Oracle® Communications

Diameter Signaling Router

DSR C-Class Software Installation and Configuration Guide

Release

8.6.0.0.0

F56010-02

September 2022



Oracle ® Communication Diameter Signaling Router DSR C-Class Software Installation and Configuration Guide

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Note: This document represents the 2nd part of the DSR Installation Process. Before executing this document, make sure that the 1st part was fully executed:

DSR Hardware and Software Installation Part 1: Use document [6].

Table of Contents

1. Introduction			7	
	1.1	Referer	nces	7
	1.2	Acrony	ms	7
	1.3	Termin	ology	8
	1.4	Genera	Il Procedure Step Format	10
2.	Gen	eral Des	cription	11
3.	Insta	allation	Overview	12
	3.1	Require	ed Materials	12
	3.2	Installa	tion Strategy	12
	3.3	SNMP	Configuration	14
	3.4	Optiona	al Features	14
4.	Soft	ware Ins	stallation Procedure	
	4.1	Install a	and Configure NOAM Servers	
		4.1.1	Load Application and TPD ISO onto the PMAC Server	
		4.1.2	Execute DSR Fast Deployment for NOAMs	
		4.1.3	Configure NOAMs	
		4.1.4	Install NetBackup Client (Optional)	
	4.2	Install a	and Configure DR-NOAM Servers (Optional)	44
		4.2.1	Execute DSR Fast Deployment for DR-NOAMs	
		4.2.2	Pair DR-NOAMs	
		4.2.3	Install NetBackup Client (Optional)	55
	4.3	Install a	and Configure SOAM Servers	56
		4.3.1	Configure SOAM TVOE Server Blades	
		4.3.2	Configure SOAMs	74
	4.4	Configu	Ire MP Servers	87
		4.4.1	Configure MP Blade Servers	
		4.4.2	Configure Signaling Devices	
		4.4.3	Configure DSCP (Optional)	
		4.4.4	Configure IP Front End Servers (Optional)	
	4.5	SNMP	Configuration	134
	4.6	IDIH In:	stallation and Configuration (Optional)	143
		4.6.1	IDIH Installation	
		4.6.2	Post IDIH Installation Configuration	
	4.7	Post-In	stall Activities	
		4.7.1	Activate Optional Features	
		4.7.2	Configure ComAgent Connections (DSR + SDS)	
		4.7.3	Back Up TVOE Configuration	
		4.7.4	Back Up PMAC Application	
		4.7.5	Backup NOAM Database	177
		4.7.6	Backup SOAM Database	
		4.7.7	Enable/Disable DTLS (SCTP Diameter Connections Only)	

Appendix N.	My Oracle Support (MOS)	237
Appendix M.	Restore SNMP Configuration to SNMPv3 (Optional)	
Appendix L	2 De-Growth	
Appendix L.	1 Growth	
Appendix L.	Growth/De-Growth	
Appendix K.	DSR Fast Deployment Configuration	215
Appendix J.	IDIH External Drive Removal	211
Appendix I.	IDIH Fast Deployment Configuration	
Appendix H	.4 Open Ports for NetBackup Client Software	
Appendix H	.3 Create NetBackup Clint Configuration File	
Appendix H	.2 NetBackup Client Install/Upgrade with NBAutoInstall	
Appendix H	.1 NetBackup Client Installation Using PLATCEG	
	Application NotBackup Client Installation Procedures	108
Appendix G.	List of Frequently Used Time Zones	
Appendix F.	PMAC/NOAM/SOAM Console iLO Access	
Appendix E.	Change the TVOE iLO Address	
Appendix D.	TVOE iLO4 GUI Access	
Appendix C.	TVOE iLO Access	
Appendix B.	Configure for TVOE iLO Access	
Appendix A.	Sample Network Element and Hardware Profiles	

List of Tables

Table 1.	Acronyms	7
Table 2.	Optional Features 1	4
Table 3.	List of Selected Time Zone Values	6

1. Introduction

This document describes the application-related installation procedures for an HP C-class Diameter Signaling Router (DSR) system.

This document assumes that platform-related configuration has already been done. Before executing this document, please ensure procedures from [6] have already been performed successfully.

The audience for this document includes Oracle customers as well as these groups: Software System, Product Verification, Documentation, and Customer Service including Software Operations and First Office Application.

In scenarios where the DSR installation has already been executed, and system growth, de-growth is necessary. Refer to Growth/De-Growth.

1.1 References

- [1] DSR Meta Administration Feature Activation Procedure
- [2] DSR Full Address Based Resolution (FABR) Feature Activation Procedure
- [3] DSR Range Based Address Resolution (RBAR) Feature Activation Procedure
- [4] SDS SW Installation and Configuration Guide
- [5] DSR IPv6 Migration Guide
- [6] DSR Hardware and Software Installation Part 1
- [7] DSR PCA Activation Guide
- [8] DSR DTLS Feature Activation Procedure
- [9] Platform Configuration Procedure
- [10] DSR Security Guide
- [11] DCA Framework and Application Activation and Deactivation Guide

1.2 Acronyms

An alphabetized list of acronyms used in the document

Table 1. Acronyms

Acronym	Definition
BIOS	Basic Input Output System
CD	Compact Disk
DVD	Digital Versatile Disc
EBIPA	Enclosure Bay IP Addressing
FRU	Field Replaceable Unit
HP c-Class	HP blade server offering
IDIH	Integrated Diameter Intelligence Hub
iLO	Integrated Lights Out manager
IPFE	IP Front End
IPM	Initial Product Manufacture – the process of installing TPD on a hardware platform

Acronym	Definition
MSA	Modular Smart Array
NB	NetBackup
OA	HP Onboard Administrator
OS	Operating System (e.g. TPD)
PCA	Policy and Charging Application
PMAC	Platform Management & Configuration
RMS	Rack Mounted Server
SAN	Storage Area Network
SFTP	Secure File Transfer Protocol
SNMP	Simple Network Management Protocol
TPD	Tekelec Platform Distribution
TVOE	Tekelec Virtual Operating Environment
VM	Virtual Machine
VSP	Virtual Serial Port

1.3 Terminology

This section describes terminology as it is used within this document.

Term	Definition
Enablement	The business practice of providing support services (hardware, software, documentation, etc.) that enable a 3rd party entity to install, configuration, and maintain Oracle products for Oracle customers.
Management Server	HP ProLiant DL360/ DL380 deployed to run TVOE and host a virtualized PMAC application. Can also host a virtualized NOAM or IDIH. It is also used to configure the Aggregation switches (via the PMAC) and to serve other configuration purposes.
Place Association	 Applicable for various applications, a Place Association is a configured object that allows places to be grouped together. A place can be a member of more than one place association. The Policy & Charging DRA application defines two place association types: policy binding region and policy & charging mated sites.
PMAC Application	PMAC is an application that provides platform-level management functionality for HP G6/G8/G9 system, such as the capability to manage and provision platform components of the system so it can host applications.

Table 2. Terminology

Term	Definition
SBR Server Group Redundancy	The Policy and Charging application uses SBR server groups to store the application data. The SBR server groups support both two and three site redundancy. The server group function name is SBR .
Server Group Primary Site	A server group primary site is a term used to represent the principle location within a SOAM or SBR server group. SOAM and SBR server groups are intended to span several sites (places). For the Policy and Charging DRA application, these sites (places) are all configured within a single Policy and Charging Mated Sites place association.
	For the Diameter Custom Application (DCA), these sites (Places) are configured in Applications Region place association.
	The primary site may be in a different site (place) for each configured SOAM or SBR server group.
	A primary site is described as the location in which the active and standby servers to reside; however, there cannot be any preferred spare servers within this location. All SOAM and SBR server groups have a primary site.
Server Group Secondary Site	A server group secondary site is a term used to represent location in addition to the primary site within a SOAM or SBR SERVER GROUP. SOAM and SBR server groups are intended to span several sites (places). For the Policy and Charging DRA application, these sites (places) are all configured within a single Policy and Charging Mated Sites place association.
	For the Diameter Custom Application (DCA), these sites (places) are configured in Applications Region place association.
	The secondary site may be in a different site (place) for each configured SOAM or SBR server group.
	A secondary site is described as the location in which only preferred spare servers reside. The active and standby servers cannot reside within this location. If two or three site redundancy is wanted, a secondary site is required for all SOAM and SBR server groups.
Server Group Tertiary Site	A server group tertiary site is a term used to represent location in addition to the primary and secondary sites within a SOAM or SBR server group. SOAM and SBR server groups are intended to span several sites (places). For the Policy & Charging DRA application, these sites (places) are all configured within a single Policy and Charging Mated Sites place association.
	The tertiary site may be in a different site (place) for each configured SOAM or SBR server group.
	A tertiary site is described as the location in which only preferred spare servers reside. The active and standby servers cannot reside within this location. A tertiary site only applies if three site redundancy is wanted for SOAM and SBR server groups.
Session Binding Repository Server Group Redundancy	The DCA application may use SBR server groups to store application session data. The SBR server groups with support both two and three site redundancy. The server group function name is Session and Binding Repository .

Term	Definition
Site	Applicable for various applications, a site is type of place . A place is configured object that allows servers to be associated with a physical location.
	A site place allows servers to be associated with a physical site. For example, sites may be configured for Atlanta, Charlotte, and Chicago. Every server is associated with exactly one site when the server is configured.
	For the Policy & Charging DRA application, when configuring a site, only put DA-MPs and SBR MP servers in the site. Do not add NOAM, SOAM, or IPFE MPs to a site.
Software Centric	The business practice of delivering an Oracle software product while relying upon the customer to procure the requisite hardware components. Oracle provides the hardware specifications, but does not provide the hardware, and is not responsible for hardware installation, configuration, or maintenance.
Three Site Redundancy	Three site redundancy is a data durability configuration in which Policy and Charging data is unaffected by the loss of two sites in a Policy and Charging Mated Sites Place Association containing three sites.
	Three site redundancy is a feature provided by server groups configuration. This feature provides geographic redundancy. Some server groups can be configured with servers located in three geographically separate sites (locations). This feature ensures there is always a functioning active server in a server group even if all the servers in two sites fail.
Two Site Redundancy	Two site redundancy is a data durability configuration in which Policy and Charging data is unaffected by the loss of one site in a Policy and Charging Mated Sites Place Association containing two sites.
	Two site redundancy is a feature provided by server group configuration. This feature provides geographic redundancy. Some server groups can be configured with servers located in two geographically separate sites (locations). This feature ensures there is always a functioning active server in a server group even if all the servers in a single site fail.

1.4 General Procedure Step Format

When executing the procedures in this document, there are a few key points to ensure you understand procedure convention. These points are:

- 1. Before beginning a procedure, completely read the instructional text (it displays immediately after the Section heading for each procedure) and all associated procedural WARNINGS or NOTES.
- 2. Before execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS or NOTES.
- 3. If a procedural STEP fails to execute successfully or fails to receive the desired output, STOP the procedure. It is recommended to contact My Oracle Support (MOS) for assistance, as described in Appendix N before attempting to continue.

Figure 1 shows an example of a procedural step used in this document.

- Each step has a checkbox that the user should check-off to keep track of the progress of the procedure.
- Any sub-steps within a step are referred to as step X.Y. The example in Figure 1 shows steps 1 and step 2 and substep 2.1.

- The title box describes the operations to be performed during that step. •
- GUI menu items, action links, and buttons to be clicked on are in bold Arial font.
- GUI fields and values to take note of during a step are in bold Arial font.
- Each command that the user enters, as well as any response output, is formatted in 10-point Courier font.



Title	Directive/Result Step
1. Change dir	ectory Change to the backout directory.
	<pre>\$ cd /var/TKLC/backout</pre>
2. ServerX: (Connect Establish a connection to the server using cu on the terminal server/console.
to the cons the server	s cu -l /dev/ttyS7
3. Verify Netw Element da	vork View the Network Elements configuration data; verify the data; save and print report.
	 Select Configuration > Network Elements to view Network Elements Configuration screen.

Figure 1. Example of a Procedure Steps Used in This Document

2. **General Description**

This document defines the steps to execute the initial installation of the Diameter Signaling Router (DSR) application on new HP C-Class Hardware.

DSR installation paths are shown in the figures below. The general timeline for all processes to perform a software installation/configuration and upgrade is also included below.



Figure 2. Example of Initial Application Installation Path

3. Installation Overview

This section provides a brief overview of the recommended method for installing DSR software on an HP C-Class system.

This section describes the overall strategy to employ for a single or multi-site DSR installation. It also lists the procedures required for installation with estimated times. Section 3.2 Installation Strategy discusses the overall install strategy and includes an installation flow chart that can be used to determine exactly which procedures should be run for an installation.

3.1 Required Materials

- 1. One (1) target release application media, or a target-release ISO
- 2. One (1) ISO of TPD release, or later shipping baseline, as per Oracle ECO

3.2 Installation Strategy

A successful installation of DSR requires careful planning and assessment of all configuration materials and installation variables. Once a site survey has been conducted with the customer, the installer should use this section to map out the exact procedure list that is executed at each site.

Figure 3. DSR Installation: High Level Sequence illustrates the overall process that each DSR installation involves. In summary:

- 1. An overall installation requirement is decided upon. Among the data that should be collected:
 - The total number of sites
 - The number of servers at each site and their role(s)
 - Does DSR's networking interface terminate on a Layer 2 or Layer 3 boundary?
 - Number of enclosures at each site -- if any at all.
 - Will NOAMs use rack-mount servers or server blades?
 - (Per Site) Will MP's be in N+ 0 configurations?
 - What time zone should be used across the entire collection of DSR sites?
 - Will SNMP traps be viewed at the NOAM, or an external NMS be used? (Or both?)
- 2. A site survey (NAPD) is conducted with the customer to determine exact networking and site details.

Note: XMI and IMI addresses are difficult to change once configured. It is very important that these addresses are well planned and not expected to change after a site is installed.

- 3. For each SOAM /MP/DR-NOAM only site (that is, sites NOT containing the main NOAM server), the installer executes the procedures in document [6] to set up PMAC, HP enclosures, and switches. Then, using the procedures in this document, all servers are IPMed with the proper TPD and DSR application ISO image. When this is complete, all non-NOAM sites are reachable through the network and ready for further installation when the primary NOAM site is brought up.
- 4. The installer moves to the main site that contains the primary NOAM. Again, [6] is executed for this site first and then use the procedures in this document. During this install, the user brings up the other sub-sites (if they exist) configured in step 3. For single sites where the NOAM/SOAM/MPs are all located together, then step 3 is skipped and the entire install is covered by this step.
- 5. Once the primary NOAM site has been installed according [6] and this document, and then full DSR installation is complete.

Note: An alternative install strategy swaps steps 3 and 4. The main NOAM site is installed first, and then the sub-sites (DR-NOAM, SOAM/MP only) are installed and brought up on the NOAM as they are configured. This approach is perfectly valid, but is not reflected in the flow-charts/diagrams shown here.



Figure 3. DSR Installation: High Level Sequence

3.3 SNMP Configuration

The network-wide plan for SNMP configuration should be decided upon before DSR installation proceeds. This section provides some recommendations for these decisions.

SNMP traps can originate from the following entities in a DSR installation:

- DSR application servers (NOAM, SOAM, MPs of all types)
- DSR auxiliary components (OA, switches, TVOE hosts, PMAC)

DSR application servers can be configured to:

- Send all their SNMP traps to the NOAM via merging from their local SOAM. All traps terminate at the NOAM and are viewable from the NOAM GUI (entire network) and the SOAM GUI (site specific). Traps are displayed on the GUI both as alarms and logged in trap history. This is the default configuration option and no changes are required for this to take effect.
- 2. Send all their SNMP traps to an external Network Management Station (NMS). The traps are seen at the SOAM AND/OR NOAM as alarms AND they are viewable at the configured NMS(s) as traps.

Application server SNMP configuration is done from the NOAM GUI, near the end of DSR installation. See the procedure list for details.

DSR auxiliary components must have their SNMP trap destinations set explicitly. Trap destinations can be the NOAM VIP, the SOAMP VIP, or an external (customer) NMS. The recommended configuration is as follows:

The following components:

- PMAC (TVOE)
- PMAC (App)
- OAs
- All Switch types (4948, 3020, 6120.6125G)
- TVOE for DSR servers

Should have their SNMP trap destinations set to:

- 1. The local SOAM VIP
- 2. The customer NMS, if available

3.4 Optional Features

When DSR installation is complete, further configuration and/or installation steps need to be taken for optional features that may be present in this deployment. Please refer to these documents for the post-DSR install configuration steps needed for their components.

	•
Feature	Document
Diameter Mediation	DSR Meta Administration Feature Activation Procedure
Policy and Charging Application (PCA)	DSR PCA Activation Guide
Diameter Custom Applications (DCA)	DCA Framework and Application Activation and Deactivation Guide
Full Address Based Resolution (FABR)	DSR FABR Feature Activation Procedure

Table 2. Optional Features

Feature	Document
Range Based Address Resolution (RBAR)	DSR RBAR Feature Activation Procedure
Host Intrusion Detection System (HIDS)	DSR Security Guide

4. Software Installation Procedure

As mentioned earlier, the hardware installation and network cabling should be done before executing the procedures in this document. It is assumed that at this point, the user has access to:

- ILO consoles of all server blades at all sites
- ssh access to the PMAC servers at all sites
- GUI access to PMAC servers at all sites
- A configuration station with a web browser, ssh client, and scp client

SUDO

As a non-root user (admusr), many commands (when run as admusr) now require the use of sudo.

IPv6

Standard IPv6 formats for IPv6 and prefix can be used in all IP configuration screens, which enable the DSR to be run in an IPv6 only environment. When using IPv6 for XMI and management, you must place the IPv6 address in brackets (highlighted in red below), example as followed:

https://[<IPv6 address>]

If a dual-stack (IPv4 & IPv6) network is required, configure the topology first and then migrate to IPv6. Refer to [6] for instructions on how to accomplish this IPv6 migration.

4.1 Install and Configure NOAM Servers

4.1.1 Load Application and TPD ISO onto the PMAC Server

Procedure 1. Load Application and TPD ISO onto PMAC Server

Step# Procedure Description

This procedure loads the DSR application and TPD ISO into the PMAC server.

Needed Material: Application Media

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

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

Step#	Procedure	Description
1.	TVOE Host: Load application	Add the Application ISO image to the PMAC, this can be done in one of three ways:
		 Insert the Application CD required by the application into the removable media drive.
	130	2. Attach the USB device containing the ISO image to a USB port.
		 Copy the application iso file to the PMAC server into the /var/TKLC/smac/image/isoimages/home/smacftpusr/directoryas pmacftpusr user:
		cd into the directory where your ISO image is located on the TVOE Host (not on the PMAC server).
		Using sftp, connect to the PMAC server.
		<pre>\$ sftp pmacftpusr@<pmac_management_network_ip> \$ put <image/>.iso</pmac_management_network_ip></pre>
		After the image transfer is 100% complete, close the connection:
		\$ quit
2.	PMAC	1. Open web browser and enter:
	GOI. LOGIN	https:// <pmac_mgmt_network_ip></pmac_mgmt_network_ip>
		2. Login as guiadmin user:
		ORACLE
		Oracle System Login Tue Jun 7 13:49:06 2016 EDT
		Log In Enter your username and password to log in
		Username:
		Password:
		Change password
		Log In
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Step#	Procedure	Description
3.	PMAC GUI: Attach the software image to the PMAC guest	If the image is on a CD or USB device, continue with this step. If in step 1 the ISO image was transferred directly to the PMAC guest using sftp, skip the rest of this step and continue with step 4. 1. In the PMAC GUI, navigate to VM Management. 2. Select the PMAC guest. 3. On the resulting View VM Guest page, select the Media tab. 4. Under the Media tab, find the ISO image in the Available Media list, and click its Attach button. After a pause, the image displays in the Attached Media list. View guest 5010441PMAC VM Info Software Network Media Attached Media Available Media Attached Media image Path Detach Ivar/TKLC/tvoe/mapping-isos/5010441PMAC.iso

Step#	Procedure	Description
4. Image: Contract of the second se	Procedure PMAC GUI: Add application image	Description 1. Navigate to Software > Manage Software Images. Image: Main Menu Image: Add Mark Image: Software Inventory Image: Software Image: 2. Click Add Image 2. Click Add Image If the image form the list. Add Image: Edit Image If the image was supplied on a CD or a USB drive, it displays as a virtual device (device://). These devices are assigned in numerical order as CD and USB images become available on the management server. The first virtual device is reserved for internal use by TVOE and PMAC; therefore, the iso image of interest is normally present on the second device, device://dev/sr1. If one or more CD or USB-based images were already present on the management server before you started this procedure, select a correspondingly higher device number. If in step 1 the image was transferred to PMAC using sftp, it displays in the list as a local file /var/TKLC/ Main Menu: Software -> Manage Software Images [Add Image] Images may be added from any of these sources: • Orade-provided media in the PMAC host CDDVD drive (Refet to Note) • Use indication of the PMAC host CDDVD drive (Refet to Note) • Use indication of the PMAC host CDDVD drive (Refet to Note) • Use indis
5.	PMAC	the optical drive of the management server. If the TPD ISO has not been loaded onto the PMAC already, repeat steps 1
	GUI : Load TPD ISO	through 4 to load it using the TPD media or ISO.

4.1.2 Execute DSR Fast Deployment for NOAMs

Procedure 2. Configure NOAM Servers

Step#	Procedure	Description			
This pro configur DSR an	This procedure extends the TVOE networking configuration on the first RMS server (if necessary), configure the networking on additional rack mount servers, create the NOAM VMs, and deploy the DSR and TPD images.				
Prerequ	describe	nd PMAC (virtualized) have been installed on the first RMS server as ed in [6].			
Check on number	off (\checkmark) each step a .	as it is completed. Boxes have been provided for this purpose under each step			
If this pr	ocedure fails, co	ntact My Oracle Support (MOS) and ask for assistance.			
1.	TVOE Host (Not PMAC):	Establish an SSH session to the second RMS server via the control IP address accessed from the site PMAC. Login as admusr .			
Configure control network bond for back-back		If the control network for the RMS servers consists of direct connections between the servers with no intervening switches (known as a back-to-back configuration), execute this step to set the primary interface of bond0 to <ethernet_interface_1>, otherwise skip to the next step.</ethernet_interface_1>			
	coningurations	Note: Section TVOE Network Configuration, step 2, should have already been executed on the TVOE host that hosts the PMAC server.			
		<i>Note</i> : The output below is for illustrative purposes only. The site information for this system determines the network interfaces (network devices, bonds, and bond enslaved devices) to configure.			
		<pre>\$ sudo /usr/TKLC/plat/bin/netAdm setdevice=bond0primary=eth01</pre>			
		Interface bond0 updated			
2 .	PMAC Server: Login	Establish an SSH session to the PMAC server and login as admusr .			

Step#	Procedure	Description
3.	PMAC Server: Update the DSR fast deployment template (Part 1)	 Perform the following command to navigate to the directory containing the DSR fast deployment template:
		<pre>\$ cd /usr/TKLC/smac/etc</pre>
		DSR Fast Deployment Template Names: NOAM on Rack Mount Servers: DSR_NOAM_FD_RMS.xml
		NOAM on Blade Servers: DSR_NOAM_FD_Blade.xml
		TPD and DSR ISO:
		<software></software>
		Target TPD release Image here
		<image id="tpd"/>
		<pre><name>TPD.install- 7.7.0.0.0-88.68.0- OracleLinux6.10-x86 64</name></pre>
		Target DSR release Image here
		<image id="dsr"/>
		<name>DSR-8.5.0.0.0_90.11.0-x86_64</name>
		<i>Note</i> : These are the images uploaded from Procedure 1. Load Application and TPD ISO onto PMAC Server. Do NOT append .iso to the image name. To copy and paste the image name from the command line, issue the following command:
		<pre>\$ ls /var/TKLC/smac/image/repository</pre>

Step#	Procedure	Description
4.	PMAC Server: Update the DSR fast deployment template for bond 1 – optional (Part 2)	<pre>Bond 1 Creation: Skip this step if Bond1 will not be created. 1. Uncomment the following items from BOTH tvoe host id="NOAM1" and tvoe host id="NOAM2" by removing the encapsulated '<!--</th--></pre>
5.	PMAC Server: Update the DSR fast deployment template management/ XMI combination (Part 3)	<pre>Only execute this step if your management network and xmi networks are combined; otherwise, skip this step. 1. Modify the template to reflect the following on BOTH twoe host id="NOAM1" and twoe host id="NOAM2": Remove the following stanzas:</pre>

Step#	Procedure	De	scription
6. □	PMAC Server: Validate and run the fast deployment file	1.	Validate/Create the fast deployment file by executing the following command:
			For NOAMs deployed on rack mount servers:
			<pre>\$ sudo fdconfig validatefile=DSR_NOAM_FD_RMS.xml</pre>
			For NOAMs deployed on blade servers:
			<pre>\$ sudo fdconfig validate file=DSR_NOAM_FD_Blade.xml</pre>
			Note: Refer to DSR Fast Deployment Configuration for information of the variables that must be input during execution of NOAM fast deployment.
		2.	If there were errors during validation, correct the errors within the xml file and re-run the validation.
			After successful validation, a new Fast deployment xml file is created:
		 Con	NOTICE fig Data saved as a new file: "./DSR_NOAM_FD_Blade_20151217T102402.xml" NOTICE
		Con Val [ad	figuration file validation successful. .idation complete musr@GuestPMACeco upgrade]\$
		3.	Execute the following commands to run the fast deployment file:
			<pre>\$ screen \$ sudo fdconfig configfile=<created_fd_file>.xml</created_fd_file></pre>
			<i>Note</i> : This is a long duration command. If the screen command was run prior to executing the fdconfig, perform a screen -dr to resume the screen session in the event of a terminal timeout, etc.

Step#	Procedure	Description							
7.	PMAC GUI:	1. If not alre	eady done so	, establish a GU	l sessio	n on th	ne PMAC	C server.	
Monitor the configuration 2. Navigate to Task Monitoring .									
	_	🛓 🧰 Status and Manage							
		Task Monitoring							
		🧑 Help							
		🔤 \min Lega	al Notices						
		🖾 Logo	out						
		3. Monitor t	he DSR NOA	M TVOE config	uration t	o com	pletion:		
		1570 Accept	RMS: pc5010439 Guest: Brains_DSRNOAM2	Success	COMPLETE	NA	0:01:05	2016-09-15 15:48:55	100%
		1569 Accept	RMS: pc5010441 Guest: Brains_DSRNOAM1	Success	COMPLETE	NA	0:01:05	2016-09-15 15:48:55	100%
		1568 Upgrade	RMS: pc5010439 Guest Brains DSRNOAM2	Success	COMPLETE		0:10:05	2016-09-15 15:37:26	100%
		1567 Upgrade	RMS: pc5010441 Guest: Brains_DSRNOAM1	Success	COMPLETE	D	0:10:05	2016-09-15 15:37:26	100%
		1566 Install OS	RMS: pc5010441 Guest: Brains: DSRNOAM1	Done: TPD.install-7.3.0.0. 88.27.0- OracleLinux6.8-x86_64	COMPLETE	N/A	0:14:00	2016-09-15	100%
		1565 Install OS	Guest: Brains_DSRNOAM2	OracleLinux6.8-x86_64	COMPLETE	NA	0:14:13	2016-09-15	100%
		1564 Create Guest	Guest: Brains_DSRNOAM1 RMS: pc5010439	(Brains_DSRNOAM1) Guest creation completed	COMPLETE		0:00:22	2016-09-15	100%
			Guest: Brains_DSRNOAM2	(Brains_DSRNOAM2)	COMPLETE		0.00.12	15:21:07	100%
		<pre>Note: Should a failure occur with fdconfig, logs can be accessed in /var/TKLC/log/fdconfig/fdconfig.log. [admusr@melbourne-pmac-1 fdconfig]\$ sudo fdconfig dumpsteps file=deploy_melbourne_20170329T202458_701b.fdcdb Dump Steps in file: "deploy_melbourne_20170329T202458_701b.fdcdb" Here are the steps that were generated </pre>						: is et) 0 d	

Step#	Procedure	Description
8.	PMAC Server: Backup FDC file	Create the fdc directory so the NOAM fdc file is backed up by PMAC: Issue the following commands: 1. Create the fdc backup directory:
		<pre>\$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/fdc</pre>
		2. Copy the fdc file to the fdc backup directory:
		<pre>\$ sudo cp /usr/TKLC/smac/etc/<fdc_file> /usr/TKLC/smac/etc/fdc/</fdc_file></pre>

4.1.3 Configure NOAMs

Procedure 3.	Configure th	e First NOAM	NE and Server

Step#	Procedure	Description				
This pro	cedure configur	res the first NOAM server.				
Check of number.	ff (√) each step	as it is completed. Boxes have been provided for this purpose under each step				
If this pr	ocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.				
1. Save the NOAM network data to an XML file		1. Using a text editor, create a NOAM network element file that describes the networking of the target install environment of your first NOAM server.				
		2. Select an appropriate file name and save the file to a known location on your computer.				
		A suggested filename format is Appname_NEname_NetworkElement.XML , so for example a DSR2 NOAM network element XML file would have a filename DSR2_NOAM_NetworkElement.xml .				
		Alternatively, you can update the sample DSR network element file. It can be found on the management server at:				
	/usr/TKLC/smac/etc/SAMPLE-NetworkElement.xml					
		A sample XML file can also be found in Sample Network Element and Hardware Profiles.				
	 Note: These limitations apply when specifying a network element name: A 1-32-character string. 					
		Valid characters are alphanumeric and underscore.				
		Must contain at least one alpha and must not start with a digit.				

