentication- 16777238-"3GPP Gx"-Authentication-10415					
			•					
			Add v Remove Selected CEX Parameters					
			Application Id-"Name"-Type-Vendorld 16777226 "2GPR Py" Authonization 10/15					
		CEX Parameters						
			Add v Remove ^					
			Application Id-"Name"-Type-Vendorld					
			×					
			Available Supported Vendor Ids					
		Supported Vendor Ids	Add v Remove ^					
			Selected Supported Vendor Ids					
			Ok Apply Cancel					
		 Enter the CEX Configurat Select the 3GPP Rx Appl Click Add just below the Select the Vendor Id "104 Click Add just below that Click Add just below that 	ion Set Name "Rx" ication Id "16777236" from Available Application Ids list 15" from Available Supported Vendor Ids t list					
15	SOAM VIP: Configure	Click on Insert in the lo	ower left corner.					
	the CEX Configuration Set to be used for Connections with the PCRF nodes.	You will see a screen simila	r to:					

		Main Menu: Diameter -> Co	nfiguration -> Configuration Sets -> CEX Configuration Sets -> [Insert]			
		Field	Value			
		CEX Configuration Set Name	GxAndRx *			
		CEX Parameters	Available CEX Parameters Application Id-"Name"-Type-Vendor Id 4294967295-"Relay"-Authentication- Add v Remove ^ Selected CEX Parameters Application Id-"Name"-Type-VendorId 16777238-"3GPP Gx"-Authentication-10415 16777238-"3GPP Gx"-Authentication-10415			
		Supported Vendor kis	Available Supported Vendor Ids Add v Remove Selected Supported Vendor Ids 10415			
		 Enter the CEX Configura Select the 3GPP Gx App Available Application Ids Click Add just below the Select the Vendor Id "10 Click Add just below the Click Ok. 	Ok Apply Cancel ation Set Name "GxAndRx" plication Id "16777238" and 3GPP Rx Application Id "16777236" from e list b415" from Available Supported Vendor Ids at list			
16	SOAM VIP: Configure the CEX Configuration Set for any other combination of	Repeat step 15 for any oth exchange with some other	er combination of Application Ids that need to be shared in a CEX node, for example, BBERF etc.			
	Application Ids.					
17	SOAM VIP: Verify that	Navigate to Main Menu	-> Diameter -> Configuration ->			
	all the required CEX Configuration Sets have been configured successfully.	Configuration Se You should see a screen c	ets -> CEX Configuration Sets			

		Main Menu: Di	ameter -> Configuration -> Con	figuratio	n Sets -> CEX (Configuration Sets		
		Filter 💌						
			CEX Configuration Set Name	CEX Paran	neters	Supported Vendor Ids		
			Default ~	- 1 App Id	1 1967295-Relay	~		
			Gx	E 1 App Id	l	10415		
			~ GxAndRx	1677 2 App k	7238-3GPP Gx	~ 10415		
			~	1677	7236-3GPP Rx	~		
			Rx	E 1 App Id	1236-3GPP GX	10415		
			~	1677	7236-3GPP Rx	~		
18	SOAM VIP: Navigate	Navigate to M	ain Menu -> Diame	eter	-> Confi	guration -> Local		
	to Local nodes screen	Nodes						
19	SOAM VIP: Configure	Click on Ins	sert in the lower left corn	er.				
	the first Local Node (P- DRA)	You will see	a screen similar to:					
	,	Main Men	u: Diameter -> Config	uratio	n -> Local	Nodes -> [Insert]		
						Thu Fet		
		Adding a	new node					
		Field	Value		Description			
		Less Nede			Unique name o	f the Local Node.		
		Name	PDRA	*	alphanumeric a must not start w	ange = A 32-character string, valid cha ind underscore. Must contain at least o /ith a digit.]		
					Realm of this Lo	ocal Node. Realm is a case-insensitiv		
					contain letters,	digits, dashes ('-') and underscore ('_')		
		Realm	tekelec.com	*	digit. Undersco	res may be used only as the first chara		
					must be at mos 255 characters	t 63 characters long and a Realm mus long.		
					[Default = n/a; R	ange = A valid Realm.]		
					Fully Qualified E insensitive strin	Domain Name of this Local Node. FQD Ig consisting of a list of labels separate		
					where a label m underscore ('_')	nay contain letters, digits, dashes ('-') a A label must start with a letter, digit or		
		FQDN	pdra.tekelec.com	*	and must end w	vith a letter or digit. Underscores may b		
					and a FQDN mi	ust be at most 255 characters long.		
		SOTE			[Default = n/a; R	ange = A valid FQDN.]		
		Enabled			connections.	ates that this Ebbar Node listens for 5		
		SCTP Listen Port	3868		SCTP Listen Po [Default = 3868;	ort number of this Local Node. ; Range = 1024 - 65535]		
		TCP Enabled			If checked, indic connections.	cates that this Local Node listens for To		
		TCP Listen Port	3868		TCP Listen Port [Default = 3868;	t number of this Local Node. Range = 1024 - 65535]		
		Connection Configuration Set	Default 💌 *		Connection Cor [Default = n/a; R	nfiguration Set of this Local Node. lange = n/a]		

		CEX Configuration Set	GxAndRx •	CEX Configuration Set of this Local Node. [Default = n/a; Range = n/a]			
		IP Addresses	10.240.71.118 ▼ × * 10.240.71.121(TSA) ▼ × - Select - ▼ ×	The IP address and TSA list of this Local Node. [Default = n/a; Range = 1 - 8 entries]			
		1. Enter the f replaced by a 2. Click Ok . NOTE: The drop dow Servers. If no	Ok Apply Cancel er the field values as shown above (the value given above are examples only and may be ed by actual values) k k Ok. . : . rop down list of IP address should contain the XSI addresses configured on DSR MP rs. If not found then Installation may be incomplete/incorrect, please contact ORACLE				
20	SOAM VIP: Configure other Local Nodes, if required.	Repeat Step	19 and configure more Local Node:	s if required.			
21	SOAM VIP: Navigate to Peer Nodes screen	Navigate to M Nodes	ain Menu -> Diameter	-> Configuration -> Peer			
22	SOAM VIP: Configure the first PCEF node	Click on Ins You will see	sert in the lower left corner. a screen similar to:				

Adding a new Peer noo	le	
Field	Value	Description
Peer Node Name	PCEF1 *	Unique name of the Peer Node. [Default = n/a; Range = A 32-character string. Va
Realm	oracle.com *	Realm of this Peer Node. Realm is a case-insensi underscore (). A label must start with a letter, di be at most 63 characters long and a Realm must b [Default – n/a; Range – A valid Realm.]
FQDN	poef1.oracle.com *	Fully Qualified Domain Name of this Peer Node. F digits, dashes () and underscore (). A label m character. A label must be at most 63 characters i [Default = n/a; Range = A vail 6 FQDN.]
SCTP Enabled	V	If checked, indicates that this Peer Node listens fo
SCTP Listen Port	3868	SCTP Listen Port number for this Peer Node.
TCP Finabled		[Default = 3000, Range = 1024 - 00030] If checked, indicates that this Peer Node listens for
		TCP Listen Port number for this Peer Node.
TCP Listen Port	3868	[Default = 3868; Range = 1024 - 65535]
ID Addresses	001 10.240.147.22	The IP address list of this Peer Node. [Default = n/a; Range = 1 - 128 entries]
	Add	
Alternate implicit Route	-Select- 🚽 X	Route List to use for routing messages to this Pee
Replace Dest Realm		If checked, indicates that the Destination-Realm A [Default = Unchecked: Rance = n/a]
Replace Dest Host		If checked, indicates that the Destination-Host AVF [Default – Unchecked; Range – n/a]
Topology Hiding Status	Disabled 👻	If Enabled, indicates that the Topology Hiding will [Default = Disabled; Range = Disabled, Enabled]
Minimum Connection Capacity	1 •	The minimum number of available connections to to Otherwise, if the number of available connections a Connection Capacity, the peer is 'Degraded'. Similarly, if no connections are available to the peer IDefault = 1: Range = 1 - 64 connections1
Maximum Alternate Routing Attempts	4 *	The maximum number of times that a Request car [Default = 4; Range = 1 - 4 times]
Alternate Routing on Connection Failure	Same Peer Different Peer	Whether or not to perform alternate routing on alte failure occurs [Default – Different Peer]
Alternate Routing on Answer Timeout	Same Peer Different Peer Same Connection	Whether or not to perform alternate routing on the when a Answer Timeout occurs [Default – Different Peer]
Alternate Routing on Answer Result Code	Same Peer Otherent Peer	 Whether or not to perform alternate routing on al Answer Result Code occurs. For an Answer response received from a DAS P >> System Options → Message Copy Options → [Default = Different Peer]
Message Priority Setting	None Read From Request Message User Configured	Message Priority Setting supports the following o None - Set Message Priority based on the Messa Default Message Priority Configuration Set will b Read From Request Message - Read Message I above User Configured - Apply User Configured Messa [Default – None]
Message Priority Configuration Set	- Select - 💗	The Message Priority Configuration Set used for The Message Priority Configuration Set defines
Application Route Table	Not Selected 🔶	Application Route Table of this Peer Node. If value is "Not Selected", the downstream Applic
Peer Route Table	Not Selected 👻	Peer Route Table of this Peer Node. If value is "Not Selected", the downstream Applic
Ingress Routing Option Set	Not Selected 👻	Routing Option Set of this Ingress Peer Node. If value is "Not Selected", the downstream Applic
Egress Pending Answer Timer	Not Selected 🚽	Pending Answer Timer of this egress Peer Note If value is "Not Selected", the downstream Apolic
Peer Node Group Name		Peer Node Group Name this Peer Node assigne
		-

		 For Peer Nodes that are PCRFs, the "Replace Dest Host" and "Replace Dest Realm" check boxes MUST be checked. "Topology Hiding Status" field is not applicable for PCA and should remain disabled. The "Application Route Table" may apply for Peer Nodes that are Policy Clients. The "Peer Route Table" field may be populated to route to Shared State PCRFs. For mode details on the fields and routing configuration please consult the Diameter User's Guide ^[7] Click Ok. 				
23	SOAM VIP: Configure other Peer Nodes	Repeat Step 22 to configu	re other peer nodes (PC	EFs, AFs, BBERFs, PCRFs etc.) as required.		
24	SOAM VIP: Navigate to Connections screen	Navigate to Main Menu Connections	-> Diameter -	> Configuration ->		
25	SOAM VIP: Configure the connection with PCEF Node	Click on Insert in the You will see a screen simil	lower left corner. ar to:			
		Field	Value	Description		
		Connection Name	PCRF1_Connection1 *	A name that uniquely identifies the Connection. [Default = n/a; Range = A 32-character string. Valid characters are alphanumeric		
		AAA Protocol	Diameter 🔻	The AAA protocol for this Connection, which defines the Connection as Diameter [Default = N/A; Range = Diameter or RADIUS]		
		Transport Protocol	SCTP TCP TLSTCP DTLS/SCTP UDP	The Transport Protocol used by this Connection. The protocol should be supported by both Local Node and Peer Node. Note: IPSEC should not be enabled if Connection is configured with TLS/TCP or significant performance impact.		
		Connection Mode	Initiator Only	Initiator Only indicates that Local Node will only initiate the connection to the Pee Responder Only indicates that Local Node will only respond to the connection in Initiator & Responder indicates that Local Node will initiate connection in additio RADIUS Server indicates that the Local Node sends RADIUS requests to a Peer (Default = Initiator & Responder, Range = n/a)		
		Local Node	PCA ×	The Local Node of this Connection.		
		Local Initiate Port		The Local Initiator Port of this Connection. [Default = n/a; Range = 1024 - 49151]		
		Primary Local IP Address	10.240.71.108 (PDRAB3SiteA) 🔻 *	The IP Address to be used as the Primary Local Node address for this Connecti		
		Secondary Local IP Address	- Select - 💌	The IP Address to be used as the Secondary Local Node address for this Conne This address is only used for SCTP multi-homing. This address must be differe		
		IPFE Initiator DAMP	- Select - 🔻	The DA-MP that will be used to initiate connections using the IPFE TSA address.		
		Peer Node	PCRF1 × *	The Peer Node of this Connection		
		Peer Node Identification	None © IP Address CTransport FDDN OPeer Diameter Identity FQDN	Specifies how Node will derive the peer node's IP address(es) when initiating a connection from the peer. None - Use option None for this connection when responding to a connection fro IP Address - Use the remote IP address(es) configured for this Connection when the peer. Transport FQDN - Use the DNS resolved Transport FQDN address configured for responding to a connection from the peer.		
				address(es) when responding to a connection from the peer.		

		Primary Peer IP Address	10.240.90.192 × X	The IP Address to be used as the Primary Peer Node address for this Connection.		
		Secondary Peer IP Address	- Select -	The IP Address to be used as the Secondary Peer Node address for this Connection.		
		UDP Port	- Select - 💌	This address is our set on SCFF indexing, this address indexis with the SFR expects to For RADIUS Service connections, this is the UDP port on which the DSR expects to receive incoming R destination Peer Node which will receive the RADIUS request sent by the DSR. Default = n/s Range = configured I out or Parket Node IUP port numbers.		
		Transport FQDN		Fully Qualified Dypain Name for this connection. FQDN is a case-insensitive string consisting of a lis () A label must start with a letter, digit or underscore and must end with a letter or digit. Underscore must be at most 255 characters fond.		
				[Default = n/a; Range = A valid FQDN]		
		Connection Configuration Set	Default 🗸	The configuration set of this Connection. CEX Configuration Set of this Connection		
		CEX Configuration Set	GxAndRx 👻	[Default = n/a; Range = n/a]		
		Capacity Configuration Set	Default 🔹 *	The Capacity Configuration Set used for this Connection. The Capacity Configuration Set defines reserved and maximum ingress message processing rates a [Default = Default, Range = A 32-character string, Valid characters are alphanumeric and underscore.		
		Transport Congestion Abatement Timeout	5 *	Defines the time period (in seconds) spent by the connection in abating each congestion level during [Default = 5; Range = 3 - 60 secs]		
				Defines which Request messages can be forwarded on this connection after receiving a DIAMETER_		
				'Disabled' - The Connection is not considered to be BUSY after receiving a DIAMETER_TOO_BUSY re		
		Remote Busy Usage	Disabled *	Enabled - The Connection is considered to be BUSY after receiving a DIAMETER_TOO_BUSY respon Busy Abatement Timeout expires.		
			_	[Default = Disabled; Range = Disabled, Enabled] Defines the time period (in seconds) that a Connection will be considered RLISY from the last time a f		
		Remote Busy Abatement Timeout	5	[Default = 5; Range = 3 - 60 secs]		
				Message Priority Setting supports the following choices		
			None	None - Set Message Priority based on Peer Node Message Priority Setting		
		Message Priority Setting	ORead From Request Message OUser Configured	Read From Request Message - Read Message Priority from Ingress Request. This option shall only b		
				User Configured - Apply User Configured Message Priority Configuration Set		
				[Default = None] The Message Priority Configuration Set used for this connection		
		Message Priority Configuration Set	- Select - 🔻	The Message Priority Configuration Set defines the priority of the Request Message		
		Ecress Message Throttling Configuration Set	- Select - 🔻	The Earless Message Throffling Configuration Set used for this connection		
		Shared Secret Configuration Set	- Select - X	The Shared Secret Configuration Set used for this Connection		
		Message Authenticator Configuration Set	- Select -	The Messare Authenticator Configuration Set used for this Connection		
		Ingress Status-Server Configuration Set	- Select -	The Increase Status Server Configuration Set used for this Connection		
		Superson Connection Unsupilable Alarm	Bilder	If checked, connection unavailable alarm will not be raised.		
		Suppress Connection Unavailable Alarm		[Default = unchecked; Range = n/a].		
		Suppress Connection Attempts		In checked, the connection attempts to standby Peer Node will be suppressed once Peer Node's Oper [Default = unchecked; Range = n/a].		
		Test Mode		If checked, indicates that connection is in test mode. [Default = unchecked; Range = n/a].		
		 4. Enter the field value be replaced by act Note: Please refer to 5. Click Ok. NOTE: Make sure the IPFE cor 	es as shown above (ual values). the Diameter User's nfiguration matches th	the value given above are examples only and may Guide ^[7] for details on fields in this screen. ne protocol which is selected in this step.		
26	SOAM VIP: Configure all other connections with Peer nodes	Repeat Step 25 to confi	gure all other require	d DIAMETER connections.		
27	SOAM VIP: Configure Route Groups	PCRF Pooling allows th such groups of PCRFs points to a Route List th	e user to set up routi (called PCRF Pools). at points to prioritized	ng to PCRFs in groups. APNs can be mapped to Each PCRF Pool can be mapped to a PRT that d Route Groups.		
		Primary and Alternate Route Groups can be set up within each PCRF Pool by creating separate Route Groups and assigning appropriate priority when configuring the Route List.				
		Please refer to the Dian	neter User's Guide [7]	for more information on Diameter Routing.		
28	SOAM VIP: Create a primary Route Group for the first PCRF Pool	Navigate to Main Mer Groups	nu -> Diamete	er -> Configuration -> Route		
		Click on Insert in t	he lower left corner.			
		You will see a screen si	milar to:			

	Main Menu: Diameter -> Configuration -> Route Groups -> [Insert]							
	Adding a new	v route group						
	- Field	Value		De				
	Route Group Name	PcrfRouteGroup	•	A [E cł M a				
	Туре	 Peer Route Group Connection Route Group 		A (F th				
	Peer Node,	Peer Node	Connection	P [C Provisioned C Capacity				
	Connection and Capacity	01 pcrf ▼ Add	•	1 X P W TI N R N [[
	 Enter the Route Select the Peer If more PCRFs Enter the provis Click Ok. 	e Group name. r Node name (PCRF name). need to be added, click on "Add sioned capacity as required.	Ok Apply Cance	9]				
SOAM VIP: Configure alternate Route Group(s) for the same PCRF Pool.	OPTIONAL	Group(s) are planned, repeat st	ep 28 for all such Route Grou	ips.				
SOAM VIP: Configure Route List for the first PCRF Pool.	Navigate to Main Lists	1 Menu -> Diameter -	-> Configuration -	> Route				
	Click on Inser	t in the lower left corner.						
	You will see a scr	een similar to:						

	Field	Value
	Route List Name	Pool1_RL1 *
	Minimum Route Group Availability Weight	•
	Route Across Route Groups	● Enabled ◎ Disabled
	Route Group, Priority , Traffic Throttle Group and Maximum Loss Percent Threshold	Route Group RG1 * Priority 1 Site Name Traffic Throttle Group Maximum Loss O1 * * X Add * X Route Group RG2 * X Priority 2 * X Add Traffic Throttle Group Maximum Loss Percent Threshold 01 * * X Add * X Add Site Name Traffic Throttle Group Maximum Loss Percent Threshold 01 * * X Add Site Name Traffic Throttle Group Maximum Loss Percent Threshold 01 * * X Add
	 Enter the Route List name Set the Minimum Route G Select the Route Group(s) priorities. Set any other parameters Click Ok. 	roup Availability Weight as needed. configured in the previous two steps and set their desired desired (for e.g. Maximum Loss Percent Threshold etc.)
SOAM VIP: Configure the Peer Routing Rules for the first PCRF Pool.	Configure the PRT such that PCA. Navigate to Main Menu Route Table	DSR forwards messages based on the PCRF Pool selected by -> Diameter -> Configuration -> Peer
	Click on Insert in the lo	wer left corner.
	You will see a screen similar	to:
	Adding a new Peer Route	Table
	Field Value Peer Route Table Name	Description Unique name of the Peer Route Table. [Default = n/a; Range = A 32-character string. Valid charac
	1. Enter the Peer Route Tabl 2. Click Ok.	e name.
2 SOAM VIP:	Click on Insert in the lo	wer left corner.
Configure Routing Rules for the first PCRF Pool	You will see a screen similar	to:

Field Value Rule Name Pool1_Rule1 Peer Route Table Pool1_PRT *				Description Unique name of the Rule.
Peer Route Table Pool1_PRT •				[Default = n/a: Pange = A 22 c
Peer Route Table	Pool1 PRT			a digit.]
				Peer Route Table associated Priority of this Rule.
Priority 1 *				Low value means higher prior [Default = n/a; Range = 1 - 100
				Conditions associated with th Each condition has three part: In order for a Diameter messa it must match the criteria of ea Application-Id: [Default = n/a; Range = 0-429-
Parameter Operator	Value		*	Command Code:
Destination-Host Always True	•		AND	[Derault = n/a; Range = 0-167
Conditions Application-Id Always True	▼ - Select -		AND	Realm is a case-insensitive s where a label may contain left
Command-Code Always True	- Select -		AND	A label must start with a letter, Underscores may be used on
Origin-Realm Always True	-		AND	A label must be at most 63 ch [Default = n/a; Range = Sub st
Origin-Host Always True	•			Destination-Host and Origin- FQDN is a case-insensitive sl where a label may contain lett A label must start with a letter, Underscores may be used on A label must be at most 63 ch [Default = n/a; Range = Sub sl
Action © Route to Peer Send Answer Action Abandon With No Answer				Action associated with this Ru Route to Peer will route mess Send Answer will abandon m Abandon With No Answer will
Route List RL1 -			R	oute List associated with this Ru oute List is required if Action is 'F
Message Priority No Change 💌			Th	ne priority of the message to be s essage only when the 'Action' fie
Message Copy Configuration Set - Select - 💌			Mi Ri [D	essage Copy Configuration Set (ule for copy to the DAS. refault = n/a]
Answer Result-Code Value	~		Va Ar [D	alue to be placed in the Result-Cr nswer Result-Code Value is requ vefault = n/a; Range = 1000 - 599
Vendor Id			Ve Ve [D	endor Id Value. endor Id will be placed in Vendor lefault = n/a; Range = 1 - 429496
Answer Error Message		-	St [D	ring to be placed in the Error-Me refault = null string; Range = 0 to
 Enter the Rule name. Set the Priority of the Rule as needed (preferation of the Rule as needed	erably 1). neters. You ma s for example (ay base the PC Origin-based r	CRF outi	Pool routing on ng.
33 SOAM VIP: Configure If more, PCRF Pools are planned in through 32 for other PCRF Pools' Routing Pools.	the Diamet	ter network	, 1	epeat steps 28
34 SOAM VIP: Configure OPTIONAL				
Routing for in-session Diameter messages Diameter messages (typically in-session mess	where Destinates ages).	ation Host is p	rese	ent in the
CAUTION In-session messages or session creation mes destined for a particular Destination Host (PCI such PCRFs share state information. Doing so may result in call failures or split-bindings.	sages that folk RF) can be rou for PCRFs th	ow a final subs ited to alternate at do not share	crib e P(e sta	er binding, CRFs only when ate information
35 SOAM VIP: Configure OPTIONAL				
If Diameter messages need to be routed in be needed.	tween DSR sit	es (nodes), se	t up	the routing as
This is likely in 3-site redundancy deployments primary and secondary connections. In such o three sites.	s because mar eployments ro	ny PCEFs likely uting can be s	y or et u	nly support p between the

36	SOAM VIP: Configure Routing for Gx RAR messages	OPTIONAL Configure the Routing Rules to route a Gx RAR message generated at one site that is destined for a PCEF connected to another site. This is likely in 3-site redundancy deployments because many PCEFs likely only support primary and secondary connections. In such deployments routing can be set up between the three sites. TIP: Destination-Host based routing can be set up to route the Gx RAR messages to the appropriate site's DSR.			
37	SOAM VIP: Navigate to the Application Routing Rules screen	Navigate to Main Menu -> Di Application Routing R You will see a screen similar to: Main Menu: Diameter -> (iameter -> Conf ules Configuration -> /	Application Route	Tables
			Application Route Table	Number of Rules	
			Name		
		Insert Delete View / Edit Rules 1. Select the Default Application Ro 2. Click on View / Edit Rules	s ute Table Name to which button.	↔ n rules are to be added.	
38	SOAM VIP: Configure the ART for Gx Interface messages	Click on Insert in the lower left You will see a screen similar to:	corner.		

	Inserting Rule	for Applicat	tion Route Table:	Default		
	Field	Value				Dea
	Colo Marco					Un
	Rule Name	GXRule				sta
	Application Route Table	Default 🚽 🔸				Ap
	Priority	5 *				Pri
						[De
						Co Ea
						in c It n
		Darameter	Operator	Value		API [Di
		Destination-Realm	Always True		AND	Co
		Destination-Host	Always True		AND	[De
	Constitute	Application-Id	Equals -	16777238 - 3GPP Gx	AND	Re
	Conditions	Command-Code	Always True	- Select -	AND	AL
		Origin-Realm	Always True		AND	AL
		Orlgin-Host	Always True		-	LD6
			venays nee			FQ
						AL
						AL
		Route to Applica	tion			Act
	Action	Forward To Egr	ess Routing			Ro
		Send Answer				Sei
		Abandon With N	o Answer			
	Answer Result-Code Value	O -Select -		•		Val An:
						[De
	Vendor Id					Vei Vei
						[De Str
	Answer Error Message					[De
	Application Name	PCA 👻				Ар
	Gx-Prime					it ti
					Ok Ap	ply
	1 Enton the field and		above (the value site			_
	replaced by actual v	alues as snown values).	above (the value give	an above are examples only an	iu may b	e Ne
	2. Click Ok.					
Configure	Click on Insert	in the lower le	ft corner.			_
or Rx Interface	You will see a scree	en similar to:				

Inserting	Rule for Applicati	ion Route Table: [)efault	
Field	Value			C.
Rule Name	RxRule	•		Ľ
Application Route	Table Default 🚽			,
Priority	5 *			
	Parameter O	Operator	Value	
	Destination-Realm	Always True 🚽		AND I
	Destination-Host	Always True 🗸		AND
Continent	Application-Id	Equals -	16777236 - 3GPP Rx	AND
Contractes	Command-Code	Always True	- Select -	AND
	Origin-Realm	Always True 🗸		AND
	Origin-Host	Always True 🖕		
Action	Route to Application Forward To Egree Send Answer Abandon With No.	on ss Routing Answer		
Answer Result-Co	de Value) I
Vendor Id				
Answer Error Mes	sage			4 [
Application Name	PCA 👻			,
Gx-Prime				1
			Ok Apply Cancel]
 Enter the fit replaced by ac Click Ok. 	eld values as shown a ctual values).	above (the value given	above are examples only and	may be
SOAM VIP: Configure the ART for all otherRepeat Step 3 Diameter RouInterfaces	38 for any other Applic ting Layer.	cation Id that needs to	be routed to the PCA Applicati	ion by

4.3.2 Diameter Configuration for Online Charging DRA

Detailed steps are given in the procedure below.