Step#	Procedure	Description				
2. □	NOAM GUI : Login	Using the XMI IP address configured in Procedure 2. Configure NOAM Servers (\$NOAM1_xmi_IP_address), log into the NOAM GUI as the guiadmin user:				
		ORACLE				
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT				
		Log In Enter your username and password to log in				
		Username:				
		Password: Change password				
		Log In				

Step#	Procedure	Description		
3.	Create the	1. Navigate to Configura	ation > Networking > Net	tworks.
	NOAM network element using the XML file	 Main Menu Administration Configuration Configuration Networking Networking Networks Devices Routes Services 2. Click Browse and typ To create a new Networks Browse zoml	s e the pathname to the NC work Element, upload a val bie.xml	DAM network XML file. id configuration file: Jpload File
		Copyright © 2010, 2016, C 3. Click Upload File to u	Dracle and/or its affiliates.	All rights reserved. onfigure the NOAM network
		 Once the data has been network element. Click networks that are now 	en uploaded, a tab displa ok this tab to display a scru configured.	ys with the name of your een with the individual
		Main Menu: Configuration -> Networking ->	Networks	
		Global ZombieNOAM		
		Network Name Netwo XMI OAM	Viti Type Default Locked I You Yes	Routed VLAN Configured Interfaces Network Y06 4 0 10.240.213 No. 2 0 10.240.213
4.	Map services to networks	 Navigate to Configura Main Menu Administration Configuration Servers Servers Server Group Resource Do Places Place Assoc Click Edit and set the Name OAM 	ation > Services. ps omains iations services as shown in the Intra-NE Network <imi network=""></imi>	table. Inter-NE Network <xmi network=""></xmi>
		Replication	<imi network=""></imi>	<xmi network=""></xmi>

Step#	Procedure	Description				
		Signaling		Unspecif	ied	Unspecified
		HA_Secondary	1	Unspecif	ied	Unspecified
		HA_MP_Seco	ndary	Unspecif	ied	Unspecified
		Replication_M	C	<imi net<="" th=""><th>work></th><th>Unspecified</th></imi>	work>	Unspecified
		ComAgent		<imi net<="" th=""><th>work></th><th>Unspecified</th></imi>	work>	Unspecified
		For exampl named XMI	e, if your II I, then you	VI network r services	k is named IMI a config should lo	and your XMI network is ook like the following:
		Name	Intra-NE Netwo	rk	Inter-NE Network	
		OAM	INTERNALIMI	•	INTERNALXMI	•
		Replication	INTERNALIMI	•	INTERNALXMI	•
		Signaling	Unspecified	•	Unspecified	•
		HA_Secondary	Unspecified	•	Unspecified	•
		HA_MP_Secondary	Unspecified	•	Unspecified	•
		Replication_MP	INTERNALIMI	•	Unspecified	•
		ComAgent	INTERNALIMI	•	Unspecified	•
		Ok Apply	Cancel			
		3. Click OK to	apply the	Service-to	-Network select	tions.
		4. Click OK wl	hen asked	to restart	all servers.	
		The page at ht	tps://localh	ost says:		
		You must restart a ComAgent	ll Servers to a	pply any servi	ces changes,	
				ОК	Cancel	
5.	Insert the 1st NOAM server	1. Navigate to	Configura	ation > Se	ervers.	

Step#	Procedure	Description			
		Main Menu Administration Configuration Servers Server Groups Resource Domains Places Places Place Associations 2. Click Insert to insert the new NOAM server into servers table (the first or server).			
		2 Entor the field			
		S. Enter the field Hostname: Role: System ID: Hardware Pro	ofile:	<hostname> NETWORK OAN <site id<br="" system="">DSR TVOE Gue</site></hostname>	M&P > est
				Choose NE Iror	n Drop Down Box]
		System ID			
		Hardware Profile	DSR TVOE Guest	•	
		Network Element Name *	ZombieNOAM 🔻		
		Location	pc5010441		
		The network interf the chosen hardw 4. Type the serv interface. Lea	ace fields become a are profile and netwo er IP addresses for ave the VLAN check	available with select ork element. the XMI network. S box unchecked.	tion choices based on Select XMI for the
		<i>Note</i> : The X confic	MI server IP must m aured in Procedure 2	natch \$NOAM1_xm	ni_IP_address
		5. Type the servi interface. Lea	er IP addresses for tave the VLAN check	 the IMI network. S box unchecked.	elect IMI for the
		<i>Note</i> : The II confid	MI server IP must ma gured in Procedure 2	atch \$NOAM1_imi 2.	_IP_address
		XMI (10.240.213.0/24)	10.240.213.2		xmi 🔽 🕅 VLAN (4)
		IMI (169.254.1.0/24)	169.254.1.2		imi 💌 🖻 VLAN (3)

Step#	Procedure	Description						
		6. Add the following NTP servers:	6. Add the following NTP servers:					
		NTP Server	Preferred?					
		<tvoe_xmi_ip_address (no1)="" <="" th=""><th>Yes</th></tvoe_xmi_ip_address>	Yes					
		TVOE_Mgmt_IP_Address (NO1)>						
		7. Click OK when you have completed	entering all the server data.					
6.	Export the initial configuration	 Navigate to Configuration > Servers Main Menu Administration Configuration Networking Servers Server Groups Resource Domains Places Place Associations From the GUI screen, select the NOA generate the initial configuration data Insert Edit Delete Export Report 	s . AM server and click Export to for that server.					
7.	NOAM: Copy configuration file to 1 st NOAM server	 Establish an SSH session to the 1st admusr user. Copy the configuration file created in /var/TKLC/db/filemgmt directory on th The configuration file has a filename TKLCConfigData.<hostname>.sh.</hostname> \$ sudo cp /var/TKLC/db/filemgmt/TKLC /var/tmp/TKLCConfigData.sh 	NOAM server by logging in as the the previous step from the he 1 st NOAM to the /var/tmp directory. like The following is an example:					
8.	NOAM: Wait for configuration to complete	The automatic configuration daemon look TKLCConfigData.sh in the /var/tmp direct in the file, and then prompts the user to re- Wait to be prompted to reboot the server, rebooted later on in this procedure. Note: Ignore the warning about removing present.	ks for the file named ectory, implements the configuration eboot the server. , but DO NOT reboot the server, it is ng the USB key, since no USB key is					

Step#	Procedure	Description
9.	NOAM: Set	1. From the command line prompt, execute set_ini_tz.pl .
the time zone and reboot the server		This sets the system time zone. The following command example uses the America/New_York time zone.2. Replace as appropriate with the time zone you have selected for this installation.
		For a full list of valid time zones, see List of Frequently Used Time Zones.
		<pre>\$ sudo /usr/TKLC/appworks/bin/set_ini_tz.pl "America/New_York" \$ sudo init 6</pre>
10.	1 st NOAM: Configure	<i>Note</i> : Only execute this step if your NOAM is using a dedicated Ethernet interface for NetBackup.
	for	Obtain a terminal window to the 1^{st} NOAM server by logging in as the admusr
	dedicated	user.
	interface	<pre>\$ sudo /usr/TKLC/plat/bin/netAdm setdevice=NetBackup</pre>
	(optional)	type=Ethernetonboot=yes
		address= <no1_netbackup_ip_adress></no1_netbackup_ip_adress>
		netmask= <no1_netbackup_netmask></no1_netbackup_netmask>
		\$ sudo /usr/TKLC/plat/bin/netAdm addroute=net
		device=netbackupaddress= <netbackup_svr_network_id></netbackup_svr_network_id>
		netmask= <no1_netbackup_netmask></no1_netbackup_netmask>
		gateway= <noi_netbackup_gateway_ip_address></noi_netbackup_gateway_ip_address>
11. □	1 st NOAM Execute the following command on the 1 st NOAM server and main or errors are returned:	
	verify server	\$ sudo syscheck
	noulin	Running modules in class hardwareOK
		Running modules in class diskOK
		Running modules in class netOK
		Running modules in class systemOK
		Running modules in class procOK
		LOG LOCATION: /var/TKLC/log/syscheck/fail_log

Procedure 4.	Configure	the NOAM	Server	Group
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Step#	Procedure	Description			
This pro	cedure configu	res the NOAM server group.			
Check c number	off (√) each step	as it is completed. Boxes have been provided for this purpose under each step			
If this pr	ocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.			
1.	NOAM GUI : Login	1. Establish a GUI session on the first NOAM server by using the XMI IP address. Open the web browser and enter a URL of:			
		<pre>nttps://<noi_xmi_ip_address></noi_xmi_ip_address></pre>			
		2. Login as the guiadmin user.			
		ORACLE			
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT			
		Log In Enter your username and password to log in			
		Password:			
		Change password			
		Log In			
		Welcome to the Oracle System Login.			
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Step#	Procedure	Description		
2.	NOAM GUI: Enter NOAM server group data	 Navigate to Configuration Main Menu Administration Configuration Configuration Servers Servers Server Groups Resource Domains Places Place Associations Click Insert and fill the foll Insert Edit Delete Report 	n > Server Groups.	
		Server Group Name: Level: Parent: Function: WAN Replication Conne Adding new server group	<server gro<br="">A None DSR (Active ction Count: Use Default</server>	oup Name> e/Standby Pair) Value
		Field	Value	Desc
		Server Group Name *	ZombieNOAM	Uniqu requir
		Level *	A	Selec
		Parent *	NONE	Selec
		Function *	DSR (active/standby pair)	Selec
		WAN Replication Connection Count	1	Specir
		Ok Apply Cancel		
		3. Click OK when all fields an	re filled in.	

Step#	Procedure	Description					
3.	NOAM GUI:	1. From the GUI, navigate to Configuration > Server Groups .					
	Edit the NOAM	2. Select the new serve	er group and click Ec	lit.			
	server group	Insert Edit Delete F	Report				
		3. Select the network element that represents the NOAM.					
		Server	SG Inclusion	Preferred HA Role			
		ZombieNOAM1	Include in SG	Prefer server as spare			
		 In the portion of the screen that lists the servers for the server group, find the NOAM server being configured. 					
		5. Mark the Include in	SG checkbox.				
		6. Leave other boxes blank.					
		7 Click OK					
4. □	NOAM: Verify	 From terminal window to the iLO of the first NOAM server, execute the following command: Sha.mystate 					
	NOAM blade server						
	role 2. Verify the DbReplication and VIP items under the resourceld column a value of Active under the role column.						
		You might have to w	ait a few minutes for	it to become in that sta	te		
		Example:					
		[admusr@HPC-NO2 ~]\$ ha.my	ystate				
		resourceId rol	le node DC s	ubResources la	stUpdate		
		DbReplication Act/Ac	st A2071.032 *	0 171220:	070034.301		
		VIP Act/Ac	et A2071.032 *	0 171220:	070034.371		
		CacdProcessRes Act/Ac	ST A2071.032 *	0 171220:	064311 992		
		DSROAM Proc Act/Ac	et A2071.032 *	0 171220:	070034.295		
		CAPM_PSFS_Proc Act/Ac	et A2071.032 *	0 171220:	070034.295		
		VSTPOAM_Proc Act/00	OS A2071.032 *	0 171220:	064311.994		
		[admusr@HPC-NO2 ~]\$					

Step#	Procedure	Description
5.	NOAM GUI: Restart NOAM server	 1. From the NOAM GUI, navigate to Status & Manage > Server. Status & Manage Network Elements Server HA Database KPIs Processes 2. Select the NOAM server. Click Restart. Stop Restart Reboot NTP Sync Report 3. Click OK on the confirmation screen. Are you sure you wish to restart application software on the following server(s)? ZombieNOAM1 OK Cancel 4. Wait for restart to complete.

Procedure 5.	Configure the	Second	NOAM	Server
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Step#	Procedure	Description			
This pr	ocedure configur	es the second NOAM server.			
Check numbe	off (√) each step r.	as it is completed. Boxes have been provided for this purpose under each step			
If this p	rocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.			
1.	NOAM GUI : Login	1. If not already done, establish a GUI session on the first NOAM server by using the XMI IP address. Open the web browser and enter a URL of:			
		https:// <no1_xmi_ip_address></no1_xmi_ip_address>			
		2. Login as the guiadmin user.			
		ORACLE			
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT			
		Log In Enter your username and password to log in			
		Username:			
		Password:			
		Change password			
		Log In			
		Welcome to the Oracle System Login.			
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.			
		Unauthorized access is prohibited.			
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		Copyright © 2010, 2016, <u>Oracle</u> and/or its affiliates. All rights reserved.			
2.	NOAM GUI: Insert the 2 nd NOAM server	 Navigate to Configuration > Servers. Main Menu Administration Configuration Networking Servers Servers Servers Places Place Associations Click Insert to insert the 2nd NOAM server into servers table (the first or control) 			

Step#	Procedure	Description			
		Insert Edit Delete Export Report			
		3. Enter the fields as follows:			
		Hostname:	<hostname></hostname>		
		Role:	NETWORK OAM&P		
		System ID:	<site id="" system=""></site>		
		Hardware Profile:	DSR TVOE Guest		
		Network Element Name:	[Choose NE from dropdown box]		
		Hostname * ZombieNOAM2			
		Role * NETWORK OAM&P V			
		System ID			
		Hardware Profile DSR TVOE Guest	•		
		Network Element Name * ZombieNOAM			
		Location pc5010439			
		The network interface fields become based on the chosen hardware profi	e available with selection choices le and network element.		
		4. Type the server IP addresses for the interface. Leave the VLAN checkbo	e XMI network. Select XMI for the ox unchecked.		
		Note: The XMI server IP must mat configured in Procedure 2.	tch '\$NOAM2_xmi_IP_address'		
		5. Type the server IP addresses for the interface. Leave the VLAN checkbo	e IMI network. Select IMI for the ox unchecked.		
		Note: The IMI server IP must mate configured in Procedure 2.	ch '\$NOAM2_imi_IP_address'		
		XMI (10.240.213.0/24) 10.240.213.3	xmi 💌 🛛 VLAN (4)		
		IMI (169.254.1.0/24) 169.254.1.3	imi 🔽 🗖 VLAN (3)		
		6. Add the following NTP servers:			
		NTP Server	Preferred?		
		<tvoe_xmi_ip_address(no2) <="" th=""><th>Yes</th></tvoe_xmi_ip_address(no2)>	Yes		
		NOEWgmt_IP_Address(NO2)>			
		7. Click UK when you have completed	entering all the server data.		

Step#	Procedure	Description
3.	NOAM GUI: Export the initial configuration	 Navigate to Configuration > Servers. Main Menu Administration Configuration Networking Servers Server Groups Resource Domains Places Place Associations From the GUI screen, select the NOAM server and click Export to generate the initial configuration data for that server. Insert Edit Delete Export Report
4.	1 st NOAM Server: Copy configuration file to 2 nd NOAM server	 Obtain a terminal session to the 1st NOAM as the admusr user. Execute the following command to configure the 2nd NOAM server: <pre>\$ sudo scp -r /var/TKLC/db/filemgmt/TKLCConfigData.<noam2_hostname>.sh admusr@<noam2_xmi_ip_address>:/var/tmp/TKLCConfigData.sh</noam2_xmi_ip_address></noam2_hostname></pre>
5.	2 nd NOAM Server: Verify configuration was called and reboot the server	 Establish an SSH session to the 2nd NOAM server (NOAM2_xmi_IP_address) Login as the admusr user. The automatic configuration daemon looks for the file named TKLCConfigData.sh in the /var/tmp directory, implements the configuration in the file, and asks the user to reboot the server. Verify configuration was called by checking the following file. \$ sudo cat /var/TKLC/appw/logs/Process/install.log Verify the following message is displayed: [SUCCESS] script completed successfully! Reboot the server. \$ sudo init 6 Wait for the server to reboot.
Step#	Procedure	Description
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6. □	2 nd NOAM Server:	<i>Note</i> : Only execute this step if your NOAM is using a dedicated Ethernet interface for NetBackup.
	networking for dedicated	Obtain a terminal window to the 2 nd NOAM server by logging in as the admusr user.
	netbackup	<pre>\$ sudo /usr/TKLC/plat/bin/netAdm setdevice=netbackup</pre>
	(optional)	type=Ethernetonboot=yes
	(0000000)	address= <no2_netbackup_ip_adress></no2_netbackup_ip_adress>
		netmask= <no2_netbackup_netmask></no2_netbackup_netmask>
		<pre>\$ sudo /usr/TKLC/plat/bin/netAdm addroute=net</pre>
		device=netbackupaddress= <netbackup_svr_network_id></netbackup_svr_network_id>
		netmask= <no2_netbackup_netmask></no2_netbackup_netmask>
		gateway= <no2_netbackup_gateway_ip_address></no2_netbackup_gateway_ip_address>
7.	7. 2 nd NOAM Server: Verify server health	Execute the following command on the 2 nd NOAM server and make sure that no errors are returned.
		\$ sudo syscheck
		Running modules in class hardwareOK
		Running modules in class diskOK
		Running modules in class netOK
		Running modules in class systemOK
		Running modules in class procOK
		LOG LOCATION: /var/TKLC/log/syscheck/fail_log

Procedure 6.	Complete NOAM	Server Group	Configuration
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Step #	Procedure	Description
This pr Check	ocedure finishes off ($$) each step r	configuring the NOAM server group. as it is completed. Boxes have been provided for this purpose under each step
If this p	rocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.
1.	NOAM GUI : Login	 Establish a GUI session on the first NOAM server by using the XMI IP address. Open the web browser and enter a URL of:
		https:// <no1_xmi_ip_address></no1_xmi_ip_address>
		2. Login as the guiadmin user.
		ORACLE
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in
		Username:
		Password:
		Change password
		Log In
		Welcome to the Oracle System Login.
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Step #	Procedure	Description
2.	NOAM GUI: Edit the NOAM server group data and add VIP address	 Navigate to Configuration > Server Groups. Main Menu Administration Configuration Networking Servers Server Groups Resource Domains Places Place Associations Select the NOAM server group and click Edit. Insert Edit Delete Report Add the 2nd NOAM server to the server group by marking the Include in SG checkbox for the 2nd NOAM server.
		Server SG Inclusion Preferred HA Role
		ZombieNOAM1 Include in SG Prefer server as spare
		ZombieNOAM2 Include in SG Prefer server as spare
		 Add a NOAM VIP by clicking Add. Type the VIP Address and click OK.
		VIP Assignment
		VIP Address Add
		10.240.213.4 Remove
		Ok Apply Cancel

Step #	Procedure	Description
3. □	NOAM VIP: Establish	1. Establish a GUI session on the NOAM server by using the XMI VIP IP address. Open the web browser and enter a URL of:
	0013033011	https:// <noam_xmi_vip_ip_address></noam_xmi_vip_ip_address>
		2. Login as the guiadmin user.
		ORACLE [®]
		Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookles. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.
4.	NOAM VIP: Wait for remote database alarm to clear	 Navigate to Alarms & Events > View Active. Alarms & Events View Active View History View Trap Log Wait for the alarm Remote Database re-initialization in progress to be cleared before proceeding.

Step #	Procedure	Description
5.	NOAM GUI: Restart 2 nd NOAM server	 From the NOAM GUI, navigate to Status & Manage > Server. Status & Manage Network Elements Server HA Database KPIs Processes Select the 2nd NOAM server. Click Restart. Stop Restart Reboot NTP Sync Report Click OK to the confirmation screen. Are you sure you wish to restart application software on the following server(s)? ZombieNOAM2
		4. Wait for restart to complete 3-5 minutes before proceeding.

4.1.4 Install NetBackup Client (Optional)

Procedure 7. Install NetBackup Client (Optional)

Step#	Procedure	Description
This pro	ocedure download	ds and installs NetBackup client software on the server.
Locatio For App	n of the bpstart_n oworks-based app	otify and bpend_notify scripts is required for the execution of this procedure. Dications, the scripts are located as follows:
• /us	r/TKLC/appworks	/sbin/bpstart_notify
• /us	r/TKLC/appworks	/sbin/bpend_notify
Check numbe	off (√) each step a r.	as it is completed. Boxes have been provided for this purpose under each step
If this p	rocedure fails, co	ntact My Oracle Support (MOS) and ask for assistance.
1.	Install NetBackup client software	If a customer has a way of transferring and installing the NetBackup client without the aid of TPD tools (push configuration), then use NetBackup Client Install/Upgrade with NBAutoInstall.
		<i>Note</i> : This is not common. If the answer to the previous question is not known, then use NetBackup Client Installation Using PLATCFG.
2.	Install NetBackup client software	Choose the same method used in step 1 to install NetBackup on the 2 nd NOAM.

4.2 Install and Configure DR-NOAM Servers (Optional)

4.2.1 Execute DSR Fast Deployment for DR-NOAMs

Procedure 8. NOAM Configuration for DR Site

Step#	Procedure	Description		
This pro necessa and dep <i>Prerequ</i> Check o	 This procedure extends the TVOE networking configuration on the first DR-NOAM RMS server (if necessary), configures the networking on additional rack mount servers, creates the DR-NOAM VMs, and deploys the DSR and TPD images. <i>Prerequisite</i>: TVOE and PMAC (virtualized) have been installed on the First DR-NOAM RMS server as described in [6]. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step 			
If this pi	rocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.		
1. □	PMAC Server: Login	Establish an SSH session to the PMAC server and login as admusr .		
	PMAC Server: Update the DSR fast deployment template (Part 1)	1. Perform the following command to navigate to the directory containing the DSR fast deployment template: \$ cd /usr/TKLC/smac/etc DSR Fast Deployment Template Names: NOAM on Rack Mount Servers: DSR_NOAM_FD_RMS.xml NOAM on Blade Servers: DSR_NOAM_FD_Blade.xml 2. Update the following items within the Fast deployment xml: TPD and DSR ISO: <software> <!--Target TPD release Image here--> <image id="tpd"/> <iname>TPD.install- 7.7.0.0.0-88.68.0- OracleLinux6.10-x86_64 OracleLinux6.10-x86_64 Image here> <image id="dsr"/> <image id="dsr"/> <image id="dsr"/> OracleLinux6.10-x86_64 <t< td=""></t<></iname></software>		
		and TPD ISO onto PMAC Server. Do NOT append .iso to the image name. To copy and paste the image name from the command line, issue the following command:		
		<pre>\$ ls /var/TKLC/smac/image/repository</pre>		

Step#	Procedure	Description
3. P S U D d d t e b (F	PMAC Server: Update the DSR fast deployment tomplete for	 Bond 1 Creation: Skip this step if Bond1 will not be created. 1. Uncomment the following items from BOTH tvoe host id="NOAM1" and tvoe host id="NOAM2" by removing the encapsulated '<!-- -->' brackets as highlighted below:
	bond 1 – optional (Part 2)	<pre>2. Update the Ethernet interfaces that are to be enslaved by bond1.</pre>
4.	PMAC Server: Update the DSR fast deployment template management /XMI combination (Part 3)	<pre>Only execute this step if your management network and xmi networks are combined; otherwise, skip this step. 1. Modify the template to reflect the following on BOTH tvoe host id="NOAM1" and tvoe host id="NOAM2": Remove the following stanzas:</pre>

Step#	Procedure	Description
5. □	PMAC Server:	 Validate/Create the fast deployment file by executing the following command:
	Validate and run the fast	For NOAMs deployed on rack mount servers:
	deployment	<pre>\$ sudo fdconfig validatefile=DSR_NOAM_FD_RMS.xml</pre>
	file	For NOAMs deployed on blade servers:
		<pre>\$ sudo fdconfig validatefile=DSR_NOAM_FD_Blade.xml</pre>
		Note: Refer to DSR Fast Deployment Configuration for information of the variables that must be input during execution of NOAM fast deployment.
		2. If there were errors during validation, correct the errors within the xml file and re-run the validation.
		After successful validation, a new Fast deployment xml file is created:
		NOTICE Config Data saved as a new file: "./DSR_NOAM_FD_Blade_20151217T102402.xml" NOTICE
		Configuration file validation successful. Validation complete [admusr@GuestPMACeco upgrade]\$
		3. Execute the following commands to run the fast deployment file:
		\$ screen
		<pre>\$ sudo fdconfig configfile=<created_fd_file>.xml</created_fd_file></pre>
		Note: This is a long duration command. If the screen command was run prior to executing the fdconfig, perform a screen -dr to resume the screen session in the event of a terminal timeout, etc.
6.	PMAC GUI:	1. If not already done so, establish a GUI session on the PMAC server.
	Monitor the configuration	2. Navigate to Task Monitoring.
		🚊 🧰 Status and Manage
		- 📑 Task Monitoring
		- A Help
		····· 🚧 Logout
		3. Monitor the DSR NOAM TVOE configuration to completion.
		1570 Accept RMS: pc5010439 Guest: Brains_DSRNOAM2 Success COMPLETE N/A 0:01:05 2016.09-15 15:48:55 100%
		1569 Accept RMS: pc5010441 Guest: Brains DSRNOAM Success COMPLETE N/A 0:01:05 2016:09-15 1548:55 100% 1569 Lingsade RMS: pc5010439 Success COMPLETE N/A 0:01:05 2016:09-15 1548:55 100%
		Initial Guest: BRINGAM2 Success COMPLETE Initial 0.1003 15:37:26 100% 1567 Upgrade RMS: pc5010441 Success COMPLETE Initial 0.1003 15:37:26 100% 1567 Upgrade RMS: pc5010441 Success COMPLETE Initial 0.1003 2016.09-15 100%
		1566 Install OS RMS: pc5010441 Guest: Brains: D5RNOAM1 Done: TPD.install-7.30.0.0_88.27.0- OracleLinux6.8-x86_64 COMPLETE N/A 0:14:00 2016.09.15 100%
		1565 Install OS RMS: pc5010439 Guest: Done: TPD.install-7.3.0.0_88.27.0- OracleLinux6.8.x88_64 COMPLETE NA 0:14:13 2016.09.15 15:21:38 100%
		1564 Create Guest RMS: pc5010241 Guest Farins_DSRNOAM1 (Brains_DSRNOAM1) COMPLETE 0:00:22 2016:09:15 15:21:08 100% DMS: pc501031 Completed Completed Completed Completed 100%
		1563 Create Guest Runs: <u>propriesa</u> Unest: Brains <u>DSRNOAM2</u> (Brains_DSRNOAM2) COMPLETE 0:00:12 2016-09-15 100% 15:21:07

Step#	Procedure	Description
7.	PMAC Server: Backup FDC file	Create the fdc directory so the DR-NOAM fdc file is backed up by PMAC: Issue the following commands: 1. Create the fdc backup directory: \$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/fdc 2. Copy the fdc file to the fdc backup directory: \$ sudo cp /usr/TKLC/smac/etc/ <fdc_file> /usr/TKLC/smac/etc/fdc/</fdc_file>
8.	Save the NOAM network data to an XML file	Using a text editor, create a NOAM network element file that describes the networking of the target install environment of your first DR-NOAM server. Select an appropriate file name and save the file to a known location on your computer. A suggested filename format is Appname_NEname_NetworkElement.XML , so for example a DSR2 NOAM network element XML file would have a filename DSR2_NOAM_NetworkElement.xml . Alternatively, you can update the sample DSR network element file. It can be found on the management server at: /usr/TKLC/smac/etc/SAMPLE-NetworkElement.xml A sample XML file can also be found in Sample Network Element and Hardware Profiles. Note : The following limitations apply when specifying a network element name: A 1-32-character string; valid characters are alphanumeric and underscore; must contain at least one alpha; and must not start with a digit.
9.	Primary NOAM VIP GUI: Login	1. Establish a GUI session on the NOAM server by using the XMI VIP IP address. Open the web browser and enter a URL of: https:// <noam_xmi_vip_ip_address> 2. Login as the guiadmin user. Oracle System Login Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in Username: Password: Change password Dassword to log in</noam_xmi_vip_ip_address>

Step#	Procedure	Description
	PRIMARY NOAM VIP GUI: Insert the DR NOAM network element	 Navigate to Configuration > Networking > Networks. Main Menu Administration Configuration Networking Networks Devices Routes Services Click Browse and type the pathname to the DR-NOAM network XML file. To create a new Network Element, upload a valid configuration file: Browse zombie.xml Upload File Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved. Click Upload File to upload the XML file and configure the DR-NOAM network element. Once the data has been uploaded, a tab displays with the name of your network element. Click this tab to display a screen with the individual networks that are now configured.
11.	Primary NOAM VIP GUI: Insert the 1st DR- NOAM server	 1. Navigate to Configuration > Servers. Main Menu Administration Configuration Networking Servers Server Groups Resource Domains Places Places Place Associations 2. Click Insert to insert the new DR-NOAM server into servers table. Insert Edit Delete Export Report 3. Enter the fields as follows: Hostname: CHostname> Role: NETWORK OAM&P

Step#	Procedure	Description			
		System ID:		<site system<="" th=""><th>ID></th></site>	ID>
		Hardware P	rofile:	DSR TVOE G	uest
		Network Ele	ement Name:	[Choose NE fi	rom dropdown box]
		Adding a new serv	ver		
		Attribute	Value		
		Hostname *	ZombieDRNOAM1		
		Role *	NETWORK OAM&P		
		System ID			
		Hardware Profile	DSR TVOE Guest	•	
		Network Element Name *	ZombieDRNOAM		
		Location	pc5010441		
		The network inte	rface fields become a	available with sel	ection choices based on
		the chosen hard	ware profile and netw	ork element.	
		4. Type the ser interface. Le	ver IP addresses for eave the VLAN chec	the XMI network kbox unchecke e	. Select XMI for the d.
		<i>Note</i> : The conf	XMI server IP must n igured in step 2.	natch '\$DR-NOA	M_xmi_IP_address'
		5. Type the ser interface. Le	ver IP addresses for eave the VLAN check	the IMI network. box unchecked.	Select IMI for the
		Note : The conf	IMI server IP must ma igured in step 2.	atch '\$DR-NOAN	/_xmi_IP_address'
		XMI (10.240.213.0/24)	10.240.213.5	xm	i 🔽 🕅 VLAN (4)
		IMI (169.254.1.0/24)	169.254.1.5	im	i 🗸 🖉 VLAN (3)
		6. Add the follo	wing NTP servers:		
		NTP Server			Preferred?
		<tvoe_xmi< th=""><th>_IP_Address(DR-NO</th><th>1)/</th><th>Yes</th></tvoe_xmi<>	_IP_Address(DR-NO	1)/	Yes
		TVOE_Mgmt	_IP_Address(DR-NO	1)>	
		7. Click OK wh	en you have complete	ed entering all th	e server data.

Step#	Procedure	Description	
12.	PRIMARY NOAM VIP GUI: Export the initial configuration	 1. Navigate to Configuration > Servers. Main Menu Administration Configuration Servers Servers Server Groups Resource Domains Places Place Associations 2. From the GUI screen, select the DR-NOAM server and click Export to generate the initial configuration data for that server. 	
13.	1 st NOAM Server: Copy configuration file to DR- NOAM NOAM server	 Obtain a terminal session to the primary NOAM as the admusr user. Execute the following command to configure the DR-NOAM server. <pre>\$ sudo scp -r /var/TKLC/db/filemgmt/TKLCConfigData.<dr- noam_hostname="">.sh admusr@<dr- noam_xmi_ip_address="">:/var/tmp/TKLCConfigData.sh</dr-></dr-></pre>	
14.	1 st DR- NOAM Server: Verify configuration was called and reboot the server	 Establish an SSH session to the DR-NOAM server (DR-NOAM_XMI_IP_address) Login as the admusr user. The automatic configuration daemon looks for the file named TKLCConfigData.sh in the /var/tmp directory, implements the configuration in the file, and asks the user to reboot the server. Verify configuration was called by checking the following file. \$ sudo cat /var/TKLC/appw/logs/Process/install.log Verify the following message is displayed: [SUCCESS] script completed successfully! Reboot the server: \$ sudo init 6 Wait for the server to reboot. 	

Step#	Procedure	Description
15. □	1 st DR- NOAM: Configure networking for dedicated	<i>Note</i> : Only execute this step if your DR-NOAM is using a dedicated Ethernet interface for NetBackup.
		Obtain a terminal window to the 1 st DR-NOAM server by logging in as the admusr user.
	NetBackup interface (optional)	<pre>\$ sudo /usr/TKLC/plat/bin/netAdm setdevice=netbackuptype=Ethernetonboot=yesaddress=<no1_netbackup_ip_adress></no1_netbackup_ip_adress></pre>
		<pre>netmask=<no1_netbackup_netmask> \$ sudo /usr/TKLC/plat/bin/netAdm addroute=netdevice=netbackupaddress=<netbackup_svr_network_id>netmask=<no1_netbackup_netmask></no1_netbackup_netmask></netbackup_svr_network_id></no1_netbackup_netmask></pre>
16. 1 st DR- NOAM Server: Verify server bealth		<pre>gateway=<no1_netbackup_gateway_ip_address> Execute the following command on the 1st DR-NOAM server and make sure that no errors are returned. \$ sudo syscheck Running modules in class hardwareOK</no1_netbackup_gateway_ip_address></pre>
		Running modules in class diskOK Running modules in class netOK Running modules in class systemOK Running modules in class procOK LOG LOCATION: /var/TKLC/log/syscheck/fail_log
17.	Repeat for 2 nd DR	Repeat steps 7 through 12 to configure 2 nd DR-NOAM server. When inserting the 2 nd DR-NOAM server, change the NTP server address to the following:
	NOAM server	NTP Server Preferred?
		<tvoe_xmi_ip_address (dr-no2)="" yes<br="">TVOE_Mgmt_IP_Address (DR-NO2)></tvoe_xmi_ip_address>

4.2.2 Pair DR-NOAMs

Procedure 9. Pairing for DR-NOAM site (Optional)

Step#	Procedure	Description
This pro	ocedure pairs	the DR-NOAM site.
Prerequ	<i>iisite</i> : Insta	Ilation for DR-NOAM site complete.
Check of number	off (√) each ste ∵	ep as it is completed. Boxes have been provided for this purpose under each step
lf this p	rocedure fails,	contact My Oracle Support (MOS) and ask for assistance.
1.	Primary NOAM VIP GUI:	 Establish a GUI session on the NOAM server by using the VIP IP address of the primary NOAM server. Open the web browser and enter a URL of: https://<primary_noam_vip_ip_address></primary_noam_vip_ip_address>
	LOGIN	2 Login on the quindmin upor
		2. Login as the guiadhin user.
		Oracle System Login
		Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in
		Username:
		Password:
		Change password
		Log In
		Welcome to the Oracle System Login.
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.
		Unauthorized access is prohibited.
		Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.
		Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.

Step#	Procedure	Description
2.	Primary NOAM VIP GUI: Enter DR- NOAM server group data	1. Navigate to Configuration > Server Groups. Main Menu Administration Networking Networks Devices Routes Server Groups Resource Domains Places Place Associations 2. Click Insert and fill the following fields: Insert Edit Delete Report Server Group Name: <enter group="" name="" server=""> Level: A Parent: None Function: DSR (Active/Standby Pair) WAN Replication Connection Count: Use Default Value 3. Click OK when all fields are filled in.</enter>
3.	Primary NOAM VIP GUI: Update server group	1. Select the Server Group that was created in the previous step and click Edit. Insert Edit Delete Report 2. Mark the Include in SG checkboxes for both DR-NOAM servers. 3. Click Apply. Server SG Inclusion Preferred HA Role ZombieDRNOAM1 Include in SG Prefer server as spare ZombieDRNOAM2 Include in SG Prefer server as spare

Step#	Procedure	Description
4.	Primary NOAM VIP GUI: Add DR NOAM VIP	 Click Add for the VIP Address and enter an IP Address for the VIP. VIP Assignment VIP Address Add 10.240.213.7 Remove Click Apply Cancel Click Apply. Verify the banner information message states data committed.
5.	Primary NOAM VIP GUI: Wait for remote database alarm to clear	 Navigate to Alarms & Events > View Active. Alarms & Events View Active View History View Trap Log Wait for the alarm Remote Database re-initialization in progress to be cleared before proceeding.
6.	Primary NOAM VIP GUI: Restart 1 st DR NOAM server	 From the NOAM GUI, navigate to Status & Manage > Server. Status & Manage Network Elements Server HA Database KPIs Processes Tasks Files Select the 1st DR NOAM server. Click Restart. Stop Restart Reboot NTP Sync Report Click OK on the confirmation screen. Are you sure you wish to restart application software on the following server(s)? ZombieDRNOAM1 Prevent this page from creating additional dialogs Wait for the restart to complete 3-5 minutes before proceeding.

Step#	Procedure	Description
7.	Primary NOAM VIP GUI: Restart the application on the 2 nd DR NOAM server	Repeat steps 6. , but this time, select the 2 nd DR NOAM server.
8.	Primary NOAM: Modify DSR OAM process	 Establish an SSH session to the primary NOAM, login as admusr. Execute the following commands: Retrieve the cluster ID of the DR-NOAM: \$ sudo iqt -fClusterID TopologyMapping where "NodeID='<dr_noam_host_name>'"</dr_noam_host_name> Server_ID NodeID ClusterID 1 Oahu-DSR-DR-NOAM-2 A1055 Execute the following command to start the DSR OAM process on the DR-NOAM: \$ echo "<clusterid> DSROAM_Proc Yes" iload -ha -xun - fcluster -fresource -foptional HaClusterResourceCfg</clusterid>

4.2.3 Install NetBackup Client (Optional)

Procedure 10. Install NetBackup Client (Optional)

Step#	Procedure I	Description
This pro	ocedure downloads	and installs NetBackup client software on the server.
Locatio For App	n of the bpstart_not	fy and bpend_notify scripts is required for the execution of this procedure. ations, the scripts are located as follows:
• /us	r/TKLC/appworks/sl	pin/bpstart_notify
• /us	r/TKLC/appworks/sl	pin/bpend_notify
Check of number	off (√) each step as r.	it is completed. Boxes have been provided for this purpose under each step
If this p	rocedure fails, conta	act My Oracle Support (MOS) and ask for assistance.
1. □	Install NetBackup client software	If a customer has a way of transferring and installing the NetBackup client without the aid of TPD tools (push configuration), then use NetBackup Client Install/Upgrade with NBAutoInstall.
		Note: This is not common. If the answer to the previous question is not known, then use Appendix H.1 NetBackup Client Installation Using PLATCFG.
2.	Install NetBackup client software	Choose the same method used in step 1 to install NetBackup on the 2 nd NOAM.

4.3 Install and Configure SOAM Servers

4.3.1 Configure SOAM TVOE Server Blades

Procedure 11. Configure SOAM TVOE Server Blades

Step# Procedure Description This procedure configures TVOE on the server blades that host DSR SOAM VMs. It details the configuration for a single server blade and should be repeated for every TVOE blade that was IPMed for this install. Note: TVOE should only be installed on Blade servers run as DSR SOAMs. They should NOT be installed on Blade servers intended to run as DSR MPs. TVOE OS has been installed on the target server blades as per instructions in [6]. Prerequisite: Check off ($\sqrt{1}$) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance. **PMAC** Use the PMAC GUI to determine the control network IP address of the TVOE 1 Server: server. Exchange 1. From the PMAC GUI, navigate to **Software > Software Inventory**. SSH keys 🖃 🚊 Main Menu between PMAC and 🖻 🔄 Hardware TVOE server 🗐 📄 System Inventory 🛓 🚞 System Configuration 📄 🔄 Software Software Inventory Manage Software Images 2. Note the IP address TVOE server. RMS: pc5010441 Guest: Zombie_DSRSOAM1 (192.168.1.226) hostname98d67bf5b860 TPD (x86_64) 80000-8050 7.2.0.0.0-88.21.0 DSR 3. From a terminal window connection on the PMAC, login as the admusr user. 4. Exchange SSH keys between the PMAC and the TVOE server using the keyexchange utility and the control network IP address for the TVOE blade server. 5. When asked for the password, type the password for the TVOE server. \$ keyexchange admusr@<TVOE Control Blade IP address> TVOE 1. Login as admusr on the TVOE server using the control IP address noted 2. Server: above. Login and 2. Execute the following commands: copy configuration You can copy the scripts to any path even on /home/admusr. In this scripts from case, instead of /usr/TKLC, the new path should be used, for example, PMAC /home/admusr. \$ sudo scp admusr@<PMAC Control IP</pre> address>:/usr/TKLC/smac/etc/TVOE* /usr/TKLC/ \$ sudo chmod 777 /usr/TKLC/TVOE*



Step#	Procedure	escription
5.	TVOE Server: Verify TVOE configuration	 XMI_VLAN_ID is the VLAN ID for the XMI network in this installation, and IMI_VLAN_ID is the VLAN ID for the IMI network in this installation. For deployments with aggregation switches, the IMI and XMI VLAN IDs are the values of the INTERNAL-IMI and INTERNAL-XMI VLAN IDs, respectively. For layer-2 only deployments, the IMI and XMI VLAN IDs are obtained from the customer. Upon executing the proper version of the TVOEcfg.sh script, you should see an output similar to the following (example shows output without the "mezz" parameter): Using onboard NICs Interface bond0.3 added Interface bond0.4 added Setting up the bridge and unsetting network info Interface bond0.3 was updated. Bridge xmi added! Setting up the bridge and unsetting network info Interface bond0.4 was updated. Bridge imi added! Note: If for any reason, you run the wrong version of the TVOEcfg.sh command, you can execute the following command to reset the network configuration so you can repeat either step 3 or 4.
6.	TVOE Server: Configure XMI IP and default route	<pre>1. Configure IP address on the XMI network: \$ sudo /usr/TKLC/plat/bin/netAdm settype=Bridge name=xmiaddress=<tvoe_xmi_ip_address> netmask=<tvoe_xmi_netmask prefix=""> /sys/class/net/bond1/bonding/primary has 0 lines, nothing to do. Bridge xmi was added. 2. Restart network services: \$ sudo service network restart [wait for the prompt to return] 3. Set the default route: \$ sudo /usr/TKLC/plat/bin/netAdm addroute=default device=xmigateway=<tvoe_xmi_gateway_ip_address> Route to xmi added.</tvoe_xmi_gateway_ip_address></tvoe_xmi_netmask></tvoe_xmi_ip_address></pre>

Step#	Procedure	escription
7.	TVOE Server:	In these examples, <interface> is replaced with the actual ethernet interface that is used as the dedicated NetBackup port. For instance, eth01 or eth22.</interface>
	Configure	Un-bonded ethernet interface:
	dedicated	<pre>\$ sudo /usr/TKLC/plat/bin/netAdm set</pre>
	interface and	device= <ethernet interface="">slave=noonboot=yes</ethernet>
	bridge (optional)	[OPTIONAL] If this installation is using jumbo frames, set the ethernet interface MTU to the desired jumbo frame size:
		<pre>\$ sudo /usr/TKLC/plat/bin/netAdm set</pre>
		device= <ethernet interface=""> MTU=<netbackup mtu="" size=""></netbackup></ethernet>
		Create NetBackup VM bridge interface:
		<pre>\$ sudo /usr/TKLC/plat/bin/netAdm addtype=Bridge</pre>
		name=netbackupbridgeInterfaces= <ethernet< th=""></ethernet<>
		interiace>
		ounoor-yes
8.	TVOE Server: Configure	<i>Note</i> : Only execute this step if using a dedicated ethernet interface for NetBackup.
	networking for	<pre>\$ sudo /usr/TKLC/plat/bin/netAdm setdevice=NetBackup</pre>
	dedicated	type=Ethernetonboot=yes
	NetBackup interface (optional)	address= <no1 adress="" ip="" netbackup=""></no1>
		netmask= <no1_netbackup_netmask></no1_netbackup_netmask>
		<pre>\$ sudo /usr/TKLC/plat/bin/netAdm addroute=net</pre>
		device=netbackupaddress= <netbackup_svr_network_id></netbackup_svr_network_id>
		netmask= <no1_netbackup_netmask></no1_netbackup_netmask>
		gateway= <no1_netbackup_gateway_ip_address></no1_netbackup_gateway_ip_address>

Step#	Procedure	escription
9.	TVOE	\$ sudo su - platcfg
	hostname	Main Menu Maintenance Diagnostics O Server Configuration Network Configuration Exit • 4 Navigate to Server Configuration > Hostname > Edit and enter a new
		hostname for your server:
		Edit Hostname Hostname: dsrTVOE-blade11 OK Cancel
		5. Click OK and click Exit until you are at the platcfg main menu again.
		<i>Note</i> : Although the new hostname has been properly configured and committed at this point, it does not display on your command prompt unless you log out and log back in again.

Step#	Procedure	escription
10. □	TVOE Server: Configure SNMP	 From the platcfg main menu, navigate to Network Configuration > SNMP Configuration > NMS Configuration.
		Image: NMS Server Port Community String
		2. Click Edit.
		3. Click Add a New NMS Server.
		Add an NHS Server Hostname or IP: Port: SNMP Community String:
		 Enter the following NMS servers, clicking OK after each one and then selecting the Add NMS option again:
		5. Enter the Hostname/IP of the customer NMS server.
		6. For port, enter 162 .
		 For Community String, enter the community string provided in the customer specific NAPD document.
		8. Enter the IP of the SOAM VIP
		9. Click Exit.
		10. Select Yes when asked to restart the Alarm Routing Service.
		11. Once done, click Exit to quit to the platcfg main menu.





Step#	Procedure	escription
13.	TVOE	1. If not already in the utility, then use this command:
	Configure	\$ sudo su - platcfg
	time zone	2. Navigate to Server Configuration > Time Zone.
		Main Menu Maintenance Diagnostics Server Configuration Network Configuration Exit Exit Server Configuration Method Storage Set Clock Time Zone Exit
		Platform Configuration Utility 3.06 (C) 2003 - 2014 Tekele Hostname: hubtones2-TVOE Time Zone Configuration Time Zone: America/New_York Hardware Clock Set to GMT: no
		If the time zone displayed matches the time zone you desire, then you can continue to hit Exit until you are out of the platcfg program. If you want a different time zone, then proceed with this instruction.Click Edit.
		Platform Configuration Utility 3.06 (C) 2003 - 2014 Tekelec, In Hostname: hubtones2 America/Matserrat America/Massau America/Nassau America/Norcha America/Norcha America/Norch Dakota/Beulah America/North Dakota/Center America/North Dakota/Center America/Panama
		4. Select the desired time zone from the list and click Enter.
		5. Continue clicking Exit until you are out of the platcfg program.
14. □	TVOE Server: Reboot	Reboot the server by executing the following command:
15.	TVOE Server: Repeat procedure for other TVOE blades	Configuration of this TVOE server blade is complete. Repeat this procedure from the beginning for other TVOE hosts that need to be configured.
16. □	Install SDS (optional)	If this deployment contains SDS, SDS can now be installed. Refer to document referenced in [4].

Procedure 12. Create SOAM Guest VMs

Step#	Procedure	Description						
This pro It must t Prerequ Check c	rocedure creates a DSR SOAM virtual machine (referred to as a guest) on a TVOE server blade. t be repeated for every SOAM server you want to install. quisite : TVOE has been installed and configured on the target blade server. $rest off (\sqrt{)}$ each step as it is completed. Boxes have been provided for this purpose under each step							
number	Tocedure fails ic	ontact My Oracle Support (MOS) and ask for assistance						
1.		1 Open web browser, navigate to the PMAC GUL and enter a URL of						
	Login	https:// <pmac_mgmt_network_ip_address></pmac_mgmt_network_ip_address>						
		2. Login as the guiadmin user.						
		ORACLE						
		Oracle System Login						
		Mon Jul 11 13:59:37 2016 EDT						
		Log In						
		Enter your username and password to log in						
		Username:						
		Password:						
		Change password						
		Log In						
		Welcome to the Oracle System Login.						
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript						
		Unauthorized access is prohibited						
		Oracle and Java are registered todemarks of Oracle Correction and/or the officials						
		Oracle and Java are registered rademarks of Oracle Corporation and/or its anniates. Other names may be trademarks of their respective owners.						
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Step#	Procedure	Description					
2.	PMAC GUI: Navigate to VM management of the target server blade	 Navigate to VM Management. Software Software Inventory Manage Software Images VM Management Select the TVOE server blade server from the VM Entities listing on the left side of the screen. The selected server's guest machine configuration displays in the remaining area of the window. 					
		VM Entities Refresh \$\mathcal{L}\$ •					

Step#	Procedure	Description							
3. □	PMAC GUI: Configure VM	1. Click Imp	1. Click Import Profile.						
	guest parameters	Create	mport Pro	file	Cancel				
		Import Profile							
		ISO/Profile:	DSR-8.0.0.	0.0_80.1	1.0-x86_64 =	=> DSR_	SOAM	•	
		Num CPUs: Memory (MBs):	4 6144						
		Virtual Disks:	Prim Size	(MB)	Pool	TPD C	Dev		
			✓ 10	2400	vgguests				
		NICs:	Bridge	TPD D	ev				
			control	cont	mi				
			xmi	x	mi				
		Select Profile	Cancel						
		 Prom the ISO/Prome list, select the entry that matches depending on the hardware your SOAM VM TVOE server is running on and your preference for NetBackup interfaces: Note: Select the LARGE SOAM profile specific to the release if the number of connections is greater than 5k. 							
		SOAM VM	ΓVOE Ha	ardwa	re Type	(s)	Dedicated Netbackup Interface?	Choose Profile (<application iso<br="">NAME>)→</application>	
		HP BL460 Gen 8 Blade, HP BL460 No DSR_SOAM							
		HP BL460 Gen 8 Blade, HP BL460 Yes DSR_SOAM_NBD							
		Note: Appli be in:	cation_IS	SO_N	AME is t SOAM	he na	me of the DSR	Application ISO to	
		3. Click Sel	ect Profi	le.					
		4. You can o DSR_SO an interna	edit the r AM_B. al tag for	ame, (This o the VI	if you wi does not V host n	ish. F t beco nanag	or instance, D me the ultimat ler.)	SR_SOAM_A or e hostname. It is just	
		5. Click Cre	ate.						
		Create Impor	t Profile	Cancel					

Step#	Procedure D	Description							
4. □	PMAC GUI: 1. Navigate to Task Monitoring to monitor the progress of the guest creation task. A separate task displays for each guest creation you hav launched.								
	complete	2. Wait or refresh the screen until you see that the guest creation task has completed successfully. Main Menu: Task Monitoring Filter • ID Task Task Task State Task Output Running Time State							
		320 Create Guest Enc.103 BaySE Guest Control Completed COMPLETE COMPLETE 0:00:13 2016-10-04 13/45:12 100%							
5.	PMAC GUI:	1. Navigate to VM Management.							
	Verify guest machine is running	 Select the TVOE server blade on which the guest machine was just created. 							
	5	 Look at the list of guests present on the blade and verify that you see a guest that matches the name you configured and that its status is Running. 							
		View guest DSR_SOAM							
		VM Info Software Network Media							
		Summary Virtual Disks Virtual NICs							
		Current Power State: Running							
		Set Fower State On Change							
		Guest Name (Required): DSR_SOAM							
		Host: fe80::8edc:d4ff:feae:954							
		Number of vCPUs: 4							
		Memory (MBs): 6,144							
		VM UUID: befd87fa-4433-4c2a-							
		Enable Virtual Watchdog							
		VM Creation for this guest is complete. Repeat from step 2 for any remaining SOAM VMs (for instance, the standby SOAM) that must be created.							

Procedure 13. IPM Blades and VMs

Step#	Procedure	Description							
This pro	This procedure installs TPD on blade servers and blade server guest VMS.								
Prereq	Prerequisites:								
• Enc	Enclosures containing the blade servers targeted for IPM that have been configured.								
• TV0	DE has been ir	nstalled and configured on blade servers that will host DSR NOAM VMs.							
• DSI	R NOAM and S	SOAM guest VMs have been created successfully.							
Needeo	Material:	TPD Media (64-bits)							
Check of	off ($$) each ste	p as it is completed. Boxes have been provided for this purpose under each step							
If this pr	ocedure fails,	contact My Oracle Support (MOS) and ask for assistance.							
1.	PMAC	1. Open web browser, navigate to the PMAC GUI, and enter a URL of:							
	GUI: Login	https://cpmag.Mgmt.Network_TD_Address							
		2 Logic of the guidmin upor							
		2. Login as the guiadmin user.							
		Oracle System Login							
		Mon Jul 11 13:59:37 2016 EDT							
		Log In							
		Osername.							
		Password:							
		Change password							
		Log In							
		Welcome to the Oracle System Login.							
		This application is designed to work with most modern HTMLb compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.							
		Unauthorized access is prohibited.							
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		Other names may be trademarks of their respective owners.							
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Step#	Procedure	Description						
2.	PMAC GUI: Select servers for OS install	 Navigate to Software > Software Inventory. Software Software Inventory Manage Software Images Select the servers (VMs, IPFEs, MPs, etc.) you want to IPM. If you want to install the same OS image to more than one server, you may select multiple servers by clicking multiple rows individually. Selected rows are highlighted in green 						
		Note: VMs have the text Guest: <vm_guest_name> underneath the physical blade or RMS that hosts them. Enc101 BardE </vm_guest_name>						
		Selection active periodic display updates paused						
		Install OS Transfer ISO Image Map Device Aliases Rediscover						
		Upgrade Accept Upgrade Reject Upgrade						
		Patch Accept Patches Reject Patches						
3. □	PMAC GUI: Initiate OS install	 The left side of this screen shows the servers to be affected by this OS installation. From the list of available bootable images on the right side of the screen, select one OS image to install to all of the selected servers. 						
		Entity Status Image Name Type Architecture Description						
		Guest DSR SOAM Guest DSR SOAM Construction of the state						
		TPD install-7.2.0.0.0_88.23.0-OracleLinux6.7- x86_64 x86_64						
		TPD.install-7.2.0.0.0_88.24.0-OracleLinux6.7- x86_64 x86_64						
		TPD.install-7.2.0.0.0_88.25.0-OracleLinux6.7- x86_64 TPD 88.25						
		TVOE-3.2.0.0.0_88.24.0-x86_64 Bootable x86_64						
		 Click Start Software Install. Start Software Install Back When a confirmation screen displays, click OK to proceed. 						
4	PMAC	Navigate to Task Monitoring to monitor the progress of the OS Installation						
	GUI:	background task. A separate task displays for each blade affected.						
	Monitor OS	275 Install OS RMS: <u>50207TVOE</u> Guest: <u>Maui: SOAM2</u> Done: TPD.install-6.7.1.0.0_84.28.0- OracleLinux.6.8.x86_64 COMPLETE NA 0:13:38 2016.09-18 23:37:09 100%						
	install	Image: Second						
		When the installation is complete, the task changes to green and the progress bar indicates 100%.						

Procedure 14	Install the	Application	Software
--------------	-------------	-------------	----------

Step#	Procedure	Description							
This pro	cedure install	Is Diameter Signaling Router on the blade servers.							
Check on number	off (√) each ste	p as it is completed. Boxes have been provided for this purpose under each step							
If this pr	ocedure fails,	contact My Oracle Support (MOS) and ask for assistance.							
1. □	PMAC GUI [:] Login	1. Open web browser, navigate to the PMAC GUI, and enter a URL of:							
	een Login	https:// <pmac_mgmt_network_ip_address></pmac_mgmt_network_ip_address>							
		2. Login as the guiadmin user.							
		ORACLE® Oracle System Login Mon Jul 11 13:59:37 2016 EDT							
		Log In Enter your username and password to log in							
		Username:							
		Password:							
		Change password							
		Log In							
		Welcome to the Oracle System Login.							
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.							
		Unauthorized access is prohibited.							
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Step#	Procedure	Description						
2.	PMAC GUI: Select servers for application install	 Navigate to Software > Software Inventory. Software Software Inventory Manage Software Images Select the servers on which the application is to be installed. If you way install the same application image to more than one server, you may s multiple servers by clicking multiple rows individually. Selected rows a highlighted in green. 						
		<i>Note</i> : VMs have the text Guest : <vm_guest_name></vm_guest_name> underneath the physical blade that hosts them.						
		Enc: <u>103</u> Bay: <u>6F</u> Guest: <u>DSR_SOAM</u>	192.168	.1.78 hostname4dcea68bb	6ad TPD	(x86_64)	7.2.0.0.0-88.24.(
		3. Click Upgrade .	Selection	active periodic display upda	ites pause	ed		
		Install OS	Trans	fer ISO Image Map Device	Aliases	Rec	discover	
		Up	orade	Accept Upgrade	Reject			
		P	atch	Accent Patches	Reject	Datches		
				Rooperations	nojoor	atono o		
	GUI: Initiate application install	 The left side of this screen shows the servers affected by this application. From the list of available bootable images on the right the screen, select one application image to install to all of the select servers. Software Upgrade - Select Image 						
		Targets		Select Image				
		Entity State	IS	Image Name	Туре	Architecture	Description	
		Enc: <u>103</u> Bay: <u>6F</u> Guest: <u>DSR_SOAM</u>		DSR-7.0.1.0.0_70.28.7-x86_64	Upgrade	x86_64	DSR mutant build 70.28.7	
		•	•	DSR-8.0.0.0_80.10.0-x86_64	Upgrade	x86_64		
				DSR-8.1.0.0. 81.2.0-x86_64	Upgrade	x86_64	DSR 81.2.0	
				TPD.install-6.7.1.0.0_84.28.0-OracleLinux6.6- x86_64	Bootable	x86_64	TPD 84.28 for mutant build s	
				TPD.install-7.2.0.0.0_88.23.0-OracleLinux6.7- x86_64	Bootable	x86_64		
				TPD.install-7.2.0.0.0_88.24.0-OracleLinux6.7- x86_64	Bootable	x86_64		
				TPD.install-7.2.0.0.0_88.25.0-OracleLinux6.7- x86 64	Bootable	x86_64	TPD 88.25	
			٠	TVOE-3.2.0.0.0_88.24.0-x86_64	Bootable	x86_64		
		2. Click Start Soft	ware U	pgrade.				
		Start Software Upgrade	Back					
		3. When a confirm	nation so	creen displays, click OK	to proce	eed with	the install.	

Step#	Procedure	Desci	Description									
4 .	PMAC GUI: Monitor the	Navigate to Task Monitoring to monitor the progress of the Application Installation task. A separate task displays for each blade affected.										
	installation											
	status	Filte	er* ▼									
			ID	Task		Target		S	Status			State
			322	Upgrade		Enc: <u>103</u> E Guest: <u>DS</u>	Say: <u>6F</u> SR SOAM	S	Success			COMPLETE
			321	Install OS		Enc: <u>103</u> E Guest: <u>DS</u>	Bay: <u>6F</u> SR SOAM	C	Done: TPD.i DracleLinu	install-7.2.0. x6.7-x86_64	0.0_88.24.0- 1	COMPLETE
		When bar in	the i dicat	installa es 100	tion is c %.	complete	e, the tas	sk cha	anges	to green	and the p	progress
5. □	PMAC GUI: Accept/Rej	Navig Selec steps	Navigate to Software > Software Inventory to accept the software installation. Select all the servers on which the application has been installed in the previous steps and click Accept Upgrade .									
	ect upgrade	ect upgrade TPD (x8	(x86_6	_64) 7.2.0.0.0-88.24			DSR			8.0.0.0.0-80.10.0 Pending Upgrade Acc/Rej		
		TPD (x86_64)				7.2.0.0.0-88.24.0			DSR		8.0.0.0.0-80.10.0	
					Sele	ection acti	ve period	ic disp	olay upda	tes pause	d	
		Install C			·	Transfer I	SO Image	Ма	p Device	ce Aliases Redis		cover
					Upgrade		Accept Upgrade		de	Reject Upgrade		
					Patch	I	Accept	Patch	ies	Reject	Patches	
		Note:	Or Pe	nce the ending	upgrac Acc/Re	de has b ej to the	een acco version	eptec numl	d, the A ber of t	.pp vers he appli	ion chang cation.	es from

4.3.2 Configure SOAMs

Procedure 15. Configure SOAM NE

Step#	Procedure	Description						
This pro	cedure configu	ures the SOAM network element.						
Check of number	off (√) each step	as it is completed. Boxes have been provided for this purpose under each step						
If this pr	ocedure fails, o	contact My Oracle Support (MOS) and ask for assistance.						
1.	NOAM VIP GUI: Login	 Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: https://<primary address="" ip="" noam="" vip=""></primary> 						
		2. Login as the guiadmin user.						
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT						
		Log In Enter your username and password to log in Username: Password: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.						
Step#	Procedure	Description						
-------	--	---						
2.	NOAM VIP GUI [.]	1. Navigate to Networking > Networks .						
2.	NOAM VIP GUI: Create the SOAM network element using an XML file	 Navigate to Networking > Networks. Main Menu Administration Configuration Networking Networks Devices Routes Services Refer to Sample Network Element and Hardware Profiles for a sample network element xml file. Click Browse and type the pathname to the SOAM network XML file. To create a new Network Element, upload a valid configuration file: Browse zombieSOAM.xml Upload File Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved. Click Upload File to upload the XML file and configure the SOAM network element. 						
		Once the data has been uploaded, a tab displays with the name of your network element. Click this folder to display the list of individual networks now configured.						
		Global ZombieNOAM S ZombieDRNOAM ZombieSOAM						
		Network Name Network Type Default Locked Routed VLAN Configured Interfaces Network						
		XMI OAM Yes Yes Yes 4 0 10.240.2						
		IMI OAM No Yes No 3 0 169.254.						