Procedure 14: Diameter configuration for Online Charging DRA

NOTE: EXECUTE THIS PROCEDURE FOR ONLINE CHARGING DRA FUNCTION

SKIP THIS PROCEDURE IF POLICY DRA FUNCTION ONLY

S	This procedure configures the Diameter stack.						
Т	Check off ($\sqrt{1}$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
Ε	SHOULD THIS PROCEDURE FAIL CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC						
Р	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR <u>ORACLE TAC</u> .						
#							
1	establish GUI Session	stablish a GUI session on the SOAM by using the XMI VIP address. Login as user "guiadmin".					
2	SOAM VIP: Navigate	Navigate to Main Menu -> Diameter -> Configuration ->					
	to Application Id Configuration Screen	Application Ids					
3	SOAM VIP: Add	Click on Insert	in the lower left corner.				
	Interface	You will see a scree	n similar to:				
		Main Manue Dia	motor > Configuration > Applies	tion Ida > [Tusout]			
		Main Menu: Dia	meter -> Configuration -> Applica	ation las -> [Insert]			
		Field	Value	Description			
		Name	Diameter Credit Control *	Application Id Name			
		Application Id Value	4 - Diameter Credit Control	Application Id is used to ide [Default = n/a; Range = 1 - 16777216 - 4294967294 fc Relay]			
		Application Route Table	Default 💌	Application Route Table as Used for routing Requests when the downstream Pee Table.			
		Peer Route Table	Default 🔻	Peer Route Table associate Used for routing Requests Peer Node does not have a			
		Routing Option Set	Default 👻	Routing Option Set associa Used when processing trai downstream Peer Node does not have a			
		Pendng Answer Timer	Default 🔻	Pending Answer Timer ass Used when processing trai Peer Node does not have a			
			Ok	Apply Cancel			
		 Select Application Id for Diameter Credit Control "4". Click Ok. 					
4	SOAM VIP: Navigate to CEX Parameters Screen	Navigate to Main Menu -> Diameter -> Configuration -> CEX Parameters					
5	SOAM VIP: Add CEX	Click on Insert	in the lower left corner.				
	Parameter for GyRo Interface	You will see a scree	n similar to:				

		Main Menu: Diamete	r -> Configuration -> CE	X Parameters -> [Insert]
		Field	Value	Description
		Application Id	4 - Diameter Credit Control 💌	Application Id is used to identify a specific D Application Id AVP. [Default = n/a; Range = 1 - 16777215 for Sta 16777216 - 4294967294 for Vendor specific
		Application Id Type	 Authentication Accounting 	Type of Application Id.
		Vendor Specific Application Id		If checked, Vendor Id and Application Id AVP grouped in Vendor specific Appplication Id A [Default = Unchecked, Range = n/a]
		Vendor Id		A vendor Id value for this Vendor Specific Ap Vendor Id will be placed in Vendor Id AVP. [Default = n/a; Range = 1 - 4294967295]
		 Select Application Id "4 - 2. Click Ok. 	– Diameter Credit Control".	Ok Apply Cancel
6	SOAM VIP: Navigate	Navigate to Main Menu	-> Diameter -> Cor	figuration ->
	to CEX Configuration Sets screen	Configuration Se	ts -> CEX Configur	ation Sets
7	SOAM VIP: Configure	Click on Insert in the	lower left corner.	
	the CEX Configuration set to be used for Connections with the CTF and OCS nodes.	You will see a screen simil	ar to:	

	Main Menu: Diameter -> Co	onfiguration -> Configuration Sets -> CEX Configuration Sets -> [Insert]
	Field	Value
	CEX Configuration Set Name	GyRo *
		Available CEX Parameters * Application Id **Name*-Type-Vendor Id
		4294967295-"Relay"-Authentication-
		Add v Remove ^
		Application Id-"Name"-Type-Vendorld
	CEX Parameters	4-"Diameter Credit Control"-Authentication-
		Add v Remove A
		Application Id-"Name"-Type-Vendorid
		·
		Available Supported Vendor Ids
		* *
	Supported Vendor Ids	Add v Remove Selected Supported Vendor ids
		•
		Ok Apply Cancel
	1. Enter the CEX Configura 2. Select the Diameter Cre	ation Set Name "GyRo". dit Control Application Id from Available CEX Parameters box
	4 Click Add Just below the	e list.
SOAM VIP: Verifv that	Navigate to Main Menu	-> Diameter -> Configuration ->
all the required CEX Configuration Sets have	Configuration Se	ets -> CEX Configuration Sets
successfully.	You should see a screen c	containing all the configured CEX Configuration Sets.
	Main Menu: Diameter -> C	onfiguration -> Configuration Sets -> CEX Configuration Sets
	Filter -	
	CEX Configuratio Name	n Set CEX Parameters Supported Vendor Ids
	Default	□ 1 App Id ~
	GyRo	4294907295-Kelay ~ □ 1 App Id ~
	~	4-Diameter Credit Control ~
SOAM VIP: Navigate	Navigate to Main Menu	-> Diameter -> Configuration -> Local
to Local Nodes screen	Nodes	
SOAM VIP: Configure	Click on Insert in the	lower left corner.
the first Local Node		

(OC-DRA)	You will see a screen similar to: Main Menu: Diameter -> Configuration -> Local Nodes -> [Insert]				
				- Thu Feb	
	Adding a new node				
	Field	Value		Description	
	Local Node Name	рса	_,	Unique name of the Local Node. [Default = n/a; Range = A 32-character string. Valid ch: alphanumeric and underscore. Must contain at least o must not start with a digit.]	
	Realm	oracle.com		Realm of this Local Node. Realm is a case-insensitiv consisting of a list of labels separated by dots, where contain letters, digits, dashes (-') and underscore (_') start with a letter, digit or underscore and must end wil digit. Underscores may be used only as the first chara must be at most 63 characters long and a Realm mus 255 characters long.	
				[Default = n/a; Range = A valid Realm.]	
	FQDN	pca.oracle.com	_,	Fully dualine botham to the annual to can be both to both an insensitive string consisting of a list of labels separate where a label may contain letters, digits, dashes (-') a underscore (). A label must start with a letter, digit or and must end with a letter or digit. Underscores may b as the first character. A label must be at most 63 chara and a FQDN must be at most 255 characters long. [Default = n/a; Range = A valid FQDN.]	
	SCTP Enabled	V		If checked, indicates that this Local Node listens for St connections.	
	SCTP Listen Port	3868		SCTP Listen Port number of this Local Node. [Default = 3868; Range = 1024 - 65535]	
	TCP Enabled			If checked, indicates that this Local Node listens for TC connections.	
	TCP Listen Port	3868		TCP Listen Port number of this Local Node. [Default = 3868; Range = 1024 - 65535]	
	Connection Configuration Set	Default 💌 *		Connection Configuration Set of this Local Node. [Default = n/a; Range = n/a]	
	CEX Configuration Set	GyRo •	CEX C [Defau	onfiguration Set of this Local Node. it = n/a; Range = n/a)	
	IP Addresses	10.240.71.118 × • 10.240.71.121(TSA) × - Select - × ×	The IP [Defau	address and TSA list of this Local Node. It = n/a; Range = 1 - 8 entries]	
		Ok Apply Cancel			
	 Enter the replaced fields in this Click Ok. 	ne field values as shown abov by actual values). Please refe screen.	ve (the er to th	value given above are examples only and m the Diameter User's Guide ^[7] for details on the	
	NOTE: The drop do Servers. If n Customer Se	wn list of IP address should o ot found then Installation may ervice for further assistance.	ontain be ind	the XSI addresses configured on DSR MP complete/incorrect, please contact Oracle	
SOAM VIP: Configure other Local Nodes, if required.	Repeat Step	0 10 and configure more Loca	l Node	es if required.	

12	SOAM VIP: Navigate to Peer Nodes screen	Navigate to Main Menu -> Diameter -> Configuration -> Peer Nodes				
13	SOAM VIP: Configure the first CTF node	Click on Inser You will see a so Main Menu: Dia	ct in the lower left corner. creen similar to: meter -> Configuration -> Peer N	odes -> [Insert]		
				×		
		Adding a new F	Peer node			
		Field	Value	Description		
		Peer Node Name	CTF *	Default = n/a; Range = A 32-character string. Valid chara Must contain at least one alpha and must not start with a		
		Realm	oracle.com *	Realm of this Peer Node. Realm is a case-insensitive s dots, where a label may contain letters, digits, dashes (a letter, digit or underscore and must end with a letter or first character. A label must be at most 63 characters lor characters long. [Default = n/a, Range = A valid Realm.]		
		FQDN	ctf.oracle.com *	Fully Qualified Domain Name of this Peer Node. FQDN of labels separated by dots, where a label may contain I A label must start with a letter, digit or underscore and m may be used only as the first character. A label must be be at most 255 characters long. [Default = n/a; Range = A valid FQDN.]		
		SCTP Enabled		If checked, indicates that this Peer Node listens for SCT		
		SCTP Listen Port	3868	SCTP Listen Port number for this Peer Node. [Default = 3868; Range = 1024 - 65535]		
		TCP Enabled		If checked, indicates that this Peer Node listens for TCP		
		TCP Listen Port	3868	TCP Listen Port number for this Peer Node. [Default = 3868; Range = 1024 - 65535]		
		IP Addresses	01 10.250.53.53 × Add	[The IP address list of this Peer Node. [Default = n/a; Range = 1 - 128 entries]		
		Alternate Implicit Route	-Select- 🗸	Route List to use for routing messages to this Peer if all		
		Replace Dest Realm		If checked, indicates that the Destination-Realm AVP of with this Peer Node Realm. [Default = Unchecked; Range = n/a]		
		Replace Dest Host		If checked, indicates that the Destination-Host AVP of ou this Peer Node Fully Qualified Domain Name. [Default = Unchecked; Range = n/a]		
		Minimum Connection Capacity	1 *	The minimum number of connections that must be avai Otherwise, the Peer is 'Degraded' if connections less th 'Available' or 'Unavailable' if no connections are available [Default = 1; Range = 1 - 64 connections]		
		Maximum Alternate Routing Attempts	4 *	The maximum number of times that a Request can be r peer is selected. [Default = 4; Range = 1 - 4 times]		
		Alternate Routing on Connection Failure	⊖Same Peer ⊛Different Peer	Whether or not to perform alternate routing on alternate selecting the next eligible peer of a Peer Route Group w [Default = Different Peer]		
		Alternate Routing on Answer Timeout	⊂Same Peer ©Different Peer ©Same Connection	Whether or not to perform alternate routing on the same same peer before selecting the next eligible peer of a Pe occurs [Default = Different Peer]		
		Alternate Routing on Answer Result Code	⊖Same Peer © Different Peer	- Whether or not to perform alternate routing on alternate selecting the next eligible peer of a Peer Route Group w - For an Answer response received from a DAS Peer (Mr Answer Result Code is determined by the Diameter -> C Copy Options -> DAS Answer Result Code parameter. [Default = Different Peer]		
		Peer Route Table	Default 👻	The Peer Route Table to be associated with this Peer N		
		Routing Option Set	Default •	The Routing Option Set to be associated with this Peer I		
		Pending Answer Timer	Default	The Pending Answer Timer to be associated with this P		
				Ok Apply Cancel		
		6. Enter the field be replaced	eld values as shown above (the value I by actual values).	given above are examples only and may		
		Note:				
		- For Peer I	voues that are OCSS, the "Replace D	est nost and Replace Dest Realm		

		 check boxes MUST be checked. "Topology Hiding Status" field is not applicable for PCA and should remain disabled. The "Application Route Table" may apply for Peer Nodes that are CTFs. The "Peer Route Table" field may be populated to route to Shared State OCSs. For mode details on the fields and routing configuration please consult the Diameter User's Guide ^[7] Click Ok. 			
14	SOAM VIP: Configure other Peer Nodes	Repeat Step 13 to configure other CTF and OCS peer nodes as required.			
15	SOAM VIP: Navigate to Connections screen	Navigate to Main Menu -> Diameter -> Configuration -> Connections			
16	SOAM VIP: Configure the connection with CTF Node	Click on Insert You will see a screer Main Menu: Diame	in the lower left corner. n similar to: ter -> Configuration -> C	onnections -> [Insert]	
		Adding a new com	Neter	Burnet Kan	
		Connection Name	conn_ctf	A name that uniquely identifies the Connection.	
				 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit.] 	
		Transport Protocol	○ SCTP ● TCP	 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit.] The transport protocol used by this Connection. The protocol should be supported by both Local Node and Per 	
		Transport Protocol	SCTP TCP pca *	 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit.] The transport protocol used by this Connection. The protocol should be supported by both Local Node and Pee The Local Node of this Connection. 	
		Transport Protocol Local Node Connection Mode	SCTP TCP pca • Responder Only •	 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit.] The transport protocol used by this Connection. The protocol should be supported by both Local Node and Pee The Local Node of this Connection. Initiator Only indicates that Local Node will only initiate the con Responder Only indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will initiate cor Node. [Default = Initiator & Responder; Range = n/a] 	
		Transport Protocol Local Node Connection Mode Local Initiate Port	SCTP TCP pca • * Responder Only • *	 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit.] The transport protocol used by this Connection. The protocol should be supported by both Local Node and Per The Local Node of this Connection. Initiator Only indicates that Local Node will only initiate the con Responder Only indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will only respond to Initiator & Responder (Range = n/a) The Local Initiate Port of this Connection. [Default = Initiate Port of this Connection. 	
		Transport Protocol Local Node Connection Mode Local Initiate Port Primary Local IP Address	SCTP TCP pca • • Responder Only • • 10.240.71.121(TSA) • •	 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit.] The transport protocol used by this Connection. The protocol should be supported by both Local Node and Pee The Local Node of this Connection. Initiator Only indicates that Local Node will only initiate the con Responder Only indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will initiate cor Node. [Default = Initiator & Responder; Range = n/a] The Local Initiate Port of this Connection. [Default = n/a; Range = 1024-65535] The IP Address to be used as the Primary Local Node address 	
		Transport Protocol Local Node Connection Mode Local Initiate Port Primary Local IP Address Secondary Local IP Address	SCTP TCP pca • * Responder Only • * 10.240.71.121(TSA) • * - Select - •	 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit.] The transport protocol used by this Connection. The protocol should be supported by both Local Node and Per The Local Node of this Connection. Initiator Only indicates that Local Node will only initiate the con Responder Only indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will only respond to Initiator & Responder, Range = n/a] The Local Initiate Port of this Connection. [Default = Initiator & Responder; Range = n/a] The Local Initiate Port of this Connection. [Default = n/a; Range = 1024-65535] The IP Address to be used as the Primary Local Node address The IP Address to be used as the Secondary Local Node address 	
		Transport Protocol Local Node Connection Mode Local Initiate Port Primary Local IP Address Secondary Local IP Address Peer Node	SCTP TCP pca * Responder Only * 10.240.71.121(TSA) * Select - CTF *	 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit.] The transport protocol used by this Connection. The protocol should be supported by both Local Node and Pee The Local Node of this Connection. Initiator Only indicates that Local Node will only initiate the con Responder Only indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will initiate cor Node. [Default = Initiator & Responder; Range = n/a] The Local Initiate Port of this Connection. [Default = n/a; Range = 1024-65535] The IP Address to be used as the Primary Local Node address The IP Address to be used as the Secondary Local Node addrest This address is only used for SCTP multi-homing. This addrest The Peer Node of this Connection. 	
		Transport Protocol Local Node Connection Mode Local Initiate Port Primary Local IP Address Secondary Local IP Address Peer Node Peer Node Identification	SCTP	 [Default = n/a; Range = A 32-character string. Valid characters not start with a digit] The transport protocol used by this Connection. The protocol should be supported by both Local Node and Pee The Local Node of this Connection. Initiator Only indicates that Local Node will only initiate the con Responder Only indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will only respond to Initiator & Responder indicates that Local Node will initiate cor Node. [Default = Initiator & Responder; Range = n/a] The Local Initiate Port of this Connection. [Default = n/a; Range = 1024-65535] The IP Address to be used as the Primary Local Node address The IP Address to only used for SCTP multi-homing. This address The Peer Node of this Connection. Specifies whether the Peer Node is identified by IP address(es been selected and no Transport FQDN has been specified, the second second	

	Transport FQDN	ſ	Fully Qualified Domain Name for this connection. FQDN is a c label may contain letters, digits, dashes (-) and underscore (, letter or digit. Underscores may be used only as the first chara 255 characters long. [Default = n/a; Range = A valid FQDN]
	Connection Configuration Set	Default 💌 *	The configuration set of this Connection.
	CEX Configuration Set	GyRo 💌	CEX Configuration Set of this Connection. [Default = n/a; Range = n/a]
	Capacity Configuration Set	Default •	The Capacity Configuration Set used for this Connection. The Capacity Configuration Set defines reserved and maximum connection. [Default: Default, Range = A 32-character string. Valid charact must not start with a digit.]
			Defines which Request messages can be forwarded on this c connection's Peer.
			"Disabled" - The Connection is not considered to be BUSY after continue to be forwarded to (or rerouted to) this connection.
	Remote Busy Usage	Disabled 💌	'Enabled' - The Connection is considered to be BUSY after rec forwarded to (or rerouted to) this connection until the Remote E
			'Host Override' - The Connection is considered to be BUSY affe whose Destination-Host AVP value is the same as the connec Remote Busy Abatement Timeout expires.
			[Default = Disabled; Range = Disabled; Enabled, Host Overrid
	Remote Busy Abatement Timeout	p	Defines the time period (in seconds) that a Connection will be received. [Default = 3; Range = 3 - 60 secs]
	Test Mode	0	If checked, indicates that connection is in test mode. [Default = unchecked: Range = n/a]
	 Enter the held be replaced by Note: Please refe Click Ok. 	values as shown above (the v actual values). r to the Diameter User's Guid	value given above are examples only and may
	 Enter the field be replaced by Note: Please refe Click Ok. NOTE:	values as shown above (the v actual values). r to the Diameter User's Guic	value given above are examples only and may de ^[7] for details on fields in this screen
	 8. Enter the field be replaced by Note: Please refe 9. Click Ok. NOTE: Make sure the IPFE 	values as shown above (the v actual values). r to the Diameter User's Guid configuration matches the T	value given above are examples only and may de ^[7] for details on fields in this screen ransport Protocol which is selected in this step.
7 SOAM VIP: Configure all other connection with Peer nodes	 8. Enter the field be replaced by Note: Please refe 9. Click Ok. NOTE: Make sure the IPFE Repeat Step 16 to c 	values as shown above (the v actual values). r to the Diameter User's Guid configuration matches the T onfigure all other required co	value given above are examples only and may de ^[7] for details on fields in this screen ransport Protocol which is selected in this step.
 7 SOAM VIP: Configure all other connection with Peer nodes 8 SOAM VIP: Configure Route Groups 	 8. Enter the field y be replaced by Note: Please refe 9. Click Ok. NOTE: Make sure the IPFE Repeat Step 16 to c If Online Charging D populated in the CC based on Origin-Hos either case, primary	values as shown above (the v actual values). r to the Diameter User's Guid configuration matches the T onfigure all other required co DRA is configured to run in Si R-Initiate Diameter message st or route all new session cre and alternate routing groups	value given above are examples only and may de ^[7] for details on fields in this screen ransport Protocol which is selected in this step. nnections. ngle Pool Mode, Destination Host will not be . The user needs to configure Routing Rules eation messages to a single Pool of OCSs. In may be configured and prioritized.
 SOAM VIP: Configure all other connection with Peer nodes SOAM VIP: Configure Route Groups 	 8. Enter the field be replaced by Note: Please refe 9. Click Ok. NOTE: Make sure the IPFE Repeat Step 16 to c If Online Charging D populated in the CC based on Origin-Hos either case, primary If Online Charging D present in the Diame configured in this ca 	values as shown above (the v actual values). r to the Diameter User's Guid configuration matches the T onfigure all other required co DRA is configured to run in Si R-Initiate Diameter message st or route all new session cre and alternate routing groups DRA is configured to run in Me eter CCR-Initiate message. E ise.	value given above are examples only and may de ^[7] for details on fields in this screen ransport Protocol which is selected in this step. nnections. ngle Pool Mode, Destination Host will not be . The user needs to configure Routing Rules eation messages to a single Pool of OCSs. In may be configured and prioritized. ultiple Pool Mode, Destination Host will be Destination-Host based routing rules may be
 7 SOAM VIP: Configure all other connection with Peer nodes 8 SOAM VIP: Configure Route Groups 	 8. Enter the field of be replaced by Note: Please refe 9. Click Ok. NOTE: Make sure the IPFE Repeat Step 16 to c If Online Charging D populated in the CC based on Origin-Hos either case, primary If Online Charging D present in the Diame configured in this ca The Routing configured Selection. 	values as shown above (the v actual values). r to the Diameter User's Guid configuration matches the T onfigure all other required co DRA is configured to run in Si R-Initiate Diameter message st or route all new session cre and alternate routing groups DRA is configured to run in Mi eter CCR-Initiate message. D ise.	value given above are examples only and may de ^[7] for details on fields in this screen ransport Protocol which is selected in this step. nnections. ngle Pool Mode, Destination Host will not be . The user needs to configure Routing Rules eation messages to a single Pool of OCSs. In may be configured and prioritized. ultiple Pool Mode, Destination Host will be Destination-Host based routing rules may be example of Multiple Pool Mode OCS
 SOAM VIP: Configure all other connection with Peer nodes SOAM VIP: Configure Route Groups SOAM VIP: Configure the Primary Route Group for the first OCS Pool. 	 a. Enter the field by be replaced by Note: Please refe 9. Click Ok. NOTE: Make sure the IPFE Repeat Step 16 to c If Online Charging D populated in the CC based on Origin-Hos either case, primary If Online Charging D present in the Diame configured in this ca The Routing configured in this ca The Routing configured in the Configured in the Case of the Case	values as shown above (the values). r to the Diameter User's Guid configuration matches the T onfigure all other required co DRA is configured to run in Si R-Initiate Diameter message st or route all new session creater and alternate routing groups DRA is configured to run in Min eter CCR-Initiate message. E se. Irration shown below takes an Menu -> Diameter	value given above are examples only and may de ^[7] for details on fields in this screen ransport Protocol which is selected in this step. nnections. ngle Pool Mode, Destination Host will not be . The user needs to configure Routing Rules eation messages to a single Pool of OCSs. In may be configured and prioritized. ultiple Pool Mode, Destination Host will be Destination-Host based routing rules may be example of Multiple Pool Mode OCS -> Configuration -> Route
 7 SOAM VIP: Configure all other connection with Peer nodes 8 SOAM VIP: Configure Route Groups 9 SOAM VIP: Configure the Primary Route Group for the first OCS Pool. 	8. Enter the field by be replaced by Note: Please refe 9. Click Ok. NOTE: Make sure the IPFE Repeat Step 16 to c If Online Charging D populated in the CC based on Origin-Hos either case, primary If Online Charging D present in the Diame configured in this ca The Routing configu Selection. Navigate to Main I Groups Click on Insert	values as shown above (the values). r to the Diameter User's Guid configuration matches the T onfigure all other required co DRA is configured to run in Si R-Initiate Diameter message st or route all new session creater and alternate routing groups DRA is configured to run in Mileter CCR-Initiate message. Dise. arration shown below takes an Menu -> Diameter in the lower left corner.	value given above are examples only and may de ^[7] for details on fields in this screen ransport Protocol which is selected in this step. nnections. ngle Pool Mode, Destination Host will not be . The user needs to configure Routing Rules eation messages to a single Pool of OCSs. In may be configured and prioritized. ultiple Pool Mode, Destination Host will be Destination-Host based routing rules may be example of Multiple Pool Mode OCS -> Configuration -> Route
 7 SOAM VIP: Configure all other connection with Peer nodes 8 SOAM VIP: Configure Route Groups 9 SOAM VIP: Configure the Primary Route Group for the first OCS Pool. 	 8. Enter the field of be replaced by Note: Please refe 9. Click Ok. NOTE: Make sure the IPFE Repeat Step 16 to c If Online Charging D populated in the CC based on Origin-Hos either case, primary If Online Charging D present in the Diame configured in this ca The Routing configured in this ca The Routing configured in this ca Navigate to Main I Groups Click on Insert You will see a scree 	values as shown above (the values). r to the Diameter User's Guid configuration matches the T onfigure all other required co DRA is configured to run in Si R-Initiate Diameter message st or route all new session creater and alternate routing groups DRA is configured to run in Mileter CCR-Initiate message. Dise. arration shown below takes an Menu -> Diameter in the lower left corner. an similar to:	value given above are examples only and may de ^[7] for details on fields in this screen ransport Protocol which is selected in this step. nnections. ngle Pool Mode, Destination Host will not be . The user needs to configure Routing Rules eation messages to a single Pool of OCSs. In may be configured and prioritized. ultiple Pool Mode, Destination Host will be Destination-Host based routing rules may be a example of Multiple Pool Mode OCS -> Configuration -> Route