Procedure 16.	Configure the SOAM Servers
---------------	----------------------------

Step#	Procedure	Description		
This pro	This procedure configures the SOAM servers.			
Check on number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
If this pr	ocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.		
1.	Exchange SSH keys between SOAM site's local PMAC and the SOAM server	Use the PMAC GUI to determine the control network IP address of the server that is to be the SOAM server. 1. From the PMAC GUI, navigate to Software > Software Inventory. Main Menu System Inventory System Configuration Software Software Manage Software Images		
		RMS: pc5010411 Guest. Open Restaure 9986670650800 TPD (886_64) 7.20.00-88.21.0 DSR 8.00.00-80.5.0 2. Note the IP address for the SOAM server. 3. From a terminal window connection on the PMAC, login as the admusr user. 4. Exchange SSH keys between the PMAC and the SOAM server using the keyexchange utility and the control network IP address for the SOAM server. 5. When asked for the password, type the password for the admusr. \$ keyexchange admusr@ <s01_control_ip address=""></s01_control_ip>		
2.	Exchange SSH keys between NOAM and PMAC at the SOAM site (if necessary)	 Note: If this SOAM shares the same PMAC as the NOAM, then you can skip this step. 1. From a terminal window connection on the NOAM VIP, as the admusr, exchange SSH keys for admusr between the NOAM and the PMAC for this SOAM site using the keyexchange utility. 2. When asked for the password, enter the admusr password for the PMAC server. \$ keyexchange admusr@<so1_site_pmac_mgmt_ip_address></so1_site_pmac_mgmt_ip_address> 		

Step#	Procedure	Description	
3. □	NOAM VIP GUI: Login	1. Establish a GUI session on the address. Open the web brows	NOAM server by using the XMI VIP IP er and enter a URL of:
		https:// <primary_noam_vi< th=""><th>P_IP_Address></th></primary_noam_vi<>	P_IP_Address>
		2. Login as the guiadmin user.	
		OR	ACLE
		Oracle System Login	Mon Jul 11 13:59:37 2016 EDT
		Enter your usern Usern Passv Welcome to This application is designed to work with most and cookies. Please refer to the <u>Orac</u> Unauthoriz Oracle and Java are registered trad Other names may be tr Copyright © 2010, 2016, <u>Ora</u>	Log In ame and password to log in ame: ame: ord: change password Log In the Oracle System Login. modern HTML5 compliant browsers and uses both JavaScript te Software Web Browser Support Policy for details. ted access is prohibited. emarks of Oracle Corporation and/or its affiliates. ademarks of their respective owners. acde and/or its affiliates. All rights reserved.
4.	NOAM VIP GUI: Insert the 1 st SOAM server	 Navigate to Configuration > S Main Menu Administration Configuration Servers Server Groups Resource Domains Click Insert to insert the 1st SC server). Insert Edit Delete Export Report Enter the fields as follows: Hostname: Role: 	DAM server into servers table (the first or <hostname> SYSTEM OAM</hostname>
		System ID:	<site id="" system=""></site>

Step#	Procedure	Description			
		Hardware Prof	file:	DSR TVOE Guest	
		Network Elem	ent Name:	[Choose NE from c	lropdown box]
		Adding a new serv	er		
		Hostname *	ZombiesSOAM1		
		Role *	SYSTEM OAM		
		System ID			
		Hardware Profile	DSR TVOE Guest	•	
		Network Element Name *	ZombieSOAM 🔻		
		The network int based on the cl	terface fields becom hosen hardware pro	e available with sele file and network eler	ction choices nent.
		4. Type the serve interface. Leav	r IP addresses for th ve the VLAN checkb	ne XMI network. Sel ox unchecked.	ect XMI for the
		5. Type the serve interface. Leav	r IP addresses for the vLAN checkbo	ne IMI network. Sele ox unchecked.	ct IMI for the
		XMI (10.240.213.0/24)	10.240.213.9		xmi 💌 🗖 VLAN (4)
		IMI (169.254.1.0/24)	169.254.1.9		imi 💌 🗖 VLAN (3)
		6. Add the following	ng NTP servers:		
		NTP Server		Preferred?	
		<tvoe_xmi_ip< th=""><th>_Address(SO1)></th><th>Yes</th><th></th></tvoe_xmi_ip<>	_Address(SO1)>	Yes	
		7. Click OK when	you have completed	d entering all the ser	ver data.

Step#	Procedure	Description
5.	NOAM VIP GUI: Export the initial configuration	 1. Navigate to Configuration > Servers. Main Menu Administration Configuration Networking Servers Server Groups Resource Domains Places Places Place Associations 2. From the GUI screen, select the SOAM server and click Export to generate the initial configuration data for that server.
6.	NOAM VIP: Copy configuration file to 1 st SOAM server	 Obtain a terminal session to the NOAM VIP as the admusr user. Use the awpushcfg utility to copy the configuration file created in the previous step from the /var/TKLC/db/filemgmt directory on the NOAM to the 1st SOAM server, using the Control network IP address for the 1st SOAM server. The configuration file has a filename like TKLCConfigData.<hostname>.sh.</hostname> \$ sudo awpushcfg The awpushcfg utility is interactive, so the user is asked for the following: IP address of the local PMAC server: Use the management network address from the PMAC. Username: Use admusr Control network IP address for the target server: In this case, enter the control IP for the 1st SOAM server. Hostname of the target server: Enter the server name configured in step 4.

Step#	Procedure	Description	
7.	7. 1 st SOAM Server:	1. Obtain a terminal window connecti establishing an ssh session from th	on on the 1 st SOAM server console by ne NOAM VIP terminal console.
	awpushcfg	\$ ssh admusr@ <so1_control< td=""><td>L_IP></td></so1_control<>	L_IP>
	was called	2. Login as the admusr user.	
	the server	 The automatic configuration daem TKLCConfigData.sh in the /var/tn configuration in the file, and asks th 	on looks for the file named n p directory, implements the ne user to reboot the server.
		4. Verify awpushcfg was called by ch	ecking the following file.
		<pre>\$ sudo cat /var/TKLC/appw Verify the following message is di</pre>	/logs/Process/install.log splayed:
		[SUCCESS] script complete	ed successfully!
		5. Reboot the server.	
		<pre>\$ sudo init 6</pre>	
		6. Wait for the server to reboot.	
8.	1 st SOAM Server: Verify server health	Execute the following command on the no errors are returned: \$ sudo syscheck Running modules in class Running modules in class Running modules in class Running modules in class Running modules in class LOG LOCATION: /var/TKLC/J	hardwareOK diskOK netOK systemOK procOK
9.	Insert and	Repeat this procedure to insert and co	nfigure the 2 nd SOAM server:
	Configure	NTP Server	Preferred?
	SOAM	<tvoe address(so2)="" ip="" xmi=""></tvoe>	Yes
	server	Instead of data for the 1 st SOAM serve SOAM server, transfer the TKLCConfi reboot the 2 nd SOAM server when prom	r, insert the network data for the 2 nd gData file to the 2 nd SOAM server, and npted at a terminal window.
10.	Install NetBackup client software on SOAMs (optional)	If you are using NetBackup at this site, NetBackup Client (Optional) again to in servers.	then execute Procedure 10. Install Istall the NetBackup Client on all SOAM

Procedure 17	Configure the	SOAM Server Group
--------------	---------------	--------------------------

Step#	Procedure	Description		
This pro	This procedure configures the SOAM server group.			
Check of	off (√) each ste	p as it is completed. Boxes have been provided for this purpose under each step number.		
If this pr	ocedure fails,	contact My Oracle Support (MOS) and ask for assistance.		
1. □	NOAM VIP GUI: Login	 Establish a GUI session on the NOAM server by using the XMI VIP IP address. Open the web browser and enter a URL of: 		
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>		
		2. Login as the guiadmin user.		
		ORACLE		
		Oracle System Login		
		Mon Jul 11 13:59:37 2016 EDT		
		Enter your username and password to log in		
		Username:		
		Password:		
		Change password		
		Log In		
		Welcome to the Oracle System Login.		
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.		
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Step#	Procedure	Description
Step#	Procedure NOAM VIP GUI: Enter SOAM server group data	Description Allow approximately 5 minutes for the 2 nd SOAM server to reboot. 1. Navigate to the GUI Configuration > Server Groups. • Configuration • Networking • Servers • Server Groups • Server Groups • Resource Domains
		 Places Place Associations Select Insert. Insert Edit Delete Report Add the SOAM server group name along with the values for the following fields:
		Name: <hostname> Level: B Parent: [Select the NOAM Server Group] Function: DSR (Active/Standby Pair) WAN Replication Connection Count: Use Default Value 4. Click OK when all fields are filled. Note: For DSR mated sites, repeat this step for additional SOAM server groups where the preferred SOAM spares may be entered before the active/standby SOAMs.</hostname>

Step#	Procedure	Description
Step# 3. □	Procedure NOAM VIP GUI: Edit the SOAM server group and add a VIP address	 From the GUI, navigate to Configuration > Server Groups. Configuration Networking Servers Server Groups Resource Domains Places Place Associations Select the new SOAM server group and click Edit. Insert Edit Delete Report Add both SOAM servers to the server group primary site by marking the Include in SG checkbox.
		4. Do not check any of the Preferred Spare checkboxes. Server SG Inclusion Preferred HA Role
		Zombie SOAM1 Include in SG Prefer server as spare
		Zombie SOAM2 Include in SG Prefer server as spare
		 Add a SOAM VIP by clicking Add. Type the VIP Address and click OK.
		VIP Assignment
		VIP Address Add
		10.240.213.10 Remove

Otcp#	Procedure	Description
4. □	NOAM VIP GUI: Edit the SOAM	If the Two Site Redundancy feature is wanted for the SOAM server group, add a SOAM server that is located in its server group secondary site by marking the Include in SG checkbox. Also, mark the Preferred Spare checkbox.
	server	Server SG Inclusion Preferred HA Role
	add preferred	Zombie SOAM1 Include in SG
	site redundancy	Zombie SOAM2 Include in SG Prefer server as spare
	(optional)	Zombie SOAMsp 🕢 Include in SG
		If the Three Site Redundancy feature is wanted for the SOAM server group, add an additional SOAM server that is located in its server group tertiary site by marking the Include in SG checkbox. Also, mark the Preferred Spare checkbox.
		<i>Note</i> : The preferred spare servers must be server group secondary and tertiary sites. There should be servers from three separate sites (locations).
		For more information about server group secondary site, tertiary site, or site redundancy, see the 1.3 Terminology section.
5.	5. NOAM VIP	1. To add additional SOAM VIPs, click Add.
	the SOAM	2. Type the VIP Address.
	server	3. Click OK .
	add additional	<i>Note</i> : Additional SOAM VIPs only apply to SOAM server groups with preferred spare SOAMs.
	SOAM	VIP Assignment
	(optional)	VIP Address Add
		Remove
6. □	NOAM VIP GUI: Wait for remote database alarm to clear	Navigate to Alarms & Events > View Active. Alarms & Events View Active View History View Trap Log Wait for the Remote Database re-initialization in progress alarm to clear before

Step#	Procedure	Description
7.	NOAM VIP GUI: Restart 1 st SOAM server	 From the NOAMP GUI, select Status & Manage > Server. Status & Manage Network Elements Server HA Database KPIs Processes Select the 1st SOAM server. Click Restart. Click OK on the confirmation screen. Wait for restart to complete.
8.	NOAM VIP GUI: Restart 2 nd SOAM server	 From the NOAMP GUI, select Status & Manage > Server. Status & Manage Network Elements Server HA Database Select the 2nd SOAM server. Click Restart. Click OK on the confirmation screen. Wait for restart to complete.

Step#	Procedure	Description
o. 🗆	NOAM VIP GUI: Restart all preferred spare SOAM servers	If additional preferred spare servers are not configured for Secondary or Tertiary Sites, this step can be skipped. 1. If additional preferred spare servers are configured for Secondary and/or Tertiary Sites, navigate to Status & Manage > Server. Status & Manage

Procedure 18. Activate PCA (PCA Only)

Step#	Procedure	Descrip	tion			
This pro	ocedure activates	PCA.				
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.					
If this p	rocedure fails, co	ntact My	Oracle Support (MOS) and ask for assistance.			
1.	(PCA Only) Activate PCA	lf you a activati	re installing PCA, execute applicable procedures (added SOAM site on or complete system activation) from [7] to activate PCA.			
	Feature	Note:	If not all SOAM sites are ready at this point, then you should repeat activation for each new SOAM site that comes online.			
		Note:	Ignore steps to restart DA-MPs and SBRs that have yet to be configured.			

Procedure 19. Activate DCA (DCA Only)

Step#	Procedure	Descri	ption
This pro	ocedure activates	DCA.	
Check numbe	off (√) each step a r.	as it is co	ompleted. Boxes have been provided for this purpose under each step
If this p	rocedure fails, co	ntact My	Oracle Support (MOS) and ask for assistance.
1.	(DCA Only) Activate PCA	lf you a Frame	re installing DCA, execute procedures [11] to activate DCA work and Feature.
	reature	Note:	If not all SOAM sites are ready at this point, then you should repeat activation for each new SOAM site that comes online.
		Note:	Ignore steps to restart DA-MPs and SBRs that have yet to be configured.

4.4 Configure MP Servers

4.4.1 Configure MP Blade Servers

Procedure 20. Configure MP Blade Servers

Step#	Procedure	Description							
This pro	This procedure configures MP blade servers (IPFE, SBR, DA-MP).								
Check on number	heck off ($$) each step as it is completed. Boxes have been provided for this purpose under each step umber.								
If this pr	ocedure fails,	ails, contact My Oracle Support (MOS) and ask for assistance.							
1.	NOAM VIP GUI: Login	If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: <a href="https://<Primary_NOAM_VIP_IP_Address>">https://<primary_noam_vip_ip_address></primary_noam_vip_ip_address> Login as the guiadmin user.							
		Oracle System Login							
		Mon Jul 11 13:59:37 2016 EDT							
		Log In Enter your username and password to log in Username: Password: Change password Log In							
		Welcome to the Oracle System Login.							
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.							
		Unauthorized access is prohibited.							
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Step#	Procedure	Description					
2.	NOAM VIP GUI: Navigate to signaling network configurati on screen	 Navigate to Configuration > Networking Configuration Networking Networks Devices Routes Services Select the associated SOAM tab f Global ZombieNOAM O ZombieDRNOAM O 	 Navigate to Configuration > Networking > Networks. Configuration Configuration Networking Networks Devices Routes Services Select the associated SOAM tab for the MP server. 				
		Network Name	Network Type	Default			
		XMI	OAM	Yes			
		IMI	OAM	No			
		3. Click Insert in the lower left corne	r.				
		Insert Edit Lock/Unlock Delete	Report Insert Netw	ork Element Export			

Step#	Procedure	Description						
3.	NOAMP VIP: Add signaling networks	 Enter the Network Name, VLAN ID, Network Address, Netmask, and Router IP that matches the signaling network. Insert Network 						
		Field Value Description						
		Network Name * xsi1 The name of this network. [Defau						
		Network Type Signaling The type of this network.						
		VLAN ID * 6 The VLAN ID to use for this netwo						
		Network Address * 10.196.227.0 The network address of this network						
		Netmask * 255.255.255.0 Subnetting to apply to servers with						
		Router IP 10.196.227.1 The IP address of a router on this one monitored.						
		Default Network Ores No No No No No						
		Routed Yes No Whether or not this network is ro						
		Ok Apply Cancel						
		Note: Even if the network does not use VLAN tagging, you should enter the correct VLAN ID here as indicated by the NAPD.						
		1. Select Signaling for Network Type.						
		2. Select No for Default Network.						
		3. Select Yes for Routable.						
		4. Click OK , if you are finished adding signaling networks.						
		-OR-						
		Click Apply to save this signaling network and repeat this step to enter additional signaling networks.						

Step#	Procedure	Description						
4 .	NOAM VIP GUI: [PCA/DCA Only]: Define SBR DB replication network	 <i>Note</i>: Execute this step only if you are defining a separate, dedicated network for SBR replication. 1. Enter the Network Name, VLAN ID, Network Address, Netmask, and 						
		Router IP that matches the SBR DB Replication network.						
		Insert Network						
		Field Value Description						
		Network Name * replication The name of this						
		Network Type Signaling The type of this n						
		VLAN ID * 9 The VLAN ID to u						
		Network Address * 10.240.77.0 The network add						
		Netmask * 255.255.0 Subnetting to app						
		Router IP 10.240.77.1 The IP address c one monitored.						
		Default Network O Yes No A selection indic:						
		Routed Yes Whether or not th No						
		Ok Apply Cancel						
						<i>Note</i> : Even if the network does not use VLAN Tagging, you should enter the correct VLAN ID here as indicated by the NAPD.		
		2. Click Signaling for Network Type.						
		3. Click No for Default Network.						
		4. Click Yes for Routable.						
		5. Click OK . If you are finished adding signaling networks.						
		-OR- Click Apply to save this signaling network and repeat this step to enter						
5.		<i>Note</i> : Execute this step only if you are defining a separate, dedicated network						
	GUI: Figure Execute this step only if you are defining a separate, dedicated he for SBR Replication. [PCA/DCA Only]: 1. Navigate to Configuration > Services.							

Step#	Procedure	Description								
	additional	📄 🔄 Configuratio	n	-						
	service to	📄 🚖 Networki	🖃 😋 Networking							
	mapping	Networks								
		Devic	Devices							
		💾 Route	es							
		Servic	Services							
		2. Click Edit.								
		Edit Report								
		3. Set the services a	ccord	ing to or	ne of these	scenarios:				
		• If the dual path H	A conf	iguratior	n is require	ed:				
		Set up the inter-N	E netv	vork to t	he XMI ne	twork				
		Set up the intra-N	E netv	vork to tl	he IMI net	work for HA_MP secondary.				
		the HA status of SBRs grouped between multiple sites. If the primary HA path SBR DB Replication Network becomes lost or impaired, the XMI network preserves the HA state and prevents the servers from entering into a scenario known as HA Split-Brain . Preventing HA Split-Brain keeps the existing database in sync, but the DSR mate site is isolated from the active								
				Intra-N	IE	•				
		Name		Networ	rk	Inter-NE Network				
		HA_MP_Second	lary	<imi ne<="" th=""><th>etwork></th><th><xmi network=""></xmi></th></imi>	etwork>	<xmi network=""></xmi>				
		Replication_MP		<imi ne<="" th=""><th>etwork></th><th><sbr db="" network="" replication=""></sbr></th></imi>	etwork>	<sbr db="" network="" replication=""></sbr>				
		ComAgent		<imi ne<="" th=""><th>etwork></th><th><sbr db="" network="" replication=""></sbr></th></imi>	etwork>	<sbr db="" network="" replication=""></sbr>				
		HA_MP_Secondary IN	TERNAL	IMI 💌	INTERNAL	XMI 💌				
		Replication_MP INTERNALIMI Replication								
		ComAgent INTERNALIMI Replication								
		If the dual path HA configuration is NOT required:								
		Set up the inter-NE network to SBR DB replication (configured in step 5).								
		Set up the intra-NE network to the IMI network for HA_MP secondary.								
		Set up the Intra-NE network to the IMI network for HA_MP second This condition allows an HA Split-Brain condition between the SB SBR DB replication network becomes lost or impaired. During an Brain condition, an active SBR server exists at each site, but the d is not in sync between the SBRs.								

Step#	Procedure	Description						
		Name			Intra- Netwo	NE ork	Inter-l	NE Network
		H	HA_MP_Secondary		<imi n<="" td=""><td>letwork></td><td><sbr< td=""><td>DB Replication Network></td></sbr<></td></imi>	letwork>	<sbr< td=""><td>DB Replication Network></td></sbr<>	DB Replication Network>
		Re	eplication_	MP	<imi n<="" td=""><td>letwork></td><td><sbr< td=""><td>DB Replication Network></td></sbr<></td></imi>	letwork>	<sbr< td=""><td>DB Replication Network></td></sbr<>	DB Replication Network>
		Co	omAgent		<imi n<="" td=""><td>letwork></td><td><sbr< td=""><td>DB Replication Network></td></sbr<></td></imi>	letwork>	<sbr< td=""><td>DB Replication Network></td></sbr<>	DB Replication Network>
		HA_MP_	Secondary	INTERNALI	MI 🔻	Replication	•	
		Replicat	ion_MP	INTERNALI	MI 💌	Replication	•	
		ComAge	ComAgent IN		MI 💌	Replication	•	
		4. Clic	k OK to a	pply the Se	ervice-t	o-Network s	selectio	ns.
6.	PMAC: Exchange SSH keys between MP site's local PMAC and the MP server	Use the blade s 1. Fro Inv	MP site's erver that m the MP entory. Main Menu Hardwa Hardwa Softwar Softwar Softwar Mar	PMAC GI is to be an site's PMA are tem Invento tem Config re ware Inven	JI to de MP se AC GUI ory uration tory are Ima	termine the rver. , navigate to	control	I network IP address of the
		Enc: <u>103</u>	Bay: <u>1F</u>	192	2.168.1.2	07 LG-MI	P2	TPD (x86_64)
		 Not Fro adr Exc sor 	 Note the IP address for an MP server. From a terminal window connection on the MP site's PMAC, login as the admusr user. Exchange SSH keys for admusr between the PMAC and the MP blade 					
		the	MP blade	server.	musr@<	(MP Contr		ade IP Address>
		5. Wh	en asked ver.	for the pas	sword,	type the pa	ssword	I for the admusr of the MP

Step#	Procedure	Description		
7.	NOAM VIP GUI: Insert the MP server (Part 1)	Before creating the M Hardware Profile: your MP physical har Note: You must go mezzanine c blade(s) use	IP blade server, first identify th In the following step, selec rdware and enclosure network through the process of identif ards and Ethernet interfaces of d before selecting the profile.	he hardware profile. In the profile that matches Ing environment. Ying the enclosure switches, of the network prior and
		Profile Name	Number of Enclosure Switches (Pairs)?	Bonded Signaling Interfaces?
		1-Pair	1	Yes
		2-Pair	2	Yes
		3-Pair-bonded	3	Yes
		3-Pair-un-bonded	3	No
		<i>Note</i> : If none of the then you cre Sample Netw /var/TKLC/a standby NO/	above profiles properly desc ate your own in a text editor (work Element and Hardware P ppworks/profiles/ directory o AM server, and both the DR N	ribe your MP server blade, see Figure 7 of Appendix A Profiles) and copy it into the f the active NOAM server, the OAM servers (if applicable).
		Note: After transfer	rring the above file, set the pro e following command:	pper file permission by
		\$ sudo chmod 77	77 /var/TKLC/appworks/j	profiles/ <profile name=""></profile>
		Make note of the pro following step.	file used here since it is used	in server creation in the

Step#	Procedure	Description		
8.	NOAM VIP GUI: Insert the MP server (Part 2)	1. Navigate to Configuration	on > Servers.	blo
		2. Click Insert to insert the Insert Edit Delete Export Re 3. Enter the following value Hostname: Role: Network Element Name Hardware Profile: Location: OAM Interfaces [At least one interface is require Network IP A XMII (10.240.213.0/24) 10.	new MP server into servers ta port s: <hostname> MP e: [Choose Network Eleme Select the profile that ma physical hardware and el environment from step 7. <enter an="" location<br="" optional="">ed.]: 240.213.44</enter></hostname>	nt] Itches your MP Inclosure networking
			 IMI (169.254.1.0/24) xsi1 (10.196.227.0/24) The interface configuration for Note: If networks have been server, simply removing field and this device 4. Type the IP addresses for Ensure the correct bond 5. (Optional) If dedicated not the SBR replication IP addresses for select the VLAN checkbox 	9.254.1.6 inine the populated previously, but a ve the populated network IP from is not created on the server. or all networks. Select the corr and VLAN tagging (if required betwork for SBR replication has ddress. Select the proper bon pox if VLAN tagging is required

Step#	Procedure	Description			
9.		1. Add the following NTP servers:			
	Insert the	NTP Server	Preferred?		
	MP server (Part 3)	<tvoe_xmi_ip_address (so1)=""></tvoe_xmi_ip_address>	Yes		
	(i uit o)	<tvoe_xmi_ip_address (so2)=""></tvoe_xmi_ip_address>	No		
		<mp_site_pmac_tvoe_ip_address></mp_site_pmac_tvoe_ip_address>	No		
		<i>Note</i> : For multiple enclosure deployments, pris located in the same enclosure as the	<i>lote</i> : For multiple enclosure deployments, prefer the SOAM TVOE Host that is located in the same enclosure as the MP server.		
		2. Click OK when all fields are entered to finish MP server insertion.			
10.	NOAM VIP GUI: Export the configurati on	 Navigate to Configuration > Servers. Configuration Networking Servers Server Groups Resource Domains Places Place Associations From the GUI screen, select the MP server and click Export to generate the initial configuration data for that server. Insert Edit Delete Export Report 			
	NOAM VIP: Copy configurati on file to MP server	 Obtain a terminal session to the NOAM VIP as the admusr user. Use the awpushcfg utility to copy the configuration file created in the previous step from the /var/TKLC/db/filemgmt directory on the NOAM to the MP server, using the Control network IP address for the MP server. The configuration file has a filename like TKLCConfigData.<hostname>.sh.</hostname> \$ sudo awpushcfg The awpushcfg utility is interactive, so the user is asked for the following: IP address of the local PMAC server: Use the management network address from the PMAC. Username: Use admusr Control network IP address for the target server: In this case, enter the control IP for the MP server). Hostname of the target server: Enter the server name configured in step 9. 			

Step#	Procedure	Description
12. □	MP Server: Verify awpushcfg	1. Obtain a terminal window connection on the MP server console by establishing an ssh session from the NOAM VIP terminal console.
		<pre>\$ ssh admusr@<mp_control_ip></mp_control_ip></pre>
	was called	2. Login as the admusr user.
	the	3. Verify awpushcfg was called by checking the following file:
	configured server	<pre>\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre>
	001101	Verify the following message is displayed:
		[SUCCESS] script completed successfully!
		4. Reboot the server:
		\$ sudo init 6
		 Proceed to the next step once the server finishes rebooting. The server is done rebooting once the login prompt is displayed.
13. MP 1.		1. After the reboot, login as admusr.
	Server: Verify server health	2. Execute the following command as super-user on the server and make sure that no errors are returned:
		\$ sudo syscheck
		Running modules in class hardwareOK
		Running modules in class diskOK
		Running modules in class netOK
		Running modules in class systemOK
		Running modules in class procOK
		LOG LOCATION: /var/TKLC/log/syscheck/fail_log

Step#	Procedure	Description
14. □	MP Server: Delete auto- configured	<i>Note</i> : THIS STEP IS OPTIONAL AND SHOULD ONLY BE EXECUTED IF YOU PLAN TO CONFIGURE A DEFAULT ROUTE ON YOUR MP THAT USES A SIGNALING (XSI) NETWORK INSTEAD OF THE XMI NETWORK.
	default route on MP and	Not executing this step means a default route is not configurable on this MP and you have to create separate network routes for each signaling network destination.
	replace it with a petwork	 Using the iLO facility, log into the MP as the admusr user. Alternatively, you can log into the site's PMAC then SSH to the MP's control address.
	route via	2. Determine <xmi_gateway_ip> from your SO site network element info.</xmi_gateway_ip>
	the XMI	3. Gather the following items:
	network- Part 1 (optional)	 <no_xmi_network_address></no_xmi_network_address>
		 <no_xmi_network_netmask></no_xmi_network_netmask>
		• <dr_no_xmi_network_addres></dr_no_xmi_network_addres>
		• <dr_no_xmi_network_netmask></dr_no_xmi_network_netmask>
		 <tvoe_mgmt_xmi_network_address></tvoe_mgmt_xmi_network_address>
		 <tvoe_mgmt_xmi_network_netmask></tvoe_mgmt_xmi_network_netmask>
		<i>Note</i> : You can either consult the XML files you imported earlier, or go to the NO GUI and view these values from the Configuration > Network Elements screen.
		🖻 😋 Configuration
		🖻 🤤 Networking
		Networks

Step#	Procedure	Description		
15.	MP	1. Establish a connection to the MP server and login as admusr .		
	Server: Delete auto- configured default route on MP and replace it with a network route via	2. Create network routes to the NO's XMI(OAM) network:		
		Note: If your NOAM XMI network is exactly the same as your MP XMI network, then you should skip this command and only configure the DR NO route. \$ sudo /usr/TKLC/plat/bin/netAdm add -route=net address= <no_site_network_id> netmask=<no_site_network_netmask> gateway=<mp_xmi_gateway_ip_address> device=<mp_xmi_interface></mp_xmi_interface></mp_xmi_gateway_ip_address></no_site_network_netmask></no_site_network_id>		
	network-	3. Create network routes to the DR NO's XMI (OAM) network:		
	Part 2	\$ sudo /usr/TKLC/plat/bin/netAdm add -route=net		
	(optional)	address= <dr-no_site_network_id>netmask=<<dr- NO_Site_Network_Netmask></dr- </dr-no_site_network_id>		
		gateway= <mp_xmi_gateway_ip_address> device=<mp_xmi_interface></mp_xmi_interface></mp_xmi_gateway_ip_address>		
		 Create network routes to the management server TVOE XMI (OAM) network for NTP: 		
		<pre>\$ sudo /usr/TKLC/plat/bin/netAdm add -route=net</pre>		
		address= <tvoe_mgmt_network_address></tvoe_mgmt_network_address>		
		netmask= <tvoe_mgmt_network_netmask></tvoe_mgmt_network_netmask>		
		gateway= <mp_xmi_gateway_ip_address> device=<mp_xmi_interface></mp_xmi_interface></mp_xmi_gateway_ip_address>		
		 (Optional) If sending SNMP traps from individual servers, create host routes to customer SNMP trap destinations on the XMI network: 		
		<pre>\$ sudo /usr/TKLC/plat/bin/netAdm add -route=host</pre>		
		address= <customer ip="" nms=""></customer>		
		gateway= <mp_xmi_gateway_ip_address></mp_xmi_gateway_ip_address>		
		Denost for any existing systemer NMS stations		
		 Repeat for any existing customer NWS stations. Delete the existing default route: 		
		1 Login to primary NOAM VIP GUI		
		 Navigate to Configuration > Networking > Networks. Select the respective SOAM tab. Select the XMI network and click Unlock. Click OK to confirm. Navigate to Configuration > Networking > Routes. Select the XMI route and click Delete. Click OK to confirm. Repeat steps 1 through 7 for all required MPs to delete the XMI routes. Navigate to Configuration > Networking > Networks. Select the respective SOAM tab. Select the respective SOAM tab. Select the XMI network and click Lock. Click OK to confirm. 		

Step#	Procedure	Description		
16.	MP Server: Verify connectivit y	1. Establish a connection to the MP server and login as admusr .		
		2. Ping active NO XMI IP address to verify connectivity:		
		<pre>\$ ping <active_no_xmi_ip_address></active_no_xmi_ip_address></pre>		
		PING 10.240.108.6 (10.240.108.6) 56(84) bytes of data.		
		64 bytes from 10.240.108.6: icmp_seq=1 ttl=64 time=0.342 ms		
		64 bytes from 10.240.108.6: icmp_seq=2 ttl=64 time=0.247 ms		
	3. (Optional) Ping Customer NMS Station(s):			
		<pre>\$ ping <customer_nms_ip></customer_nms_ip></pre>		
		PING 172.4.116.8 (172.4.118.8) 56(84) bytes of data.		
64 bytes from 172.4.116.8: icmp_seq=1 64 bytes from 172.4.116.8: icmp_seq=2		64 bytes from 172.4.116.8: icmp_seq=1 ttl=64 time=0.342 ms		
		64 bytes from 172.4.116.8: icmp_seq=2 ttl=64 time=0.247 ms		
		 If you do not get a response, then verify your network configuration. If you continue to get failures, then stop the installation and contact Oracle customer support. 		
17. □	Repeat for remaining MP at all sites	Repeat this entire procedure for all remaining MP blades (DA-MP, and IPFE).		



Step#	Procedure	Description			
This pro	This procedure adds places in the Policy and Charging DRA network.				
Check numbe	off (√) each ste r.	p as it is completed. Boxes have been provided for this purpose under each step			
If this p	rocedure fails,	contact My Oracle Support (MOS) and ask for assistance.			
1.	NOAM VIP GUI: Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: 			
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>			
		2. Login as the guiadmin user.			
		Oracle System Login			
		Mon Jul 11 13:59:37 2016 EDT			
		Log In Enter your username and password to log in Username:			
		Password:			
		Change password			
		Welcome to the Oracle System Login.			
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.			
		Unauthorized access is prohibited.			
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Step#	Procedure	Description			
2.	NOAM VIP GUI: Configure Places	 1. Navigate to Configuration > Places. Configuration Networking Servers Server Groups Resource Domains Places Place Associations 2. Click Insert. Insert Edit Delete Report Inserting a new Place 			
		Place			
		Field Value Description			
		Place Name * ZombiePlace Unique identifier used to label a Place. [Defa and space.] [A value is required.]			
		Parent * NONE The Parent of this Place [A value is required.			
		Place Type * Site The Type of this Place [A value is required.]			
		3. Enter the fields as follows:			
		Place Name: <site name=""> Parent: NONE</site>			
		Place Type: Site			
		4. Repeat this step for each of the PCA Places (Sites) in the network.			
		See the Terminology section for more information on Sites and Places.			

Step#	Procedure	Description		
3.	NOAM VIP GUI: Assign MP servers to places	 Select the p Insert Edit p For each pl assigned to 	elete Report Report ace you have defined, s those places.	9 2 and click Edit . select the set of MP servers that are
		Editing Pla	site	The Ty
		Servers		
		ZombieNOAM	ZombieNOAM1	Availal
		ZombieDRNOAI	ZombieDRNOAM1	Availal
		Zombie SOAM	 ZombieSOAM1 ZombieSOAM2 ZombieDAMP1 ZombieDAMP2 	Availal
		Ok Apply	Cancel	
		 Check all th this place. 	e checkboxes for PCA	DA-MP and SBR servers assigned to
		4. Repeat this places.	step for all other DA-N	IP or SBR servers you want to assign to
		Note: All PCA corresp	DA-MPs, and SBR MI onds to the physical lo	Ps must be added to the Site Place that cation of the server.
		See the Ter	minology section for m	ore information on sites.

Procedure 22.	Configure the MP	Server Group(s) and Profile(s)
---------------	------------------	--------------------------------

Step#	Procedure	Description			
This pro	ocedure configu	res MP server groups.			
Check on number	off (√) each step	as it is completed. Boxes have been provided for this purpose under each step			
If this pr	ocedure fails, c	contact My Oracle Support (MOS) and ask for assistance.			
1.	NOAM VIP GUI: Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: 			
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>			
		2. Login as the guiadmin user.			
		ORACLE			
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT			
		Midt 301 11 13.39.37 2010 ED1			
		Log In Enter your username and password to log in			
		Username:			
		Password:			
		Change password			
		Log In			
		Welcome to the Oracle System Login.			
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details.			
		Unauthorized access is prohibited.			
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Step#	Procedure	Description			
2.	NOAM VIP GUI: Enter MP server group data	From the data collected from step 2, create the server group with the following: 1. Navigate to Configuration > Server Groups. Configuration Networking Servers Server Groups Resource Domains Places Place Associations 2. Select Insert. Insert Edit Delete Report			
		3. Enter the following fields: Server Group Name: <server group="" name=""> Level: C Parent: [SOAMP server group that is parent to this MP]</server>			
		Function: Select the proper function for this MP server group (gathered in step 2) WAN Replication Connection Count: Use Default Value 4. Click OK when all fields are filled in.			

Step#	Procedure	Description			
3.	Procedure NOAM VIP GUI: Edit the MP server groups to include MP blades	1. From the GUI, navigate to Configuration > Server Groups. • Configuration • Networking • Servers • Server Groups • Places • Place Associations 2. Select a server group you just created and click Edit. Insert Edit Delete Report 3. Mark the Include in SG checkbox for every MP server you want to include in this server group. Leave other checkboxes blank			
		Server	SG Inclusion	Preferred HA Role	
		ZombieDAMP1	✓ Include in SG	Prefer server as spare	
		ZombieDAMP2	Include in SG	Prefer server as spare	
		Note: I he MPs should be included in the server group one at a time. Do not include multiple MPs at a time in the server group.			
		4. Click OK .			
4.	NOAM VIP GUI: Wait for remote database alarm to clear	 Wait for the alarm Reicleared before procees Navigate to Alarms & Alarms & Events View Active View History View Trap Lot 	mote Database re-initia ding. Events > View Active	alization in progress to be	

Step#	Procedure	Description
5.	SOAM VIP GUI: Login	 If not already done, establish a GUI session on the SOAM server by using the VIP IP address of the SOAM server. Open the web browser and enter a URL of:
		https:// <primary_soam_vip_ip_address></primary_soam_vip_ip_address>
		2. Login as the guiadmin user.
		ORACLE
		Oracle System Login Tue Aug 2 12:13:53 2016 EDT
		Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details.
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Step#	Procedure	Description	
6.	SOAM VIP GUI: Assign Profiles to DA-MPs from SOAM GUI	1. Navigate to Dia Diameter Dashi Netwo MPs Pr Refer to the DA	meter Common > MPs > Profile Assignments. Common board ork Identifiers ofiles ofile Assignments -MP section profile table below for profiles.
		DA-MP M	P Profile
		ZombieDAMP1	G8/G9:Relay
		ZombieDAMP2	G8/G9:Relay
		2. For each MP, so hardware type a	elect the proper profile assignment based on the MP's and the function it serves:
		Profile Name	Description
		G8/G9:Relay	G8/G9 DA-MP half height blade running the relay application
		G8/G9:Database	G8/G9 DA-MP half height blade running a database application (e.g., FABR, RBAR)
		G8/G9:Session	G8/G9 DA-MP half height blade running a session application (e.g., CPA, PCA)
		3. When finished,	click Assign.

Step#	Procedure	Description		
7.	NOAM VIP GUI: Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: 		
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>		
		2. Login as the guiadmin user.		
		Mon Jul 11 13:59:37 2016 EDT		
		Log In Enter your username and password to log in Username: Password: Change password Log In		
		Welcome to the Oracle System Login.		
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.		
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Step#	Procedure	Description
8.	NOAM VIP GUI: Restart MP blade servers	 1. Navigate to Status & Manage > Server. Status & Manage Network Elements Server HA Database KPIs Processes 2. For each MP server: Select the MP server. Click Restart. Click OK on the confirmation screen. Wait for the message that tells you that the restart was successful.
		Stop Restart Reboot NTP Sync Report
		<i>Note</i> : Policy and Charging DRA installations/DCA installations: You may continue to see alarms related to ComAgent until you complete the PCA/DCA installation.

Procedure 23. Configure IPFE Server Groups

Step#	Procedure	Description			
This pro	This procedure configures the VIPs for the signaling networks on the MPs.				
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	rocedure fails,	, contact My Oracle Support (MOS) and ask for assistance.			
1.	NOAM VIP GUI: Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: https://<primary address="" ip="" noam="" vip=""></primary> 			
		2 Login as the quiadmin user			
		ORACLE			
		Oracle System Login			
		Log In Enter your username and password to log in			
		Username:			
		Password:			
		Change password			
		Log In			
		Welcome to the Oracle System Login.			
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.			
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Step#	Procedure	Description			
---------	------------------------------	---			
2. □	NOAM VIP GUI: Enter MP	Create the server group for each individual IPFE as follows: 1. Navigate to Configuration > Server Groups .			
	server	😑 😋 Configuration			
	group data	 Networking Servers Server Groups Resource Domains Places 2. Click Insert. Insert Edit Delete Report			
		3. Fill out the following fields:			
		Server Group Name: <server group="" name=""></server>			
		Level: C			
		Parent: [SOAMP Server Group That is Parent To this MP]			
		Function: IP Front End			
		WAN Replication Connection Count: Use Default Value 4. Select OK.			

Step#	Procedure	Description	
3.	NOAM VIP GUI: Edit the MP server group and add VIPs (only for 1+1)	IP 1. Navigate to Configuration > Server Groups. it Configuration Image: Configuration Image: Configuration Image: Configuration	
		Insert Edit Delete Report 3. Mark the Include in SG checkbox for the MP server to include in this server group. Leave other checkboxes unmarked. Note: Each IPFE MP server should be have an individual Server Group of type IPFE.	
		S0_HPC02 Server SG Inclusion HPC2-IPFE ☑ Include in SG ✓ Include in SG Prefer server as spare	
		4. Click OK .	
4.	NOAM VIP GUI: Wait for Remote Database Alarm to Clear	 Navigate to Alarms & Events > View Active. Alarms & Events View Active View History View Trap Log Wait for the alarm Remote Database re-initialization in progress to clear before proceeding. 	

Step#	Procedure	Description
5.	Procedure NOAM VIP GUI: Restart MP blade servers	Description 1. Navigate to Status & Manage > Server. Status & Manage Metwork Elements Server MA Database KPIs Processes
		 2. For each MP server: Select the MP server. Click Restart. Click OK to the confirmation screen. Wait for the message that tells you the restart was successful. Stop Restart Reboot NTP Sync Report

Procedure 24. Configure the Session SBR Server Group(s)

Step#	Procedure	Description
This pro	ocedure configu	ures MP server groups as session SBRs.
Check numbe	off (√) each ste∣ r.	p as it is completed. Boxes have been provided for this purpose under each step
If this p	rocedure fails, o	contact My Oracle Support (MOS) and ask for assistance.
1. □	NOAM VIP GUI: Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>
		2. Login as the guiadmin user.
		ORACLE
		Oracle System Login
		Log In Enter your username and password to log in
		Username:
		Password:
		Change password
		Log In

Step#	Procedure	Description	
2.	NOAM VIP GUI: Create a server group for each site	 Navigate to Configuration > Server Gr Configuration Networking Servers Server Groups Resource Domains Places Places Place Associations Click Insert and fill the following fields. 	oup.
		Server Group Name:	<server group="" name=""></server>
		Level:	С
		Parent:	<soamp group="" is="" mp="" parent="" server="" that="" this="" to=""></soamp>
		Function:	SBR
		WAN Replication Connection Count:	8
		3. Click OK .	

Step#	Procedure	Description		
3.	NOAM VIP GUI: Edit the MP server groups to include MP blades	 Navigate to Confi Configuration Networking Servers Server Grou Resource D Places Place Asso Select a server gr Insert Edit Delete Mark the Include server group. Leave other check Note: The MPs sho multiple MPs 	iguration > Serv iguration > Serv ips bomains ciations roup you just cre Report in SG checkboy kboxes blank. uld be included i at a time in the s	er Groups. ated and click Edit. for the MP server you want to include in this in the server group one at a time. Do not include server group.
		NO_HPC02		
		Server	SG Inclusion	Preferred HA Role
		HPC2-sPSBR1	✓ Include in SG	Prefer server as spare
		HPC2-sPSBR2	☑ Include in SG	Prefer server as spare
		VIP Assignment		
		VIP Address		Add
		Ok Apply Cancel 5. Click OK.		

Step#	Procedure	Description			
4. □	NOAM VIP GUI: (PCA/DCA ONLY) Edit	VIPIf the Two Site Redundancy feature for the policy and charging SBR server group/session binding repository SBR server group is wanted, add a MP server that is located in a separate site (location) to the server group by marking the Include in SG checkbox. Also, mark the Preferred Spare checkbox.			
	the MP	Server	SG Inclusion	Preferred HA Role	
	Group and add Preferred	Zombie SBRsp	✓ Include in SG	Prefer server as spare	
	Spares for Site Redundancy (Optional)	If the Three Site Redundancy feature for the SBR MP server group is wanted, add two SBR MP servers that are located in separate sites (locations) to the server group by marking the Include in SG checkbox. Also, mark the Preferred Spare checkbox for both servers.			
		<i>Note</i> : The Preferred Spare and should not be in the separate sites (location	servers should be different ne same site. There should ns).	sites from the original server be servers from three	
		For more information about Site Binding Repository Server Gro Click OK to save.	e Redundancy for Policy an ups, see the 1.3 Terminoloເ	d Charging SBR/Session gy section.	
5.	NOAM VIP GUI: Wait for remote database alarm to clear	Navigate to Alarms & Events	> View Active.		
		Wait for the Remote Database proceeding.	e re-initialization in progre	ess alarm to clear before	
6.	NOAM VIP GUI: Restart MP blade servers	 Navigate to Status & Manage Status & Manage Network Elements Server HA Database KPIs Processes Select the MP server. Click Restart. Click OK on the confirmation Wait for restart to complete Stop Restart Reboot NTP Synch 	age > Server. On screen. 2. Report		

Procedure 25. Configure the Binding SBR Server Gr	iroup(s)
---	----------

Step#	Procedure	Description		
This pro	cedure configu	res MP server groups as binding SBRs.		
Check of number	off (√) each step	as it is completed. Boxes have been provided for this purpose under each step		
If this pr	ocedure fails, c	ontact My Oracle Support (MOS) and ask for assistance.		
1.	NOAM VIP GUI: Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: 		
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>		
		2. Login as the guiadmin user.		
		ORACLE		
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT		
		Log In Enter your username and password to log in Username: Password: Change password Log In		
		Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details. Unauthorized access is prohibited.		
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Step#	Procedure	Description	
2.	NOAM VIP GUI: Create a server group for each site	 Navigate to Configuration > Server Groups Configuration Networking Servers Server Groups Resource Domains Places Place Associations Click Insert and fill the following fields. 	oup.
		Server Group Name:	<server group="" name=""></server>
		Level:	С
		Parent:	<soamp group="" is<br="" server="" that="">Parent to this MP></soamp>
		Function:	SBR
		WAN Replication Connection Count:	8
		3. Click OK .	

Step#	Procedure	Description		
3.	NOAM VIP GUI: Edit the MP server groups to include MP blades	 Navigate to Configuration Configuration Networking Servers Server Grout Resource D Places Place Asso Select a server grout 	iguration > Serv Ips Jomains ciations roup you just cre	ver Groups. ated and click Edit .
		3 Mark the Include	in SG checkboy	for the MP server you want to include in
		this server group.		
		4. Leave other chec Note : The MPs sho	kboxes blank. Juld be included i	in the server group one at a time. Do not
		include multip	ole MPs at a time	e in the server group.
		NO_HPC02		
		Server	SG Inclusion	Preferred HA Role
		HPC2-sPSBR1	Include in SG	Prefer server as spare
		HPC2-sPSBR2	Include in SG	Prefer server as spare
		VIP Assignment		
		VIP Address		Add
		Ok Apply Cancel		

Step#	Procedure	Description		
4 .	NOAM VIP GUI: (PCA/DCA ONLY) Edit the MP	If the Two Site Redundancy feature for the policy and charging SBR server group/session binding repository SBR server group is wanted, add a MP server that is located in a separate site (location) to the server group by marking the Include in SG checkbox. Also, mark the Preferred Spare checkbox.		
	Server Group and	Server SG Inclusion Preferred HA Role		
	Group and add Preferred Spares for Site Redundancy (Optional)	Zombie SBRspInclude in SGPrefer server as spareIf the Three Site Redundancy feature for the SBR MP server group is wanted, add two SBR MP servers that are located in separate sites (locations) to the server group by marking the Include in SG checkbox. Also, mark the Preferred Spare checkbox for both servers.		
		Note: The Preferred Spare servers should be different sites from the original server and should not be in the same site. There should be servers from three separate sites (locations).		
		For more information about Site Redundancy for Policy and Charging SBR/Session Binding Repository Server Groups, see the 1.3 Terminology section.		
		Click OK to save.		
5.	GUI: Wait for remote database alarm to clear	Navigate to Alarms & Events > View Active. Alarms & Events View Active View History View Trap Log Wait for the Remote Database re-initialization in progress alarm to clear before proceeding.		
6.	NOAM VIP GUI: Restart MP blade servers	 Navigate to Status & Manage > Server. Status & Manage Network Elements Server HA Database KPIs Processes Select the MP server. Click Restart. Click OK on the confirmation screen. Wait for restart to complete. Stop Restart Reboot NTP Sync Report 		

4.4.2 Configure Signaling Devices

Procedure 26. Configure the Signaling Network Routes

Step#	Procedure	Description
This pro	ocedure config	ures signaling network routes on MP-type servers (DA-MP, IPFE, etc.).
Check of number	off (√) each ste ∵	ep as it is completed. Boxes have been provided for this purpose under each step
If this p	rocedure fails,	contact My Oracle Support (MOS) and ask for assistance.
1.	NOAM VIP GUI : Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: https://<primary_noam_vip_ip_address></primary_noam_vip_ip_address>
		2. Login as the guiadmin user.
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in
		Username:
		Password:
		Change password
		Log In
		Welcome to the Oracle System Login.
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Step#	Procedure	Description			
2.	NOAM VIP GUI: Add route	 1. Navigate to Configuration > Networking > Routes. Configuration Networking Networks Devices Routes Services 2. Select the MP server group tab and verify the Entire Server Group link is selected, if not, select the link. Main Menu: Configuration -> Networking -> Routes			
		Entire Network ZombieDAMP ZombieDRNOAM ZombielpfeSG1 ZombielpfeSG2 Z			
		Entire Server Group ZombieDAMP1 ZombieDAMP2			
		Route Type Destination Netmask			
		3. Click Insert to add additional routes.			
		Insert Edit Delete Report All			

Step#	Procedure	Description	Description		
3.	NOAM VIP GUI: Add a default route for MPs going through	Only execute this step if you removed the XMI gateway of If your MP servers no longe default route to use one of to Insert Route on DAMP_S	u performed Procedure 20. , step 15. , which default route on MPs. er have a default route, then you can now insert a he signaling network gateways. SG		
	signaling	Field Value	Descript		
	gateway (Optional)	Route Type * Net Default Host 	Select a I		
		Device * bond0.5	▼ Select th		
		Destination	The dest		
		Netmask	A valid ne		
		Gateway IP *	The IP ac		
				Ok Apply Cancel	
		1. Enter the fields as follo	WS:		
		Device:	Select the signaling device that is directly attached to the network where the XSI default gateway resides		
			Gateway IP:	The XSI gateway you wish to use for default signaling network access.	
		2. Click OK .			

Step#	Procedure	Description		
4.	NOAM VIP GUI: Add	This step a This ensur	adds the IP and/or es diameter traff	or IPv6 routes to diameter peer destination networks. ic uses the gateway(s) on the signaling networks.
	network routes for	Field	Value	
	diameter peers	Route Type *	 o Net o Default o Host 	
		Device *	bond0.5	•
		1. Enter t	the fields as follo	ws:
		Route	Туре:	Net, Default, Host
		Device) :	Select the appropriate signaling interface that will be used to connect to that network.
		Destin	ation:	Enter the Network ID of Network to which the peer node is connected to.
		Netma	isk:	Enter the corresponding Netmask (if configuring Net routes).
		Gatew	/ay IP∶	Enter the Int-XSI switch VIP of the chosen Network for L3 deployments (either of int-XSI-1 or of int- XSI2). Or the IP of the customer gateway for L2 deployments.
		2. Click A	Apply and repea	t to enter more routes, if necessary.
		3. Click C	DK to save the la	test route and leave this screen.
		Layer should networ the foll Add ro	3 Configuration be configured of rks configured in lowing netconfigures outes (IPv4 and	 Is Aggregation Switch Configurations Only: Routes in the aggregation switches so that destination this step are reachable. This can be done by running g commands from the site's local PMAC. For example: IPv6):
		\$ su netw	do netConfig vork=10.10.10	device=switch1A addRoute).0/24 nexthop=10.50.76.81
		\$ su netw	do netConfig vork6=2001::/	device=switch1A addRoute '64 nexthop=fd0f::1
		Delete	e routes (IPv4 a	nd IPv6):
		\$ su netw	do netConfig vork=10.10.10	device=switch1A deleteRoute).0/24 nexthop=10.50.76.81
		\$ su netw	do netConfig vork6=2001::/	-device=switch1A deleteRoute '64 nexthop=fd0f::1

Step#	Procedure	Description	
5.	Local PMAC: Perform a netConfig backup	After the routes are added to the aggregation switches using netconfig, take a netconfig backup so the new routes are retained in the backup. 1. Execute the following command: \$ netConfig backupConfigurationdevice= <switch hostname<br="">service=<ssh_service> filename=<backup filename=""> 2. Copy the files to the backup directory: \$ sudo /bin/mv -i ~<switch_backup_user>/<switch_name>- backup* /usr/TKLC/smac/etc/switch/backup</switch_name></switch_backup_user></backup></ssh_service></switch>	
6.	NOAM VIP GUI: Repeat for all other MP server groups	The routes entered in this procedure are now configured on all MPs in the server group for the first MP you selected. If you have additional MP server groups, repeat this procedure, but this time select an MP from the next MP server group. Continue until you have covered all MP server groups. This includes DAMP, IPFE servers. Note: IPFE and DAMP servers must have the same routes configured.	

4.4.3 Configure DSCP (Optional)

Procedure 27. Configure DSCP Values for Outgoing Traffic

Step#	Procedure	Description
This pro applied source uses pa	ocedure configuto an outbound port. This step acket DSCP ma	ures the DSCP values for outgoing packets on servers. DSCP values can be d interface as a whole, or to all outbound traffic using a specific TCP or SCTP is optional and should only be executed if has been decided that your network arkings for quality-of-service purposes.
Note:	If your enclosu switch configu however, that knowledge ab	ure switches already have DSCP configuration for the signaling VLANs, then the iration override the settings in this procedure. It is strongly recommended, you configure DSCP here at the application level where you have the most out outgoing traffic patterns and qualities.
Check of number	off (√) each ste r. raaadura faila	p as it is completed. Boxes have been provided for this purpose under each step
ii this p	rocedure fails, o	contact my Oracle Support (mOS) and ask for assistance.
1.	NOAM VIP GUI: Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: <u>https://<primary_noam_vip_ip_address></primary_noam_vip_ip_address></u> Login as the guiadmin user.
		Oracle System Login
		Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login.

Step#	Procedure	Description		
Step# 2.	Procedure NOAM VIP GUI: Option 1: Configure interface DSCP	Description Note: The values displayed in the screenshots are for demonstration purposes only. The exact DSCP values for your site vary. 1. Navigate to Configuration > DSCP > Interface DSCP. Image: Configuration > DSCP >> Interface DSCP. Image: Configuration >> DSC Image: Configuration >> DSC		
		Apply to finish this interface and continue with more interfaces by selecting them from the drop down and entering their DSCP values .		

Step#	Procedure	Description
3.	NOAM VIP GUI: Option 2: Configure port DSCP	 Note: The values displayed in the screenshots are for demonstration purposes only. The exact DSCP values for your site vary. 1. Navigate to Configuration > DSCP > Port DSCP. Configuration Networking Servers Server Groups Resource Domains Places Place Associations SSCP Interface DSCP 2. Select the server you want to configure from the list of servers on the 2nd line. You can view all servers with Entire Network selected; or limit yourself to a particular server group by clicking on that server group name's tab. 3. Click Insert. Main Menu: Configuration -> DSCP -> Port DSCP
		Entire Network ZombieDAMP ZombieDRNOAM ZombielpfeSG1 Zon ZombieNOAM1 ZombieDRNOAM2 ZombieDRNOAM1 ZombieDRNOAM2
		Port DSCP
		 4. Enter the source port, DSCP value, and select the transport protocol. Main Menu: Configuration -> DSCP -> Port DSCI Infor • Insert DSCP by Port on ZombieNOAM2
		Port* 3568 Availd TCP or SCTP port. [Default
		DSCP* 15 A valid DSCP value. [Default = N/A
		Protocol * TCP TCP or SCTP protocol. [Default = '
		Ok Apply Cancel
		 Click OK if there are no more port DSCPs on this server to configure, or Apply to finish this port entry and continue entering more port DSCP mappings.

Step#	Procedure	Description
4. □	NOAM VIP GUI: Repeat for additional servers	Repeat steps 2-3 for all remaining servers.

4.4.4 Configure IP Front End Servers (Optional)

Procedure 28. IP Front End (IPFE) Configuration

Step#	Procedure	Description			
This pro	This procedure configures IP Front End (IPFE), and optimize performance.				
Check numbe	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	rocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.			
1. □	SOAM VIP GUI: Login	 Establish a GUI session on the SOAM server by using the VIP IP address of the SOAM server. Open the web browser and enter a URL of: 			
		2 Login on the guiddhin upor			
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT Log In Enter your username and password to log in			
		Username:			
		Password:			
		Change password			
		Log In			
		Welcome to the Oracle System Login.			
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Step#	Procedure	Description		
2.	SOAM VIP GUI: Configuration of replication IPFE association data	 3. Navigate to IPFE > Configuration IPFE Configuration Options Target Sets Enter the IP address of the the IP address of the 2nd If applicable, enter the address and IPFE-B1 IP Address and Configuration Options 	iguration > Options. he 1 st IPFE in the IPFE-A1 IP Address fie IPFE in the IPFE-A2 IP Address field. ddress of the third and fourth IPFE servers d IPFE-B2 IP Address fields.	ld and
		Variable	Value	Descrip
		Inter-IPFE Synchronization		
				IPv4 or I
		IPFE-A1 IP Address	169.254.1.11 - ZombieIPFE1	This sel
		IPFE-A2 IP Address	169.254.1.12 - ZombieIPFE2	IPv4 or I This sel
		 Notes: It is recommended that the Management Interface) representation IPFE-A1 and IPFE-A2 methese addresses. The same Accept default configurated 	ne address reside on the IMI (Internal network. ust have connectivity between each other me applies with IPFE-B1 and IPFE-B2. ion for remaining entries.	via
3.	SOAM VIP GUI: Configuration of IPFE target sets, Part 1 (insert target set)	 Navigate to IPFE > Configuration IPFE Configuration Options Target Sets Click either Insert IPv4 of target set you plan to use Insert IPv4 Insert IPv6 Edit 	iguration > Target Sets. or Insert IPv6 depending on the IP version e.	ı of the

Step#	Procedure	Description
4.	SOAM VIP GUI:	Continued from the previous step, the following are configurable: Protocols :Protocols the target set supports.
	IPFE target sets, Part 2 (target set	Protocols TCP only SCTP only SCTP and SCTP
	configuration)	Delete Age: Specifies when the IPFE should remove its association data for a connection. Any packets presenting a source IP address/port combination that had been previously stored as association state, but have been idle longer than the Delete Age configuration, are treated as a new connection and do not automatically go to the same application server.
		Delete Age * 600
		Load Balance Algorithm: Hash or Least Load options.
		Load Balance O Hash Algorithm O Least Load
		 Note: For the IPFE to provide Least Load distribution, IPFE > Configuration > Options, Monitoring Protocol must be set to Heartbeat so that the application servers can provide the load information the IPFE uses to select the least-loaded server for connections.
		 IPFE Configuration Options Target Sets
		Monitoring Protocol * Heartbeat
		<i>Note</i> : The Least Load option is the default setting, and is the recommended option with exception of unique backward compatibility scenarios.
		3. Execute the following command if Hash Load Balance Algorithm was selected above. We recommend you cut and paste to prevent errors.
		4. Establish an SSH session to the SOAM VIP, login as admusr .
		<pre>\$ sudo iset -fvalue="50" DpiOption where "name='MpEngIngressMpsPercentile'" === changed 1 records ===</pre>

Step#	Procedure	Description	
5.	SOAM VIP GUI: Configuration of IPFE target sets, Part 3 (target set configuration)	 5. Navigate to IPFE > Configuration > Target Sets. PFE Configuration Options Target Sets 6. (Optional): If you have selected the Least Load algorithm, you may configure the following fields to adjust the algorithm's behavior.	
		MPS Factor: Messages per Second (MPS) is one component of the least load algorithm. This field allows you to set it from 0 (not used in load calculations) to 100 (the only component used for load calculations). It is recommended that IPFE connections have Reserved Ingress MPS set to something other than the default, which is 0. MPS Factor* 50	
		Connection Count Factor* 50 To configure Reserved Ingress MPS, navigate to Diameter > Configuration > Configuration Sets > Capacity Configuration Sets. If you choose not to use Reserved Ingress MPS, set MPS Factor to 0 and Connection Count Factor, described below, to 100. Connection Count Factor: This is the other component of the least load algorithm. This field allows you to set it from 0 (not used in load calculations) to 100 (the only component	
Allowed Deviation: Percentage within calculation results short, intense conr occur, increase the distribution.		Allowed Deviation:used for load calculations). Increase this setting if connection storms (the arrival of many connections at a very rapid rate) are a concern.Allowed Deviation:Percentage within which two application server's load calculation results are considered to be equal. If very short, intense connection bursts are expected to occur, increase the value to smooth out the distribution.	
		Allowed Deviation * 5	
6. □	SOAM VIP GUI: Configuration of IPFE Target sets- Part 4 (Target Set Configuration)	Primary Public IP Address: IP address for the target set.	

Step#	Procedure	Descri	ption			
		Note:	This address mu network becaus application serve address (that is, card).	ust reside on the X e it is used by the ers. This address must not be asso	SI (External Sig application clier MUST NOT be ciated with a ne	naling Interface) hts to reach the a real interface twork interface
		Active	IPFE:	IPFE to handle th	e traffic for the t	arget set address.
		Secon	dary Public IP A	ddress: If this targ SCTP or Both TC IP Address.	jet set supports P and SCTP, pr	either multi-homed rovide a Secondary
		Alterna	te Public IP Addre	esst		
		Alternat	e Address			C F I I C
		Active IP	FE for alternate addre	 IPFE A1 IPFE B1 		IPFE A2
		Notes [.]				U
		A s sec mu	econdary addres condary address (lti-homed.	s is required to su can support TCP,	pport SCTP mul but the TCP cor	lti-homing. A nnections will not be
		 If S Ac SC 	CTP multi-homin tive IPFE for the TP failover function	ig is to be support Active IPFE for se ons as designed.	ed, select the m condary addres	nate IPFE of the s to ensure that
		Target	Set IP List:	Select an IP addr supporting SCTP weight for the app	ess; a secondar multi-homing; a blication server.	ry IP address, if description; and a
		Target Bel	IF List			
		IP Addm		Alternate IP Address	Description	Weighting *
		R1 + Saler	£+.	• Sided -	1	106 ×
		Add			West	ghling range ia II - 65535.
		Note:	The IP address same network a match the IP ver Secondary Publ application serve	must be on the XS s the target set ad rsion of the target ic IP Address is co er as the first IP ac	SI network since Idress. This add set address (IP) onfigured, it mus Idress.	they must be on the dress must also v4 or IPv6). If the st reside on the same
		Note:	If all application default), they ha	servers have an even and even an equal chance an equal chance are even as the second sec	equal weight (e. ce of being seled greater chance	g., 100, which is the cted. Application of being selected.
		7. Clie	ck Add to add mo	ore application serv	vers (up to 16).	