	Main Menu: Diameter -> Configuration ->	• Route Groups -> [Insert]
	Adding a new route group	
	Field Value	Description
	Route Group	A name that uniquely identifies the Route Group. [Default = n/a, Range = A 32-character string. Valid characters are alphani and underscore. Must contain at least one alpha and must not start with a digit]
	Type Peer Route Group Connection Route Group	A Route Group can be provision as a set of Peers (PRG) or Connections (that have the same priority within a Route List.
	Development	Peer Nodes associated with this Route Group. [Default = n/a; Range = 1 - 64 entries]
	Peer Node, Connection Capacity	Connections associated with this Route Group. [Default = n/a; Range = 1 - 64 entries]
	and Capacity Add	Provisioned Capacity of the Peer Node/Connection within this Route Grou Traffic is distributed to available Peer Nodes/Connections within a Route Group proportional to the Peer Node's/Connection's provisioned ca [Default = n/a; Range = 1 - 64000]
	Q	k Apply Cancel
	 Enter the Route Group name. Select the Peer Node name (OCS name). If more OCSs need to be added to this Route. Enter the provisioned capacity as 1. Click Ok. 	ute Group click on Add and repeat step 2.
SOAM VIP: Configure	OPTIONAL	
the Alternate Route Group(s) for the same OCS Pool.	If alternate Route Group(s) are planned, repe	at step 19 for all such Route Groups.
SOAM VIP: Configure	Navigate to Main Menu -> Diamete	r -> Configuration -> Route
the Route List for the first OCS Pool	Lists	
	Click on Insert in the lower left corner.	
	You will see a screen similar to:	

	Field	Value
	Route List Name	Pool1_RL1 *
	Minimum Route Group Availability Weight	•
	Route Across Route Groups	© Enabled O Disabled
		Route Group RG1 Priority 1 Site Name Traffic Throttle Group Maximum Loss Percent Threshold 01 Image: Complex State Image: Complex State Add Image: Complex State Image: Complex State
	Route Group, Priority , Traffic Throttle Group and	Route Group RG2 Priority 2 Site Name Traffic Throttle Group
	Maximum Loss Percent Threshold	01 V Add
		Route Group Priority
		Site Name Traffic Throttle Group Maximum Loss Percent Threshold 01 + + × Add + - ×
	 Enter the Route List name Set the Minimum Route G Select the Route Group(s) priorities. Set any other parameters Click Ok. 	e. roup Availability Weight as needed.) configured in the previous two steps and set their desired desired (for e.g. Maximum Loss Percent Threshold etc.)
22 SOAM VIP: Configure Routing Rules	Configure the Default PRT so by PCA.	uch that DSR forwards messages based on the OCS Pool selected
for the first OCS Pool	Navigate to Main Menu Route Table	-> Diameter -> Configuration -> Peer
	Select the Default Peer Rout You will see a screen similar	te Table and Click Edit

		Rule Name	Pool1_Rule1	*			Unique name of the Rule. [Default = n/a; Range = A 32-c a digit.]
		Peer Route Table	Pool1_PRT	*			Peer Route Table associated
		Priority	1 *				Priority of this Rule. Low value means higher prior [Default = n/a: Range = 1 - 10]
							Conditions associated with th Each condition has three part In order for a Diameter messa it must match the criteria of ea Application-Id: [Default = n/a; Range = 0-429
			Parameter	Operator	Value	*	Command Code:
			Destination-Realm	Always True 🔻		AND	[Default = n/a; Range = 0-167
			Destination-Host	Equals 🔻	ocs1.oracle.com	AND	Destination-Realm and Origin
		Conditions	Application-Id	Always True 🔹	- Select -	AND	where a label may contain let
			Command-Code	Always True 🔹	- Select -	AND	A label must start with a letter, Underscores may be used or
			Origin-Realm	Always True 🔹		AND	A label must be at most 63 ch [Default = n/a; Range = Sub si
			Origin-Host	Always True 🔹			Destination-Host and Origin-H
							FQDN is a case-insensitive s where a label may contain left A label must start with a letter, Underscores may be used on A label must be at most 63 ch [Default = n/a; Range = Sub st
		Action	 Route to Peer Send Answer Abandon With No 	Answer			Action associated with this Ru Route to Peer will route mess Send Answer will abandon m Abandon With No Answer will
		Route List	RL1 -			R	oute List associated with this Ru
		Message Priority	No Change 🔻			TI	he priority of the message to be s bessage only when the 'Action' fie
		Message Copy Configuration Set	- Select - 🔻			M R [D	essage Copy Configuration Set (ule for copy to the DAS. Default = n/a]
		Answer Result-Code Value	 Select - 		Y	Va Ar [D	alue to be placed in the Result-Co nswer Result-Code Value is requ Default = n/a; Range = 1000 - 599
		Vendor Id				Ve Ve [D	endor Id Value. endor Id will be placed in Vendor Default = n/a; Range = 1 - 429496
		Answer Error Message				St	tring to be placed in the Error-Me: Default = null string: Range = 0 to
		 Enter the Rule na Set the Priority of Select the Operal Destination-Host (Fi first OCS Pool. Select "Always Tu routing on some con Select the Route Click Ok. 	ame. tor as "Equal: QDN) that wi rue" for the re- ndition param List configure	needed (preferab s" for Destination- II be populated by emaining Conditio neters in special u ed in step 21.	ly 1). Host Condition Paramet RBAR or any other DSf n Parameters. You may se cases for example Or	er a R Ap bas igin	nd enter the oplication for the e the OCS Pool -based routing.
23	SOAM VIP: Configure Routing for other OCS Pools.	If more, OCS Pools OCS Pools' Routing	are planned	in the Diameter n	etwork, repeat steps 19	thro	ugh 22 for other
24	SOAM VIP: Configure	OPTIONAL					
	inter DSR Routing	If Diamatan manage				4	
		needed.	es need to be	e routed in betwee	אכע SITES (NODES), SE	et up	o the routing as
		This is likely in 3-sit and secondary conr	e redundancy nections. In s	y deployments be uch deployments	cause many CTFs likely routing can be set up be	only twe	y support primary en the three sites.
25	SOAM VIP: Configure PRT rules for all other OCSs	Repeat from step 24 ensure that whenev route to it if the OCS OCS.	3 for all other er PCA reque S is available	OCSs connected ests DSR to route , however, if not, i	to this DSR. This Routin to a particular OCS bas t will route the message	ng c ed c to a	onfiguration will on PRT, DSR will ny other available
26	SOAM VIP: Navigate to the Application	Navigate to Main Application	Menu -> Routing	Diameter - Rules	> Configuratio	n ·	->
	Routing Rules screen	You will see a scree	en similar to				
		. 54 mil 566 4 56160	on mar to.				

		Main Menu: Diameter -> Configuration -> Application Route Tables						
		Filter -			Mon #			
			Application Route Table Name	Number of Rules				
			Default	0				
		Insert Delete View / Edit Ru	les	>= 0				
		1. Select the Default Application R 2. Click on View/Edit Rule	coute Table Name to which	h rules are to be added.				
27	SOAM VIP: Configure	Click on Insert in the lower le	eft corner.					
	the ART for GyRo Interface messages	You will see a screen similar to:						

		Inserting Rule for	Application Route Table: Default
		Field	Value
		Rule Name	GyRoRule *
		Application Route Table	Default -
		Priority	1 •
		Conditions	Parameter Operator Value * Destination-Realm Always True AND Destination-Host Always True AND Application-Id Equals 4 - Diameter Credit Control AND Command-Code Always True - Select - AND Origin-Realm Always True - Select - AND Origin-Host Always True - Select - AND
		Action	 Route to Application Forward To Egress Routing Send Answer Abandon With No Answer
		Answer Result-Code Value	 ○ Select - ▼
		Vendor Id	
		Answer Error Message	
		Application Name	PCA 👻
		Gx-Prime	
		 Enter the field value replaced by actual value Click Ok. 	Ok Apply Cancel es as shown above (the value given above are examples only and may be lues).
28	SOAM VIP: Configure the ART for all other Interfaces	Repeat Step 26 for ar Diameter Routing Lay	iy other Application Id that needs to be routed to the PCA Application by /er.

4.4 PCA FUNCTION CONFIGURATION PROCEDURES

This section provides the detailed procedure steps of the PCA configuration execution.

4.4.1 Policy DRA Configuration

Detailed steps are given in the procedure below.

Procedure 15: Policy DRA configuration

S T E P #	This procedure configu configuration screens p PRE-REQUISITE: Pro Check off (√) each step as it i SHOULD THIS PROCEDURE Establish GUI Session	ures the Policy DRA function of PCA application. For details on the fields of various please refer to the Policy Charging User's Guide ^[4] . ocedure 13 must be executed before this procedure. t is completed. Boxes have been provided for this purpose under each step number. <u>SE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.</u> Establish a GUI session on the SOAM by using the XMI VIP address. Login as user "guiadmin".						
	on the SOAM VIP							
2	SOAM VIP: Navigate to PCRFs screen	Navigate to Main -> Policy D	Menu -> Pc RA -> PCRFs	olicy and	d Charging -> Configuration			
3	SOAM VIP: Configure the first PCRF node.	Click on Insert You will see a scre Main Menu: Polic Adding a new PC	Click on Insert in the lower left corner. You will see a screen similar to: Main Menu: Policy and Charging -> Configuration -> Policy DRA -> PCRFs -> [Insert] Mon Aug 18 14:14:49 20					
		Field	Value		Description			
		PCRF Peer Node Name	pcrf	*	A name that uniquely identifies the PCRF Peer Node to be included in the round-robin load distribution of new bindings to PCRFs. [Default = n/a; Range = List of configured Diameter Peer Nodes]			
		Comments			An optional comment to describe the PCRF node. [Default = n/a; Range = 0-64 characters]			
				Ok Apply	r Cancel			
		 Select the PCRF name from the drop down Click Ok. NOTE: this is a sample set of configuration data, the actual configuration may differ. 						
4	SOAM VIP: Configure all other PCRF nodes.	Repeat Step 3 to c	onfigure all the PC	RF nodes.				
5	SOAM VIP: Navigate to Binding Key Priority screen	Navigate to Main -> Policy D You will see a scree	Menu -> Po RA -> Bindi en similar to:	licy and ng Key H	d Charging -> Configuration Priority			

		Main Menu: Policy and Ch	narging -> Configuration	-> Policy DRA -> Binding Key Priority				
				Mon Aug 18 14:18:44 20:				
		Table Description: The Binding Key Priority table defines search priorities for binding keys that can be used to locate a subscriber bi Binding Dependent sessions of Gx-Prime and Rx diameter interfaces. The priority determines the order used to find a binding for su sessions. The alternative binding keys must be assigned below in order to be used to locate subscriber bindings. If any alternative l not assigned a priority, they will not be used to locate subscriber bindings, even if the key is present in the Diameter message.						
		Priority Bind	ling Key Type					
		1 IPv	v6 Address 🔻 *					
		2 IPv	v4 Address 🔻					
		3 - S	elect-					
		4 - S	elect					
			Apply Cancel					
6	SOAM VIP: Configure the Binding Key Priorities	 Select the Binding Keys p Click Apply. 	riority as appropriate					
7	NOAM VIP: Navigate	OPTIONAL						
	to Topology Hiding screen	If Topology Hiding feature is	required execute Steps 7 t	hrough 11. Else skip to Step 12				
		Navigate to Main Menu	-> Policy and C	harging -> Configuration				
		-> Policy DRA ->	Network-Wide Opt	lions				
		Topology Hiding Options		Enable or disable topology hiding using the check box. Once enabled or disabled				
		Enable Topology Hiding		(Default = Disabled (unchecked); Range = Enabled (checked), Disabled (unchecked)]				
		Topology Hiding Scope	- Select -	This sets the scope of messages where topology hiding will be applied. Select 'All Message's to perform topology hiding for all messages destined to policy clients. Select 'All Foreign Realms' to perform topology hiding for messages destined to the policy clients whose realms are different from the realm of the PCRF to be bound. Select "Specific Clients' to perform topology hiding for the policy clients that are configured in one of SOAM CUI Main Merry Policy and and Realms - Specific Clients' to perform topology hiding if either condition (All Foreion Realms' or Specific Clients' to met.				
				[Default = n/a; Range = All Messages, All Foreign Realms, Specific Clients, All Foreign Realms + Specific Clients] FQDN: This FQDN is used as a default value in the Origin-Host AVP for answer messages routed from a PCRF to a policy client, or in the Destination-Host AVP				
				for request messages routed from a PCRF to a policy client, only if Topology Hiding Virtual Name FDDN is not configured at a SOAM relevant to the policy client and PCRF. Beaim: This Realm is used as a default value in the Orioin-Realm AVP for answer				
		Default Topology Hiding Virtual Name	FQDN Realm	messages routed from a PCRF to a policy client, or in the Destination-Realm A/P for request messages routed from a PCRF to a policy client, only if Topology Hiding Virtual Name Realm is not configured at a SOAM relevant to the policy client and PCRF.				
				[Default = n/a; Range = FQDN and Realm: a case-insensitive string consisting of a list of labels separated by dots, where a label may contain letters, digits, dashes (*) and underscore (). A label must start with a letter (dig tor underscore and must end with a letter or digit. Underscores may be used only as				
		In the Topology Hiding Optio	ons section:					
		1. Check the Enable Topolog	gy Hiding checkbox.					
		2. Select the Topology Hidin	g Scope from the dropdow	n.				
		3. Enter the default Virtual Fe are default values that can b	QDN and Realm to be used e overridden by site config	d in Topology Hidden messages. These uration.				
		4. Click Ok.						
		NOTE: this is a sample set o	of configuration data, the ac	tual configuration may differ.				
8	SOAM VIP: Configure	OPTIONAL						
	PCRF identity needs to be hidden	Navigate to Main Menu -> Policy DRA ->	-> Policy and C Policy Clients	harging -> Configuration				
		Click on Insert in the lo	wer left corner.					
		You will see a screen similar	to:					

		Adding a new Policy Cli	ent					
		Field Value	ent	Description				
		Policy Client Peer Node Name	•	A name that uniquely identifies the Policy Client Peer Node from which PCRF names should be hidden. While configured in SOAM GUI, the Policy Client Peer Node Name is written to NOAM and is available globally within the NOAM topology. [Default - n3, Range = List of configured Diameter Peer Nodes]				
		Topology Hiding Enabled		A read-only check box with default 'checked' to indicate the Topology Hiding for the policy client peer node being enabled. It is the only option currently supported. [Default = Enabled (checked); Range = n/a (Read-Only)]				
		Comments		An optional comment to describe the Policy Client Peer Node. [Default n/a; Range: 0-64 characters]				
				Ok Apply Cancel				
		1. Select the (policy client) node name from the list for which the PCRF identity needs t hidden						
		2. Click Ok.						
		NOTE: this is a	sample set of configu	ration data, the actual configuration may differ.				
9	SOAM VIP: Configure	OPTIONAL						
	which PCRF identity needs to be hidden	Repeat Step 8 fo	or all (policy client) no	des for which the PCRF identity needs to be hidden.				
10	SOAM VIP: Navigate	OPTIONAL						
	to PCA Site Options	Navigate to Ma	in Menu -> Po	licy and Charging -> Configuration				
		-> Policy	DRA -> Site	Options				
11	SOAM VIP: Configure	OPTIONAL						
	Virtual EODN and	Field Val	ue	Description				
	Realm.			FQDN: This value is used to populate the Diameter Origin-Host A/P for answer messages routed from a PCRF to a policy client, or the Diameter Destination-totA/P for request messages routed from a PCRF to a policy client. If the value is configured here when Topology Hiding is enabled, the FQDN value of the Default Topology Hiding Virtual Name configured in NOAM GUI, Main Menu: Policy and Charging -> Configuration -> Policy DRA -> Network-Wide Options will be used.				
		Topology Hiding Virtual Name Re	NDN	Realm: This value is used to populate the Origin-Realm WP for answer messages routed from a PCRF to a policy client, or the Diameter Destination-Realm APP for request messages routed from a PCRF to a policy client. If no value is configured here when Topology Hiding is enabled, the Realm value of the Default Topology Hiding Vitual Name configured in NOAM GUI, Main Menu: Policy and Charging ~ Configuration ~ Policy DRA ~ Network-Wide Options will be used.				
				[Default = n/a; Range = FOON and Realm a case-insensitive stimp consisting of a list of labels separated by dots, where a label may contain letters, digits, dashes (') and underscore () A label runs start with a list fact digit or underscores and must end with a letter or digit. Underscores may be used only as the first character. A label must be at most 63 characters long and a FODN must be at most 256 characters long] The name of the Peer Route Table to be used for routing new binding requests				
		Peer Route Table Name	ot Selected 👻	This entry is no longer used once PCRP Pooling is Enabled. [Default = Not Selected; Range = List of configured Diameter Peer Route Tables.]				
				Apply Cancel				
		1. Enter the virtu the Virtual FQDI	al/pseudo host FQDI N and Realm values o	N and Realm to be used for this site. These values override configured in Step 7.				
		2. Click Apply	7.					
		NOTE: this is a	sample set of configu	ration data, the actual configuration may differ.				
12	NOAM VIP: Configure	Navigate to Ma	in Menu -> SE	BR -> Configuration -> SBR				
	SBR Databases	Databases						
		Click on Inse	rt in the lower left o	corner.				
		You will see a se	creen similar to:					
		Adding a new S	BR Database					
		Field	Value	Description				
		Database Name	BindingSbrDb	A name that uniquely identifies the SBR Database. Default = n/a; Range = A 32-character string. Valid characters are alphanumeric and unders- contain at least one alpha and must not start with a digit.]				
		Database Type	Binding •	The type of SBR Database. Select Binding for a Policy Binding database, or 'Session' for a Policy DRA or Online Chargir Session database. [Default = n/a; Range = 'Binding' or 'Session']				
		Resource Domain	BindingRd_2SG •	The Policy and Charging Session or Policy Binding Resource Domain that contains the SBR configured for use by this database. Select the Resource Domain that will host this database. [Default = nis; Range = Configured Resource Domains matching the selected Database Typ already been assigned to a Database]				
		Number of Server Groups	2	The number of SBR Server Groups required to host this database. Enter or change the number of Server Groups necessary to support the desired capacity of the the selected Resource Domain already contains Server Groups, the number of Server Group Resource Domain is displayed in the field, but can be overridden as desired. [Default = hvia, Range = 1 to 8]				
		Place Association	BindingRegion -	The Policy Binding Region or Policy and Charging Mated Sites Place Association that contain will use this database. Select the Place Association that is to use this SBR Database. [Default = n/a; Range = Configured Place Associations matching the selected Database Type already been assigned to a Database]				
				Ok Apply Cancel				

	1. Enter Database Name					
	2. Select Database Type.					
	3. Select R of server	esource Domain. This will r groups currently present	populate Number of Server Groups field with the number in the selected Resource Domain.			
	4. If needed have to be	d, update Number of Serve be updated to match this c	er Groups value. Note that Resource Domain will then sount.			
	5. Select P	lace Association.				
	6. Click Ok					
	NOTE: This is a sample set of configuration data, the actual configuration may differ.					
	For Policy DR pair/mated	A Function one Session T -triplet and one Binding T	Type SBR Database per Standalone-site/mated- Type SBR Database for the network must be configured.			
13 NOAM VIP: Configure PCRF Pools	Navigate to M	Main Menu -> Pol y DRA -> PCRF Po	icy and Charging -> Configuration pols			
	Click on Ins	ert in the lower left cor	ner.			
	You will see a	a screen similar to:				
	Main Menu:	Policy and Charging -> C	onfiguration -> Policy DRA -> PCRF Pools -> [Insert] Mon Aug 18 19:12:4			
	Adding a new PCRE Pool					
	Adding a ne	W FCKI FOOI				
	Field	Value	Description			
	Field PCRF Pool Name	Value	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests fror specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. [Default = n/a; Range = A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.]			
	Field PCRF Pool Name Sub-Pool	Value PcrfPool01	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests for specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. [Default = n/a; Range = A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be route to a different set of the PCRFs from those in the PCRF Pool selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. [Default = No (Unchecked); Range = Yes (Checked for Sub-Pool), No (Unchecke for Pool)]			
	Field PCRF Pool Name Sub-Pool Comments	Value PcrfPool01	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests for specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. [Default = na'; Range = A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be routh to a different set of the PCRFs from those in the PCRF Pool selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. [Default = No (Unchecked); Range = Yes (Checked for Sub-Pool.), No (Unchecke for Pool)] An optional comment to describe the PCRF Pool or Sub-Pool. [Default = na'; Range = 0-64 characters]			
	Field PCRF Pool Name Sub-Pool Comments	Value PcrfPool01	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests fror specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. [Default = n/a; Range = A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be route to a different set of the PCRF from those in the PCRF Pool selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. [Default = No (Unchecked); Range = Yes (Checked for Sub-Pool), No (Unchecke for Pool)] # # An optional comment to describe the PCRF Pool or Sub-Pool. [Default = n/a; Range = 0-64 characters] Ok Apply			
	Field PCRF Pool Name Sub-Pool Comments 1. Enter PCRI	Value PcrPool01 F Pool name	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests for specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. [Default = n/a; Range = A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be routh to a different set of the PCRFs from those in the PCRF Pool selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. [Default = No (Unchecked); Range = Yes (Checked for Sub-Pool. [Default = n/a; Range = 0-64 characters] Ok Apply			
	Field PCRF Pool Name Sub-Pool Comments 1. Enter PCRI 2. Click Ok	Value PcrfPool01 F Pool name	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests fror specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. [Default = n/a; Range = A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be routh to a different set of the PCRF Fool Selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. [Default = No (Unchecked); Range = Yes (Checked for Sub-Pool), No (Unchecke for Pool)] An optional comment to describe the PCRF Pool or Sub-Pool. [Default = n/a; Range = 0-64 characters] Ok Apply			
	Field PCRF Pool Name Sub-Pool Comments 1. Enter PCRI 2. Click Ok NOTE: this is	Value PorfPool01 F Pool name a sample set of configurat	Description A PCRF Pool names a set of PCRFs bat should be used for policy requests for specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. Default = na', Range = A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be route to a different set of the PCRFs from those in the PCRF Pool selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. Default = No (Unchecked); Range = Yes (Checked for Sub-Pool. Default = na', Range = 0-64 characters] Ok Apply Cancel			
14 NOAM VIP: Configure	Field Field PCRF Pool Name Sub-Pool Comments 1. Enter PCRI 2. Click Ok NOTE: this is OPTIONAL	Value PcrfPool01 Pool name a sample set of configurat	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests fror specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. Default = n/a; Range = A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be route to a different set of the PCRF Fool or Bole Selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. Default = No (Unchecked); Range = Yes (Checked for Sub-Pool), No (Unchecke for Pool)] An optional comment to describe the PCRF Pool or Sub-Pool. Default = n/a; Range = 0-64 characters] Ok Apply Cancel			
14 NOAM VIP: Configure PCRF Sub Pool	Field Field PCRF Pool Name Sub-Pool Comments 1. Enter PCRI 2. Click Ok NOTE: this is OPTIONAL Navigate to M	Value PcrfPool01 F Pool name a sample set of configurat fain Menu -> Pol	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests for specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. Default = n/a; Range = A 32-character string, Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be routh to a different set of the PCRFs from those in the PCRF Pool selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA-> PCRF Sub-Pool Selection Rules. Default = No (Unchecked); Range = Yes (Checked for Sub-Pool.) Default = No (Unchecked); Range = Yes (Checked for Sub-Pool.) Default = n/a; Range = 0-64 characters] Ok Apply Cancel			
14 NOAM VIP: Configure PCRF Sub Pool	Field Field PCRF Pool Name Sub-Pool Comments 1. Enter PCRI 2. Click Ok NOTE: this is OPTIONAL Navigate to M -> Polic	Value Value PcrfPool01 Image: Pool name a sample set of configurat Main Menu -> Pol y DRA -> PCRF Pool	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests for specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Polint Names. Default = n/a; Range - A 32-character string. Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit.] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be routh to a different set of the PCRF Fool selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. Default = No (Unchecked); Range = Yes (Checked for Sub-Pool), No (Unchecked for Pool)] An optional comment to describe the PCRF Pool or Sub-Pool. Default = n/a; Range = 0-64 characters] Ok Apply Cancel			
14 NOAM VIP: Configure PCRF Sub Pool	Field Field PCRF Pool Name Sub-Pool Comments 1. Enter PCRI 2. Click Ok NOTE: this is OPTIONAL Navigate to M -> Polic Click on Ins	Value Value PcrfPool01 P Pool name a sample set of configurat Value Value P	Description A name that uniquely identifies the PCRF Pool. A PCRF Pool names a set of PCRFs that should be used for policy requests for specified APN. The mapping from APN to PCRF Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> Access Point Names. Default = na; Range = A 32-character string, Valid characters are alphanumeric underscore. Must contain at least one alpha and must not start with a digit] Check this box if the PCRF Pool is to be used as a Sub-Pool. A Sub-Pool is used if policy requests from specified origin-hosts should be route to a different set of the PCRF storn those in the PCRF Pool selected by the APN Sub-Pool Selection Rules are configured in Policy and Charging -> Configuration Policy DRA -> PCRF Sub-Pool Selection Rules. Default = No (Unchecked); Range = Yes (Checked for Sub-Pool.) Default = na; Range = 0-64 characters] Ok An optional comment to describe the PCRF Pool or Sub-Pool. Default = na; Range = 0-64 characters] Ok Apply Cancel			

			5 5				Mon Aug 18 19:13:23			
	Adding a new PCRF Pool									
	- Field V	aluo		Des	rintion					
	PCRF Pool Name	aue PcrfSubPoo	01	A na A PO * Spe Cha [Def und	me that uniquely ide CRF Pool names a si cified APN. The mapy rging -> Configuratio ault = n/a; Range = A erscore. Must contair	ntifies the PCRF Poo et of PCRFs that sho ping from APN to PCI in -> Policy DRA -> Ac \ 32-character string. n at least one alpha a	ol. uld be used for policy requests from : RF Pool is configured in Policy and ccess Point Names. Valid characters are alphanumeric ar and must not start with a digit.)			
	Sub-Pool	7		Che A Su to a Sub Poli [Def for F	ck this box if the PCF Ib-Pool is used if pol different set of the PC -Pool Selection Rule cy DRA -> PCRF Sub ault = No (Unchecker 'ool)]	RF Pool is to be used icy requests from sp CRFs from those in th s are configured in P -Pool Selection Rule d); Range = Yes (Che	I as a Sub-Pool. ecified origin-hosts should be routed he PCRF Pool selected by the APN. Policy and Charging -> Configuration - is. ecked for Sub-Pool), No (Unchecked			
	Comments			.:i An c	ptional comment to o ault = n/a; Range = 0	describe the PCRF P I-64 characters]	Pool or Sub-Pool.			
				Ok	Apply Cancel		_			
1	. Enter PCRF	Sub Poo	ol name							
2	. Check the S	ub-Pool	box							
.3	. Click Ok									
N	IOTE: this is a	a sample	set of confia	uration dat	a, the actual of	configuration r	may differ.			
	ΡΤΙΟΝΔΙ		9		,		,			
PCRF Sub Pool		in M		01:0	and Char	aina 🔊	Configuration			
Selection Rule	·> Policv	IIN Me DRA	=nu -> P -> PCRF	Sub-Po	ols Sele	ection Ru	ules			
	Click on Insert in the lower left corner.									
		screen	imilar to:							
T N	du will see a s Main Menu: Poli	cy and Ch	You will see a screen similar to: Main Menu: Policy and Charging -> Configuration -> Policy DRA -> PCRF Sub-Pool Selection Rules -> [Inser							
	Mon Aug 18 11					> PCRF Sub-Po	ol Selection Rules -> [Inser			
			harging -> Con	figuration -	> Policy DRA -:	> PCRF Sub-Po	ol Selection Rules -> [Inser Mon Aug 18 19			
A	Adding a new P	CRF Sub	-Pool Selection	figuration - n Rule	> Policy DRA -:	> PCRF Sub-Po	Mon Aug 18 19			
A	Adding a new P	CRF Sub	-Pool Selection Value	figuration - n Rule	> Policy DRA -:	> PCRF Sub-Po	Non Aug 18 19 Mon Aug 18 19 Description			
A F	Adding a new P ield PCRF Sub-Pool Selectio	CRF Sub	-Pool Selection Value	figuration - n Rule ule01	> Policy DRA ->	> PCRF Sub-Po	Description Aname that uniquely identifies the PCRF Sub-Pool Selection Rule. [Default = n/a; Range = A 32-character strin; characters are alphanumeric and undersco Must contain at leastone alpha and must n with a digt			
μ F F	Adding a new P ield PCRF Sub-Pool Selectio Priority	CRF Sub	-Pool Selection Value SubPoolSelectionR	figuration - n Rule ule01	> Policy DRA -:	> PCRF Sub-Po	Description A name that uniquely identifies the PCRF Sub-Pool Selection Rule. [Default - nay: Range = A 32-character strin, characters are alphanumeric and undersco Must contain at least one alpha and must n with a digit Priority of this Rule. Low value means higher priority. [Default = 50; Range = 1 - 99]			
μ F F	Adding a new P ield PCRF Sub-Pool Selectio Priority PCRF Pool Name	CRF Sub	-Pool Selection Value SubPoolSelectionR 50 * PcrfPool01 • *	figuration - n Rule	> Policy DRA -:	> PCRF Sub-Po	Description A name that uniquely identifies the PCRF Sub-Pool Selection Rules (Default = n/a, Range = A 32-character strin, characters are alphanumeric and undersco Must contain at least one alpha and must n with a digit Priority of this Rule. Low value means higher priority. [Default = 50; Range = 1 - 99] The name of the PCRF Pool for which a Sut is being defined. [Default = n/a; Range = Configured PCRF P that have not been specified as PCRF Sub- Names]			
A F F	Adding a new P ield PCRF Sub-Pool Selectio Priority PCRF Pool Name	CRF Sub	-Pool Selection Value SubPoolSelectionR 50 • PcrfPool01 • •	r Rule	> Policy DRA -:	> PCRF Sub-Po	Description A name that uniquely identifies the PCRF Sub-Pool Selection Rules (Default = n/s, Range = A 32-character strin, characters are alphanumeric and undersco Must contain at least one alpha and must n with a digit Priority of this Rule. Low value means higher priority. [Default = n/s, Range = 1 - 99] The name of the PCRF Pool for which a Sut is being defined. [Default = n/a, Range = 2 configured PCRF P that have not been specified as PCRF Sub- Names] Condition associated with this Rule. Origin-Host FODN is a case-insensitive string consistin istor is alberg defined, sub- contain letters, digits, dashes (-) and unde (-) a label must start with a letter digit of			
A F F F	Adding a new P ield PCRF Sub-Pool Selectio Priority PCRF Pool Name Conditions	CRF Sub	Pool Selection Value SubPoolSelection Total PerfPool PerfPool Parameter Operato Origin-Host Starts	r Mith	Value value attservice01	> PCRF Sub-Po	Description Aname that uniquely identifies the PCRF Sub-Pool Selection Rules -> [Inser Description Aname that uniquely identifies the PCRF Sub-Pool Selection Rule. [Default = 7a, Range = A 32-character strin, characters are alphanumeric and undersco Must contain at least one alpha and must n with a digit] Priority of this Rule. Low value means higher priority. [Default = 50; Range = 1 - 99] The name of the PCRF Pool for which a Sul is being defined. [Default = 7a, Range = Configured PCRF P that have not been specified as PCRF Sub- Names] Condition associated with this Rule. Origin-Host FODN is a case-insensitive string consistin its of labels separated by dots, where a lab contain letters, digits, dashes (-) and unde (-), Alabel must start with a letter, ofgit Underscores may be used only as the first character. Alabel must be at most 63 chara ong and an PODN must be at most 255 characters long. [Default = n/a; Range = Substring or comples string of a vailer PON]			
A F F F F	Adding a new P ield PCRF Sub-Pool Selectio Priority PCRF Pool Name Conditions	CRF Sub	Pool Selection Value SubPoolSelection Total PerfPool PerfPool PerfSubPool PerfSubPool PerffSubPool PerffSubPo	r N Rule ule01 r With	Value value attservice01	> PCRF Sub-Po	Description Aname that uniquely identifies the PCRF Sub-Pool Selection Rules -> [Inser Description Aname that uniquely identifies the PCRF Sub-Pool Selection Rule. [Default = 7a, Range = A 32-character strin, characters are alphanumeric and undersco Must contain at least one alpha and must n with a digit Priority of this Rule. Low value means higher priority. [Default = 50; Range = 1 - 99] The name of the PCRF Pool for which a Sul is being defined. [Default = 7a, Range = Configured PCRF Po hat have not been specified as PCRF Sub- Names] Condition associated with this Rule. Origin-Host FODN is a case-insensitive string consistin list of labels separated by dots, where a lab contain letters, digits, dashes (-) and unde (-). A label must start with a letter, digit Underscores may be used only as the first character. A label must be at most 63 chara tong and an FODN must be at most 63 chara tong and an FODN must be at words 255 characters Iong. [Default = n/a; Range = Substring or comple string of a valid FODN] PCRF Sub-Pool that is to be used for Cx an session infiltion reguest messages match this Rule. [Default = n/a; Range = Choice of configure PCRF Pools]			
	Adding a new P Teld PCRF Sub-Pool Selectio Priority PCRF Pool Name Conditions	CRF Sub	Pool Selection Value SubPoolSelection Contemporate Origin-Host Starts PerfSubPool01	r N Rule ule01	Value value	> PCRF Sub-Po	Description An ame that uniquely identifies the PCRF Sub-Pool Selection Rules Description An ame that uniquely identifies the PCRF Sub-Pool Selection Rule. Default = na, Range = A 32-character strin characters are alphanumeric and undersce Must contain at least one alpha and must n with a digit Priority of this Rule. Low value means higher priority. Default = 50, Range = 1 - 99] The name of the PCRF Pool for which a Sut is being defined. Default = 50, Range = 1 - 99] The name of the PCRF Pool for which a Sut is being defined. Default = Ar, Range = Configured PCRF Doth as acae-insensitive string consistin list of labels separated by dots, where a lab contain letters, digits, dashes (-) and unde (_) A label must be at most 255 characters long. Default = rA, Range = Substring or comples tring of avaid FODN] PCRF Sub-Pool that is to be used for Gx an session initiation request messages match this Rule. Default = rA, Range = Choice of configure- PCRF Pools) This read-only field displays the date and the records the time and date of changes that n affect routing or foinding capable session in requests. This date and time can be compa gainst binding creation times when troubleshooting using Policy and Charaging Maintenance - Policy Dathase Cuern			
	Adding a new P ield PCRF Sub-Pool Selectio Priority PCRF Pool Name Conditions PCRF Sub-Pool Name Last Updated	CRF Sub	Pool Selection Value SubPoolSelection 50 PcrfPool01 Parameter Operato Origin-Host Starts PcrfSubPool01	r Rule	Value value attservice01	> PCRF Sub-Po	Description Aname that uniquely identifies the PC Sub-Pool Selection Rules (Default = n/x, Range = A 32-characte characters are alphanumeric and unu kust contain atleast one alpha and n with a digit Priority of this Rule. Low value means higher priority. (Default = n/x, Range = A 32-characte is being defined. (Default = n/x, Range = Configured Pt hat have not been specified as PCRF Names) Condition associated with this Rule. Origin-Host: FODN is a case-insensitive string cor ist of labels separated by dols, where Underscores may be used only as th character. Alabel must be at most 32 iong and an FODN must be at most 32 iong and an FOD			

		1. Enter the Rule name						
		2. Select PCRF Pool Name and PCRF Sub-Pool Name						
		3. Enter the Condition as shown						
		4. Click Ok.						
		NOTE: this is a sample set of configuration data, the actual configuration may differ.						
16	SOAM VIP: Navigate to PCRF Pool To PRT Mapping screen	Navigate to Main Menu -> Policy and Charging -> Configuration -> Policy DRA -> PCRF Pool To PRT Mapping						
		You will see a screen similar to:						
		Main Menu: Po PRT Mapping	olicy and Charg	jing -> Con	figuration -> Policy DRA -> Po	CRF Pool To		
		Filter -				Mon Aug 18 15:38:		
		Table Description: The each to be mapped to used for a given subse NOAMP in Policy and (e PCRF Pool To PRT M: a Peer Routing Table to criber binding attempt is Charging -> Configurati	apping table disp o be used when s determined bas on -> Policy DRA	olays the list of PCRF Pools or Sub-Pool configu a new binding is created for the PCRF Pool. The sed on Access point Name to PCRF Pool mapp > PCRF Sub-Pool Selection Rules.	ured at the NOAMP a e PCRF Pool or Sub- ings, or by rules cor		
			PCRF Pool	Name I	Peer Route Table Name			
			Default	[Default			
			PcrfPool01	1	Not Selected			
			PcrfSubPoo	101 101	Not Selected			
17	SOAM VIP: Configure	Select the row with	n 'Not Selected' u	Inder Peer R	oute Table Name and click 'Edit'			
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping ->	n 'Not Selected' u een similar to: cy and Charging > [Edit]	nder Peer R g -> Configu	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P	Pool To ę g 18 15:39:33 2(
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping ->	n 'Not Selected' u een similar to: cy and Charging › [Edit]	nder Peer R g - > Config i	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug	Pool To (g 18 15;39;33 2(
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name	n 'Not Selected' u een similar to: cy and Charging > [Edit] Value PcrfPool01	inder Peer R g -> Configu	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Description A name that uniquely identifies the PCRF Pool. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit.]	Pool To ; g 18 15:39:33 2(lid characters are east one alpha		
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name	n 'Not Selected' u een similar to: cy and Charging [Edit] Value PcrfPool01 PcrfPoolPRT •	ınder Peer R g -> Configu	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Mon Aug Description A name that uniquely identifies the PCRF Pol. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit.] The name of the Peer Route Table that is used to bindings for this PCRF Pol. [Default = Not Selected; Range = AII Peer Route * configured at this site.]	Pool To ; g 18 15:39:33 2(lid characters are east one alpha o route new Tables		
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name	n 'Not Selected' u een similar to: cy and Charging [Edit] Value PcrfPool01 PcrfPoolPRT •	ok App	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Description Aname that uniquely identifies the PCRF Pol. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit] The name of the Peer Route Table that is used to bindings for this PCRF Pol. [Default = Not Selected; Range = All Peer Route * configured at this site.] [y] Cancel	Pool To (g 18 15:39:33 20 lid characters are east one alpha o route new Tables		
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name	n 'Not Selected' u een similar to: cy and Charging > [Edit] Value PcrfPool01 PcrfPoolPRT •	onder Peer R g -> Configu (0k) Appl able Name fo	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Mon Aug Description A name that uniquely identifies the PCRF Pool. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit.] The name of the Peer Route Table that is used to bindings for this PCRF Pool. [Default = Not Selected; Range = AII Peer Route T configured at this site.] [y] Cancel porm the drop box.	Pool To g 18 15:39:33 2(iid characters are east one alpha o route new Tables		
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name 1. Select appropria 2. Click Ok.	n 'Not Selected' u een similar to: cy and Charging [Edit] Value PerfPool01 PerfPoolPRT •	ok App able Name for	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Mon Aug Description A name that uniquely identifies the PCRF Pol. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit] The name of the Peer Route Table that is used to bindings for this PCRF Pol. [Default = Not Selected; Range = All Peer Route ' configured at this site.] [y] Cancel Dorm the drop box.	Pool To (g 18 15:39:33 20 lid characters are east one alpha o route new Tables		
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name 1. Select appropria 2. Click Ok. NOTE: this is a sa	n 'Not Selected' u een similar to: cy and Charging > [Edit] Value PcrfPoolD1 PcrfPoolD1 PcrfPoolPRT • ate Peer Route Ta	Ok App able Name for guration data	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Mon Aug Description A name that uniquely identifies the PCRF Pool. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit] The name of the Peer Route Table that is used to bindings for this PCRF Pool. [Default = Not Selected; Range = All Peer Route T configured at this site.] [y] Cancel Dorm the drop box. In the actual configuration may differ	Pool To , g 18 15:39:33 2(lid characters are east one alpha o route new Tables		
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name 1. Select appropria 2. Click Ok. NOTE: this is a sa Repeat Step 17 for	n 'Not Selected' u een similar to: cy and Charging [Edit] Value PcrfPool01 PcrfPoolPRT • ate Peer Route Ta mple set of config r all other PCRF I	Ok App able Name for guration data	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Description Aname that uniquely identifies the PCRF Pol. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit] The name of the Peer Route Table that is used to bindings for this PCRF Pol. [Default = Not Selected; Range = All Peer Route ' configured at this site.] [y] Cancel form the drop box. a, the actual configuration may differ where the Peer Route Table Name	Pool To (g 18 15:39:33 20 lid characters are east one alpha o route new Tables		
17	SOAM VIP: Configure the PCRF Pool To PRT Mapping SOAM VIP: Configure other PCRF Pool To PRT Mapping	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name 1. Select appropria 2. Click Ok. NOTE: this is a sa Repeat Step 17 fo as 'Not Selected'.	n 'Not Selected' u een similar to: cy and Charging > [Edit] Value PcrfPool01 PcrfPoolPRT • ate Peer Route Ta mple set of config r all other PCRF I	Ok Appl able Name for guration data	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Description A name that uniquely identifies the PCRF Pol. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit.] The name of the Peer Route Table that is used to bindings for this PCRF Pol. [Default = Not Selected. Range = All Peer Route To configured at this site.] [v] Cancel porm the drop box. a, the actual configuration may differ where the Peer Route Table Name	Pool To g 18 15:39:33 20 Iid characters are east one alpha o route new Tables • is displayed		
17 18 19	SOAM VIP: Configure the PCRF Pool To PRT Mapping SOAM VIP: Configure other PCRF Pool To PRT Mapping SOAM VIP: Navigate	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name 1. Select appropria 2. Click Ok. NOTE: this is a sa Repeat Step 17 fo as 'Not Selected'.	n 'Not Selected' u een similar to: cy and Charging > [Edit] Value PcrfPool01 PcrfPoolPRT • ate Peer Route Ta mple set of config r all other PCRF I	Ok Appl able Name for guration data Pool Names	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Description Aname that uniquely identifies the PCRF Pool. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit] The name of the Peer Route Table that is used to bindings for this PCRF Pool. [Default = Not Selected; Range = All Peer Route T configured at this site.] [y] Cancel form the drop box. a, the actual configuration may differ where the Peer Route Table Name	Pool To g 18 15:39:33 2(lid characters are east one alpha o route new Tables is displayed		
17 18 19	SOAM VIP: Configure the PCRF Pool To PRT Mapping SOAM VIP: Configure other PCRF Pool To PRT Mapping SOAM VIP: Navigate to the Error Codes	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name 1. Select appropria 2. Click Ok. NOTE: this is a sa Repeat Step 17 fo as 'Not Selected'. OPTIONAL Navigate to Main	n 'Not Selected' u een similar to: cy and Charging [Edit] Value PcrfPool01 PcrfPool01 PcrfPoolPRT • ate Peer Route Ta mple set of config r all other PCRF I	Ok App able Name fo guration data Pool Names	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Description A name that uniquely identifies the PCRF Pol. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit.] The name of the Peer Route Table that is used to bindings for this PCRF Pol. [Default = Not Selected; Range = All Peer Route ' configured at this site.] [y] Cancel form the drop box. In the actual configuration may differ where the Peer Route Table Name and Charging -> Config	Pool To ; g 18 15:39:33 20 lid characters are east one alpha o route new Tables		
17 18 19	SOAM VIP: Configure the PCRF Pool To PRT Mapping SOAM VIP: Configure other PCRF Pool To PRT Mapping SOAM VIP: Navigate to the Error Codes screen	Select the row with You will see a scree Main Menu: Poli PRT Mapping -> Field PCRF Pool Name Peer Route Table Name 1. Select appropria 2. Click Ok. NOTE: this is a sa Repeat Step 17 fo as 'Not Selected'. OPTIONAL Navigate to Main -> Error Co	h 'Not Selected' u een similar to: cy and Charging [Edit] Value PcrfPool01 PcrfPoolPRT • ate Peer Route Ta mple set of config r all other PCRF I Menu -> E odes	Ok Appl able Name for guration data Pool Names	oute Table Name and click 'Edit' uration -> Policy DRA -> PCRF P Mon Aug Mon Aug Description A name that uniquely identifies the PCRF Pol. [Default = n/a; Range = A 32-character string. Vali alphanumeric and underscore. Must contain at le and must not start with a digit] The name of the Peer Route Table that is used to bindings for this PCRF Pol. [Default = Not Selected; Range = All Peer Route Table that is used to binding to this site.] [V] Cancel form the drop box. In the actual configuration may differ where the Peer Route Table Name and Charging -> Config	Pool To , g 18 15:39:33 2(lid characters are east one alpha o route new Tables : is displayed guration		

Mon Aug 18 13	:46:20 2014 ED					
Table Description: The Error Codes table defines the result codes to be returned for various Policy and Charging error conditions. Each error condition will return the result code configur interface. Setting an experimental result code requires a corresponding Vendor ID. The default result code is 3002-DIAMETER_UNABLE_TO_DELIVER. The Vendor ID' means the res vendor-specific.	ed for each alt code is not					
Error Condition Gx/Gxx Gx/Gxx Rx Result Rx Vendor S9 Result S9 Vendor Gx-Prime Gy/Ro Result Code Vendor ID Code ID Code ID Result Code Vendor ID Result Co	Gy/Ro Vendor ID					
PCA Unavailable Or Degraded 3002 3002 3002 3002 3002 3002						
PCA-FunctionalityUnavailable or Disabled 9002 3002						
einanang koti-buna na na 3002 na na 3002 na Unabito Rotute 3002 3002 3002 3002 3002	n/a 					
SBR Error 3002 3002 3002 3002 5012						
No Usable Keys in Binding Dependent Message na na 3002 na na 3002 na 5002 na 5002 na 5002 na	n/a					
Seesan Horizonda Socz III Socz III Socz III Socz III Socz III Socz IIII Socz IIII Socz IIII Socz IIIII Socz IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	n/a					
the Error Codes						
Select the row to edit and click on 'Edit' button						
You will see a screen similar to:						
Main Menu: Policy and Charging -> Configuration -> Error Codes -> [Edit]	18 15:49:5					
Field Value Description	atar					
Error Condition applies to session creation messages for all Dian Error Condition Unable To Route This error conduction applies to session creation messages for all Dian interfaces. These error codes will be returned if a binding is found (or of the Policy DRA is unable to route the message to the PCRE	.eter reated) and					
Gx/Gxx Result Code 3002 * Result Code to be refurned on the Gx and Gxx interfaces. [Default = 3002; Range = 1-9999]						
Sx/Gxx Vendor ID Vendor ID which corresponds with the experimental code for the Gx an interfaces. IDefault = n/a; Range = 1-4294967295]	1 Gxx					
Rx Result Code 3002 * Result code to be returned on the Rx interface. [Default = 3002; Range = 1-9999]						
Rx Vendor ID Which corresponds with the experimental code for the Rx inter- [Default = n/a; Range = 1-4294967295]	rface.					
S9 Result Code 3002 * Result code to be returned on the S9 interface. [Default = 3002; Range = 1-9999]						
S9 Vendor ID Vendor ID Which corresponds with the experimental code for the S9 int [Default = n/a; Range = 1-4294967295]	rface.					
Gx-Prime Result Code 3002 * Result code to be returned on the Gx-Prime interface. [Default = 3002; Range = 1-9999]						
Gx-Prime Vendor ID Vendor ID Vendor ID Which corresponds with the experimental code for the Gx-Pri [Default = n/a; Range = 1-4294967295]	me interface					
Gy/Ro Result Code 3002 * Result code to be returned on the Gy/Ro Interface. [Default = 3002; Range = 1-9999]						
Gy/Ro Vendor ID Vendor ID Vendor ID [Default = n/a; Range = 1-4294967295]	interface.					
Ok Apply Cancel						
1. Enter the Result Code and Vendor ID values as appropriate						
2. Click Ok.						
SOAM VIP: Navigate OPTIONAL						
to Suspect Binding Removal Rules screen Execute Steps 21 through 23 if additional Suspect Binding Removal Rules are require	ed.					
Note: A default Suspect Binding Removal rule for Gx CCA-I messages is created by defau	ılt.					
Navigate to Main Menu -> Policy and Charging -> Configurat	ion					
-> Policy DRA -> Suspect Binding Removal Rules						
SOAM VIP: Configure OPTIONAL						
the Suspect Binding Removal Rule for Click on Insert in the lower left corner.						
Diameter Interfaces and messages that are needed.						
		Main Menu: Policy and C	harging -> Configuration ->	Policy D	ORA -> Suspect Binding Removal Rules -> [Insert]	Help 5 EDT
----	--	--------------------------------------	--	-----------------	--	---------------
		Inserting a new Susn	ect Binding Removal Pule			
		Inserting a new Susp			Departmen	
		Rule Name	·		Description A name that uniquely identifies the Suspect Binding Removal Rule. [Default = n/a, Range = A 32-characters string, Valid characters are aphanumeric and underscore. Rules contrain at least one abha and must not attaint with a dird 1.	
		Application Name	- Select -		The Diameter Application Name and kito which this Suspect Binding Removal Rule applies. Session initiation answer messages including this Application-id are candidates to match this	
					rule. [Default = n/a; Range = Supported P-DRA Application-lds]	
		Command Code	- Select -		The Diameter Command Code or Extended Command Code name and value to which this Suspect Binding Renval Rike applies. Session Initiation answer messages including this Command Code are candidates to match this rule. [Default = n/s, Range = Supported PL-RA session initiation answer messages]	
		Error Scenario Category	- Select - 🔹 🔹		The error category to which the Suspect Binding Removal Rule applies. Category Unable to Route's for when no session initiation answer is received from the PCRF (possibly because the request could not be routed). If Unable To Route's chosen, the (Experimental) Result Code sent to the policy clent is the one configured in Policy and Charging -> Configuration -> Error Codes screen for the specific interface. Category External Result is for when a specified session initiation error answer is received from the PCRF. If External Result is chosen, a Result Code must be specific directions on Result. Code is necessary. (Default = n/a, Range = External Result, Unable to Route)	
		Result Code	[]		The session initiation error answer (Experimental) Result Code to which this Suspect Binding Removal Rule applies if the Error Scenario Category is External Result. This field is not applicable when Error Scenario Category is set to Unable to Route'. [Default = n/s, Range = 1-999]	
		Vendor D			If a Result Code is entered in the Result Code field above, and that Result Code is an experimental result code, enter the Vendor-Id in this field. Otherwise leave this field set to blank. [Default = nd, Range = 1-429467285]	
		Remove Suspect Binding Immediately			Check this box if a single occurrence of this rule match means that the binding should be removed. Uncheck this box if multiple occurrences of this rule match are required before the binding should be removed. Index if this box is unchecked, the "Suspect Binding Removal Events Threshold" field in Policy and Charging - Configuration - Policy PAG -> Network-Wide Options at the NOAM controls how many Suspect Binding Removal Events must occur before a Session-Release RAR will be sent to the policy clenit to request removal of the binding. [[Default = hic (Intercheck), Range -> Ves (Checked), No (Inchecked)]	
		Comments			An optional comment to describe this suspect binding removal rule. [Default = n/a: Rance = 0 - 64 characters]	
			[Ok Apply	Cancel	
		1. Enter the Rule	Name			
		2. Select the App	olication Name from th	ne dro	p box	
		3. Select the Co	mmand Code(Messag	e) fro	m the drop box	
		4. Select the req	uired Error Scenario (Catego	ory from the drop box	
		5. If the "Externa	I Error" Error Scenario	o Cate	egory was selected,	
		Enter the Res	ult Code			
		6. If the "Externa	I Error" Error Scenario	o Cate	egory was selected,	
		Enter the Ven	dor ID(Optional)			
		7. Check the Re on the first rule	move Suspect Binding e match. If not, leave	g Imm the cl	ediately checkbox if the Binding is to be remove heckbox unchecked.	;d
		8. Click Ok.				
		NOTE: This is a sa	mple set of configurat	ion da	ata, the actual configuration may differ.	
23	SOAM VIP: Configure	OPTIONAL				
	additional Suspect Binding Removal Rules.	Repeat Step 22 for	all Suspect Binding F	Rules	that are needed.	
		Note: Steps 21 thr	ough 23 may need to	be re	peated for each active SOAM.	
25	NOAM VIP: Configure	Navigate to Main	Menu -> Poli	.cy	and Charging -> Configuratio	n
	Access Point Names	-> Access P	oint Names			
		Click on Insert	in the lower left corn	er.		
		You will see a scre	en similar to:			