Step#	Procedure	Description
		8. Click Apply. Ok Apply Cancel
7.	SOAM VIP GUI: Repeat for additional configuration of IPFE target sets	Repeat steps 3-6 for each target set (up to 16). At least one target set must be configured.

4.5 SNMP Configuration

Procedure 29. Configure SNMP Trap Receiver(s)

Step#	Procedure	Description	
This pro	cedure configure	es forwarding of SNMP Traps from each individual server.	
Note:	If SNMP configu	ration is not required, skip to step 6.	
Check c number	off (√) each step a	as it is completed. Boxes have been provided for this purpose under each step	
If this pr	f this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1. □	NOAM VIP GUI: Login	 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: 	
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>	
		2. Login as the guiadmin user.	
		ORACLE® Oracle System Login Mon Jul 11 13:59:37 2016 EDT	
		Log In Enter your username and password to log in	
		Username:	
		Password:	
		Change password	
		Log In	
		Welcome to the Oracle System Login.	
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.	
		Unauthorized access is prohibited.	

Step#	Procedure	Description			
2.	NOAM VIP GUI: Configure system-wide SNMP trap receiver(s)	 Navigate to Adminis Main Menu Administration General Options Access Control Software Managemer Charlen Authenticati SNMP Trapping Data Export DNS Configuration Select the Server Growman Menu: Administration 	ent tion Proup tab for SNMP trap configuration:	NMP Trapping.	
		ZombieDRNOAM ZombieNOAM	ZombieSOAM		
		Name 3. Type the IP address of (NMS) you wish to fo NOAMP's XMI network 4. Continue to type addition corresponding slots if SNMP Trap Configuration Instruction Configuration Instruction Mode * Manager 1	or hostname of ward traps to. rk. tional seconda desired. ert for ZombieNO	f the Network Ma This IP should I ary, tertiary, etc.,	nagement Station be reachable from the manager IPs in the
		Manager 2 5. Check Traps Enable configured:	d checkboxes	for the manager	servers being
		Traps Enabled		Manager 1 Manager 2 Manager 3 Manager 4 Manager 5	
		6. Enter the SNMP Con	munity Name	9.	

Step#	Procedure	Description
		SNMPv2c Read-Only Community Name
		SNMPv2c Read-Write Community Name
		7. Leave all other fields at their default values.
		8. Click OK .
3.	3. NOAMP VIP : Enable traps from individual servers (optional)	Note : By default, SNMP traps from DPs are aggregated and displayed at the active NOAMP. If instead, you want every server to send its own traps directly to the NMS, then execute this procedure.
		This procedure requires all servers, including DPs, have an XMI interface on which the customer SNMP target server (NMS) is reachable.
1. Navigate to Administration > F		 Navigate to Administration > Remote Servers > SNMP Trapping.
		🖃 🚇 Main Menu
		🖻 😋 Administration
		General Options Access Control
	🗈 🧰 Software Management	
		🖻 😋 Remote Servers
		SNMP Trapping
		Data Export
		DNS Configuration
		2. Make sure the checkbox next to Enabled is checked, if not, check it.
		Traps from Individual Servers 😨 Enabled
		3. Click Apply and verify the data is committed.

Step#	Procedure	Description	
4.	PMAC GUI:	1. Open web browser, navigate to the PMAC GUI, and enter a URL of:	
	Login	https:// <pmac_network_network_ip_address></pmac_network_network_ip_address>	
		2. Login as the guiadmin user.	
		ORACLE	
		Oracle System Login Tue Jun 7 13:49:06 2016 EDT	
		Log In	
		Password.	
		Change password	
		Log In	
		Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 9.0, 10.0, or 11.0 with support for JavaScript and cookies.	
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Step#	Procedure	Description
5.	PMAC GUI: Update the	 Navigate to Administration > Credentials > SNMP Community String Update.
	TVOE host SNMP community string 2. Mark the Use Site Specific Read/Write Community Select Read Only or Read/Write Community String: Image: Select Read Only String: Select Read Only Image: Select Read Only Image	2. Mark the Use Site Specific Read/Write Community String checkbox.
		Select Read Only or Read/Write Community String: Read Only Read/Write
		Check this box if updating servers using the Site Specific SNMP Community String: Use Site Specific Read/Write Community String
		Community String:
		Note: The Community String value can be 1 to 31 uppercase, lowercase, or numeric characters.
		 Click Update Servers. Click OK to the following prompt: You are about to update the Read/Write SNMP Credentials on all known supporting TVOE servers and the PM&C guest on the control network of this PM&C. Changing of SNMP Community Strings is supported across product release versions that support his functionality and attempting to do so with product versions not supporting it may cause the system to become inoperable. Are you sure you want to continue? OK Cat

Step#	Procedure	Description	
6.	(Workaround) NOAM VIP GUI: Login	Note: Perform this workaround step only in the following cases:	
		 If SNMP is not configured (i.e., if above steps 1-5 are skipped). 	
		 If SNMP is already configured and SNMPv3 is selected as enabled version. 	
		Note : This is a workaround step to configure SNMP with 'SNMPv2c and SNMPv3' as the enabled versions for SNMP Traps configuration, as PMAC does not support SNMPv3.	
		 If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: 	
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>	
		2. Login as the guiadmin user.	
		ORACLE	
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT	
		Log In	
		Password	
	Password. Change password		
Welcome to the Oracle System Login.			
		Welcome to the Oracle System Login.	
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.	
		Unauthorized access is prohibited.	
7.	NOAM VIP	1. Navigate to Administration > Remote Servers > SNMP Trapping.	
	GUI: Configure system-wide SNMP trap receiver(s)	 Main Menu Administration General Options Access Control Software Management Charter Servers LDAP Authentication SNMP Trapping Data Export DNS Configuration 2. Select the Server Group tab for SNMP trap configuration:	

Step#	Procedure	Description		
		Main Menu: Administration -> Rem	ote Servers	
		Info*		
		ZombieDRNOAM ZombieNOAM ZombieSOA	М	
		Name		
		 Type the IP address or host (NMS) you wish to forward t NOAMP's XMI network. (If enabled version, another se 	name of the raps to. Thi already conf rver needs t	Network Management Station s IP should be reachable from the igured SNMP with SNMPv3 as o be configured here)
		4. Continue to type additional s corresponding slots if desire	secondary, te d.	ertiary, etc., manager IPs in the
		SNMP Trap Configuration Ins	ert for Zoml	DieNOAM
		Configuration Mode *	 Global Per-site 	
		Manager 1		
		Manager 2		
		5. Set the Enabled Versions a	as SNMPv20	and SNMPv3.
		Enabled Versions		SNMPv2c and SNMPv3
		6. Check Traps Enabled boxes	s for the Mar	ager servers being configured:
		Traps Enabled	Manager Manager Manager Manager Manager	1 2 3 4 5
		7. Enter the SNMP Community	/Name:	
		SNMPv2c Read-Only Community Name		
		SNMPv2c Read-Write Community Name		
		 Leave all other fields at their Click OK. 	r default valu	es.

Step#	Procedure	Description		
8.	8. PMAC GUI: 1. Open web browser, navigate to the PMAC GUI, and enter a URL of: Image: Description of the provide state of t			
		2. Login as the guiadmin user.		
		ORACLE		
		Oracle System Login		
		Log In		
		Enter your username and password to log in		
		Username:		
		Password:		
		Change password		
		Log In		
		Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 9.0, 10.0, or 11.0 with support for JavaScript and cookies.		
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		copyright is zo ro, zo ro, <u>ordere</u> difaron na diminator. An rights federred.		

Step#	Procedure	Description	
9.	PMAC GUI: Update the	3. Navigate to Administration > Credentials > SNMP Community String Update.	
	TVOE host SNMP	4. Mark the Use Site Specific Read/Write Community String checkbox.	
	string	Select Read Only or Read/Write Community String: Read Only Read/Write	
		Check this box if updating servers using the Site Specific SNMP Community String: Use Site Specific Read/Write Community String	
		Community String:	
		Note: The Community String value of	Note: The Community String value can be 1 to 31 uppercase, lowercase, or numeric characters.
		Update Servers	
		5. Click Update Servers.	
		6. Click OK to the following prompt:	
		You are about to update the ReadWirtle SNMP Credentials on all known supporting TVOE servers and the PM&C guest on the control network of this PM&C. Changing of SNMP Community Strings is one supported across product release versions that support this functionality and attempting to do so with product versions not supporting it may cause the system to become inoperable. Are you sure you want to continue?	
		OK Cancel	
10. □	SNMPv3 (optional)	Refer to Restore SNMP Configuration to SNMPv3 (Optional) to restore SNMPv3 after installation, if required	

4.6 IDIH Installation and Configuration (Optional)

The following procedures outline the steps needed to install and configure IDIH.

Note: If their already exists an IDIH, and this is an IDIH re-installation; execute IDIH External Drive Removal before proceeding.

4.6.1 IDIH Installation

The installation procedure uses the **fast deployment** utility (fdconfig) bundled with the PMAC server to install and configure IDIH.

Procedure 30. IDIH Configuration

Step#	Procedure	Description					
This pro	This procedure installs and configures IDIH.						
Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.							
If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.							
1.	TVOE Host: Load application ISO	Add the Application ISO images (mediation , application , and oracleGuest) to the PMAC, this can be done in one of three ways:					
		media drive.					
		2. Attach the USB device containing the ISO image to a USB port.					
		 Copy the application iso file to the PMAC server into the /var/TKLC/smac/image/isoimages/home/smacftpusr/directoryas pmacftpusr user: 					
		cd into the directory where your ISO image is located on the TVOE Host (not on the PMAC server)					
		4. Using sftp, connect to the PMAC server					
		<pre>\$ sftp pmacftpusr@<pmac_management_network_ip> \$ put <image/>.iso</pmac_management_network_ip></pre>					
		5. After the image transfer is 100% complete, close the connection:					
		\$ quit					
		Note: If there is insufficient disk space with the PMAC repository as pmacftpuser, please follow the "Configure PMAC Application Guest isoimages Virtual Disk" section in [1] Platform Configuration Procedure to increase it.					

Step#	Procedure	Description
2.	PMAC GUI:	1. Open web browser, navigate to the PMAC GUI, and enter a URL of:
	Login	https:// <pmac_network_network_ip_address></pmac_network_network_ip_address>
		2. Login as the guiadmin user.
		ORACLE
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in
		Username:
		Password:
		Change password
		Log In
		Welcome to the Oracle System Login.
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.
		Unauthorized access is prohibited.
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Step#	Procedure	Description
3.	PMAC GUI: Attach the software image to the PMAC guest	 If the image is on a CD or USB device, continue with this step. If in step 1 the ISO image was transferred directly to the PMAC guest via sftp, skip the rest of this step and continue with step 4. 1. In the PMAC GUI, navigate to VM Management. Select the PMAC guest from the VM Entities list. On the resulting View VM Guest page, select the Media tab. 2. Under the Media tab, find the ISO image in the Available Media list, and click its Attach button. After a pause, the image displays in the Attached Media list. Main Menu: VM Management
		Tasks 🔻
		VM Entities () View guest 5010441PMAC
		Refresh 🔇 VM Info Software Network Media
		Image: RMS: pc5010439 Attached Media Available Media Image: RMS: pc5010441 Attached Media Available Media
		Solutional Sector Available Media Available Media Zombie_DSRD
		Zombie_DSRIP Attach Label Image Path
		Zombie_DSRN Attach 3.2.0.0.0_88.18.0 Var/TKLC/upgrade/TVOE-3.2.0.0.0_88.18.0-x86_64.iso Zombie_DSRSI Zombie_DSRSI State State State

Step#	Procedure	Description
4.	PMAC GUI: Add application image	 Navigate to Software > Manage Software Images. Main Menu Hardware Software Software Software Software Images Click Add Image. Select the image from the list. Add Image Edit Image Delete Selected If the image was supplied on a CD or a USB drive, it displays as a virtual device (device://). These devices are assigned in numerical order as CD and USB images become available on the management server. The first virtual device is reserved for internal use by TVOE and PMAC; therefore, the iso image of interest is normally present on the second device, device://dev/sr1. If one or more CD or USB-based images were already present on the management server before you started this procedure, choose a correspondingly higher device number. If in step 1 the image was transferred to PMAC via sftp, it displays in the list as a local file /var/TKLC/ Select the appropriate path and click Add New Image. You may check the progress using the Task Monitoring link. Observe the green bar indicating success.
5.	PMAC: Establish terminal session	Establish an SSH session to the PMAC and login as admusr .
6.	PMAC : Reset the create guest default timeout and other timeout parameters	<pre>1. Execute the following commands: \$ sudo sqlite3 /usr/TKLC/plat/etc/TKLCfd- config/db/fdcRepo.fdcdb 'update params set value=3000 where name="DEFAULT_CREATE_GUEST_TIMEOUT"'; \$ sudo pmacadm setParamparamName=defaultTpdProvdTimeout paramValue=120 \$ sudo pmacadm setParamparamName=guestDiskDeployTimeout paramValue=50 2. To verify whether the above values are set correctly, run the below commands. \$ sudo sqlite3 /usr/TKLC/plat/etc/TKLCfd- config/db/fdcRepo.fdcdb 'select name, value from params where name like "%TIMEOUT%"'; \$ sudo pmacadm getParamparamName=defaultTpdProvdTimeout \$ sudo pmacadm getParamparamName=defaultTpdProvdTimeout \$ sudo pmacadm getParamparamName=guestDiskDeployTimeout \$ sudo pmacadm getParamparamName=guestDiskDeployTimeout</pre>
Step#	Procedure	Description
-----------------------------------	--	---
7.	PMAC: Copy the	 Copy the fdc.cfg file to the pmac guest-dropin directory. Execute the following command:
the guest- dropin directory	the guest- dropin directory	<pre>\$ sudo cp /usr/TKLC/smac/html/TPD/mediation-*/fdc.cfg /var/TKLC/smac/guest-dropin</pre>
8.	PMAC : Configure	 Configure the fdc.cfg file. See IDIH Fast Deployment Configuration for a breakdown of the parameters.
	the fdc.cfg file	 Update the software versions, hostnames, bond interfaces, network addresses, and network VLAN information for the TVOE host and IDIH guests that you are installing.
9.	PMAC: Run the FDC creation script	 Rename the fdc.cfg file to your preference; also note that two files are generated by the fdc shell script. One is for the Installation procedure and the other file is used for the upgrade procedure. The upgrade FDC is named upgrade.
	idihFdc.sh	Example: hostname.cfg
		<i>Note</i> : The following hostname for guests has been reserved for internal use. Please try to avoid them:
		oracle
		mediation
		appserver
		Here are the suggested hostname for guests:
		 <server hostname="">-ora example, thunderbolt-ora</server>
		 <server hostname="">-med example, thunderbolt-med</server>
		 <server hostname="">-app example, thunderbolt-app</server>
		2. Run the FDC creation script fdc.sh .
		3. Execute the following commands:
		<pre>\$cd /var/TKLC/smac/guest-dropin/</pre>
		<pre>\$sudo /usr/TKLC/smac/html/TPD/mediation-8.5.0.0.0_90.x.x- x86_64/fdc.sh fdc.cfg</pre>
		<i>Note</i> : Verify the values in the xml generated from the fdc.sh script match those of the values entered in fdc.cfg.

Step#	Procedure	Description	
10.	TVOE Host: Verify/Remo ve external devices	 Establish an SSH session to the TVOE host that hosts the IDIH and login as admusr. Before IDIH has ever been installed, or after the external disk removal procedure has been successfully completed, execute the following command: \$ 1s /dev/sd* 	
		Verify you only have sda* devices (e.g., sda1, sda2, etc.)	
		Expected output:	
		\$ Is /dev/sd* /dev/sda /dev/sda1 /dev/sda2 /dev/sda3	
		Note: If any other devices are listed (e.g. sdb*, sdc*, sdd*, etc) Stop. You must first remove the extra device(s) in your system (e.g., sdb*, sdc*, sdd*, etc.). Refer to IDIH External Drive Removal. Reboot the tvoe and verify the extra device(s) are still removed (> ls /dev/sd*)	
11. □	TVOE Host : Verify logical	 Establish an SSH session to the TVOE Host which will host the IDIH, login as admusr. 	
	bond, int and imi bridge	 On the TVOE host, Execute the following command to verify the logical bond [0.x], int and imi bridge exist or not. 	
		\$ brctl show	
		 If Logical bond does not exist, run following commands to create the logical bond, int and imi bridge. 	
		<pre>\$ sudo netAdm adddevice=bond0.<imi_vlan>onboot=yes</imi_vlan></pre>	
		<pre>\$sudo netAdm addtype=Bridgename=imi bridgeInterfaces=bond0. <imi_vlan>onboot=yes</imi_vlan></pre>	
		<pre>\$ sudo netAdm addtype=Bridgename=intonboot=yes</pre>	
		 After adding the logical bond, int and imi bridge, execute following command and verify the logical bond, int and imi bridge added successfully. 	
		\$ brctl show	
		Note: Logical bond [0.x] x could be any valid integer number.	
12. □	PMAC : Run the fdconfig	Execute the following commands:	
	configuration	<pre>\$sudo fdconfig configfile=hostname_xx-xx-xx.xml Example:</pre>	
		<pre>\$sudo fdconfig configfile=tvoe-ferbrms4_01-22-15.xml</pre>	
		Note: This is a long duration command. If the screen command was run prior to executing the fdconfig, perform a screen -dr to resume the screen session in the event of a terminal timeout etc.	

Step#	Procedure	Description
13.	PMAC GUI: Monitor the configuration	 If not already done so, establish a GUI session on the PMAC server. Navigate to Task Monitoring. Status and Manage Task Monitoring Help Legal Notices Logout

4.6.2 Post IDIH Installation Configuration

The following sections are executed after IDIH installation is complete.

After an IDIH fresh installation, reference data synchronization is initially disabled. Reference data synchronization requires some initial configuration before it is enabled.

The Trace Ref Data Adapter application must retrieve data from web services hosted by the DSR SOAM web server, and this requires the DSR SOAM virtual IP address (VIP) to be configured.

The DSR SOAM VIP is unique at each customer site because it is defined based on the customer's network configuration. Therefore, there is no standard default value for the DSR SOAM VIP.

Procedure 31. Configure DSR Reference Data Synchronization for IDIH

Step#	Procedure	Description	
This pro	cedure configur	es DSR reference data synchronization for IDIH.	
Check c number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.		
If this pr	ocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.	
1. IDIH Application		 Establish an SSH session to the IDIH application server. Login as user admusr. 	
	Login	2. Issue the following commands to login as tekelec user.	
		\$ sudo su - tekelec	
2.	IDIH Application	1. Execute the following script:	
	Server: Execute	<pre>\$ apps/trda-config.sh</pre>	
		Example output:	
	script.	corsair-app:/ <mark>usr/TKLC/xIH apps/trda-config.sh</mark>	
		<pre>dos2unix: converting file /usr/TKLC/xIH/bea/user_projects/domains/tekelec/nsp/trace- refdata-ad</pre>	
		Please enter DSR oam server IP address: 10.240.39.175	
		SQL*Plus: Release 12.1.0.2.0 Production on Thu Oct 1 15:04:40 2015	
		Copyright (c) 1982, 2014, Oracle. All rights reserved.	
		Last Successful login time: Thu Oct 01 2015 13:27:57 - 04:00	
		Connected to:	

Step#	Procedure	Description
		Oracle Database 12c Enterprise Edition Release 12.1.0.2.0
		- 64bit Production
		With the Partitioning, Automatic Storage Management, OLAP, Advanced Analytics
		and Real Application Testing options
		SQL > SQL > 2 3 4 5
		1 row merged.
		SQL>
		Commit complete.
		SQL> Disconnected from Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Produ
		With the Partitioning, Automatic Storage Management, OLAP, Advanced Analytics
		and Real Application Testing options
		<pre>Buildfile: /usr/TKLC/xIH/apps/trace-refdata- adapter/build.xml</pre>
		app.disable:
		common.weblogic.stop:
		[echo]
		[echo]
		[echo]
		[echo] application: xihtra
		[echo] date: 2015-10-01 15:04:41
		[ecno]
		[echo] === stop application EAR
		[echo] date: 2015-10-01 15:04:41
		[java] weblogic.Deployer invoked with options: - adminurl t3://appserver:7001 -
		userconfigprojects/domains/tekelec/keyfile.secure-name xIH Trace Reference Data Adapter -stop
		<pre>[java] <oct 1,="" 2015="" 3:05:08="" edt="" pm=""> <info> <j2ee deployment="" spi=""> <bea-260121> <initiating< pre=""></initiating<></bea-260121></j2ee></info></oct></pre>
		[java] Task 24 initiated: [Deployer:149026]stop application xIH Trace Reference Data Adap
		[java] Task 24 completed: [Deployer:149026]stop application xIH Trace Reference Data Adap
		[java] Target state: stop completed on Server nsp
		[java]
		BUILD SUCCESSFUL
		Total time: 29 seconds
		<pre>Buildfile: /usr/TKLC/xIH/apps/trace-refdata- adapter/build.xml</pre>
		app.enable:
		common.weblogic.start:

Step#	Procedure	Description
		[echo] [echo] [echo]
		[echo] application: xihtra [echo] date: 2015-10-01 15:05:10 [echo]
		<pre>[echo] === start application EAR [echo] date: 2015-10-01 15:05:10 [java] weblogic.Deployer invoked with options: - adminurl t3://appserver:7001 - userconfigprojects/domains/tekelec/keyfile.secure -name xIH Trace Reference Data Adapter -start [java] <oct 1,="" 2015="" 3:05:56="" edt="" pm=""> <info> <j2ee deployment="" spi=""> <bea-260121> <initiating 25="" [deployer:149026]start="" [java]="" adap<="" application="" data="" initiated:="" pre="" reference="" task="" trace="" wih=""></initiating></bea-260121></j2ee></info></oct></pre>
		<pre>[java] Task 25 completed: [Deployer:149026]start application xIH Trace Reference Data Ada [java] Target state: start completed on Server nsp [java] BUILD SUCCESSFUL Total time: 1 minute 17 seconds</pre>
		 For prompt Please enter DSR SOAM server IP address, enter the VIP of the DSR SOAM and click Enter. Note: If the address entered is unreachable the script exits with an Unable to connect to <ip-address>! error.</ip-address>
3.	IDIH App Server: Monitor completion	1. Monitor the log file located at: /var/TKLC/xIH/log/apps/weblogic/apps/application.log 2. Examine the log file for entries containing text Trace Reference Data Adapter.

Procedure 32. IDIH Configuration	tion: Configuring the S	SO Domain (Optional)
----------------------------------	-------------------------	----------------------

Step#	Procedure	Description	
This pro	This procedure configures SSO domain for IDIH.		
Check on number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.		
If this pr	ocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.	
1. □	NOAM VIP GUI: Login	 Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: https://<primary_noam_vip_ip_address> </primary_noam_vip_ip_address> Login as the guiadmin user. 	
		ORACLE	
		Oracle System Login	
		Mon Jul 11 13:59:37 2016 ED1	
		Log In Enter your username and password to log in Username:	
		Change password	
		Welcome to the Oracle System Login.	
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.	
		Unauthorized access is prohibited.	
		Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2016, <u>Oracle</u> and/or its affiliates. All rights reserved.	

DSR C-Class Software Installation and Configuration Guide

Step#	Procedure	Description
Step# 2.	Procedure NOAM VIP GUI: Configure DNS	Description 1. Navigate to Main Menu > Administration a. Verify / Edit the parameter Certificate Domain Name Image: Control of the parameter Certificate Domain Name
		Name Server Address Global Address Global Per-ate Global Per-ate Global Per-ate Ommain Server Ommain Server Ommain Server Ommain Server Ommain Search Order Ommain Search Domain 1 Search Domain 2 S. If values have already been configured, click Cancel; otherwise, configure the above values and click OK. Ok Cancel S. The Certificate Management window is updated with the SSO Certificate. If window is updated with the SSO Certificate. If window is updated with the SSO Certificate. If window is updated with the SSO Certificate.



Step#	Procedure	Description
4.	IDIH Application Server GUI: Login	 Establish a GUI session on the IDIH application server: Login as the idihadmin user: INTEGRATED DIAMETER INTELLIGENCE HUB User name TDIH Maintenance. This portal lets year
5.	IDIH Application Server GUI: Launch the OAM portal	Navigate to the OAM portal Icon to Launch the OAM web application: ORACLE IDIH Portal Maintenance: Alarm, Forwarding Alarm, Viewer Log Viewer OAM ProTrace System, Starms
6.	IDIH Application Server GUI: Configure the SSO domain	1. Navigate to System > Single Sign On. Image: Contract of the second system > Single Sign On Avplications System + Help Single Sign On Avplications System + Help Single Sign On Verticity Contract the SSO Parameters tab. System : Single Sign On SSO Zones SSO Parameters SSO Domain Domain Name : Import Contract of the SSO Domain State of the Edit Value icon.

Step#	Procedure	Description
		Edit Value
		4. Enter a value for the Domain Name.
		Note: This should be the same domain name assigned in the DSR NOAM DNS configuration (step 2).
		5. Click the Save icon.
		Save
		6. Click the Refresh icon to display data saved for the remote zone.
		Refresh Value
7.	IDIH	1. Navigate to System > Single Sign On.
	Application Server GUI: Configure the SSO remote zone	 CRACLE IDIH None Medidice Applications Sign Chaptering Select the SSO Zones tab. System: Single Sign On SSO Zones SSO Parameters Name of the SSO compatible local zone Click the Add icon. SSO Remote Zones Add Add Enter a value for field Remote Name. SSO Remote Zones SSO Remo

Step#	Procedure	Description
		X.509 Certificate
		BEGIN CERTIFICATE MIIENTCCAx2gAwIBAgIBA MA0GA1UECgwGT3JhY2xlIMREwDwYDVQQLDAhBcHB) CQEWEnN1cHBvcnRAb3JhY2xlLmNvbTAeFw0xNTA3M1 FDASBgNVBAcMC01vcnJpc3ZpbGxIMQ8wDQYDVQQKU dHIwZT1BV1NTTzEhMB8GCSqGSIb3DQEJARYSc3Vwci ywYDdhXchb5bhORLUGCsSpo4RzHHIvKAu7DNi2GSs9; DrVBDyqDqmBhP1stxGAaBFhnbSuUma2Qgy4mKppfeyX LLx5+c5EwkS8OhB9AVqwjX+oETf58WYKgAgIX82c8rAW FoAUnwCZ+1CZucSz4AivgXb122X/SLYwDAYDVR0TBAI tJi7N8HC9AEe0Sn8akEdE9pJHP7NwGjY1v5581Z2dnJ2a dxoXMVS5tEOO5Ea5PKk6ZyI3QCet1sEa5CRjilbOU94hjc CERTIFICATE
		6. Click the Save icon.
		Save
		7. Click the Refresh icon to display the data saved for remote zone.
		2 💊 🔕

Procedure 33. IDIH Configuration: Configure IDIH in the DSR

Step#	Procedure	Description		
This pro	ocedure compl	etes the IDIH integration on the DSR.		
Check numbe	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
If this p	rocedure fails,	contact My Oracle Support (MOS) and ask for assistance.		
1. []	NOAM VIP GUI: Login	 Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: 		
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>		
		2. Login as the guiadmin user.		

Step#	Procedure	Description
		ORACLE
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in Username: Password: Change password Log In
		Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details. Unauthorized access is prohibited.
		Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2016, <u>Oracle</u> and/or its affiliates. All rights reserved.
2.	NOAM VIP GUI: Configure ComAgent connection	 1. Navigate to Communication Agent > Configuration > Remote Servers. Communication Agent Configuration Remote Servers Connection Groups Routed Services
		2. Click Insert.
		3. Add the IDIH mediation server.
		 For the remote server IP address field, type the IMI IP address of the IDIH Mediation Server.
		 For the IP address preference field, type the IP protocol preference (if IPv6 and IPv4 are configured).

Step#	Procedure	Description		
		Inserting Remote Se	rvers	
		Field	Value	1
		Remote Server Name *		L [] a
		Remote Server IPv4 IP Address		T C F
		Remote Server IPv6 IP Address		T C F
		Remote Server Mode *	Select 🔻	h þ
		IP Address Preference	ComAgent Network Preference	T C F
		6. Set the Remo	te Server Mode to Serve	r.
		7. Select the DA- column.	-MP server group from th	e Available Local Server Groups
		8. Click the >> b Server Group	utton to move the DA-MP os column.	server group to the Assigned Local
		::::::: Available Local Server Gr Zombie SS7SG1 Zombie SS7SG2 Zombielpfe SG1 Zombielpfe SG2	oups ::::::: Assigned Local	I Server Groups :::::::
		9. Click OK .		

Step#	Procedure	Description		
3. □	SOAM VIP GUI: Login	 Establish a GUI session on the SOAM server by using the VIP IP address of the SOAM server. Open the web browser and enter a URL of: 		
		https:// <primary_soam_vip_ip_address></primary_soam_vip_ip_address>		
		2. Login as the guiadmin user.		
		ORACLE		
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT		
		Log In Enter your username and password to log in		
		Username:		
		Password:		
		Change password		
		Log In		
		Welcome to the Oracle System Login.		
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.		
		Unauthorized access is prohibited.		
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Step#	Procedure	Description		
4.	SOAM VIP GUI: Configure IDIH hostname	 1. Navigate to Diameter > Troubleshooting with IDIH > Configuration > Options. Troubleshooting with IDIH Configuration Traces Options Global Options Select the mediation server configured in step to in the IDIH Host Name field from the list. Type the fully qualified domain name (or IP address) of the application server in the IDIH Visualization Address field: IDIH Configuration		ost Name
		Field	Value	Descri
		Max bandwidth *	25	Maximu will dis [Default
		IDIH Host Name	- Select -	The Ho [Defaul
		IDIH Visualization address		The IP ; If an IP [Defaul
		ApplyCancel4. Click Apply.		