	Main Menu: Policy and C	harging -> Configurati	ion -> Access Point Names -> [Insert]
			ni ney ta va tri
	Adding a new Access Pr	oint Namo	
	Field	Value	Description
	Access Point Name		The network identifier of the Packet Data Network access point. The network identifier of the Packet Data Network access point. Default n/a; Range = 1-100 characters, Valid characters are alphabetic characters (A-Z and a-z), digits (0-9), hyphen (-), and period (.). Must begin and end with an alphabetic character or a digit is
	Function	PDRA Only OCDRA Only PDRA and OCDRA	The PCA function which uses this Access Point. PCRF Pool is required to be configured for PDRA only. [Default = PDRA Only, Range = PDRA Only, OCDRA Only or PDRA and OCDRA]
	PCRF Pool Name	Default 👻	The PCRF Pool to which new bindings initiated from the Access Point Network are to be routed. [Default = Default PCRF Pool; Range = Configured PCRF Pools]
	Number of Sub-Pools	1	This read-only field displays the number of PCRF Sub-Pools associated with the selected PCRF Pool. The mapping between PCRF Pool and PCRF Sub-Pool is configured in Policy and Charging -> Configuration -> Policy DRA -> PCRF Sub-Pool Selection Rules.
	Maximum Allowed Sessions per IMSI	2	This setting is the maximum number of bound sessions allowed per IMSI for this APN. [Default = 2; Range = 1-10]
	Per IMSI Session Exceeded Treatment	e Route ⊖Reject	This setting defines the treatment of new binding capable session initiation attempts when the maximum number of bound sessions for an MSI for this APN is exceeded. If Houdri is saleded, the CCR1 message will be routed and the oldest bound session will be replaced. If Reject is saleded, the CCR1 message will be rejected using the Diameter response code configured for SBR Error. [Default = Route, Range = Rout, Reject]
	Stale Session Timeout (Hrs)	168	This setting is a time value (in hours), after which a session is considered to be state. For PDRA a session is considered state only in RARRAM messages are received in longer than this configured inc. For COERA, a session is considered at all on any in session messages are received in longer than this configured time. If a session's age exceeds this value, that session is essigned and up of the database. This value is used for session associated with this Access Point Name. For essions which are not associated with you configured Access Point Names, the Default State Session Timeout value in the Policy and Changing Configuration General Options table is used. [Default = 168] hours (7 days). Read = 7-1240 hours (1 hour 10 to days)]
	Last Updated		This read-only field displays the date and time that this APN was created, or the last time the PCRF Pool Name was changed, whichever is most recent. This field records the time and date of changes that may affect routing of binding capable session initiation requests. This date and time can be compared against binding creation times when throubleshoding using Policy and Charding Maintenance -> Policy Database Query.
			Ok Anniv Cancel
	1. Enter the field 2. Click Ok. NOTE: this is a s	values as requ	ired
NOAM VIP: Enable the Policy DRA function	Navigate to Mai	in Menu -: . Options	> Policy and Charging -> Configuration Screen.
	Field	Value	Description
	Policy DRA Enabled	V	Indicate whether the Policy DRA Function of PCA is enabled. [Default = Policy DRA Disabled (Unchecked); Range = Policy DRA Enabled (Checked) or Policy DRA disabled (Unchecked)]
	Online Charging DRA Enable	ed 🗖	Indicate whether the Online Charging DRA Function of PCA is enabled. [Default = Online Charging DRA Disabled (Unchecked); Range = Online Charging DRA Enabled (Checked) or Online Charging DRA Disabled (Unchecked)]
	 Check the Pol Click Apply. 	icy DRA Enabl	ed box

4.4.2 Online Charging DRA Configuration

Detailed steps are given in the procedure below.

Procedure 16: Online Charging DRA configuration

S	This procedure configu	his procedure configures the Online Charging DRA function of PCA application. For details on the fields of						
т	various configuration se	creens please refer to the Policy Charging User's Guide [4].						
T T	e							
Е Р	PREREQUISITE: Proc	edure 14 must b	edure 14 must be executed before this procedure.					
#	Check off (1) each step as it is	is completed. Boxes	completed. Boxes have been provided for this purpose under each step number.					
	SHOULD THIS PROCEDURE	FAIL CONTACT O	RACLE TECHNICAI	SERVICES AN	D ASK FOR ORACLE TAC.			
1	Establish GUI Session	Establish a GUI	session on the SO	AM by using th	ne XMI VIP address. Login as user "quiadmin".			
	on the SOAM VIP			, ,				
2	SOAM VID: Novigato	Novigoto to Mo			d Changing -> Configuration			
	to OCSs screen	-> Online	Charging DF	A -> OCS	s			
3	SOAM VIP: Configure	Click on Inser	t in the lower lef	t corner.				
	the hist OCS houe.	You will see a sc	reen similar to:					
		Main Menu: Policy and C	harging -> Configuration ->	> Online Charging DR	A -> 0CSs -> [Insert]			
					Mon nov 24 13:33:			
		Adding a new OCS						
		Field Value		Description				
		OCS Peer Node Name	t	A name that uniquely identifies to OCSs.	he OCS Peer Node to be included in the load distribution of new session initiation diameter request messages to			
				[Default = n/a; Range = List of co	onfigured Diameter Peer Nodes]			
		Comments		[Default = n/a; Range = 0-64 cha	anaders)			
				Ok Apply	Cancel			
		1. Select the OC	S name from the d	lrop down				
		2. Click Ok.	ample set of confi	nuration data	the actual configuration may differ			
	004111/10 0 1							
4	SOAM VIP: Configure all other OCS nodes.	Repeat Step 3 to	configure all the C	JCS nodes.				
5	SOAM VIP: Navigate	If Session State	needs to be mainta	ained for Onlin	e Charging client, then			
	to CTFs screen	Navigate to Maj		Policy an	d Charging -> Configuration			
		-> Online	Charging DE	RA -> CTF	s			
			55		-			
6		Click on Insert in	the lower left corn	or				
	Configure the first	You will see a sc	reen similar to:					
	CTF node.	Main Menu: Polic	v and Charging ->		-> Online Charging DRA -> CTFs -> [Insert]			
			, and end ging ,	comgaration	Mon Aug 18 16:46:5			
		Adding a new C	TF					
		Field	Value		Description			
		CTF Peer Node Name	ctf	*	A name that uniquely identifies the CTF Peer Node. [Default = n/a; Range = List of configured Diameter Peer Nodes]			
		Comments		:	An optional comment to describe the CTF Peer Node. [Default = n/a; Range = 0-64 characters]			
				Ok Apply				

		1. Select the CTF name from the drop down						
		2. Click Ok.	2. Click Ok.					
		NOTE: this is a s	ample set of configuration	on data, the actual configuration may differ.				
7	SOAM VIP: Configure all other CTF nodes.	Repeat Step 6 to configure all the CTF nodes for which the Session State needs to be maintained.						
8	NOAM VIP: Configure SBR Databases	Navigate to Main Menu -> SBR -> Configuration -> SBR Databases						
		Click on Inser	t in the lower left corn	er.				
		You will see a sc	reen similar to:					
		Adding a new S	BR Database					
		Field	Value	Description				
		Database Name	SessionSbrDb	A name that uniquely identifies the SBR Database. • [Default = n/a; Range = A 32-character string. Valid characters are alphanumeric and contain at least one alpha and must not start with a digit.]				
		Database Type	Session •	The type of SBR Database. Select 'Binding' for a Policy Binding database, or 'Session' for a Policy DRA or Online Session database. [Default = n/a, Range = 'Binding' or 'Session']				
		Resource Domain	SessionRd_Mated •	The Policy and Charging Session or Policy Binding Resource Domain that contains t configured for use by this database. Select the Resource Domain that will host this database. [Default = n/a, Range = Configured Resource Domains matching the selected Datab already been assigned to a Database]				
		Number of Server Groups	2	The number of SBR Server Groups required to host this database. Enter or change the number of Server Groups necessary to support the desired capa • the selected Resource Domain already contains Server Groups, the number of Server Resource Domain is displayed in the field, but can be overridden as desired. [Default = n/a; Range = 1 to 8]				
		Place Association	MatedSites •	The Policy Binding Region or Policy and Charging Mated Sites Place Association tha will use this database. Select the Place Association that is to use this SBR Database. [Default = n/a; Range = Configured Place Associations matching the selected Datab: already been assigned to a Database]				
				Ok Apply Cancel				
		1. Enter Datab	ase Name					
		2. Select Data	base Type (Session).					
		3. Select Reso of server gro	ource Domain. <i>This wil p</i> oups currently present ir	opulate Number of Server Groups field with the number of the selected Resource Domain.				
		4. If needed, u have to be u	pdate Number of Server	Groups value. Note that Resource Domain will then unt.				
		5. Select Place	e Association.					
		6. Click Ok						
		NOTE: This is a sample set of configuration data, the actual configuration may differ.						
		For Online Charg site/mated-pa	ing DRA Function, Sess ir/mated-triplet MUS	sion Type SBR Database per Standalone- T be configured.				
9	NOAM VIP: Configure	Navigate to Mai	n Menu -> Poli	cy and Charging -> Configuration				
	ACCESS I UNIT INGINES	-> ACCess	FOINT NAMES					
		Click on Inser	t in the lower left corn	er.				
		You will see a sc	reen similar to:					

	Main Menu: P	olicy and Chargin	ıg -> Configu	ıration -> A	ccess Point Names -> [Ins	ert]
						Mon Aug 18 2
	Adding a new	Access Point Na	me			
	Field	Value		Description		
	Access Point Name	ocsservice.att.c	om	* [Default = n/ a-z), digits ((digit.]	; identifier of the Packet Data Network acce a; Range = 1-100 characters. Valid charact D-9), hyphen (-), and period (.). Must begin	ess point. ters are alphabetic characters (A-Z and end with an alphabetic charac
	PCRF Pool Name	Default 💌	*	The PCRF F [Default = D	Pool to which new bindings initiated from th efault PCRF Pool; Range = Configured PC	e Access Point Network are to be RF Pools]
	Number of Sub-Pools	s 0		This read-or Pool. The m Charging ->	nly field displays the number of PCRF Sub- apping between PCRF Pool and PCRF Su Configuration -> Policy DRA -> PCRF Sub	Pools associated with the selecte b-Pool is configured in Policy and -Pool Selection Rules.
	Stale Session Timeo	ut (Hrs) 168		This setting is considere time. If a set database. T sessions wi Session Tin [Default = 16	is a time value (in hours), after which a se d stale only if no RANRAA messages are ssion's age exceeds this value, that session his value is used for sessions associated hich are not associated with any configuren- neout value in the Policy DRA Configuration 58 hours (7 days); Range = 1-2400 hours (ssion is considered to be stale. A received in longer than this config on is eligible to be audited out of th with this Access Point Name, For d Access Point Names, the Defaul n Network-Wide Options table is u 1 hour to 100 days)]
	Last Updated	ļ		This read-or PCRF Pool I changes tha time can be Charging ->	nly field displays the date and time that this Name was changed, whichever is most re at may affect routing of binding capable ses compared against binding creation times Maintenance -> Policy Database Query.	APN was created, or the last time cent. This field records the time an ssion initiation requests. This date when troubleshooting using Policy
				Ok Appl	y Cancel	
	 Enter the fireplaced by a Click Ok. NOTE: this is 	ield values as sh actual values) a sample set of	own above configuratic	(the value (on data, the	given above are examples actual configuration may	s only and may be differ.
NOAM VIP: Navigate	OPTIONAL					
to OCS Session	Execute Step	10, 11, 12 if an	y OCS is red	quired to ha	ave Session State Configu	ired.
otate soletin	Navigate to Main Menu -> Policy and Charging -> Configuration					
	-> Onlin	e Charging	g DRA -:	> ocs s	ession State	
	You will see a	a screen similar t	to:			
	Main Menu: Policy a	nd Charging -> Configura	tion -> Online Cha	rging DRA -> OC	S Session State	🔗 He
	Filter 🔻					Mon Nov 24 13:41:01 2014 ES
	Table Description: This table contains the network-wide list of Online Charging Servers (OCSs), listed by their Realm and FODN, it is used to configure the Session State setting for OCSs. The list of OCSs in this table is kept up-to-tale when they are inserted or deleted from the Policy and Charging > Configuration -> Online Charging DRA -> OCSs screen at each site's SOAM. The Realm and FODN are configured from each site's Diameter -> Configuration -> Peer Nodes screen prior to selecting the Peer Node Name on the OCS screen.					
			Realm	FQDN	Session State Enabled	
			east-gtxa.com	OCS1-GTXA.east- gbta.com	No	
NOAM VIP:	OPTIONAL					
Configure the	Select an OC	S by highlighting	n the line, cli	ck on edit i	n the lower left corner.	
Session State for an						
003.	You will see a screen similar to:					
		ina charging -> connga				Mon Nov 24 13:45:
	Field V	lalue	Description			
	Realm	east-gbxa.com	Realm of this Peer Node. R and underscore ('_). A labe label must be at most 63 cl [Default = n/a; Range = A va	ealm is a case-insensitive I must start with a letter, dig aracters long and a Realm lid Realm.]	string consisting of a list of labels separated by dots, where a jit or underscore and must end with a letter or digit. Underscor n must be at most 255 characters long.	label may contain letters, digits, dashes (-') es may be used only as the first character. A
	FQDN	OCS1-GTXA.east-gtxa.com	Fully Qualified Domain Nar letters, digits, dashes ('-') a only as the first character. A [Default = n/a; Range = A va	ne of this Peer Node. FQDN nd underscore ('_'). A label label must be at most 63 c lid FQDN.]	V is a case-insensitive string consisting of a list of labels sepa must start with a letter, digit or underscore and must end with characters long and a FQDN must be at most 255 characters lo	rated by dots, where a label may contain a letter or digit. Underscores may be used ong.
	OCS Session State Enabled	3	Setting to enable Session 3 State Scope is set to 'All Me Scope is set to 'Specific Me [Default = No (unchecked) -	state for OCSs. Check this I ssages' in Policy and Char ssages' and this Session S Do not maintain session s	box if the sessions are to be maintained for this OCS. The Ses ging -> Configuration -> Online Charging DRA -> Network-Wid State Enabled setting is checked.	sions shall be maintained if the Session e Options configuration or if Session State
			states.]		states, Marge = res (crecked) - Maritan session states, or No	(unchecked) - Do not maintain session
			states.]	Ok Apply Canc	el	(unchecked) - Do not maintain session

12	NOAM VIP: Configure the Session State for all other OCSs. NOAM VIP: Navigate to Realms screen	<pre>n. Grider Decision Otate Enabled Checkbox to turn of the Session Otate for this OCS, Of uncheck OCS Session State Enabled checkbox to turn off the Session State for this OCS. 2. Click Ok. NOTE: this is a sample set of configuration data, the actual configuration may differ. OPTIONAL Repeat Step 11 to configure all the OCSs. OPTIONAL Navigate to Main Menu -> Policy and Charging -> Configuration -> Online Charging DRA -> Realms</pre>					
14	NOAM VIP: Configure the first Realm.	OPTIONAL Click on Insert in the lower left corner. You will see a screen similar to: Main Menu: Policy and Charging -> Configuration -> Online Charging DRA -> Realms -> [Insert] Mon Au Mon Au Adding a new Realm Field Value Description Realm name is a case-insensitive string consisting of a list of tables separated by dots, where contain letter, digits, dashes(-) and underscore () Atable must start with a letter, digit or unders end with a letter or digit.Underscores may be used only as the first character. A table must be at characters long and a Realm must be at most 255 characters long. (Default = n/a; Range = 1-100 enteries) Comments Ok Apply Cancel 1. Enter the realm name 2. Click Ok. NOTE: this is a sample set of configuration data, the actual configuration may differ.					
15	NOAM VIP: Configure all other Realm names.	OPTIONAL Repeat Step 14 to configure all the realms.					
16	NOAM VIP: Navigate to Network-Wide Options screen	OPTIONAL Navigate to Main Menu -> Policy and Charging -> Configuration -> Online Charging DRA -> Network-Wide Options					
17	NOAM VIP: Configure the options						

											Thu May 2	1 06:04:2
		Field Session Ontions	Value	[Description							
		Session State Scope	None	• *	This sets th Select 'All M Session Sta the CTF clie State as ena [Default = N	e scope of i essages' to ite for all mi nt is config abled in OC one; Range	messages store Ses essages. S ured in the Ss configu e = 'None', '	for which S sion State 1 Select 'Spec CTFs confi Iration or re All Messag	Session Sta for all mess cific Messag iguration or alm is conf jes', 'Specifi	ate will be s sages. Seli ges' to stor OCS is co igured in F c Message	stored. ect 'None' to re Session s onfigured wit Realms con es']	disable State only i h Session figuration.
		Session State Unavailable Action	Send Answer	▼ *	Sets the act successfully received Se error is enco Routing Tab response co 'SBR Error'. [Default = So	ion to be pe / processed ssion-Id fro puntered). 'F Ie. 'Send Ar potaining Ar end Answei	rformed if d due to the m the Ses Route to Pe nswer' will nswer Res T Range =	an in-sessi e inability to sion SBR (i eer' will rout abandon m ult-Code va 'Send Ansv	ion Reques o retrieve se i.e., sessior te the mess nessage pro alue configu wer', 'Route	t message ssion state n state is n sage to a p ocessing a red for 'Se To Peer'l	e cannot be e associate lot found or leer using th and send an ssion Not F	d with the an SBR ie Peer Answer ound' or
		OCS Selection Options										
		OCS Pool Selection Mode	Single Pool	• *	This sets th Initiation Re When 'Singl weighted ro When 'Multip OCS server	e operating quest mess e Pool' moo und-robin s ble Pools' n identified b	mode for s sages. de is selec cheme an node is sel y RBAR in	selecting th ted, the Sea nong all ava lected,the S a specific p	e OCS Sen ssion Initiat ailable OCS Session Initi bool of OCS	ver for routi ion Reque servers co iation Requ servers.	ing the Ses: ests are dist onnected to uests are ro	sion ributed in a this Node uted to an
					[Default = Si	nale Pool: I	Range = 'S	ingle Pool'	'Multiple Pr	nols'i		
										,		
					Apply	Cancel						
		1. Select the appropriat Application User's Guic	e values for le ^[4] for detai	the av ils on t	Apply railable the field	options s.	. Pleas	se refer	to the	Policy	Chargir	g
SOAM VIP: N to the Error Cou screen	lavigate des	1. Select the appropriat Application User's Guid 2. Click Apply . Navigate to Main Me -> Error Codes You will see a screen s	e values for le ^[4] for detai	the av	Apply railable the field	options s.	. Pleas argi	ng –	> Co	Policy (Chargir urat:	ig ion
SOAM VIP: N to the Error Con screen	Javigate des	 Select the appropriat Application User's Guid Click Apply. Navigate to Main Median Metric Codes You will see a screen s Main Menu: Policy and Chargi 	e values for le ^[4] for detai	the av ils on t Polic tion -> E	Apply railable the field	cancel options s. ad Ch	. Pleas	se refer	> Co	Policy	Chargir urat:	Ig Ion ⊮⊧
SOAM VIP: N to the Error Con screen	lavigate des	 Select the appropriat Application User's Guid C. Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definiterface. Setting an experimental result code vendor-specific. 	e values for le ^[4] for detai	the av ils on t Polic tion -> E	Apply railable the field cy an	cancel options s. d Ch 25	. Pleas	se refer ng –	> Co:	Policy (nfig 	Chargir urat:	ig ion #6:20 2014 I d for each t code is not
SOAM VIP: N to the Error Cor screen	lavigate des	 Select the appropriat Application User's Guid 2. Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definit Interface. Setting an experimental result code vendor-specific. Error Condition 	e values for le ^[4] for detai	the av ils on t Polic tion -> E	Apply railable the field Cy an Error Code various Policy a he default result	cancel options s. d Ch es 	. Pleas argi	se refer ng – s. Each error co NABLE_TO_D	> Co:	Policy (nfig wr the result a endor ID rr Gx.Prime Vendor ID	Chargir urat: on Aug 18 15:- code configure- neans the resul GyrRo Result Code	IG ion ion if or each t code is not Gy/Ro Vendor ID
SOAM VIP: N to the Error Cor screen	lavigate des	1. Select the appropriat Application User's Guid 2. Click Apply . Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definitate. Setting an experimental result code vendor-specific. Error Condition PCA Unavailable Of Degraded	e values for le ^[4] for detai	the av ils on t colic tion -> E returned for Vendor ID. TI Gx/Gxx	Apply railable the field cy an error Code various Policy a he default result code 3002	Cancel options S. ad Ch es ad Ch es ad Ch es ad Ch es ad Ch	. Pleas argi ror conditions DIAMETER_U \$9 Result Code 3002	se refer ng – b. Each error cc NABLE_TO_D S9 Vendor 10	to the l	Policy (nfig un the result endor ID m Gx-Prime Vendor ID	Chargir urat: on Aug 18 151- code configure neans the resul GyrRo Result Code 3002	IG ion solar code is not t code is not t code is not yendor ID
SOAM VIP: N to the Error Cor screen	Javigate des	 Select the appropriat Application User's Guic Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definituration. Table Description: The Error Codes table definituration. Error Condition PCA Unavailable of Degraded PCA Unavailable of Degraded PCA Unavailable of Degraded 	e values for le ^[4] for detai	the av ils on t Polic tion -> E	Apply railable the field Cy an error Code various Policy a he default result Rx Result Code 3002	Cancel options S. ad Ch 25 nd Charging e code is 3002- Rx Vendor 10	. Pleas	se refer ng – s. Each error cc NABLE_TO_D S9 Vendor ID	to the l > Cost ondition will retire	Policy (nfig urn the result wrn the result Gx-Prime Vendor ID	Chargir urat: on Aug 18 15:- code configure- neans the result Gy/Ro Result Code 3002	IG ion ion ion ion ion ion ion ion
SOAM VIP: N to the Error Co screen	lavigate des	 Select the appropriat Application User's Guic 2. Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definiturates. Setting an experimental result code vendor-specific Error Condition PCA Fundantity Unavailable or Disabled Binding Not Found 	e values for le ^[4] for detail	the av ils on t Polic tion -> E returned for Vendor ID n/a	Apply railable the field cy and cror Code various Policy a he default result code 3002 3002	Cancel options s. ad Ch 25 ad Ch 25 ad Ch 25 ad Ch 25 ad Ch 25 ad Ch 25 ad Ch	. Pleas argi ror conditions DIAMETER_U S9 Result Code 3002 3002	se refer ng – s. Each error cc s. Each error cc s. Each error cc s. So Vendor io 	Contraction will refine the large state of the larg	Policy (nfig mfig with the result with the result with the result with the result	Chargin urat: on Aug 18 15:1- code configure- neans the result Gy/Ro Result Code 3002 3002	IG ion #H Horeach toode is not Gy/Ro Vendor ID n/a
SOAM VIP: N to the Error Cor screen	lavigate des	 Select the appropriat Application User's Guic Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definiteface. Setting an experimental result code vendor-specific. Error Condition PCA Unavailable Or Degraded 	e values for le ^[4] for detail	the av ils on t Polic tion -> E returned for Vendor ID. TI Gx/Gxx Vendor ID. Ti n/a 	Apply railable the field Cy and Error Code various Policy a the default result Rc Result 3002 3002 3002	Cancel options S. d Ch 25 nd Charging e code is 3002- r r r r r r r	. Pleas argi rror conditions DIAME TER_U S9 Result Code 3002 3002 rVa 3002	B. Each error co NABLE_TO_D	to the l cost cos	Policy (nfig M urn the result of endor ID 'n Gx-Prime Vendor ID 	Chargir urat: on Aug 18 15:- code configure: neans the resul GyvRo Result Code 3002 3002 1/a 3002	IG I ON Keiszo 2014 II toreach torde is not Gy/Ro Vendor ID I/a
SOAM VIP: N to the Error Cor screen	lavigate des	Select the appropriat Application User's Guic Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definit Interface. Setting an experimental result code vendor-specific. Error Condition PCA Unavailable Or Degraded PCA Functionality Unavailable or Disabled Binding Not Found Unable To Route SBR Error	e values for le ^[4] for detai	the av ils on t Polic tion -> E	Apply railable the field Cy an Error Code various Policy a the default result 3002 3002 3002 3002	Cancel options S. ad Ch es ad ch ch es ad ch es ad ch es c c ch ch ch ch ch c c c ch c c c ch c c c ch c c c ch	. Pleas	B. Each error cc NABLE_TO_D	to the local sector of the	Policy (nfig mfig mfig M control of ID of m control of ID of m	Chargin urat: on Aug 18 151- code configure- neans the resul 3002 3002 7/a 3002 5012	IG ion ion if or each tode is not Gy/Ro Vendor ID
SOAM VIP: N to the Error Cor screen	lavigate des	 Select the appropriat Application User's Guid 2. Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Volu will see a screen s Main Menu: Policy and Chargi Policy and Chargi Unable Section of the screen screen s Main Menu: Policy and Chargi Policy and Chargi Volume Section of the screen scree	e values for le ^[4] for detail enu -> P imilar to: ng -> Configura thes the result codes to be requires a corresponding CX/GxX Result Code 3002 n/a 3002 3002 sage n/a	the av ils on t Polic tion -> E returned for Vendor ID. TI SX/GXX Vendor ID n/a n/a	Apply railable the field	Cancel options S. ad Ch 25 ad Ch 25 C Ch 25 Ch 25 Ch 25 C Ch 25 C Ch 25 C Ch 25 C Ch 25 C C Ch 25 C Ch 25 C C Ch 25 C Ch 25	. Pleas argi ror conditions DIAMETER_U S9 Result Code 3002 3002 3002 3002	Each error cc S Each error cc S So Vendor D S So Vendor n/a n/a n/a	to the l Condition will rete ELIVER. The Will Cx-Prime Result Code 3002 3002 3002 3002	Policy (nfig M G.Prime Vendor ID	Chargin urat: on Aug 18 15:- code configure- neans the result GyrRo Result Code 3002 n/a 3002 5012 1/a	IG ION If or each t code is not Gy/Ro Vendor ID n/a n/a
SOAM VIP: N to the Error Co screen	lavigate des	 Select the appropriat Application User's Guic Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definiterface. Setting an experimental result code vendor-specific. Error Condition PCA Unavailable or Degraded PCA Functionality Unavailable or Disabled Binding Not Found Unable To Route SRR Error No Usable Krys in Binding Dependent Mess Session Not Found 	e values for le ^[4] for detail	the av ils on t colic tion -> E returned for Vendor ID. Th Cx/Gxx Vendor	Apply railable the field cy and crror Code various Policy a ne default result 2002 3002 3002 3002 3002 3002 3002 300	Cancel options s. d Ch charging e code is 3002- Ru Vendor i - - - - - -	. Pleas argi ror conditions DIAMETER_U Se Result Code 3002 3002 3002 3002 3002 3002	se refer	Cost condition will refu cell/VER. The Will Source 3002 3002 3002 3002 3002 3002 3002 300	Policy of nfig M fig where we have a second where	Chargin urat: on Aug 18 15:1- code configure- neans the result gy/Ro Result Code 3002 3002 3002 3002 3002 3002 3002 300	IG ICON ICON If or each t code is not Gy/Ro Vendor ID Na Na
DAM VIP: N the Error Cor reen	lavigate des	Select the appropriat Application User's Guic Click Apply. Navigate to Main Me -> Error Codes You will see a screen s Main Menu: Policy and Chargi Table Description: The Error Codes table definit Interface. Setting an experimental result code vendor-specific. Error Condition PCA Unavailable Or Degraded PCA Functionality Unavailable or Disabled Binding Not Found Unable Kays In Binding Dependent Mess Session Not Found Nussing Or Unconfigured APN	e values for le ^[4] for detai	the av ils on t colic tion -> E	Apply ailable he field Cy an Error Code Rx Result Code 3002 3002 3002 3002 3002 3002 3002	Cancel options S. ad Ch es code is 3002- Rx Vendor ib 	. Pleas	se refer	to the Continue of the second secon	Policy of nfig mfig M urn the result of ID of m Cx-Prime Vendor ID of m Cx-Prime Vendor ID of m 	Chargir urat: on Aug 18 151- code configure neans the resul 3002 3002 3002 5012 n/a 5022 n/a	GyiRo GyiRo Solorian GyiRo Code is not vendor ID Vendor ID Vendor ID To ra

	Main Menu: Po	licy and Char	ging -> Configuration	n -> Error Codes -> [E	dit]	
					Mon Aug 18 15:49:5	
	Field	Value		Description		
	Error Condition	Unable To Route	9	This error condition applies to interfaces. These error codes the Policy DRA is unable to ro	session creation messages for all Diameter will be returned if a binding is found (or created) and ute the message to the PCRF.	
	Gx/Gxx Result Code	3002 *		Result code to be returned on [Default = 3002; Range = 1-99	the Gx and Gxx interfaces. 99]	
	Gx/Gxx Vendor ID			Vendor ID which corresponds interfaces. [Default = n/a; Range = 1-429	with the experimental code for the Gx and Gxx 4967295]	
	Rx Result Code	3002 *		Result code to be returned on [Default = 3002; Range = 1-99	the Rx interface. 99]	
	Rx Vendor ID			Vendor ID which corresponds [Default = n/a; Range = 1-429	with the experimental code for the Rx interface. 1967295]	
	S9 Result Code	3002 *		Result code to be returned on [Default = 3002; Range = 1-99	the S9 interface. 99]	
	S9 Vendor ID			Vendor ID which corresponds [Default = n/a; Range = 1-429	with the experimental code for the S9 interface. 4967295]	
	Gx-Prime Result Code	* 3002 *		Result code to be returned on [Default = 3002; Range = 1-99	the Gx-Prime interface. 99]	
	Gx-Prime Vendor ID			Vendor ID which corresponds [Default = n/a; Range = 1-429	with the experimental code for the Gx-Prime interface 4967295]	
	Gy/Ro Result Code	3002 *		Result code to be returned on [Default = 3002; Range = 1-99	the Gy/Ro interface. 99]	
	Gy/Ro Vendor ID			Vendor ID which corresponds [Default = n/a; Range = 1-429	with the experimental code for the Gy/Ro interface. 4967295]	
	1. Enter the G	ovRo Result	Ok Code and GvRo Ve	Apply Cancel	propriate	
	2. Click Ok.	,	,			
20 NOAM VIP : Enable the Online Charging DRA function	Navigate to M -> Gener	lain Men al Optio	u -> Policy ons Screen.	and Charging	-> Configuration	
	Field		Value		Description	
	Policy DRA Ena	bled			Indicate whether the Policy DRA Fun [Default = Policy DRA Disabled (Un DRA disabled (Unchecked)]	
	Online Chargin	g DRA Enabled	1		Indicate whether the Online Chargin [Default = Online Charging DRA Dis Enabled (Checked) or Online Charg	
	1. Check the	Online Charo	ging DRA Enabled b	OOX		
	2. Click Apply.					

4.5 CONFIGURING ONLINE CHARGING FUNCTION ON A RUNNING DSR PCA SYSTEM

4.5.1 Configuring new Online Charging DRA Sites

Detailed steps are given in the procedure below.

Procedure 17: New Online Charging DRA Site Configuration

S	This procedure configures a site for OC-DRA function in a DSR PCA network				
T E	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
Р	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.				
#					
1	Configure new PCA OC-	Execute the procedures defined in [1] and [2] to add new site(s) in the DSR network and			
	DRA SILE	configure the PCA Online Charging Function by executing Procedure 16.			

4.5.2 Configuring Online Charging DRA in existing Sites

Detailed steps are given in the procedure below.

Procedure 18: Online Charging DRA Configuration on a running DSR PCA System

S	This procedure configures OC-DRA function in a DSR PCA network without any hardware changes					
Т	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.					
E P	SHOULD THIS PROCEDURE	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.				
#						
1	Configure and enable	Execute Procedure 16 to configure OC-DRA functionality.				

4.5.3 Configuring Online Charging DRA in existing Sites with scaling

Detailed steps are given in the procedure below.

Procedure 19: Online Charging DRA Configuration with scaling on a running DSR PCA System

S	This procedure performs scaling of OC-DRA function on a running PCA system						
Т	Check off ($$) each step as it	Check of $(\sqrt{2})$ each step as it is completed. Boxes have been provided for this purpose under each step number.					
Ε							
Р	SHOULD THIS FROCEDURE	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.					
#							
1	Call ORACLE Customer	If the need arises to scale OC-DRA on a running PCA system, please call ORACLE Customer					
	Service	Service for assistance.					

4.6 CONFIGURING POLICY DRA FUNCTION ON A RUNNING DSR PCA SYSTEM

This section provides the procedures to configure the Policy DRA function in an already configured and running DSR network with PCA application and Online Charging DRA function enabled.

4.6.1 Configuring Policy DRA

Detailed steps are given in the procedure below.

Procedure 20: Policy DRA Configuration with scaling on a running DSR PCA System

This procedure perform	s scaling of P-DRA function on a running PCA system		
Theck off ($$) each step as it i	s completed. Boxes have been provided for this purpose under each step number.		
SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.			
all ORACLE Customer	If the need arises to scale P-DRA on a running PCA system, please call ORACLE Customer		
ervice	Service for assistance.		
	ack off (√) each step as it i OULD THIS PROCEDURE III ORACLE Customer Prvice		

4.7 UN-CONFIGURING POLICY DRA FUNCTION FROM A RUNNING DSR PCA SYSTEM

Detailed steps are given in the procedure below.

Procedure 21: Un-configuring Policy DRA

S	This procedure un-conf	igures the Policy DRA fu	nction of PCA application.				
T E	Check off ($\sqrt{2}$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
P #	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.					
1	Establish GUI Session on the NOAM VIP	Establish a GUI session on	the NOAM by using the XMI VIP address	s. Login as user "guiadmin".			
2	NOAM VIP: Disable the Policy DRA function	Navigate to Main Menu -> Policy and Charging -> Configuration -> General Options Screen.					
		Field	Value	Description			
		Policy DRA Enabled		Indicate whether the Policy DRA [Default = Policy DRA Disabled (DRA disabled (Unchecked)]			
		Online Charging DRA Enabled		Indicate whether the Online Cha [Default = Online Charging DRA Enabled (Checked) or Online Ch			
		Audit Options					
		1. Uncheck the Policy DRA	Enabled box				
		2. Click Apply.					
		CAUTION Executing this step will irretrievably delete all the subscriber binding and Policy session records from the SBR Databases.					
3	NOAM VIP: Disable	Main Menu -> SBR	-> Maintenenace -> SBR I	Database Status			
	Binding SBR Database	Select the SBR Database o	f type 'Binding' and Disable it.				
4	NOAM VIP: Disable the Policy DRA Session SBR Database	If the Online Charging DRA Function is not enabled, disable all the Session Database(s). Navigate to Main Menu -> SBR -> Maintenenace -> SBR Database Status					
		One by one select the SBR	Database of type 'Session' and Disable i	t.			
5	NOAM VIP: Delete the	Main Menu -> SBR	-> Configuration -> SBR	Databases			
	Binding SBR Database	Delete the SBR Database o	f type 'Binding' from this screen.				
6	NOAM VIP: Delete the Policy DRA Session SBR Databases	If the Online Charging DRA Navigate to Main Menu Databases	Function is not enabled, disable all the S 1 -> SBR -> Configuration	eession Database(s). a -> SBR			
		Delete the SBR Databases	of type 'Session' from this screen.				
7	NOAM VIP: Delete the Policy DRA specific APNs	NOTE: THIS STEP : YOU ARE GOING TO AND YOU WANT TO D RE-ENABLE.	IS OPTIONAL. THIS STEP CA ENABLE Policy DRA AGAIN RE-USE THE APN CONFIGURA!	AN BE SKIPPED IF ON THIS SYSTEM FION DATA AFTER			
		Main Menu -> Pol:	icy and Charging -> Conf:	iguration ->			

		Access Point Names
		Delete the Policy DRA specific configuration data from this screen.
8	Establish GUI Session on the SOAM VIP	Establish a GUI session on the SOAM by using the XMI VIP address. Login as user "guiadmin".
9	SOAM VIP: De- reference all the PRTs from PCRF Pools	NOTE: THIS STEP IS OPTIONAL. THIS STEP CAN BE SKIPPED IF YOU ARE GOING TO ENABLE Policy DRA AGAIN ON THIS SYSTEM AND YOU WANT TO RE-USE THE PCRF POOL CONFIGURATION DATA AFTER RE-ENABLE.
		Main Menu -> Policy and Charging -> Configuration -> Policy DRA -> PCRF Pool To PRT Mapping
		Edit all the PCRF Pool Name entries and set the Peer Route Table Name to 'Not Selected'.
10	SOAM VIP: Delete all the PCRFs	NOTE: THIS STEP IS OPTIONAL. THIS STEP CAN BE SKIPPED IF YOU ARE GOING TO ENABLE Policy DRA AGAIN ON THIS SYSTEM AND YOU WANT TO RE-USE THE PCRF CONFIGURATION DATA AFTER RE-ENABLE.
		Main Menu -> Policy and Charging -> Configuration -> Policy DRA -> PCRFs
		Delete the complete configuration data from this screen.
11	SOAM VIP: Delete all the Policy Clients	Main Menu -> Policy and Charging -> Configuration -> Policy DRA -> Policy Clients
	Comgulation	Delete the complete configuration data from this screen.
12	SOAM VIP: Un- configure the Site	Main Menu -> Policy and Charging -> Configuration -> Policy DRA -> Site Options
	Οριιστις	Uncheck the 'Enabled' box against 'Topology Hiding Options'.
13	SOAM VIP: Restore default values of Error	Main Menu -> Policy and Charging -> Configuration -> Error Codes
	(OPTIONAL)	Edit all Error Conditions and set the Result Code as 3002 for all Policy DRA application interfaces (Gx/Gxx, Rx, S9, Gx-Prime etc.).
14	SOAM VIP: Perform steps on All Active SOAM Servers	Repeat Steps 4 to 9 on All Active SOAM servers.
13	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".
16	NOAM VIP: Delete all the Sub-Pool Selection Rules	NOTE: THIS STEP IS OPTIONAL. THIS STEP CAN BE SKIPPED IF YOU ARE GOING TO ENABLE Policy DRA AGAIN ON THIS SYSTEM AND YOU WANT TO RE-USE THE PCRF POOL CONFIGURATION DATA AFTER RE-ENABLE. Main Menu -> Policy and Charging -> Configuration ->
		Policy DRA -> PCRF Sub-Pool Selection Rules Delete the complete configuration data from this screen.
17	NOAM VIP: Delete all the PCRF Pools	NOTE: THIS STEP IS OPTIONAL. THIS STEP CAN BE SKIPPED IF YOU ARE GOING TO ENABLE Policy DRA AGAIN ON THIS SYSTEM AND YOU WANT TO RE-USE THE PCRF POOL CONFIGURATION DATA AFTER RE-ENABLE.
		Main Menu -> Policy and Charging -> Configuration -> Policy DRA -> PCRF Pools

Delete the complete configuration data from this screen.	Delete the complete configuration data from this screen.
--	--

4.8 UN-CONFIGURING ONLINE CHARGING FUNCTION FROM A RUNNING DSR PCA SYSTEM

Detailed steps are given in the procedure below.

Procedure 22: Un-configuring Online Charging DRA

S	This procedure un-configures the Online Charging DRA function of PCA application.						
T F	Check off ($\sqrt{2}$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
P #	SHOULD THIS PROCEDURE	E FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.					
1	Establish GUI Session on the NOAM VIP	Establish a GUI session on	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".				
2	NOAM VIP: Disable the Online Charging DRA function	Navigate to Main Menu -> Policy and Charging -> Configuration -> General Options Screen.					
		Field	Value	Description			
		Policy DRA Enabled		Indicate whether the Policy DRA [Default = Policy DRA Disabled DRA disabled (Unchecked)]			
		Online Charging DRA Enabled		Indicate whether the Online Cha [Default = Online Charging DRA Enabled (Checked) or Online C			
		Audit Options					
		1. Uncheck the Online Char	ging DRA Enabled box				
		2. Click Apply.					
3	NOAM VIP: Disable the Online Charging DRA Session SBR Database	If the Policy DRA Function is not enabled, disable all the Session Database(s). Navigate to Main Menu -> SBR -> Maintenenace -> SBR Database Status					
	Database	One by one select the SBR	Database of type 'Session' and Disable it	t.			
4	NOAM VIP: Delete the Online Charging DRA Session SBR Databases	If the Policy DRA Function is not enabled, delete all the Session Database(s). Navigate to Main Menu -> SBR -> Configuration -> SBR Databases					
		Delete the SBR Databases of type 'Session' from this screen.					
5	NOAM VIP: Delete all configured Realms	NOTE: THIS STEP IS OPTIONAL. THIS STEP CAN BE SKIPPED IF YOU ARE GOING TO ENABLE Policy DRA AGAIN ON THIS SYSTEM AND YOU WANT TO RE-USE THE ONLINE CHARGING REALMS CONFIGURATION DATA AFTER RE-ENABLE.					
		Main Menu -> Poli Online Charging I	cy and Charging -> Confi DRA -> Realms	iguration ->			
		Delete the complete configu	ration data from this screen.				
6	NOAM VIP: Delete the Online Charging specific APNs	NOTE: THIS STEP I YOU ARE GOING TO AND YOU WANT TO F RE-ENABLE.	IS OPTIONAL. THIS STEP CA ENABLE Policy DRA AGAIN RE-USE THE APN CONFIGURAT	AN BE SKIPPED IF ON THIS SYSTEM FION DATA AFTER			
		Main Menu -> Poli Access Point Name	cy and Charging -> Confi es	iguration ->			
		Delete the Online charging s	specific configuration data from this scree	en.			

7	Establish GUI Session on the SOAM VIP	Establish a GUI session on the SOAM by using the XMI VIP address. Login as user "guiadmin".
8	SOAM VIP: Delete the Online Charging Servers	NOTE: THIS STEP IS OPTIONAL. THIS STEP CAN BE SKIPPED IF YOU ARE GOING TO ENABLE Policy DRA AGAIN ON THIS SYSTEM AND YOU WANT TO RE-USE THE OCS CONFIGURATION DATA AFTER RE-ENABLE.
		Main Menu -> Policy and Charging -> Configuration -> Online Charging DRA -> OCSs
		Delete the complete configuration data from this screen.
9	SOAM VIP: Delete the Online charging Clients	NOTE: THIS STEP IS OPTIONAL. THIS STEP CAN BE SKIPPED IF YOU ARE GOING TO ENABLE Policy DRA AGAIN ON THIS SYSTEM AND YOU WANT TO RE-USE THE CTF CONFIGURATION DATA AFTER RE-ENABLE.
		Main Menu -> Policy and Charging -> Configuration -> Online Charging DRA -> CTFs
		Delete the complete configuration data from this screen.
10	SOAM VIP: Restore default values of Error	Main Menu -> Policy and Charging -> Configuration -> Error Codes
	(OPTIONAL)	1. Edit the Error Condition 'SBR Error' and set the Gy/Ro Result Code as 5012.
		2. Edit the Error Condition 'Session Not found' and set the Gy/Ro Result Code as 5002.
		3. Edit all other Error Conditions and set the Gy/Ro Result Code as 3002.
11	SOAM VIP: Perform steps on All Active SOAM Servers	Repeat Steps 5 to 7 on All Active SOAM servers.

4.9 POST-CONFIGURATION PROCEDURES

4.9.1 Enable Application

Detailed steps are given in the procedure below.

Procedure 23: Enable Application

S	This procedure enables the PCA application on the DA-MP servers.					
Т	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.					
E P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.					
#						
1	Establish GUI Session on the active SOAM VIP	Establish a GUI session on the Active SOAM server by using the XMI VIP address. Login as user "guiadmin".				
2	SOAM VIP: Navigate to	Navigate to Main Menu -> Diameter -> Maintenance -> Applications				

Applicatio ns screen									
SOAM VIP: Enable the PCA applicatio n	S	elect the PCA row(s) and	d Click Enat	ole.					
SOAM VIP: Verify that the PCA applicatio	Navigate to Main Menu -> Diameter -> Maintenance -> Applications Verify that the Application status has changed to Enabled-Available-Normal-Normal.								
n has been Epobled		Application Name	MP Server Hostname	Admin State	Operational Status	Operational Reason	Congestion Level	Time of	Last Update
Enabled.		PCA	th-mp-th-2a	Enabled	Available	Normal	Normal	2015-M	ar-26 07:42:22 EDT
		PCA	th-mp-th-1a	Enabled	Available	Normal	Normal	2015-M	ar-26 13:00:46 EDT
	N	NOTE:							
	lt	may take some time (15-	30 seconds)	to initialize and	l change state.				
SOAM VIP: Enable PCA applicatio n on All Active SOAM	R	epeat Steps 1 to 4 on All	Active SOAM	A servers.					

4.9.2 Enable SBR Databases

Detailed steps are given in the procedure below.