Step#	Procedure	Description			
This pr	ocedure configur	es the SMTP mail server.			
Note:	<i>Note</i> : This procedure is optional; however, this option is required for Security (password initialization set to AUTOMATIC) and Forwarding (forwarding by mail filter defined) and is available only on the Application server.				
Check numbe	off (√) each step r.	as it is completed. Boxes have been provided for this purpose under each step			
If this p	procedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.			
1.	IDIH Application Server: Login	Establish an SSH session to the IDIH Application Server and login as admusr .			
2.	IDIH Application Server: Configure the authenticated mail server	5. Enter the platcfg menu, execute the following command: \$ sudo su - platcfg 6. Select Application Server Configuration. lqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq			

Procedure 34. IDIH Configuration: Configure Mail Server (Optional)

Step#	Procedure	Description		
This pr	This procedure configures the SNMP management server.			
Note:	This procedure SNMP filter defi	his procedure is optional; however, this option is required for Forwarding (forwarding by NMP filter defined) and is available only on the application server.		
Check numbe	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
If this p	rocedure fails, co	Diffact My Oracle Support (MOS) and ask for assistance.		
	IDIH Application Server: Login	Establish an SSH session to the IDIH application server and login as admusr .		
2. □	IDIH Application	1. Enter the platcfg menu, execute the following command:		
	Server:	\$ sudo su - platcfg		
	SNMP	2. Select Application Server Configuration.		
	Management Server	lqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq		
		3. Select SNMP Agent Configuration.		
		lu Application Server Configuration Menu tk x X x SNMP Agent Configuration x SMTP Configuration x Exit x Exit x x		
		4. Click Edit.		
		5. Type the IP address of the SNMP management server.		
		<i>Note</i> : The SNMP agent configuration is updated and the SNMP management server is automatically restarted.		
		6. Click OK .		
		7. Click Exit to exit the platcfg menu.		

Procedure 35.	IDIH Configuration:	Configure SNMP	Management Server	(Optional)
		J		

Procedure 36. IDIH Configuration:	Change Network Interface (Optional)
-----------------------------------	-------------------------------------

Step#	Procedure	Description		
This pr	ocedure chang	ges the default network interface.		
Note:	Initially the de network; how could degrad	y the default network interface used to transport TTRs from DSR to DIH uses the internal IMI rk; however, this can be changed if required. It should be noted that changing this interface degrade performance of TTR transmission.		
Note:	A script is pro required to ap	ovided to manage the settings so that the operator doesn't need to know the details oply the settings. There are two settings 'interface.name 'and 'interface.enabled'.		
When i name c commu	nterface.enabl of the network i inications.	ed=True then communications over the 'interface.name =value', where value is the interface as defined on the platform, is the only specified interface that is used for		
When ' interfac	interface.enab ces configured	led=False' then communications over the named interface is not inforced, that is, all on the platform are allowed to be used for communications.		
For exa interfac prompt	ample, if it is re ce, then the op ed if interface t	equired to use the XMI interface for communication instead of the default internal IMI erator would supply 'xmi' when prompted for the interface name and 'True' when filtering should be applied.		
Check numbe	off (√) each ste r.	ep as it is completed. Boxes have been provided for this purpose under each step		
If this p	rocedure fails,	contact My Oracle Support (MOS) and ask for assistance.		
1. []	IDIH Mediation Server: Login	 Establish an SSH session to the IDIH mediation server. Login as user admusr. Issue the following commands to login as tekelec user. \$ sudo su - tekelec 		
2.	IDIH Mediation Server: Execute the change interface script	<pre>Execute the change interface script with the following command: \$ chgIntf.sh Answer the following questions during execution of the script: This script is used to change the interface name (default = imi) used for mediation communications and whether to enable network interface filtering or not. Please answer the following questions or enter CTLR-C to exit out of the script. Current setting are: interface.name=imi interface.enabled=True Enter new network interface name, return to keep current [imi]: xmi Do you want to enable network interface filtering [True False], return to keep current [True]: Updating configuration properties file with 'interface.name=xmi' and 'interface.enable=True', and update the filtering is a script in the filtering is a script.</pre>		

Procedure 37. IDIH Configuration: Backup the Upgrade and Disaster Recovery FDC File

(Optional)				
Step#	Procedure	Description		
This pro Check c number. If this pr	This procedure generates a disaster recovery fdc file. Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.			
1.	Identify backup server	 Identify an external server to be used as a backup server for the following steps. The server should not be co-located with any of the following items: TVOE PMAC DSR NOAM DSR SOAM 		
2.	PMAC : Establish terminal session	Establish an SSH session to the PMAC. Login as admusr .		
3.	PMAC: Verify Upgrade fdc file exists	Execute the following commands to verify the upgrade FDC file for IDIH exists: \$ cd /var/TKLC/smac/guest-dropin \$ 1s -1 *.xml The following output is expected: -rw-r 1 root smac 9542 May 11 09:43 <idih install="">.xml -rw-r 1 root smac 5107 May 11 09:43 <idih upgrade="">.xml Note: The <idih_upgrade>.xml file is the same file used for upgrade and disaster recovery procedures.</idih_upgrade></idih></idih>		
4.	PMAC: Transfer the FDC file to a remote server	Login to the backup server identified in step 1 and copy backup image to the customer server where it can be safely stored. If the customer system is a Linux system, please execute the following command to copy the backup image to the customer system. \$ sudo scp admusr@ <pmac_ip_address>:/var/TKLC/smac/guest-dropin/<idih_upgrade.xml> /path/to/destination/ When prompted, enter the admusr user password and click Enter. If the Customer System is a Windows system please refer to reference [1] Using WinSCP to copy the backup image to the customer system.</idih_upgrade.xml></pmac_ip_address>		

Step#	Procedure	Description
5. PMAC Transfer the fdc file to the fdc directory so that the file can be backed up Server: PMAC backups. Backup Issue the following command to ensure the directory where the backups stored exists:		Transfer the fdc file to the fdc directory so that the file can be backed up with PMAC backups. Issue the following command to ensure the directory where the backups are stored exists:
		<pre>\$ sudo /bin/ls -i -l /usr/TKLC/smac/etc/fdc If you receive an error such as the following: -bash: ls: /usr/TKLC/smac/etc/fdc: No such file or directory Create the directory by issuing the following command: \$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/fdc</pre>
		Issue the following command to copy the fdc files to the fdc backup directory:
		<pre>\$ sudo cp /var/TKLC/smac/etc/<idih_upgrade.xml> /usr/TKLC/smac/etc/fdc/</idih_upgrade.xml></pre>

Procedure 38. IDIH Configuration: Change Alarm Ignore List (Optional)

Step#	Procedure	Description	
This pr	ocedure change	es the alarm severity and/or identifiers to ignore on the mediation server.	
Note:	Initially the def	ault is to ignore alarms with severity 4 (informational)	
Note:	A script is provided to manage the settings so that the operator does not need to know the details required to apply the settings. There are two settings 'ignore.event' and 'ignore.severity'		
Check numbe If this p	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1.	IDIH Mediation Server: Login	 Establish an SSH session to the IDIH mediation server. Login as user admusr. Issue the following commands to login as tekelec user. \$ sudo su - tekelec 	

Step#	Procedure	Description		
2.	IDIH Mediation Server:	Execute the change alarms script with the following command:		
		\$ chgAlms.sh		
	Execute the CHANGE	This script is used to change ignore list for mediation		
	INTERFACE	alarms.		
	SCRIPT	There are two lists, one for Severity where the list contains the severity values (no spaces, comma separated).		
		Severity default list = '4'		
		Possible severity values are:		
		1 Critical error		
		2 Major error		
		3 Minor error		
		4 Information only; no error		
		5 Cleared		
		The other is the event list which contains the (comcol) event numbers (no spaces, comma separated).		
		Please answer the following questions or enter CTLR-C to exit out of the script.		
		Current setting are: ignore.event= ignore.severity=4		
		Enter new ignore list for alarm severity (comma separated list) or '0' to keep current [4]: 0		
		Enter new ignore list for alarm events (comma separated list) or '0' to keep current []: 0		
		Updating configuration properties file with 'ignore.severity=4' and 'ignore.event='		
		<pre>Backing-up configuration properties with 'ignore.severity=4' and 'ignore.event='</pre>		
		Restarting ImpAlarms process		
		Done!		

4.7 Post-Install Activities

4.7.1 Activate Optional Features

Procedure 39. Activate Optional Features

Step#	Procedure	Description			
This pro	ocedure installs DSR optiona	l components once regular installation is complete.			
Prerequ	uisite: All previous DSR in	stallation steps have been completed.			
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.				
1.	Refer to Activation Guides for optional features	Refer to 3.4 Optional Features for a list of feature activation documents whose procedures are to be executed at this moment.			

4.7.2 Configure ComAgent Connections (DSR + SDS)

Procedure 40. Configure ComAgent Connections (DSR + SDS)

Step#	Procedure	Description		
This pro Prereq	nis procedure configures ComAgent connections on DSR/SDS for use in the FABR application. rerequisite: FABR application is activated.			
Check of number	off (√) each ste ′.	ep as it is completed. Boxes have been provided for this purpose under each step		
If this p	rocedure fails,	contact My Oracle Support (MOS) and ask for assistance.		
1. □	SDS NOAM VIP GUI: Login	1. Establish a GUI session on the SDS NOAM by using the XMI VIP address. Open the web browser and enter a URL of:		
		https:// <primary_sds_noam_vip_ip_address></primary_sds_noam_vip_ip_address>		
		2. Login as the guiadmin user.		
		ORACLE		
		Oracle System Login		
		Log In		
		Enter your username and password to log in		
		Username:		
		Password:		
		Change password		
		Log In		
		Welcome to the Oracle System Login.		
2.	SDS	1. Navigate to Communication Agent > Configuration > Remote Servers.		
	NOAM VIP GUI [.]	🖻 🚖 Communication Agent		
	Configure	🖃 🔄 Configuration		
	remote	Remote Servers		
	address	Connection Groups		
		2 Click Incert		
		Insert Edit Delete		

Step#	Procedure	Description
3.	SDS NOAM VIP	1. Type the Remote Server Name for the DSR MP server:
	GUI : Configure	Remote Server Name * ZombieDAMP1
	remote server IP	2. Type the Remote Server IMI IP Address.
	address	Remote Server IPv4 IP Address 169.254.1.13
		Remote Server IPv6 IP Address
		<i>Note</i> : This should be the IMI IP address of the DAMP server.
		3. Select Client for the Remote Server Mode from the list.
		Remote Server Mode * Client
		 Select IP Address Preference (ComAgent Network Preference, IPv4 Preferred, or IPv6 Preferred) from the list.
		IP Address Preference ComAgent Network Preference ComAgent Network Preference IBv4 Preference
		IPv6 Preferred
		Select the Local Server Group for the SDS DP server group and click >>.
		Add selected Local Server Groups::::::::::::::::::::::::::::::::::::
		<<
		******** Available Local Server Groups ********* Assigned Local Server Groups ******** >> SDSDP
		5. Click Apply. Ok Apply Cancel
4.	SDS NOAM VIP GUI: Repeat	Repeat steps 2-3 for each remote MP in the same SOAM NE.

Step#	Procedure	Description
5. []	DSR NOAM VIP GUI: Login	1. Establish a GUI session on the DSR NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:
		https:// <primary_dsr_noam_vip_ip_address></primary_dsr_noam_vip_ip_address>
		2. Login as the guiadmin user.
		ORACLE
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.
6.	DSR NOAM VIP GUI: Configure remote server IP address	 Navigate to Communication Agent > Configuration > Remote Servers. Communication Agent Configuration Remote Servers Connection Groups Routed Services 2. Click Insert. Insert Edit Delete

Step#	Procedure	Description
7.	DSR NOAM VIP GUI: Configure remote server IP address	1. Type the Remote Server Name for the SDS DP server: Remote Server Name* SDSDP1 2. Type the Remote Server IMI IP Address. Remote Server IPv4 IP Address 169.254.1.30
		Remote Server IPv6 IP Address Note: This should be the IMI IP address of the DP server.
		 3. Select Server for the Remote Server Mode from the list. Remote Server Mode* Server To 4. Select IP Address Preference (ComAgent Network Preference, IPv4 Preferred, or IPv6 Preferred) from the list.
		IP Address Preference ComAgent Network Preference ComAgent Network Preference IPv4 Preferred IPv6 Preferred
		5. Select the Local Server Group for the DSR MP server group, click >>.
		Zombie SS7SG1 >> ZombieDAMP Zombielpfe SG1 < Zombielpfe SG2 Ok Apply Cancel
8.	DSR NOAM VIP GUI: Repeat	Repeat steps 6-7 for each remote DP in the same SOAM NE.

Step#	Procedure	Description		
9.	DSR NOAM VIP GUI: Configure Connection Groups	Navigate to Communication Agent > Configuration > Connection Groups.		
10.	DSR NOAM VIP GUI: Edit connection groups	 Select the DPSv Connect DPSvcGroup Click Edit. Select the desired 	cGroup Connection tion Group ed DP servers from the	Group. Server O Servers Available Servers in Network Element.
		Editing exisiting Co	Value	Description Unique identifier used to label a Connection Group.
		Connection Group Name *	DPSvcGroup	alphanumeric and underscore. Must contain at least one must not start with a digit] [A value is required.]
		SDSDP1	>>	
		Editing exisiting Co	onnection Groups	
		Field Connection Group Name *	Value	Description Unique identifier used to label a Connection Group. [Default: n/a; Range: A 32-character string. Valid characte alphanumeric and underscore. Must contain at least one must not start with a digit.] [A value is required.]
		::::::: Available Servers in I	Network Element :::::::	::::::: Assigned Servers in Connection Group ::::::: SDSDP1
		Ok Apply Cancel 5. Click OK .	<<	

Step#	Procedure	Description		
11.	DSR	Verify correct number of servers are in the connection group.		
		Connection Group	Server	
	Verify correct number of servers in	DPSvcGroup	I Server	
			<u>SDSDP1</u>	
	group			

4.7.3 Back Up TVOE Configuration

Procedure 41. Back Up TVOE Configuration

Step#	Procedure	Description	
This pro	This procedure backs up each TVOE rack mount server or blade server after a successful installation. Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step		
If this p	r. rocedure fails, co	ntact My Oracle Support (MOS) and ask for assistance.	
1.	Identify backup server	 Identify an external server to be used as a backup server for the following steps. The server should not be co-located with any of the following items: TVOE PMAC DSR NOAM DSR SOAM 	
2.	TVOE Server: Login	Establish an SSH session to the TVOE host server and login as admusr .	

Step#	Procedure	Description
3.	TVOE Server: Build	1. Execute the following command from the TVOE server:
	ISO backup	\$ sudo su - platcfg
	me	lqqqqqqu Main Menu tqqqqqqq x x X x Maintenance x x Diagnostics x x Server Configuration a x x Security a x x Network Configuration a x x Exit x mqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq
		 Navigate to Maintenance > Backup and Restore > Backup Platform (CD/DVD).
		The Backup TekServer Menu screen displays.
		<i>Note</i> : If no cdrom device is found by TPD, the No disk device available. This is normal on systems without a cdrom device message displays. Press Enter.
		3. Build the backup ISO image by selecting Build ISO file only .
		lqqqqu Backup TekServer Menu tqqqqqkxxx Select Backup Type (plat-app)x View Index Table of Contents a xx Select Backup Device ()a xx Select Backup Media (CD-R)a xx Build ISO file onlyx Test Backupa xx Backupa xx Exitxxx
		<i>Note</i> : Creating the ISO image may happen so quickly that this screen may only display for an instant.
		 After the ISO is created, platcfg returns to the Backup TekServer menu. The ISO has now been created and is located in the /var/TKLC/bkp/ directory. An example filename of a backup file that was created is: hostname1307466752-plat-app-201104171705.iso
		5. Exit out of platcfg by selecting Exit .

Step#	Procedure	Description	
4. □	Backup Server: Transfer TVOE files to	 Log into the backup server identified in step 1 and copy backup image to the customer server where it can be safely stored. If the customer system is a Linux system, please execute the following command to copy the backup image to the customer system. 	
\$ sudo so /path/to/		<pre>\$ sudo scp tvoexfer@<tvoe address="" ip="">:backup/* /path/to/destination/</tvoe></pre>	
		2. When pasked, type the tvoexfer user password and press Enter .	
		 If the customer system is a Windows system, refer [6] using WinSCP to copy the backup image to the customer system. 	
		The TVOE backup file has now been successfully placed on the backup server.	
5.	Repeat for additional TVOE servers	Repeat steps 3-4 for additional TVOE servers.	

4.7.4 Back Up PMAC Application

Procedure 42. Back Up PMAC Application

Step#	Procedure	Description	
This pro	This procedure backs up each PMAC application installed in this procedure.		
Check o number.	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.		
If this pro	ocedure fails, cor	ntact My Oracle Support (MOS) and ask for assistance.	
1.	ldentify backup server	Identify an external server to be used as a backup server for the following steps. The server should not be co-located with any of the following items:	
		• PMAC	
		DSR NOAM	
		DSR SOAM	
2 .	PMAC Server: Login	Establish an SSH session to the PMAC server and login as admusr .	
3.	PMAC	Execute the following command from the PMAC server:	
	Server: Build	<pre>\$ sudo /usr/TKLC/smac/bin/pmacadm backup</pre>	
	buokup me	PM&C backup been successfully initiated as task ID 7	
		Note: The backup runs as a background task. To check the status of the background task, use the PMAC GUI Task Monitor page or issue the command sudo pmaccli getBgTasks. The result should eventually be PMAC Backup successful and the background task should indicate COMPLETE .	

Step#	Procedure	Description	
4.	PMAC GUI: Login	1. Open web browser, navigate to the PMAC GUI, and enter a URL of:	
		https:// <pmac_network_network_ip_address></pmac_network_network_ip_address>	
		2. Login as the guiadmin user.	
		ORACLE	
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT	
		Log In Enter your username and password to log in Username: Password: Change password Log In	
		Welcome to the Oracle System Login.	
5.	PMAC Server GUI: Monitor/Verify backup task completion	 Navigate to Task Monitoring. Status and Manage Task Monitoring Help Legal Notices Logout Monitor the Backup PMAC task. Main Menu: Task Monitoring 	
		Filter* 👻	
		ID Task Target Status State	
		1458 Backup PM&C PM&C Backup successful COMPLETE	
		Note: Alternatively, you can monitor the Backup task by executing the following command: \$ sudo pmaccli getBgTasks	

Step#	Procedure	Description
6.	Backup Server: Transfer PMAC file to backup server	 Log into the backup server identified in step 1 and copy backup image to the customer server where it can be safely stored. If the customer system is a Linux system, please execute the following command to copy the backup image to the customer system.
		<pre>\$ sudo scp admusr@<pmac_ip_address>:/var/TKLC/smac/backup/* /path/to/destination/</pmac_ip_address></pre>
		2. When asked, type the admusr user password and click Enter.
		 If the customer system is a Windows system, refer to reference [6] using WinSCP to copy the backup image to the customer system.

4.7.5 Backup NOAM Database

Procedure 43. NOAM Database Backup

Step#	Procedure	Description	
This pro	cedure backs	up the NOAM database.	
Check o number.	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.		
If this pr	ocedure fails, o	contact My Oracle Support (MOS) and ask for assistance.	
1.	ldentify backup server	 Identify an external server to be used as a backup server for the following steps. The server should not be co-located with any of the following items: TVOE PMAC DSR NOAM 	
		DSR SOAM	

Step#	Procedure	Description	
2 .	NOAM VIP GUI: Login	 Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: 	
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>	
		5. Login as the guiadmin user.	
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT	
		Log In Enter your username and password to log in Username: Password: Change password Log In	
		Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript	
		and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details. Unauthorized access is prohibited.	
		Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2016, <u>Oracle</u> and/or its affiliates. All rights reserved.	

Step#	Procedure	Description	
3.	NOAM VIP GUI: Perform database backup	 Navigate to Status & Manage > Database. Status & Manage Network Elements Server HA Database KPIs Processes Select the Active NOAM. Click Backup. 	store Man Audit Resume Auto Audit
		 Select the desired file compression method. Database Backup 	
		Field Value	Description
		Server: ZombieNOAM2	
		Select data for backup	Select the type of Backup to perform.
		Compression • © gzip © bzip2 © none	Select the backup archive compression algorithm The following file suffix will be applied for the selv • tar.gz - gzip compression, • .tar.bz2 - bzip2 compression, • .tar - no compression. [A value is required.]
		Archive Name * Backup.dsr.ZombieNOAM2.Configuration.NETWORK_OAMP.20160810_13073	Modify archive name if desired. Do not include th
		Comment	May not contain the following characters: ' ' $\$
		 Ok Cancel 5. Set the archive file name, if needed. 6. Click OK. 	
4 .	Backup Server: Transfer file to backup server	 Log into the backup server identified in step 1 and co customer server where it can be safely stored. If the Linux system, please execute the following comman- image to the customer system. 	py backup image to the customer system is a d to copy the backup
		<pre>\$ sudo scp admusr@<noam vip="">:/var/TKLC/db/filemgmt/backup/* /pat</noam></pre>	h/to/destination/
		2. When asked, type the admusr user password and pr	ess Enter.
		 If the customer system is a Windows system, refer to WinSCP to copy the backup image to the customer s 	o reference [6] using system.

4.7.6 Backup SOAM Database

Procedure 44. SOAM Database Backup

Step#	Procedure	Description			
This pro Check o number	This procedure backs up the SOAM database. Check off ($ slash$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	rocedure fails,	contact My Oracle Support (MOS) and ask for assistance.			
1.	Identify backup server	Identify an external server to be used as a backup server for the following steps. The server should not be co-located with any of the following items: • TVOE • PMAC • DSR NOAM • DSR SOAM			
2. □	SOAM VIP GUI:	 Establish a GUI session on the SOAM server by using the VIP IP address of the SOAM server. Open the web browser and enter a URL of: 			
	Login	https:// <primary_soam_vip_ip_address></primary_soam_vip_ip_address>			
		2. Login as the guiadmin user. 2. Login as the guiadmin user. CORACLEC* Oracle System Login Mon Jul 11 13:59:37 2016 EDT			
		Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.			

Step#	Procedure	Description		
3.	SOAM VIP GUI: Perform database backup	 Navigate to St Status & Status & Serve HA Datat KPIs Select the Acti Click Backup. 	atus & Manage > Database. Manage ork Elements or pase esses ive SOAM.	
		Disable Provisioning Re	port Inhibit/Allow Replication Backup Compare Restore Man Audit Resum	e Auto Audit
		4. Select the des Database Backup	ired file compression method.	
		Field	Value	Descrip
		Server: Zombie SOAM1	 Provisioning Configuration 	Select th
		Compression *	 gzip bzip2 none 	Select th The follo • .t • .t [A value]
		Archive Name *	Backup.dsr.ZombieSOAM1.Configuration.SYSTEM_OAM.20160810_130916.M	Modify aı
		Comment		May not (
		OkCancel5.Set the archive6.Click OK .	e file name, if needed.	

Step#	Procedure	Description	
4. Backu Serve Transi SOAM to bac server	Backup Server: Transfer SOAM file	 Log into the backup server identified in step 1 and copy backup image to the customer server where it can be safely stored. If the customer system is a Linux system, please execute the following command to copy the backup image to the customer system. 	
	server	<pre>\$ sudo scp admusr@<soam vip="">:/var/TKLC/db/filemgmt/backup/* /path/to/destination/</soam></pre>	
		2. When asked, enter the admusr user password and press Enter.	
		3. If the Customer System is a Windows system, refer to [6] using WinSCP to copy the backup image to the customer system.	
5. []	Repeat for additional TVOE servers	Repeat steps 2-4 for additional DSR SOAM sites.	

4.7.7 Enable/Disable DTLS (SCTP Diameter Connections Only)

Procedure 45. Enable/Disable DTLS (SCTP Diameter Connections Only)

Step#	Procedure	Description
This pro	ocedure prepares	clients before configuring SCTP diameter connections.
Check of number	off (√) each step a r.	s it is completed. Boxes have been provided for this purpose under each step
If this p	rocedure fails, con	tact My Oracle Support (MOS) and ask for assistance.
1.	Enable/Disable DTLS (SCTP diameter connections only)	Oracle's SCTP Datagram Transport Layer Security (DTLS) has SCTP AUTH extensions by default. SCTP AUTH extensions are required for SCTP DTLS. However, there are known impacts with SCTP AUTH extensions as covered by the CVEs referenced below. It is highly recommended that customers installing DSR should prepare clients before the DSR connections are established after installation. This ensures the DSR to Client SCTP connection establishes with SCTP AUTH extensions enabled. See RFC 6083. If customers DO NOT prepare clients to accommodate the DTLS changes, then the SCTP connections to client devices DO NOT establish after the DSR is installed. https://access.redhat.com/security/cve/CVE-2015-1421
		https://access.redhat.com/security/cve/CVE-2014-5077 Execute procedures in [1] DSR DTLS Feature Activation Procedure to disable/enable the DTLS feature.
Appendix A. Sample Network Element and Hardware Profiles

In order to enter all the network information for a network element, a specially formatted XML file needs to be filled out with the required network information. The network information is needed to configure both the NOAM and any SOAM network elements.

To enter all the network information for a network element, a specially formatted XML file needs to be filled out with the required network information. The network information is needed to configure both the NOAM and any SOAM network elements.

It is expected that the maintainer/creator of this file has networking knowledge of this product and the customer site at which it is being installed. The following is an example of a Network Element XML file.

The SOAM network element XML file needs to have same network names for the networks as the NOAMP network element XML file has. It is easy to create different network names accidentally for the NOAMP and SOAM network elements and then the mapping of services to networks is not possible.

Note: In Figure 4. Example Network Element XML File, IP values are network ID IPs and not host IPs.

<?xml version="1.0"?> <networkelement> <name>NE</name> <networks> <network> <name>INTERNALXMI</name> <vlanId>3</vlanId> <ip>10.2.0.0</ip> <mask>255.255.255.0</mask> <qateway>10.2.0.1/gateway> <isDefault>true</isDefault> </network> <network> <name>INTERNALIMI</name> <vlanId>4</vlanId> <ip>10.3.0.0</ip> <mask>255.255.255.0</mask> <nonRoutable>true</nonRoutable> </network> </networks> </networkelement>

Figure 4. Example Network Element XML File

nonRoutable Field: By defining a network as **nonRoutable** as seen above for INTERNALIMI, this means that the network shall not be routable outside the layer 3 boundary. This allows the user to define the same IP range in each SOAM site, and no duplicate IP check is performed during server creation.

The server hardware information is needed to configure the Ethernet interfaces on the servers. This server hardware profile data XML file is used for DSR deployments using HP c-Class blade servers and HP c-Class rack-mount servers. It is supplied to the NOAM server so that the information can be pulled in and presented to the user in the GUI during server configuration. The following is an example of a server hardware profile XML file.

```
<profile>
<serverType>HP c-Class Blade</serverType>
<available>
<device>bond0</device>
</available>
<devices>
<device>
<name>bond0</name>
<type>BONDING</type>
<createBond>true</createBond>
<slaves>
<slave>eth01</slave>
<slave>eth02</slave>
</slaves>
<option>
<monitoring>mii</monitoring>
<interval>100</interval>
<upstream_delay>200</upstream_delay>
<downstream_delay>200</downstream_delay>
</option>
</device>
</devices>
</profile>
```

Figure 5. Example Server Hardware Profile XML-HP c-Class Blade

```
<profile>
<serverType>TVOE Guest</serverType>
<available>
<device>Management</device>
<device>Control</device>
<device>xmi</device>
<device>imi</device>
<device>xsi</device>
</available>
<devices>
<device>
<name>management</name>
<type>ETHERNET</type>
</device>
<device>
<name>control</name>
<type>ETHERNET</type>
</device>
<device>
<name>xmi</name>
<type>ETHERNET</type>
</device>
<device>
<name>imi</name>
<type>ETHERNET</type>
</device>
<device>
<name>xsi</name>
<type>ETHERNET</type>
</device>
</devices>
</profile>
```

Figure 6. Example Server Hardware Profile XML- Virtual Guest on TVOE

Appendix B. Configure for TVOE iLO Access

Procedure 46. Connect to the TVOE iLO

Step#	Procedure	Description				
This pro	This procedure connects a laptop to the TVOE iLO via a directly cabled ethernet connection.					
Check of	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step					
If this pr	ocedure fails, co	ntact My Oracle Support (MOS) and ask f	or assistance.			
1.	Access the	Windows XP	Windows 7			
	laptop network	1. Go to Control Panel.	1. Go to Control Panel.			
	interface cards TCP/IP	2. Double-click on Network Connections.	2. Double-click on Network and Sharing Center.			
	Properties screen.	3. Right-click the wired Ethernet Interface icon and select	3. Click Change Adapter Settings (left menu).			
	this step, follow the	4. Click Internet Protocol (TCP/IP).	4. Right-click the Local Area Connection icon and click			
	instructions	5. Click Properties .	Properties.			
	laptop's OS (Windows XP or Windows 7)	laptop's OS	+ Local Area Connection Properties	5. Click Internet Protocol Version 4 (TCP/IPv4).		
		General Advanced	+ Local Area Connection Properties			
		Broadcom NetXtreme Gigabit Etheme Contigure	General Advanced			
		This connection uses the following terms	Configure			
		Construction of the state	This connection uses the following items:			
		¢	Bile and Printer Sharing for Morealit Networks BOoS Packet Scheduler			
		Instal United Properties	C 3			
		Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication	Instal Unincial Properties			
			Across diverse interconnected networks. Show icon in notification area when connected Notify me when this connection has limited or no connectivity	Celectorian Transmission Control Protocol/Internet Protocol The default wide area network protocol that provides communication across diverse interconnected networks.		
		OK Cancel	Show loon in notification area when connected Notify me when this connection has limited or no connectivity			
		Annual Contract of	OK Cancel			

Step#	Procedure	Description
2.	Configure IP address	 Click Use the following IP address. Set the IP address to 192.168.100.100. Set the Subnet mask to 255.255.255.0. Set the Default gateway to 192.168.100.1. Select OK.
		6. Click Close from the network interface card's main Properties screen.
3.	Connect ports	Connect the laptop's Ethernet port directly to the TVOE iLO port using a standard Cat-5 cross-over cable. Connect the laptop's Ethernet port to the PMAC iLO port. iLO port.