Procedure 24: Enable SBR Databases

S	This proce	dure enables the SB	R Databases.					
Т	Check off (√)	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
Ε	SHOULD TH	HIS PROCEDURE FAIL CONTACT OR ACLE TECHNICAL SERVICES AND ASK FOR OR ACLE TAC						
Р	SHOULD III	IS I ROCEDURE FAIL, C	JNIACI ORACL	ETECHNICA	L SERVICES AND A	ISK FOR ORACLE	<u>1AC</u> .	
#	Fatabliab	Fatabliah a CLII assa	ion on the Astiv					n "autic also is"
1	GUI	Establish a GUI sess	ion on the Activ	e noaivip se	ervers by using the	e XIVII VIP addres	s. Login as use	r guladmin .
	Session							
	active							
	NOAMP							
2	NOAMP	Navigate to Main	Menu -> SI	BR -> Ma	intenance	-> SBR Data	abase Sta	tus
	VIP:							
	Navigate to SBR							
	Database							
	Status							
3	NOAMP	Select the SBR Data	base and Click	Prepare.				
	VIP:	NOTE: This step ena	bles status mor	- nitoring of the	e database by all s	ervers that will co	mmunicate with	h the
	Prepare the SBR	database. In the Pre	pare state, the F	PCA applicati	on is not yet allow	red to use the data	abase.	
	Database							
4	NOAMP	Novigato to Main			intonanco	-> CRP Date	baco Sta	tue
-	VIP:	Navigale lo Main	Menu -> Si	DR -> Ma	iintenance	-> SBR Data	abase sta	cus
	Verify that							
	the SBR Database	Verify that the SBR [Database status	has changed	d to Prepare – Pre	epared – N of N pr	epared – N of I	N prepared
	the SBR Database has been	Verify that the SBR [Database status	has changed	d to Prepare – Pre	epared – N of N pr	repared – N of I	N prepared
	the SBR Database has been prepared.	Verify that the SBR I	Database status	has changed	d to Prepare – Pre	epared – N of N pr	repared – N of I	N prepared
	the SBR Database has been prepared.	Verify that the SBR E	Database status Administrative State	has changed	d to Prepare – Pre Resource User Operational Reason	epared – N of N pr Resource Provider Operational Reason	repared – N of I Reconfiguration in Progress	N prepared The May 07 07:36:41 Database Type
	the SBR Database has been prepared.	Verify that the SBR D	Database status Administrative State Prepare	has changed Operational Status Prepared	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared	Resource Provider Operational Reason 2 of 2 prepared	Reconfiguration in Progress	N prepared Thu May 07 07:36:41 Database Type Binding
	the SBR Database has been prepared.	Verify that the SBR D	Administrative State Prepare Prepare	Operational Status Prepared Prepared	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared	Reconfiguration in Progress No No	N prepared Thu May 07 07:36:43 Database Type Binding Session
	the SBR Database has been prepared.	Verify that the SBR D Filter Database Name BindingSorDb SessionStrDb	Administrative State Prepare Prepare	has changed Operational Status Prepared Prepared	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared	Reconfiguration in Progress No No	N prepared Thu May 07 07:36:41 Database Type Binding Session
	the SBR Database has been prepared.	Verify that the SBR I	Administrative State Prepare Prepare	has changed Operational Status Prepared Prepared	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared	Pepared – N of N pr Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared	Reconfiguration in Progress No No	N prepared The May 07 07:36:43 Database Type Binding Session
	the SBR Database has been prepared.	Verify that the SBR I	Administrative State Prepare Prepare	has changed Operational Status Prepared Prepared	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared	Reconfiguration in Progress No No	N prepared Thu May 07 07:36:43 Database Type Binding Session
	the SBR Database has been prepared.	Verify that the SBR D Filter Database Name BindingSorde SessionStriDe NOTE: It may take some time CAUTION:	Administrative State Prepare Prepare e (5-6 seconds)	has changed Operational Status Prepared Prepared	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared	Reconfiguration in Progress No No	N prepared Thu May 07 07:36:41 Database Type Binding Session
	the SBR Database has been prepared.	Verify that the SBR I	Administrative State Prepare Prepare e (5-6 seconds)	has changed Operational Status Prepared Prepared to change s N prepared"	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate.	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared	Reconfiguration in Progress No No	N prepared Thu May 07 07:36:43 Database Type Binding Session
	the SBR Database has been prepared.	Verify that the SBR I Filer Detabase Name BindingSorDo SessionSorDo NOTE: It may take some tim CAUTION: If the state does not all of the database re enabled while it is stil	Administrative State Prepare Prepare e (5-6 seconds) change to "N of isource users ar Il in "Preparing"	has changed Operational Status Prepared Prepared to change s N prepared" od/or provide state calls m	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared to fix the problem prepared state. If sers of the databa	Reconfiguration in Progress No No No St that are caus the SBR Datal use do not have	N prepared The May 07 07:36:41 Database Type Binding Session
	the SBR Database has been prepared.	Verify that the SBR I Filter Database Name BindingSorDe SessionScrDe NOTE: It may take some time CAUTION: If the state does not all of the database re enabled while it is sti part or all the it.	Administrative State Prepare Prepare e (5-6 seconds) change to "N of isource users ar II in "Preparing"	has changed Operational Status Prepared Prepared to change s N prepared" nd/or provide state calls m	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared to fix the problem prepared state. If sers of the databa	Reconfiguration in Progress No No No	N prepared The May 07 07:36:41 Detabase Type Binding Session
5	the SBR Database has been prepared.	Verify that the SBR I Filter Database Name BindingSorDe SessionSorDe NOTE: It may take some time CAUTION: If the state does not all of the database re enabled while it is sti part or all the it. Select the SBR Data	Administrative State Prepare Prepare Prepare e (5-6 seconds) change to "N of esource users ar Il in "Preparing" base and Click 3	has changed Operational Status Prepared Prepared To change s N prepared" nd/or provide state calls m Enable.	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared 2 of 2 prepared	Reconfiguration is Progress No No	N prepared The May 07 07:36:41 Database Type Binding Session
5	NOAMP VIP: Enabled	Verify that the SBR I Filter Detabase Name BindingS200 SessionS200 NOTE: It may take some time CAUTION: If the state does not all of the database re enabled while it is stip part or all the it. Select the SBR Data NOTE: Enabling the	Administrative State Prepare Prepare e (5-6 seconds) change to "N of esource users ar II in "Preparing" base and Click i database allows	has changed Operational Status Prepared Prepared to change s N prepared" nd/or provide state calls m Enable.	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us	Pared – N of N provider Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared 2 of 2 prepared to fix the problem prepared state. If sers of the databa	Reconfiguration in Progress No No No St that are caus the SBR Datal use do not have	N prepared The May 07 07:36:41 Database Type Binding Session
5	the SBR Database has been prepared. NOAMP VIP: Enabled the SBR	Verify that the SBR I Filter Database Name BindingSorDe NOTE: It may take some time CAUTION: If the state does not all of the database re enabled while it is stipart or all the it. Select the SBR Data NOTE: Enabling the	Administrative State Prepare Prepare e (5-6 seconds) change to "N of isource users ar Il in "Preparing" base and Click 3 database allows	has changed Operational Status Prepared Prepared to change s N prepared" nd/or provide state calls m Enable. the PCA ap	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us plication to begin	Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared 2 of 2 prepared to fix the problem prepared state. If sers of the databat	Reconfiguration in Progress No No No St that are cause the SBR Data ise do not have	N prepared The May 07 07:36:41 Detabase Type Binding Session
5	NOAMP VIP: Enabled the SBR Database	Verify that the SBR I Filter Database Name BindingSorDe SessionSorDe NOTE: It may take some tim CAUTION: If the state does not all of the database re enabled while it is stip part or all the it. Select the SBR Data NOTE: Enabling the	Administrative State Prepare Prepare Prepare e (5-6 seconds) change to "N of isource users ar Il in "Preparing" base and Click is database allows	has changed Operational Status Prepared Prepared to change s N prepared" nd/or provide state calls m Enable. a the PCA ap	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us plication to begin	Pared – N of N provider Operational Reason 2 of 2 prepared 2 of 2 prepared 2 of 2 prepared to fix the problem prepared state. If sers of the databat	Reconfiguration is Progress No No No Sthat are cause the SBR Data ise do not have	N prepared The May 07 07:36:45 Database Type Binding Session
5	NOAMP VIP: Enabled the SBR Database NOAMP VIP:	Verify that the SBR I Filter Database Name BindingSorDo SessionSorDo NOTE: It may take some tim CAUTION: If the state does not all of the database re enabled while it is sti part or all the it. Select the SBR Data NOTE: Enabling the Navigate to Main	Administrative State Prepare Prepare e (5-6 seconds) change to "N of esource users ar II in "Preparing" base and Click is database allows	has changed Operational Status Prepared Prepared to change s N prepared" nd/or provide state calls m Enable. s the PCA ap BR -> Ma	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us plication to begin	Pared – N of N provider Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared 2 of 2 prepared to fix the problem prepared state. If sers of the databas reading and writin -> SBR Data	Reconfiguration in Programs No No No No St that are caus the SBR Datal use do not have	N prepared The May 07 07:36:41 Database Type Binding Session sing part or base is access to
5	NOAMP VIP: Enabled the SBR Database NOAMP VIP: Verify that	Verify that the SBR I The state does not all of the database re enabled while it is stip part or all the it. Select the SBR Data NOTE: Enabling the Navigate to Main Verify that the SBR I	Administrative State Prepare Prepare e (5-6 seconds) change to "N of isource users ar II in "Preparing" base and Click is database allows Menu -> SI Database status	has changed Operational Status Prepared Prepared to change s N prepared" ind/or provide state calls m Enable. is the PCA ap BR -> Ma has changed	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us plication to begin Lintenance d to Enable – Norr	Pared – N of N provider Operational Reason 2 of 2 prepared 2 of 2 prepared 2 of 2 prepared to fix the problem prepared state. If sers of the databative reading and writin -> SBR Data mal – N of N avail	Reconfiguration in Progress No No No Statutate cause the SBR Datal se do not have ong the database abase Stata able – N of N a	N prepared The May 07 07:36:41 Detabase Type Binding Session ing part or base is access to c. tus vailable
5	NOAMP VIP: Enabled the SBR Database NOAMP VIP: Enabled the SBR Database NOAMP VIP: Verify that the SBR Database	Verify that the SBR I The state does not all of the database re enabled while it is stip part or all the it. Select the SBR Data NOTE: Enabling the Navigate to Main Verify that the SBR I	Administrative State Prepare Prepare Prepare e (5-6 seconds) change to "N of isource users ar Il in "Preparing" base and Click is database allows Menu -> SI Database status	has changed Operational Status Prepared Prepared to change s N prepared" nd/or provide state calls m Enable. the PCA ap BR -> Ma has changed	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us plication to begin Lintenance d to Enable – Norr	Pared – N of N provider Resource Provider Operational Reason 2 of 2 prepared 2 of 2 prepared 2 of 2 prepared to fix the problem prepared state. If sers of the databas reading and writin -> SBR Data mal – N of N availa	Reconfiguration in Progress No No No Stata are cause the SBR Data is that are cause the SBR Data is do not have	N prepared The May 07 07:36:41 Detabase Type Binding Session
5	the SBR Database has been prepared. NOAMP VIP: Enabled the SBR Database NOAMP VIP: Verify that the SBR Database has been	Verify that the SBR I Filter Database Name BindingSorDo SessionSorDo NOTE: It may take some tim CAUTION: If the state does not all of the database re enabled while it is stipart or all the it. Select the SBR Data NOTE: Enabling the Navigate to Main Verify that the SBR I	Administrative State Prepare Prepare Prepare e (5-6 seconds) change to "N of esource users ar Il in "Preparing" base and Click 3 database allows Menu -> SI Database status	has changed Operational Status Prepared Prepared to change s N prepared" nd/or provide state calls m Enable. the PCA ap BR -> Ma has changed	d to Prepare – Pre Resource User Operational Reason 3 of 3 prepared 3 of 3 prepared tate. it is recommened rs to not transit to ay fail because us plication to begin Lintenance d to Enable – Norr	Pared – N of N provider Operational Reason 2 of 2 prepared 2 o	repared – N of I Reconfiguration is Progress No No No Sthat are cause the SBR Database the SBR Database abase Star able – N of N a	N prepared The May 07 07:36:41 Database Type Binding Session ing part or base is access to e.

		Filter •							Thu May 07 07:37
		De	atabase Name	Administrative State	Operational Status	Resource User Operational Reason	Resource Provider Operational Reason	Reconfiguration In Progress	Database Type
		Bi	indingStrDt	Enable	Normal	3 of 3 available	2 of 2 available	No	Binding
		Se	essionSbdDb	Enable	Normal	3 of 3 available	2 of 2 available	No	Session
7	NOAMP VIP: Enable PCA applicatio n on All Active SOAM servers	NOTE: It may tak Repeat St NOTE: If all the vi call ORAC	teps 1 to 6 for rerifications for CLE Customer	5-6 seconds) f all SBR Datat SBR Databas Service for fu	to change sta bases which a se Status are inther assista	ate. are to be enabled. e successful, then p nce.	proceed with the n	ext step else S	TOP! And

4.9.3 Restart Process

Detailed steps are given in the procedure below.

Procedure 25: Restart Server

S	This procedure restarts the DSR and Policy and Charging SBR process.					
Т	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number					
Ε	cheen on (i) caen step as it	is completed 20000 have ceed provided for and purpose and even step nameen				
P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.					
#						
1	Establish GUI Session	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user				
	on the NOAM VIP	"guiadmin".				
2	NOAM VIP: Restart	Navigate to Main Menu -> Status & Manage -> Server				
	Process on DSR MP and Policy and Charging SBR Servers	Select the MP servers with Function "DSR (multi-active cluster)" that are or will be handling PCA traffic and all MP servers with Function "Policy and Charging SBR" then Click Restart .				
		NOTE: The Function of an MP Server is the same as the Function assigned to its Server Group in Main Menu -> Configuration -> Server Groups				
	CAUTION:					
		If the DSR system is processing traffic other than PCA then DO NOT restart all DA-MP servers simultaneously. Doing so will cause a network-wide outage. Please follow the procedure listed in APPENDIX-B to restart the DA-MP servers in a controlled order to minimize traffic loss.				

4.9.4 Enable Connections

Detailed steps are given in the procedure below.

Procedure 26: Enable connections

- **S** This procedure enables the Diameter connection with Peer nodes.
- \mathbf{T} Check off (\mathbf{v}) each step as it is completed. Boxes have been provided for this purpose under each step number.

SHOULD THIS PROCEDURE	FAIL, CONTACT ORA	CLE TECH	INICAL S	ERVICES A	AND ASK FOR <u>O</u>	<u>RACLE TAC</u> .		
Establish GUI Session on the SOAM VIP	Establish a GUI se	ssion on t	he SOAI	M by using	the XMI VIP a	ddress. Login a	is user "guia	admin".
SOAM VIP: Navigate to Connections screen	Navigate to Main Connections	Menu	-> Di	lamete	r -> Maint	tenance -:	>	
SOAM VIP: Enable all connections	Select all Connection	Select all Connection rows for newly added PCA Peers Nodes and Click Enable.						
the connections have been Enabled.	Connections Verify that the Adm shows "Connecting (policy client e.g. P Main Menu: Diam Filter	in state o " for conr CEF, AF neter -> I	f all conr nections t etc.) nod	nections cl to PCRF n les. ance -> (nange to "Enabliodes and "Liste	led" and the Opening" for conne	perational R ections to ot	eason her Help 2012 EST
	Connection Name	MP Server Hostname	Admin State	Operational Status	Operational Reason	Connection Mode	Local Node	Peer No
	conn_af	blade14	Enabled	Unavailable	Listening	Responder Only	PDRA	AF
	conn_pcef1	blade14	Enabled	Unavailable	Listening	Responder Only	PDRA	PCEF1
	conn_pcef2	blade14	Enabled	Unavailable	Listening	Responder Only	PDRA	PCEF2
	conn_pcrf1	blade14	Enabled	Unavailable	Connecting	Initiator Only	PDRA	PCRF1
	conn_pcrf2	blade14	Enabled	Unavailable	Connecting	Initiator Only	PDRA	PCRF2
	NOTE 1:							
				~ • " / "				
	For connections of will be "Unk" if usin	type "Res g TSA.	sponder	Only" (clie	nt nodes), the C	Operational Sta	tus and Rea	ason
	For connections of will be "Unk" if usin conn_af1	type "Res g TSA.	Enabled	Unk	nt nodes), the C	Dperational Sta Responder Only	tus and Rea	AF1
	For connections of will be "Unk" if usin conn_af1 NOTE 2:	type "Res g TSA.	Enabled	Unly" (Clie	unk	Dperational Sta	PDRA	AF1

4.9.5 Perform Health Check

Execute this Procedure to verify the sanity of the system.

Procedure 27: Perform Health Check

S	This procedure perfo	rms a Health Check.					
Т	Check of (\mathbf{v}) each step as it is completed. Boxes have been provided for this purpose under each step number						
Ε	Check off (V) each step as it is completed. Boxes have been provided for this purpose under each step number.						
Р	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.					
#							
1	Verify SBR Database	 Log into the NOAM GUI using the XMI VIP address. 					
	Status	2. Navigate to Main Menu: SBR -> Maintenance -> SBR Database Status					
		3. Verify that the status for all the SBR Database rows have the following values					
		Administrative State = Enabled					
		Operational Status = Normal Resource Liser Operational Reason - X of X available					
		Resource Provider Operational Reason = X of X available					
		If all the verifications are successful, then proceed with next step else STOP! And call ORACI F					
		Customer Service for further assistance.					
2	Verify the Policy and	1. Log into the NOAM GUI using the XMI VIP address.					
	Charging SBR Status	 Navigate to Main Menu: SBR -> Maintenance -> SBR Status 					
		3. Verify that the server " Resource HA Role " is shown as " Active/Standby/Spare " and					
		"Congestion Level" is 'Normal" for all the "Binding Region" and 'Mated Site" tabs.					
		The Resource HA Role of Standby applies if there is server level redundancy configured in the					
		DSR system. The Resource HA Role of Spare applies if there is site level redundancy conligured in the					
		configured in the DSR system.					
		And call ORACLE Customer Service for further assistance.					
3	Verify there are no PCA	1. Log into the NOAM GUI using the XMI VIP address.					
	Alarms raised	2. Navigate to Main Menu: Alarms & Events -> View Active					
		3. Verify that there are no Alarms raised with Product PCA/SBR.					
		If all the verifications are successful then pressed with signaling call flow successive stars are CTOP.					
		It all the verifications are successful, then proceed with signaling call flow execution else STOP!					

5.0 CAVEATS

6.0 CUSTOMER SERVICE SIGN OFF

Date	Test Case	Description of Failures and/or Issues. Any CSR's / RMA's issued during Acceptance. Discrepancy	Resolution and Engineer Responsible	Resolution Date

Discrepancy List

7.0 APPENDIX-A

7.1 PCA FEATURE ACTIVATION PROCEDURE

This section provides the detailed procedure steps of the PCA activation.

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

- For PCA activation on the entire network
 - Section 7.1.1 PCA Activation on an installed or upgraded system
 - Section 7.1.3 Restart Process
 - Section 7.1.4 Post PCA Activation System Health Check
- For PCA activation on a newly added site
 - Section 7.1.2 PCA Activation on a newly added site
 - Section 7.1.3 Restart Process
 - Section 7.1.4.2 System health check after Application Activation on SOAM servers

7.1.1 PCA Activation on an installed or upgraded system

Detailed steps are given in the procedure below.

Procedure 28: Verify PCA Activation Pre-Requisites

S T	This procedure ensures fulfilled.	ensures that pre-requisites for activating PCA on an installed or upgraded system have been								
E	This Procedure does	n	ot require a Maintenance Window							
Р #	Check off (\mathbf{v}) each step as it is	is c	completed. Boxes have	been provided f	or this purpose u	nder each step nu	ımber.			
π	SHOULD THIS PROCEDURE	E F A	AIL, CONTACT ORACI	LE TECHNICAL	SERVICES AND .	ASK FOR <u>ORAC</u>	<u>LE TAC</u> .			
	NOTE: - PLEASE COMPI BEFORE CONTINUING	COMPLETE THE TOPOLOGY CONFIGURATION OF ALL THE REQUIRED SOAM SERVERS NUING THIS STEP. SEE [1] AND [2] FOR STEPS.								
1	NOAM VIP: Check the software version on all servers.	 Navigate to Main Menu: Administration -> Software Management -> Upgrade Verify that the Upgrade ISO column shows the correct release number for all servers in the DSR network. NOTE: All servers in the network must be on the same DSR release when activating PCA 								
			NO_SG BSBR_SG_Sit	eA DAMP_SG_Sr	OAM Max HA Role	Server Role	Function	Appl	SSBR_SG_SITEA	
			Hostname	Server Status	Appl Max HA Role	Network Element		Upgr	ade ISO	
			NOAM01Resize	Ready Warn	Active N/A	Network OAM&P NO_1030101	OAM&P	7.2.0	.0.0-72.17.0	
2	NOAM VIP: Check the Upgrade Acceptance status on all servers.	N - -	lavigate to Main 1 -> Upgrade /erify that the Upgrad	Menu: Adm de State colum	inistrati n does not shov	on -> Sof	tware	Man ".	agement	

NOTE: U	lpgrade must	be accepted on all servers before activating PCA.									
NO_SG	BSBR_SG_Site	eA DAM	IP_SG_Site	вA	DAMP_SG_Site	eВ	SO_SG_SiteA	SO_SG_S	iteB	SSBR_SG_Site	
Upgr		Upgrade	State	OAM Max HA Role		Server Role		Function	Application Version		
nostiani	S		Server Status Appl Max HA Role		Max HA Role	Network Element		Upgrade ISO		ade ISO	
NOAM01Resize		Ready		Active	е	Netv	work OAM&P	OAM&P	7.2.0	.0.0-72.17.0	
1107 4110 11	INDAMO IRESIZE		Warn N/A			NO_1030101					
If the Upgrade State is "ACCEPT OR REJECT", follow the Installation Guide ^[2] or Upgrade Guide ^[6] (whichever applies) to accept the upgrade on all servers prior to activating PCA.								grade PCA.			

Procedure 29: PCA Activation on the entire network

S	This procedure activate	es the PCA on complete system.						
T E	This Procedure does not require a Maintenance Window							
Р #	Check off (\mathbf{v}) each step as it	is completed. Boxes have been provided for this purpose under each step number.						
	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.							
	NOTE: - PLEASE COMPLETE THE TOPOLOGY CONFIGURATION OF ALL THE REQUIRED SOAM SERVERS BEFORE CONTINUING THIS STEP. SEE [1] AND [2] FOR STEPS.							
1	Verify configuration of All SOAM servers	 Before continuing all SOAM servers should be configured in the topology. Log into the NOAM VIP GUI. Navigate Main Menu: Status & Manage -> Server. See all required SOAM servers are configured and Application State is enabled. 						
2	Establish a secure shell Session on the active	Establish a secure shell session on the active NOAM by using the XMI VIP address. Login as user "admusr".						
	NOAM	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:						
		<pre># ssh <active address="" no="" vip="" xmi=""></active></pre>						
3	PCA Application	Change to the following directory:						
	Activation: Change directory	<pre># cd /usr/TKLC/dsr/prod/maint/loaders/activate</pre>						
4	PCA Activation: Execute the PCA application activation script	# ./load.pcaActivationTopLevel						
		Note: - This command execution starts Activation on NOAM servers and All Active SOAM servers.						
		Check log file /var/TKLC/log/pcaActivationTopLevel.log to see if there is any execution failure.						
		If the activation fails, then execute the procedure in Section 7.2.2 to restore the system back to state before start of activation.						
5	PCA Application Activation	Delete all GUI cache files on active SOAM and NOAM for quick view of changes or wait for some time so that new changes can reflect.						



7.1.2 PCA Activation on a newly added site

Detailed steps are given in the procedure below.

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 system is new for configuration.

Procedure 30: PCA Activation on newly added site

S	This procedure activate	s the PCA on a single site newly added to the DSR topology.					
Т	This Procedure does not require a Maintenance Window						
Ε							
Р	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
#	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.						
1	Verify configuration of	Before continuing all SOAM servers for the newly added site should be configured in the topology.					
	the newly added site	1. Loa into the NOAM VIP GUI.					
		2. Navigate Main Menu: Status & Manage -> Server. See all required SOAM servers for the					
		newly added site are configured and Application State is enabled.					
2	Execute the activation	For PCA activation on new site, the activation procedure needs to be executed from the NOAM.					
	procedure	Execute the Procedures in Section 7.1.1.					

7.1.3 Restart Process

Detailed steps are given in the procedure below.

Procedure 31: Restart Process

S	This procedure restarts	This procedure restarts the DSR and SBR application processes.					
T E	This Procedure needs to be performed in a Maintenance Window						
Р	Check off ($\sqrt{2}$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
#	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.						
	NOTE: If PCA Activation is being performed on a newly added site, this procedure is limited to the servers belonging to that site only.						
1	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".					
2	NOAM VIP: Restart	Navigate to Main Menu -> Status & Manage -> Server					
	Servers Select all the DA-MP servers and press Restart .						
	CAUTION:						
		If the DSR system is processing traffic other than PCA then DO NOT restart all DA-MP servers simultaneously. Doing so will cause a network-wide outage. Please follow the procedure listed in APPENDIX-B to restart the DA-MP servers in a controlled order to minimize traffic loss.					
3	NOAM VIP: Restart Process on SBR	Navigate to Main Menu -> Status & Manage -> Server					

Servers	Select all the SBR servers and press Restart .

7.1.4 Post PCA Activation System Health Check

7.1.4.1 System health check after Application Activation on NOAM server

Detailed steps are given in the procedure below.

Procedure 32: Verification of application activation on NOAM Server

S	This procedure verifies	verifies the PCA application activation on NOAM Server.							
T E	This Procedure does	not require a Maintenance Window							
P #	Check off (1) each step as it	ompleted. Boxes have been provided for this purpose under each step number.							
"	SHOULD THIS PROCEDURE	AIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR <u>ORACLE TAC</u>.							
1	Active NOAM VIP: Establish GUI Session on the NOAM VIP	Establish a GUI session on the Active NOAM by using the XMI VIP address. Login as user "guiadmin".							
2	NOAM VIP: Verify that the Resource Domain Profile show the new profile entries.	Verify that the Resource Domain Profile show the new profile entries. Main Menu: Configuration -> Resource Domains [Insert]							
		T Inserting a new Resource Domain							
		Resource Domain Field Value Description							
		Resource Domain Name							
		Resource Domain Profile - Select Resource Domain Profile -							
		Server Groups - Select Resource Domain Profile - NONE							
		Policy Session Policy Binding Policy and Charging DBA							
3	NOAM VIP: Verify that the PCA specific KPIs	Verify that KPIs menu shows the KPI tabs for PCA, SBR, SBR-Binding and SBR-Sessoin.							
	are shown.	Main Menu: Status & Manage -> KPIs							
		Filter - Tasks -							
		Entire-Network Dsr70PcaBind-a Dsr70PcaBind-b Dsr70PcaDaMP-a							
		ComAgent PCA SBR SBR-Binding SBR-Session Server							
4	NOAM VIP: Verify that the PCA specific Measurement groups are shown.	Verify that Measurement groups are shown for OC-DRA, P-DRA and PSBR.							

NOAM VIP: Verify that he Main Menu shows be Policy and Charging submenu. Verify that Main Menu on Active NOAM shows the Policy and Charging and SBR submenu with Configuration and Maintenance screens.	
NOAM VIP: Verify that he Main Menu shows he Policy and Charging submenu. Verify that Main Menu on Active NOAM shows the Policy and Charging and SBR submenu with Configuration SBR Databases	
Scope: Network Element: Server Group: Resource Domain: Place: Place Association: Resel Report: Group: Immediate Resel Column Filter: Condagent Exception Resel Resel OAM XPSTEM OAM PSTEM OAM PSTEM OAM PSTEM OAM Congestion Exception O-CPRA Congestion Exception P-DRA Congestion Exception P-DRA Congestion Exception P-DRA Congestion Exception P-DRA Congestion Exception P-DRA Congestion Exception P-DRA Congestion Exception Resel P-DRA Congestion Exception SBR Binding Exception SBR Policy Session Performance SBR Policy Session Performance SBR Delicy Session Performance SBR Policy Session Performance SBR Dotabases SBR Databases SBR Databases SBR Databases SBR Databases SBR Databases SBR Databases SBR Databases SBR Data Migration Plans SBR Databases Contexception	IUS
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Report Group - Interval I Reset Column Filter Group - Interval I Reset Column Filter Group - Interval I Reset Ime Range OMALARM OAM PERF OAM PERF OAM PERF OAM PERF OAM PERF OAM PERF OAM PERF OAM PERF OCDRA Diameter Usage SBR Audit SBR Binding Derdomance SBR Policy Session Exception P-ORA Diameter Usage SBR Policy Session Exception SBR Policy Session Exception SBR Policy Session Performance SBR Policy Session Performance SBR Policy Session Performance SBR Policy and Charging submenu. vith Configuration SBR Databases SBR Databases SBR Data Migration Plans SBR Database Sizing Plans SBR Data Migration Plans SBR Database Status	IUS
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ComAgent Exception ComAgent Exception OAM PERF OAM SYSTEM OC-DRA Congestion Exception OC-DRA Diameter Exception OC-DRA Diameter Exception OC-DRA Diameter Exception OC-DRA Diameter Exception SBR Binding Exception SBR Addt SBR Binding Exception SBR Binding Exception SBR Policy Session Paformance SBR Policy Sessin Paformance	IUS
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P-DRA Diameter Usage SBR Audit SBR Binding Exception P-DRA Diameter Usage SBR Audit SBR Binding Exception SBR Binding Exception SBR Binding Exception SBR Binding Exception SBR Policy Session Exception SBR Policy Session Performance SBR Policy Session Performance Server Exception With Configuration and Maintenance screens. Image: SBR Databases Image: SBR Databases Image: SBR Database	us
P-DRA Diameter Usage SBR Audit SBR Binding Performance SBR Policy Session Exception SBR Policy Session Performance Server Exception NOAM VIP: Verify that the Main Menu shows he Policy and Charging submenu. Verify that Main Menu on Active NOAM shows the Policy and Charging and SBR submenu with Configuration and Maintenance screens. SBR SBR Databases SBR Data Migration Plans SBR Database Status	IUS
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NOAM VIP: Verify that the Main Menu shows the Policy and Charging submenu. Verify that Main Menu on Active NOAM shows the Policy and Charging and SBR submenu with Configuration and Maintenance screens. Image: SBR Series Ser	ius
NOAM VIP: Verify that the Main Menu on Active NOAM shows the Policy and Charging and SBR submenu with Configuration and Maintenance screens. Image: SBR Submenu. Imag	ius
NOAM VIP: Verify that the Main Menu shows the Policy and Charging submenu. Verify that Main Menu on Active NOAM shows the Policy and Charging and SBR submenu with Configuration and Maintenance screens. Image: SBR Submenu Image: SBR Submenu Image: SBR Submenu	nus
<pre>with Configuration and Maintenance screens. with Configuration with Configuration</pre>	
submenu. SBR Databases SBR Database Resizing Plans SBR Data Migration Plans Maintenance SBR Database Status	
 Configuration SBR Databases SBR Database Resizing Plans SBR Data Migration Plans Maintenance SBR Database Status 	
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 SBR Database Resizing Plans SBR Data Migration Plans Maintenance SBR Database Status 	
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Maintenance	
SRP Database Status	
SBR Databaco Statuc	
💓 SBR Status	
💷 💽 SBR Database Reconfiguration Status	
🚊 😋 Policy and Charging	
📋 😋 Configuration	
🗮 🗒 General Options	
Access Point Names	
🔤 🔢 Network-Wide Options	
📋 😋 Online Charging DRA	
🔤 🔤 OCS Session State	
- 📑 Realms	
🙀 Network-Wide Options	
Alarm Settings	
Congestion Options	
Maintenance	

7.1.4.2 System health check after Application Activation on SOAM servers

Detailed steps are given in the procedure below.

Procedure 33: Verification of application activation on SOAM Servers



7.2 PCA FEATURE DEACTIVATION PROCEDURE

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 7.2.1 Pre PCA Deactivation Steps
 - Section 7.2.2 PCA Deactivation Procedure
 - Section 7.2.4 Post PCA Deactivation Steps
 - Section 7.2.5 Post PCA Deactivation System Health Check
- For PCA deactivation on a site (in the case when the site is being decommissioned)
 - Section 7.2.3 Site Specific PCA Deactivation Procedure
 - Section 7.2.4 Post PCA Deactivation Steps
 - Section 7.2.5.2 System health check after Application Deactivation on SOAM servers

7.2.1 Pre PCA Deactivation Steps

7.2.1.1 Verify and Deactivate the GLA application

Detailed steps are given in the procedure below.

Procedure 34: Verify and Deactivate GLA application

S	This procedure verifies	that GLA is activated and then deactivates the GLA application.					
Т	Check off ($\sqrt{2}$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.						
#	NOTE: - PLEASE VERIFY FIRST THAT GLA IS ACTIVATED IN STEPS 1-2 AND THEN EXECUTE THE STEPS 4-5 TO DEACTIVATE THE GLA APPLICATION.						
1	Establish GUI Session on the SOAM VIP	Establish a GUI session on the SOAM by using the XMI VIP address. Login as user "guiadmin".					
2	SOAM VIP: Navigate to Applications screen	Navigate to Main Menu -> Diameter -> Maintenance -> Applications					
3	SOAM VIP: Verify the GLA application is present.	Check the presence of GLA application. If GLA application record is present. It means GLA is activated on this system. NOTE: - IF GLA RECORD IS NOT PRESENT ON THIS SCREEN, THEN SKIP					
		THE REMAINING STEPS IN THIS PROCEDURE.					
4	SOAM VIP: Deactivate the GLA application.	If GLA record is present in the Applications screen. Then execute the steps to deactivate the GLA application as per deactivation procedures defined in [8] .					
5	SOAM VIP: Perform steps on All Active SOAM Servers	Repeat Step 1-4 on All Active SOAM servers.					

7.2.1.2 Unconfigure PCA Functions

Detailed steps are given in the procedure below.

Procedure 35: Unconfigure PCA Functions (PDRA and OCDRA)

S	This procedure unconfigures the PCA Functions – Policy DRA and Online Charging DRA.						
T F	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES.						
#							
1	Unconfigure Policy DRA	Navigate to Main Menu: Policy and Charging -> Configuration -					
		> General Options					
		If Policy DRA is enabled, Execute the steps in Section 4.7 to unconfigure Policy DRA					
2	Unconfigure Online	Navigate to Main Menu: Policy and Charging -> Configuration -					
	Charging DRA	> General Options					
		If Online Charging DRA is enabled, Execute the steps in Section 4.8 to unconfigure Online Charging DRA					

7.2.1.3 Disable Diameter Connections

Detailed steps are given in the procedure below.

Procedure 36: Disable Diameter Connections

S	This procedure disables the Diameter connections.									
T E	This Procedure does	does not require a Maintenance Window								
P	Check off (\mathbf{v}) each step as it	step as it is completed. Boxes have been provided for this purpose under each step number.								
#	SHOULD THIS PROCEDURE	HIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.								
1	Establish GUI Session on the SOAM VIP	Establish a Gl "guiadmin".	stablish a GUI session on all the Active SOAM by using the XMI VIP address. Login as user guiadmin".							
2	SOAM VIP: Disable DSR connections.	Navigate to M	Navigate to Main Menu: Diameter -> Maintenance -> Connections							
		Select all the PCA specific diameter connections and click disable or click Disable All (if applicable). The Admin State of connections should be shown as Disabled.								
		Main Menu: Diameter -> Maintenance -> Connections								
		Filter 🔻							Tue	Jun 12 11:26:40 2012 UT
		Connection Name	MP Server Hostname	Admin State	Operational Status	Operational Reason	Connection Mode	Local Node	Peer Node	Remote IP Addresses
		conn_af	blade12	Disabled	Unavailable	Disabled	Responder Only	PDRA	AF1	
		conn_pcef	blade12	Disabled	Unavailable	Disabled	Responder Only	PDRA	PCEF1	
3	SOAM VIP: Perform steps on All Active SOAM Servers	Repeat Steps	1 to 2 or	n All Act	ive SOA	M servers.				

7.2.1.4 Disable Application

Detailed steps are given in the procedure below.

Procedure 37: Disable application

S	This procedure disables the PCA application.								
T E	This Procedure does not require a Maintenance Window								
E P	Check off (\mathbf{v}) each step as it i	is completed. Boxes have	been pro	ovided for t	his purpos	se under each s	tep numbe	r.	
#	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACI	LE TECH	NICAL SEI	RVICES AN	ND ASK FOR <u>(</u>	DRACLE T	AC.	
1	Establish GUI Session on the SOAM VIP	Establish a GUI sessi	ion on th	ne SOAM	by using t	the XMI VIP a	address. L	₋ogin as user "guiadr	nin".
2	SOAM VIP: Navigate to Applications screen	Navigate to Main I Applications	Menu	-> Dia	meter	-> Main	tenano	ce ->	
3	SOAM VIP: Disable the PCA application	Select the PCA row a If there are multiple D screen. Select all the	nd press A-MPs r entries a	s Disable under this and click I	SOAM th Disable.	nen there will	be multip	le entries of PCA in t	this
4	SOAM VIP: Verify that the PCA application has been Disabled.	Navigate to Main I Applications Verify that the Applica Main Menu: Diameter -> Filter • DSR Application Name PCA	Menu ation sta Mainten MP Server Hostname blade12	-> Dia tus has ch ance -> Ap Admin State Disabled	meter nanged to plications Operational State	-> Main Disabled. Operational Reason Not Initialized	Congestion Level Normal	Tue Jun 12 06:33:59 Time of Last Update 2012-Jun-12 06:33:43 UTC	Nelp 2012 UTC
5	SOAM VIP: Perform steps on All Active SOAM Servers	Repeat Steps 1 to 4 o	on All Ac	tive SOAI	M servers	i.			

7.2.1.5 Remove DSR Configuration Data

Detailed steps are given in the procedure below.

Procedure 38: Remove DSR configuration data

S	This procedure removes the DSR configuration data.		
Т	Check off (\mathbf{v}) each step as it is completed. Boxes have been provided for this purpose under each step number.		
E	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.		
P #	NOTE		
#	NOTE		
	A.) PLEASE DON" SYSTEM AND	Γ EXECUTE THIS STEP IF YOU ARE GOING TO ACTIVATE PCA AGAIN ON THIS YOU WANT TO RE-USE THE CONFIGURATION DATA AFTER RE-ACTIVATION.	
1	Establish GUI Session on the SOAM VIP	Establish a GUI session on the SOAM by using the XMI VIP address. Login as user "guiadmin".	
2	SOAM VIP: Remove Application Routing	Main Menu: Diameter -> Configuration -> Application Routing Rules	
		Select and delete the PCA specific or the complete configuration data (as applicable) from this screen.	
3	SOAM VIP: Remove	Main Menu: Diameter -> Configuration -> Peer Routing	
	Teel Routing Rules.	Select and delete the PCA specific or the complete configuration data (as applicable) from this screen.	
4	SOAM VIP: Remove Route Lists	Main Menu: 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	Main Menu: 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.	Main Menu: Diameter -> Configuration -> Connections	
		Select and delete the PCA specific or the complete configuration data (as applicable) from this screen.	
7	SOAM VIP: Remove Peer Nodes.	Main Menu: 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.	Main Menu: 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	Main Menu: 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.	Main Menu: Diameter -> Configuration -> CEX Parameters.	

		Select and delete the PCA specific or the complete configuration data (as applicable) from this screen.
111	SOAM VIP: Remove Application IDs	Main Menu: 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.

7.2.2 PCA Deactivation Procedure

Detailed steps are given in the procedure below.

Procedure 39: PCA Application Deactivation

S	This procedure deactivates the PCA application.		
Т	Check of (\mathbf{v}) each step as it is completed. Boxes have been provided for this purpose under each step number.		
Ε			
Р	SHOULD THIS I ROCEDURE	TAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.	
#			
1	Establish a secure shell Session on the active	Establish a secure shell session on the active NOAM by using the XMI VIP address. Login as user "admusr".	
	NOAM	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:	
		<pre># ssh <active address="" ip="" no="" xmi=""></active></pre>	
2	PCA Deactivation:	Change to the following directory:	
	Change directory	<pre># cd /usr/TKLC/dsr/prod/maint/loaders/deactivate</pre>	
3	PCA Deactivation:	# ./load.pcaDeactivationTopLevel	
	Execute the PCA 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 that new changes can reflect.	
	the Web Server cache	# clearCache	

7.2.3 Site Specific PCA Deactivation Procedure

THIS SECTION NEEDS TO BE EXECUTED WHEN PCA NEEDS TO BE DEACTIVATED FROM A PARTICULAR SITE.

Detailed steps are given below.

Procedure 40: PCA Application Deactivation on a particular site.

S	This procedure deactivates the PCA application on a particular site.			
T	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
E P	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.		
#				
1	Establish a secure shell Session on the active SOAM or on which	Establish a secure shell session on the active SOAM by using the XMI VIP address. Login as user "admusr".		
	deactivation is required.	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:		
		<pre># ssh <active address="" ip="" so="" xmi=""></active></pre>		
2	PCA Deactivation:	Change to the following directory:		
	Change directory	<pre># cd /usr/TKLC/dsr/prod/maint/loaders/deactivate</pre>		
3	PCA Deactivation:	# ./load.pcaDeactivateBscoped		
	application deactivation	Note: - This command execution will start Deactivation on selected active SOAM server.		
	script	Check log file /var/TKLC/log/pcaDeactivateBscoped.log to see if there is any execution failure.		
4	PCA Deactivation	Delete all GUI cache files on active SOAM and NOAM for quick view of changes or wait for some time so that new changes can reflect		
	the Web Server cache	# clearCache		

7.2.4 Post PCA Deactivation Steps

IF PCA DEACTIVATION IS BEING PERFORMED ON A SINGLE SITE, THE PROCEDURES IN THIS SECTION APPLY TO THE SERVERS BELONGING TO THAT SITE ONLY.

7.2.4.1 Move Policy and Charging SBR Servers to OOS State

Detailed steps are given in the procedure below.

Procedure 41: Move Policy and Charging SBR Servers to OOS State

S	This procedure puts all	the MP Servers in Policy and Charging SBR Server Groups in OOS.		
T E	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
P	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.		
#	NOTE: - PLEASE DON'T 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.			
	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".		
2	NOAM VIP: Navigate to Server Groups screen	Navigate to Main Menu: Configuration -> Server Groups		
3	NOAM VIP: Find the Server List	Find the Servers with Function as "Policy and Charging SBR".		
4	NOAM VIP: Navigate	Navigate to Main Menu: Status & Manage -> HA		
	to HA screen	Edit the Servers from list created in Step 3. Change the value of "Max Allowed HA Role" to OOS.		

7.2.4.2 Remove Policy and Charging SBR Servers from Server Groups

Detailed steps are given in the procedure below.

Procedure 42: Remove Policy and Charging SBR Servers from Server Groups

S T	This procedure remove Server Groups.	s all the MP Servers in Policy and Charging SBR Server Groups from their respective
Ε	Check off (\mathbf{v}) each step as it	is completed. Boxes have been provided for this purpose under each step number.
P #	SHOULD THIS PROCEDURE	FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.
	PREREQUISITE: PREV	VIOUS PROCEDURE HAS BEEN EXECUTED.
1	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".
2	NOAM VIP: Navigate to Server Groups screen	Navigate to Main Menu: Configuration -> Server Groups
3	NOAM VIP: Find the Server List	Find the Servers with Function as "Policy and Charging SBR".
4	NOAM VIP: Edit the Server Groups.	Navigate to Main Menu: Configuration -> Server Groups

Edit the Server Group with "Policy and Charging SBR" function and remove the servers from it.
Repeat the steps with all server groups with "Policy and Charging SBR" function.

7.2.4.3 Delete Server Groups related to Policy and Charging SBR

Detailed steps are given in the procedure below.

Procedure 43: Delete Server Groups related to Policy and Charging SBR

S	This procedure removes the Server Groups related to Policy and Charging SBR.				
Т	Check off (\mathbf{v}) each step as it is completed. Boxes have been provided for this purpose under each step number.				
E P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.				
#	PREREQUISITE: PREVIOUS PROCEDURE HAS BEEN EXECUTED.				
1	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".			
2	NOAM VIP: Navigate to Server Groups Screen	Navigate to Main Menu: Configuration -> Server Groups			
3	NOAM VIP: Remove Server Groups Resource Domains	Remove the Server Groups which has Function value "Policy and Charging SBR".			

7.2.4.4 Remove Place Configuration Data

Detailed steps are given in the procedure below.

Procedure 44: Remove Place configuration data

S	This procedure remove	es the Place configuration data.
T E P	Check off (√) each step as it SHOULD THIS PROCEDURE	is completed. Boxes have been provided for this purpose under each step number. FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR <u>ORACLE TAC</u>.
#	NOTE: - PLEASE DON THIS SYSTEM AND Y ACTIVATION.	N'T EXECUTE THIS STEP IF YOU ARE GOING TO ACTIVATE PCA AGAIN ON YOU WANT TO RE-USE THE CONFIGURATION DATA AFTER RE-
1	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".
2	NOAM VIP: Remove all the data from Place screen as mentioned.	Main Menu: Configuration -> Places Edit the Places and Remove Servers from it.

7.2.4.5 Reboot the Servers

Detailed steps are given in the procedure below.

Procedure 45: Reboot the Servers

S This procedure removes the merge data from Servers by rebooting them.

Check off ($\sqrt{}$) each step as it is completed. Boxes have been provided for this purpose under each step number.

Т

Ε
Р	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.		
#			
1	Establish GUI Session on the NOAM VIP	Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin".	
2	NOAM VIP: Navigate to Server Groups Screen	Navigate to Main Menu: Status & Manage -> Server	
3	NOAM VIP: Reboot	Reboots all the relevant servers.	
	the Servers.	Select all the MP servers having Function "Policy and Charging SBR" and click Reboot.	
		Select all the DA-MP servers running PCA and click Reboot.	
		CAUTION:	
		If the DSR system is processing traffic other than PCA then DO NOT reboot all DA-MP servers simultaneously. Doing so will cause a network-wide outage. Please follow the procedure listed in APPENDIX-B to reboot the DA-MP servers in a controlled order to minimize traffic loss.	
		Select all the SOAM Servers belonging to sites running PCA and click reboot.	
		Select all NOAM servers except the Active NOAM and click reboot.	
		Select the Active NOAM server and click Reboot.	
		After rebooting the Active NOAM Server the GUI will go away. Please Establish a GUI session on the NOAM by using the XMI VIP address. Login as user "guiadmin" after some time.	

7.2.5 Post PCA Deactivation System Health Check

7.2.5.1 System health check after PCA Deactivation on NOAM server

Detailed steps are given in the procedure below.

Procedure 46: Verification of application deactivation on NOAM Server

S	This procedure verifies the PCA application deactivation on NOAM Server.			
T E	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
P #	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.			D ASK FOR <u>ORACLE TAC</u> .
#				
1	Active NOAM VIP: Establish GUI Session on the NOAM VIP	Establish a GUI session on the Active NOAM by using the XMI VIP address. Login as user "guiadmin".		
2	NOAM VIP: Verify that the Resource Domain Profile doesn't show the profile entries of Binding and Session Profiles.	Verify that the Resource Domain Profile drop down doesn't show the profile entries of "Policy Session" and "Policy Binding". Main Menu: Configuration -> Resource Domains [Insert] Inserting a new Resource Domain		
		Resource Domain		
		Field	Value	Description
		Resource Domain Name	*	Unique identifier used to label a Resource Domain. [Defau string. Valid characters are alphanumeric and underscore.]
		Resource Domain Profile	- Select Resource Domain Profile - 💌 *	The Profile of this Resource Domain
3	NOAM VIP: Verify that	Verify that KPIs	menu don't show the KPI tabs for	r PCA, SBR, SBR-Binding and SBR-Session.

t	the KPIs are not shown	Main Menu: Status & Manage -> KPIs
E	Binding and SBR- Session.	Filter - Tasks -
		NO_1030302 blade05 blade06 blade08
		Server ComAgent
4	NOAM VIP: Verify that	Verify that Measurement groups are not shown for OC-DRA, P-DRA and SBR.
t	the Measurement groups are not shown	Main Menu: Measurements -> Report
f	for OC-DRA, P-DRA and SBR	Filter 👻 Info 👻 Tasks 👻
		Filter
		Scope: - Network Element - 💌 - Server Group - 💌 - Resi
		Repot: - Group Interval - P
		Time Re ComAgent Exception n ding 2012
		OAM.ALARM DAM.SYSTEM
		Server Exception
5	NOAM VIP: Verify that	Verify that Main Menu on Active NOAM doesn't show the Policy and Charging submenu.
t	the Main Menu don't show the	🗉 🚇 Main Menu
F	Policy and Charging	Administration
	submenu.	Configuration
		📮 🧰 Security Log
		🛓 🧰 Status & Manage
		Measurements Communication Agent
		e e e e e e e e e e e e e e e e e e e
		ten 🔁 Logout

7.2.5.2 System health check after Application Deactivation on SOAM servers

Detailed steps are given in the procedure below.

Procedure 47: Verification of application deactivation on SOAM Servers

S	This procedure verifies the PCA application deactivation on SOAM Servers.		
T E P	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR <u>ORACLE TAC</u> .		
#			
1	SOAM VIP: Establish GUI Session on the SOAM VIP	Establish a GUI session on the Active SOAM by using the XMI VIP address. Login as user "guiadmin".	
2	SOAM VIP: Verify that the Policy and Charging folder is not visible in the Left Hand Menu	Verify that the Policy and Charging folder does not appear on the Left Hand Menu:	

		 Main Menu Administration Configuration Alarms & Events Security Log Status & Manage Measurements Communication Agent Help Logout
3	SOAM VIP: Verify that the Diameter maintenance application menu do not show the entry of PCA application	Verify that the Diameter maintenance application menu do not show the entry of PCA application Main Menu: Diameter -> Maintenance -> Applications Filter - DSR Application Name MP Server Hostname Admin State Operational Reason Congestion State Operational Reason Congestion Level Time of Last Update
4	SOAM VIP: Verify PCA application on All Active SOAM servers	Repeat Steps 1 to 3 on All Active SOAM servers.

8.0 APPENDIX-B

This section has the procedure to restart DA-MP servers on a running DSR system such that the traffic loss is confined.

Procedure 48: Restarting DA-MP servers on a running DSR system

S	This procedure restarts the DA-MP servers in a specific order so that the traffic loss is minimized.		
Т	Check off ($\sqrt{2}$) each step as it is completed. Boxes have been provided for this purpose under each step number.		
E P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.		
#			
1	NOAM VIP: Establish GUI Session on the NOAM VIP	Establish a GUI session on the Active NOAM by using the XMI VIP address. Login as user "guiadmin".	
2	Select a DSR site	Chose a DSR site where the DA-MP servers will be restarted.	
3	SOAM VIP: Identify the DA-MP Leader	Establish a GUI session on the Active SOAM of the site chosen in Step 2 by using the XMI VIP address. Login as user "guiadmin".	
		Navigate to Main Menu: Diameter -> Maintenance -> DA-MPs	
		Locate and note the MP Server hostname for which the value in the "MP Leader" column is set to yes.	
4	NOAM VIP: Restart a	Navigate to Main Menu: Status & Manage -> Server	
	set of DA-MP servers	Select a set of DA-MP servers in the site chosen in Step 2 such that the remaining DA-MP servers in the site are able to handle the additional traffic when the selected DA-MP servers are restarted.	
		Click Restart.	
		NOTE : The DA-MP Leader loacted in step 3 must be included in the last set of DA-MP servers to be restarted to minimize DA-MP Leader switches.	
5	NOAM VIP: Restart next set of DA-MP servers	Repeat Step 4 for the next set of DA-MP servers until all DA-MP servers in the site chosen in step 2 have been restarted.	
6	NOAM VIP: Repeat for all DSR Sites	Repeat Steps 2 to 5 for all DSR sites.	

Procedure 49: Rebooting DA-MP servers on a running DSR system

S	This procedure reboots the DA-MP servers in a specific order so that the traffic loss is minimized.		
T F	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.		
E P	SHOULD THIS PROCEDURE FAIL, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR ORACLE TAC.		
#			
1	NOAM VIP: Establish GUI Session on the NOAM VIP	Establish a GUI session on the Active NOAM by using the XMI VIP address. Login as user "guiadmin".	
2	NOAM VIP: Select a DSR site	Chose a DSR site where the DA-MP servers will be rebooted.	

3	SOAM VIP: Identify the DA-MP Leader	Establish a GUI session on the Active SOAM of the site chosen in Step 2 by using the XMI VIP address. Login as user "guiadmin". Navigate to Main Menu: Diameter -> Maintenance -> DA-MPs
		Locate and note the MP Server hostname for which the value in the "MP Leader" column is set to yes.
4	NOAM VIP: Restart a	Navigate to Main Menu: Status & Manage -> Server
	set of DA-MP servers	Select a set of DA-MP servers in the site chosen in Step 2 such that the remaining DA-MP servers in the site are able to handle the additional traffic when the selected DA-MP servers are restarted.
		Click Reboot.
		NOTE : The DA-MP Leader loacted in step 3 must be included in the last set of DA-MP servers to be rebooted to minimize DA-MP Leader switches.
5	NOAM VIP: Restart next set of DA-MP servers	Repeat Step 4 for the next set of DA-MP servers until all DA-MP servers in the site chosen in step 2 have been restarted.
6	NOAM VIP: Repeat for all DSR Sites	Repeat Steps 2 to 5 for all DSR sites.