Appendix C. TVOE iLO Access

Procedure 47. Access the TVOE iLO

Step#	Procedure	Description				
This pro Check o number	This procedure contains the steps to access the TVOE iLO. Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.					
If this p	rocedure fails, c	ontact My Oracle Support (MOS) and ask for assistance.				
 Launch terminal emulator Open a terminal emulator, for example, Putty, Secure CRT. Navigate to File > Connect. Click the New Session icon. 						
		Note: This example demonstrates Secure CKT.				
		Ready 5, 1 24 Rows, 80 Cols VT100 NUM				

Step#	Procedure	Description
2.	Configure TVO ILO	Name: Type TVOE iLO Hostname: 192.168.100.5 (Manufacturing default) or customer IP set during installation Username: Type admusr Click OK. Vote: See Configure for TVOE iLO Access to configure your system network to access the TVOE iLO.
		Session Options - 10.240.240.15 Image: Connection Category: Connection Logon Scripts SSH2 Pott Forwarding Name: Pott Forwarding Protocol: State Ssh2 Name: PM&C iLD Load Profile Pott Forwarding Protocol: Remote X11 Hostname: 192.168.100.5 Emacs Port: Mapped Keys Username: Advanced Advanced Primary: Password Vindow Primary: Primary: Password Properties OK

Step#	Procedure	Description
3.	Connect to	1. Navigate File > Connect to open the Connect window.
	TVOILOE	2. Highlight the session you created and click Connect.
		Sessions M&CiLO
		Show dialog on startup
4.	Log into	Login to the TVOE iLO using the appropriate password.
	TVO iLOE	Enter Secure Shell Password 💿 🔀
		root@10.240.240.15 requires a password. Please OK enter a password now.
		Username: root
		Password:
		Save password
		The TVOE iLO displays.
		🗟 PM&C iLO - SecureCRT
		File Edit View Options Transfer Script Tools Window Help
		User:root logged-in to ILOUSE019NID08.(192.168.100.5) iLO 2 Advanced 1.82 at 13:44:57 Mar 31 2010 Server Name: pmac Server Power: On hpiLO->

Appendix D. TVOE iLO4 GUI Access

Procedure 48. TVOE iLO4 GUI Access

Step#	Procedure	escription				
This pro	This procedure accesses the TVOE iLO4 GUI.					
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.					
If this p	rocedure fails, c	contact My Oracle Support (MOS) and ask for assistance.				
1. Launch Internet Explorer		avigate to 192.168.100.5 (manufacturing default) or customer stallation. C Log in - Tekelec Platform Management & Configuration - Windows Internet & Configuration - Windows Internet Explorer may display a warning message regarding the ortificate	· IP set during ternet Explorer e security			
1	:	elect the option to Continue to the website (not recommen	ded).			
		We recommend that you close this webpage and do not continue to	this website.			
		Click here to close this webgage.				
		• More mormation				
2.	Log into the iLO4	into the iLO4.				
		he iLO4 Home page displays.				
		Technick KG Overlaws				
		Implementation Impleme	PAG alam familie Ord tonin famour Ord toninaur Ord Order Tables Carcelander Selfmann Carcelander Selfmann Date Tables Toninaur Distribut 2017 010			

Step#	Procedure	Description			
3.	Launch the PMAC iLO4 CLI	aunch the Click Launch to start the PMAC iLO4 CLI.			
		Dyand 44 Weinweitien Overview System kilomatien K.O function System kilomatien K.O function System kilomatien Control Decovery Services Institute Consult Provent Management Provent Management Provent Management Administration Administration Administration Administration Administration	In the Console - ILO Integrated Remote Console Integrated Remote Console (Java IRC) Integrated Remote Console (Java IRC) Integrated Remote Console (Java IRC) P ILO Mobile App ILO Mobile App		
			proved and the second sec	•	

Appendix E. Change the TVOE iLO Address

Procedure 49. Change the TVOE iLO Address

Step#	Procedure	Description		
This pro Oracle s	ocedure sets the IP a support.	address of the TVOE iLO to the customer's network so it can be accessed by		
Check c number	off (\checkmark) each step as i	t is completed. Boxes have been provided for this purpose under each step		
If this pr	ocedure fails, conta	ct My Oracle Support (MOS) and ask for assistance.		
1.	Connect to the TVOE iLO GUI	Using the instructions in TVOE iLO4 GUI Access, connect to TVOE iLO GUI.		
		Integrated Lights-Out 2 HP Proliant System Status Remote Concole Virtual Media Power Management Administration		
		Status Summary		
		Summary Server Name: pmac; ProLiant DL360 G6 System Serial Number / Product ID: USE039MD08 / 44184-821 UUD: 13143831-3436-3536-13394E443038 LO 2 Log System ROM: P64 03/30/2010; backup system ROM: 03/30/2010 ML System Health: © OK Diagnostics Server Power: Monitordary Press LO 2 User UID Light: Tens MID Om Last Used Remote Console: LaureA Remote Console Last Used Remote Console: LaureA Remote Console License Type: LO 2 dokanced ILO 2 dokanced IkO 2 Name: LO USE010ND08 Lo 2 dokanced IkO 2 Firmware Version: 182 0/31/2010 IP address: Ip address: 192108.100.5 Active Sessions: LO 2 user/root Latest IL O 2 Event Log Entry: Browser logh: root = 10.25.170.106(ONS name not found), Lo 2 Date/Time: 10/21/2010 17:48;22		

Step#	Procedure	Description
2.	ILO GUI: Navigate to the	1. Click the Administration tab.
		2. Under Settings in the left column, click Network .
		Integrated Lights-Out 2
		System Status Remote Console Virtual Media Power Management Administration
		Network Settings
		User NIC:
		Administration OHCP: O Enabled O bisabled
		Access VLAN tag:
		Network IP Address: 10.240.240.15
		Management Subnet Mask: 255 255 0
		Gateway IP Address: 10240240.1
		Domain Name:
		Link: OAutomatic O100Mb/FD O100Mb/HD O10Mb/HD O10Mb/HD
		Apply NOTE: The Lights-Out-subsystem must be restarted before any changes you make on this screen will take affect. Pressing the
		Apply button above terminates your browser connection and restarts Integrated Lights-Out 2. You must wait at least 30 seconds before attempting to reestablish a connection.
3.	ILO GUI:	1. Change the IP Address, Subnet Mask, and Gateway IP Address to
	Configure TVOE	the values supplied in the IP site survey for the TVOE iLO.
		2. Click Apply .
	access after you	Integrated Lights-Out 2
	CIICK Apply.	System Status Remote Console Virtual Media Power Management Administration
		Network Settings
		LO 2 Network DHCP/DNS
		Firmware Licensing Mrc- O Exceled O Dischled O Should Return Returns
		User Administration DHCP: O Enabled © Disabled
		Settings VLAN: O Enabled O Disabled
		Access VLAN tag: Security
		Network IP Address: 10.240.240.15
		Gateway IP Address: 102402401
		ILO 2 Subsystem Name: ILOUSE019ND08
		Domain Name:
		Link: Automatic 100Mb/FD 100Mb/HD 10Mb/FD 10Mb/FD 10Mb/HD
		NOTE: The Lights-Out subsystem must be restarted before any changes you make on this screen will take effect. Pressing the
		Apply button above terminates your browser connection and restarts Integrated Lights-Out 2. You must wait at least 30 seconds before attempting to reestablish a connection.

Step#	Procedure	Description			
4. []	Local Machine: Reset PC's network	Reset the PC's network connection replacing the Subnet Mask and Gateway with those just used for the TVOE iLO. Use an appropriate IP address for this subnet.			
	connection	Internet Protocol (TCP/IP) Properties General You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. O Obtain an IP address automatically O Use the following IP address: IP address: IP address: IP address: IS 255.255.255.0 Default gateway: IS 2.168.100.1 Obtain DNS server address automatically O Use the following DNS server addresses: Preferred DNS server: Alternate DNS server: OK Cancel			
5.	Local Machine: Connect to the TVOE iLO GUI	Connect to the TVOE iLO GUI using the instructions in TVOE iLO4 GUI Access. Note: Use the IP address entered in step 3.			

Appendix F. PMAC/NOAM/SOAM Console iLO Access

Procedure 50. PMAC/NOAM/SOAM Console iLO Access

Step#	Procedure	escription			
This pro	This procedure logs into the PMAC/NOAM/SOAM console from ILO.				
Check c number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this pr	ocedure fails, contac	ntact My Oracle Support (MOS) and ask for assistance.			
1.	Log into TVOE	Login as admusr on the TVOE server hosting the NOAM using either ILO or SSH to the TVOE server's XMI or Mgmt. address.			
		Intersection of the section of th			
		(€ ##26ANTECLERTSCOT2 CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prerel5.0.0_72.22.0 on an x86_64			
		dsrTVOE-blade11 login: root			
2.	Locate VM	1. On the TVOE host, execute the following command:			
		\$sudo virsh list			
		This produces a list of currently running virtual machines.			
		[root@dsrTVOE-blade11 ~]# virsh list Id Name State			
		4 DSR_NOAMP running			
		[root@dsrTVOE-blade11 ~]# _			
		2. Find the VM name for your DSR NOAM and note its ID number in the first column.			
		<i>Note</i> : If the VM state is not listed as running or you do not find a VM you configured for your NOAM at all, then halt this procedure and contact Oracle Customer Support.			
3.	Connect to	1. On the TVOE host, execute:			
	Console of the VM Using the VM	\$sudo virsh console <dsrnoam-vmid></dsrnoam-vmid>			
	number obtained	2. Where DSRNOAM-VMID is the VM ID you obtained in step 2.			
		Connected to domain DSR_NOAMP Escape character is ^]			
		CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prerel5.0.0_72.22.0 on an x86_64			
		hostname1322840832 login: _			
		You are now connected to the DSR NOAMs console.			
		 If you wish to return to the TVOE host, you can exit the session by pressing CTRL +]. 			

Appendix G. List of Frequently Used Time Zones

This table lists several valid timezone strings that can be used for the time zone setting in a CSV file, or as the time zone parameter when manually setting a DSR blade timezone. For an exhaustive list of **ALL** timezones, log into the PMAC server console and view the text file: **/usr/share/zoneinfo/zone.tab**.

Time Zone Value	Description	Universal Time Code (UTC) Offset
UTC	Universal Time Coordinated	UTC-00
America/New_York	Eastern Time	UTC-05
America/Chicago	Central Time	UTC-06
America/Denver	Mountain Time	UTC-07
America/Phoenix	Mountain Standard Time — Arizona	UTC-07
America/Los Angeles	Pacific Time	UTC-08
America/Anchorage	Alaska Time	UTC-09
Pacific/Honolulu	Hawaii	UTC-10
Africa/Johannesburg		UTC+02
America/Mexico City	Central Time — most locations	UTC-06
Africa/Monrovia		UTC+00
Asia/Tokyo		UTC+09
America/Jamaica		UTC-05
Europe/Rome		UTC+01
Asia/Hong Kong		UTC+08
Pacific/Guam		UTC+10
Europe/Athens		UTC+02
Europe/London		UTC+00
Europe/Paris		UTC+01
Europe/Madrid	mainland	UTC+01
Africa/Cairo		UTC+02
Europe/Copenhagen		UTC+01
Europe/Berlin		UTC+01
Europe/Prague		UTC+01
America/Vancouver	Pacific Time — west British Columbia	UTC-08
America/Edmonton	Mountain Time — Alberta, east British Columbia & west Saskatchewan	UTC-07
America/Toronto	Eastern Time — Ontario — most locations	UTC-05
America/Montreal	Eastern Time — Quebec — most locations	UTC-05
America/Sao Paulo	South & Southeast Brazil	UTC-03

Table 3	l ist of	Selected	Time	Zone	Values
I able J.	LISCOL	Selected	THIE	ZOHE	values

Time Zone Value	Description	Universal Time Code (UTC) Offset
Europe/Brussels		UTC+01
Australia/Perth	Western Australia — most locations	UTC+08
Australia/Sydney	New South Wales — most locations	UTC+10
Asia/Seoul		UTC+09
Africa/Lagos		UTC+01
Europe/Warsaw		UTC+01
America/Puerto Rico		UTC-04
Europe/Moscow	Moscow+00 — west Russia	UTC+04
Asia/Manila		UTC+08
Atlantic/Reykjavik		UTC+00
Asia/Jerusalem		UTC+02

Appendix H. Application NetBackup Client Installation Procedures

NetBackup is a utility that allows for management of backups and recovery of remote systems. The NetBackup suite is supports disaster recovery at the customer site. The following procedures install and configure the NetBackup client software on an application server in two different ways: first, using platcfg, and second, using nbAutoInstall (push configuration).

Appendix H.1 NetBackup Client Installation Using PLATCFG

Procedure 51. Application NetBackup Client Installation (Using Platcfg)

Step#	Procedure	Description			
This pro Prereq	This procedure explains the NetBackup installation using platcfg. Prerequisites :				
• App	olication server pl	atform installation has been completed.			
 Site and 	e survey has beer I interfaces have	n performed to determine the network requirements for the application server, been configured.			
 Net app 	Backup server is blication server.	available to copy, sftp, the appropriate NetBackup Client software to the			
• Exe	ecute Appendix A	3 of [1]			
Note:	Execute the follo instead of using	owing procedure to switch/migrate to having NetBackup installed via platcfg NBAutoInstall (Push Configuration)			
Check of number If this p	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
1. □	Application Server iLO: Login	 Login and launch the integrated remote console. ssh to the application server (PMAC or NOAM) as admusr using the management network for the PMAC or XMI network for the NOAM. 			
2.	Application Server iLO: Navigate to NetBackup configuration	 Configure NetBackup Client on application server. \$ sudo su - platcfg Navigate to NetBackup > Configuration. NetBackup Configuration Menu Enable Push of Netbackup Client Verify NetBackup Client Push Install NetBackup Client Verify NetBackup Client Installation Remove File Transfer User Exit 			

Step#	Procedure	Description
3.	Application Server iLO: Enable push of NetBackup client	Navigate to NetBackup Configuration > Enable Push of NetBackup Client.
4.	Application Server iLO: Enter NetBackup password	 Enter the NetBackup password. Enter netbackup Password Enter Password: Cancel Cancel Click OK. Note: If the version of NetBackup is 7.6.0.0 or greater, follow the instructions provided by the OSDC download for the version of NetBackup that is being pushed.
5.	Application Server iLO: Verify NetBackup client software push is enabled	 Navigate to NetBackup Configuration > Verify NetBackup Client Push. Navigate to NetBackup Science 2011 Tokeley Inc Verify NetBackup Client Environment (N) - User netbackup Science up: /ur/bin/resh (N) - The directory: /howe/resh/theokup (N) - The directory perme: 1777 The directory perme: 1777 The directory for the set of the set o

Step#	Procedure	Description	
6. N 3 S 0 S 0 S 0 S 0 S 0 S 0 S	NetBackup Server: Push appropriate NetBackup client software to	Note : The NetBackup server is not an application asset. Access to the NetBackup server and location path of the NetBackup Client software is under the control of the customer. Below are the steps that are required on the NetBackup server to push the NetBackup Client software to the application server. These example steps assume the NetBackup server is executing in a Linux environment.	
	server	Note: The backup server is supported by the customer, and the backup utility software provider. If this procedural STEP, executed at the backup utility server, fails to execute successfully, STOP and contact the Customer Care Center of the backup and restore utility software provider that is being used at this site.	
		1. Log into the NetBackup server using password provided by customer.	
		2. Navigate to the appropriate NetBackup Client software path:	
		Note : The input below is only used as an example. (7.5 in the path below refer to the NetBackup version. If installed a different version (e.g. 7.1 or 7.6), replace 7.5 with 7.1 or 7.6)	
		<pre>\$ cd /usr/openv/NetBackup/client/Linux/7.5</pre>	
		 Execute the sftp_to client NetBackup utility using the application IP address and application NetBackup user: 	
		<pre>\$./sftp_to_client <application ip=""> NetBackup</application></pre>	
		Connecting to 192.168.176.31	
		NetBackup@192.168.176.31's password:	
		 Enter application server NetBackup user password; the following NetBackup software output is expected, observe the sftp completed successfully: 	
		File "/usr/openv/NetBackup/client/Linux/6.5/.sizes" not found.	
		Couldn't rename file "/tmp/bp.6211/sizes" to "/tmp/bp.6211/.sizes": No such file or directory	
		File "/usr/openv/NB-Java.tar.Z" not found.	
		<pre>./sitp_to_client: line 793: [: : integer expression expected</pre>	
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>	
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>	
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>	
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>	
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>	
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>	

Step#	Procedure	Description
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>
		<pre>./sftp_to_client: line 793: [: : integer expression expected</pre>
		sftp completed successfully.
		5. The user on 192.168.176.31 must now execute the following command:
		<pre>\$ sh /tmp/bp.6211/client_config [-L].</pre>
		Note: Although the command executed above instructs you to execute the client_config command, DO NOT execute that command as it shall be executed by platcfg in the next step.
		Note: The optional argument, -L is used to avoid modification of the client's current bp.conf file.
7.	Application	1. Execute the command:
	Install	<pre>\$ sudo chmod 555 /var/TKLC/home/rssh/tmp/client_config</pre>
	NetBackup client software on application server	 NETBACKUP_BIN is the temporary directory where the NetBackup client install programs were copied in step 5. The directory should look similar to /tmp/bp.XXXX/. 2. Navigate to NetBackup Configuration > Install NetBackup Client.
		Do you wish to install the NetBackup Client?
		Yes No
		3. Verify list entries indicate OK for NetBackup client software installation.
		4. Click Exit to return to NetBackup Configuration menu.

Step#	Procedure	Description
8.	Application Server iLO: Verify NetBackup client software installation on the application server	 Navigate to NetBackup Configuration > Verify NetBackup Client Installation. Verify NetBackup Client Installation Verify NetBackup Client Installation (N) - Looke like a 6.5 Client is installed (N) - Pte-processor script installed (N) - Pte-processor script configured Pte-processor script configured Verify list entries indicate OK for NetBackup Client software installation. Click Exit to return to NetBackup Configuration menu.
9.	Application Server iLO: Disable NetBackup client software transfer to the application server	 Navigate to NetBackup Configuration > Remove File Transfer User. Remove File Transfer User Do you wish to remove the filetransfer user? Yes No Click Yes to remove the NetBackup file transfer user from the application server.
10. □	Application Server iLO: Exit platform configuration utility (platcfg)	Exit platform configuration utility (platcfg).
11.	Application Server iLO: Verify server bp.conf file	<pre>Verify the server has been added to the /usr/openv/NetBackup/bp.conf file. Issue the following command: \$ sudo cat /usr/openv/NetBackup/bp.conf CLIENT_NAME = 10.240.34.10 SERVER = NB71server</pre>

Step#	Procedure	Description
12. 	Application Server iLO: Use platform configuration	Note: After the successful transfer and installation of the NetBackup client software the NetBackup servers hostname can be found in the NetBackup /usr/openv/NetBackup/bp.conf file, identified by the Server configuration parameter.
	to modify hosts file with	 The NetBackup server hostname and IP address must be added to the application server's host's file. List NetBackup servers hostname:
	NetBackup server alias	<pre>\$ sudo cat /usr/openv/NetBackup/bp.conf SERVER = nb70server</pre>
		CLIENT_NAME = pmacDev8
		 Use platform configuration utility (platcfg) to update application hosts file with NetBackup Server alias.
		\$ sudo su - platcfg
		3. Navigate to Network Configuration > Modify Hosts File.
		4. Click Edit.
		 4. Click Edit. Configure Hosts Iddress Aliases Iocalhost practeev9 smacreeb Iocalhost.localdomain6 localhost6 server_ppp0 client_ppp1 server_ppp1 server_ppp1 server_ppp1 server_pp1 server_p
		 b. CIICK OK. IP Address:

Step#	Procedure	Description
13. 	Application server iLO:	Copy the notify scripts from appropriate path on application server for given application:
	to NetBackup	\$ sudo ln -s <path>/bpstart_notify /usr/openv/NetBackup/bin/bpstart_notify</path>
	scripts on application	<pre>\$ sudo ln -s <path>/bpend_notify /usr/openv/NetBackup/bin/bpend_notify</path></pre>
	server where NetBackup	An example of <path> is "/usr/TKLC/appworks/sbin"</path>
	expects to find them.	

Appendix H.2 NetBackup Client Install/Upgrade with NBAutoInstall

- *Note*: Execute the following procedure to switch/migrate to having NetBackup installed via NBAutoInstall (push configuration) instead of manual installation using platcfg.
- **Note:** Executing this procedure enables TPD to detect when a NetBackup Client is installed automatically and completes TPD related tasks needed for effective NetBackup Client operation. With this procedure, the NetBackup Client install (pushing the client and performing the install) is the responsibility of the customer and is not covered in this procedure.

Procedure 52. Application NetBackup Client Installation (NBAutoInstall)

Step#	Procedure	Description		
This pr Prereq	This procedure installs NetBackup with NBAutoInstall. <i>Prerequisites</i> :			
• Ap	plication server p	platform installation has been completed.		
• Site and	e survey has bee d interfaces have	en performed to determine the network requirements for the application server,		
 Ne app 	 NetBackup server is available to copy, sftp, the appropriate NetBackup Client software to the application server. 			
Note:	If the customer Client Install/Up	does not have a way to push and install NetBackup Client, then use NetBackup ograde with platcfg.		
Note:	It is required that this procedure is executed before the customer does the NetBackup Client install.			
Check numbe	off (√) each step r.	as it is completed. Boxes have been provided for this purpose under each step		
If this p	rocedure fails, co	ontact My Oracle Support (MOS) and ask for assistance.		
1.	Application	1. Login and launch the integrated remote console.		
	Login	2. ssh to the application server (PMAC or NOAM) as admusr using the management network for the PMAC or XMI network for the NOAM.		
2.	Application	Execute the following command:		
	Server iLO: Enable nbAutoInstall	<pre>\$ sudo /usr/TKLC/plat/bin/nbAutoInstallenable</pre>		

Step#	Procedure	Description
3.	Application Server iLO: Create links to NetBackup client notify scripts on application server where NetBackup expects to find them	<pre>Execute the following commands: \$ sudo mkdir -p /usr/openv/NetBackup/bin/ \$ sudo ln -s <path>/bpstart notify /usr/openv/NetBackup/bin/bpstart notify \$ sudo ln -s <path>/bpend_notify /usr/openv/NetBackup/bin/bpend_notify Note: An example of <path> is "/usr/TKLC/plat/sbin"</path></path></path></pre>
4.	Application Server iLO: Verify NetBackup configuration file	 Open /usr/openv/NetBackup/bp.conf and make sure it points to the NetBackup Server using the following command: \$ sudo vi /usr/openv/NetBackup/bp.conf SERVER = nb75server CLIENT_NAME = 10.240.10.185 CONNECT_OPTIONS = localhost 1 0 2 Note: Verify the server name matches the NetBackup Server, and the CLIENT_NAME matches the hostname or IP of the local client machine. If they do not, update them as necessary. Edit /etc/hosts using the following command and add the NetBackup server: \$ sudo vi /etc/hosts e.g.: 192.168.176.45 nb75server Note: The server periodically checks to see if a new version of NetBackup Client has been installed and performs necessary TPD configuration accordingly. At any time, the customer may push and install a new version of NetBackup client.

Appendix H.3 Create NetBackup Clint Configuration File

Procedure 53. Create NetBackup Client Configuration File

Step#	Procedure	Description		
This pro based a version	This procedure copies a NetBackup Client configuration file into the appropriate location on the TPD based application server. This configuration file allows a customer to install previously unsupported versions of the NetBackup client by providing necessary information to TPD.			
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
If this p	rocedure fails, co	ntact My Oracle Support (MOS) and ask for assistance.		
1. App D Se Cr Ne	Application Server iLO: Create NetBackup	Create the NetBackup Client config file on the server using the contents that were previously determined. The config file should be placed in the /usr/TKLC/plat/etc/NetBackup/profiles directory and should follow the following naming conventions:		
	configuration	NB\$ver.conf		
		Where \$ver is the client version number with the periods removed. For the 7.5 client, the value of \$ver would be 75 and the full path to the file would be:		
		/usr/TKLC/plat/etc/NetBackup/profiles/NB75.conf		
		<i>Note</i> : The config files must start with NB and must have a suffix of .conf .		
		The server is now capable of installing the corresponding NetBackup Client.		
2.	Application Server iLO: Create NetBackup configuration	Create the NetBackup Client config script file on the server using the contents that were previously determined. The config script file should be placed in the /usr/TKLC/plat/etc/NetBackup/scripts directory. The name of the NetBackup Client config script file should be determined from the contents of the NetBackup Client config file.		
	script	As an example for the NetBackup 7.5 client, the following is applicable:		
		NetBackup Client config:		
		/usr/TKLC/plat/etc/NetBackup/profiles/NB75.conf		
		NetBackup Client config script:		
		/usr/TKLC/plat/etc/NetBackup/scripts/NB75		

Appendix H.4 Open Ports for NetBackup Client Software

Procedure 54. Open Ports for NetBackup Client Software

Step#	Procedure	Description			
This pro NetBac	This procedure uses iptables and ip6tables (if applicable) to open the applicable ports for the NetBackup client to communicate to the NetBackup server.				
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	rocedure fails, conta	act My Oracle Support (MOS) and ask for assistance.			
1. []	Active NOAM Server: Login	Establish an SSH session to the active NOAM server and login as admusr.			
2.	Active NOAM	1. Change directories to /usr/TKLC/plat/etc/iptables.			
	ports for	<pre>\$ cd /usr/TKLC/plat/etc/iptables</pre>			
	NetBackup client software	2. Using vi, create a file named 60netbackup.ipt .			
		<pre>\$ sudo vi 60netbackup.ipt</pre>			
		3. Insert the following contents into the file:			
		# NetBackup ports.			
		#			
		-A INPUT -m statestate NEW -m tcp -p tcpdport 1556 -j ACCEPT			
		-A INPUT -m statestate NEW -m tcp -p tcpdport 13724 -j ACCEPT			
		-A INPUT -m statestate NEW -m tcp -p tcpdport 13782 -j ACCEPT			
		4. Now save and close the file using :wq .			
		Note: If system servers are to use IPv6 networks for NetBackup client-to- server communication, then repeat this procedure to create a file named 60netbackup.ip6t with the same contents as shown above in the /usr/TKLC/plat/etc/ip6tables directory.			
3. □	Standby NOAM: Open ports for NetBackup client software	Repeat steps 1-2 for the standby NOAM to open ports for NetBackup client software.			
4 .	Active SOAM: Open ports for NetBackup client software	Repeat steps 1-2 for the active SOAM to open ports for NetBackup client software.			

5.	Standby SOAM: Open ports for NetBackup client software	Repeat steps 1-2 for the standby SOAM to open ports for NetBackup client software.
----	--	---

Appendix I. IDIH Fast Deployment Configuration

The fdc.cfg file contains 8 sections. The following is a list of those sections with a short description:

Section	Description		
Software Images	A list of the TVOE, TPD, and iDIH application versions.		
TVOE Blade	Contains the enclosure ID, OA addresses, location, name and hardware type of an HP blade.		
TVOE RMS	Includes hardware type and ILO address of the rack mount server.		
Туре	Management or Standalone		
TVOE Configuration	Contains all IP addresses, hostname and network devices for the TVOE host.		
Guest Configurations (3)	The guest sections contain network and hostname configuration for the Oracle, Mediation and Application guests.		

Software Images

Be sure to update the software images section based on software versions you intend to install. The following table outlines typical installation failures caused by incorrect software versions. Use the **fdconfig dumpsteps –file=** command to produce output of a fast deployment session.

Software Image	Element	Command Text
TVOE ISO	mgmtsrvrtvoe	IPM server
TPD ISO	Oracle,tpd	IPM server
	Mediation,tpd	
	Application,tpd	
iDIH Mediation ISO	Mgmtsrvrtvoe,configExt	Transfer file
iDIH Oracle ISO	Oracle,ora	Upgrade server
iDIH Mediation ISO	Mediation, med	
iDIH Application ISO	Application,app	

Note: For installation, oracleGuest-8.5.0.0.0_90.x.x-x86_64.iso is to be used.

TVOE Blade

The TVOE Blade section should be commented out if you intend to install a rack mount server. Be sure to fill in the sections properly. Enclosure ID, OA IP addresses and the Bay must be correct or the PMAC cannot discover the blade. Hardware profiles are different for Gen8 and Gen6. Gen6 blades profiles have fewer CPU's and Ram allocated to the Guest.

TVOE RMS

The TVOE RMS section should be commented out if you intend to install a TVOE Blade. It contains the ILO IP address and hardware profile. If the ILO IP address is incorrect, the PMAC cannot discover the rack mount server. Server discovery must occur before the installation can begin.

TYPE

If your IDIH system is to be collocated with a PMAC on the same TVOE host make sure **Type=Management** is not commented out. It sets up a management network instead of an XMI network and it removes the software stanza inside of the TVOE server stanza. If you are setting up a standalone IDIH, then comment out **Type=Management**, which sets up an XMI bridge.

TVOE Configuration

This section defines the hostname, network IP addresses for the TVOE bridges and it defines the network devices. You can define the devices you intend to use for bonded interfaces and the tagged bonded interfaces you intend to associate with a bridge.

Execute **cat hw_id** or **hardwareInfo** command on TVOE host to get the hardware ID for the **Hw=** parameter.

Note: For Gen9 (Hardware ID ProLiantDL380Gen9), please use Gen8's Hardware ID (ProLiantDL380pGen8).

Guest Configuration

These sections contain the hostname, IPv4 addresses, IPv4 netmask, IPv4 gateway, and IPv6 addresses. If you do not intend to configure IPv6 addresses then leave those IP addresses commented out. The IPv6 netmask is included in the IPv6 address.

Below is FDC configuration template included on the mediation ISO:

```
# Software Images
TvoeIso="TVOE-3.0.1.0.0 86.20.0-x86 64"
TpdIso="TPD.install-7.5.0.0.0 88.41.0-OracleLinux6.9-x86 64"
OraIso="oracleGuest-8.2.0.0.0 82.23.0-x86 64"
MedIso="mediation-8.2.0.0.0 82.23.0-x86 64"
AppIso="apps-8.2.1.0.0 82.23.0-x86 64"
# Tvoe Blade OA IP and Bay uncomment if this server is blade #EncId="1401"
#Oa1="10.250.51.197"
#0a2="10.250.51.198"
#Bay="15F"
#Hw="ProLiantBL460cGen8"
#Hw="ProLiantBL460cGen6"
# Tvoe RMS Out of Band Management IP and Hw # Comment these lines if server
is blade OobIp="10.250.34.24"
Hw="ProLiantDL380pGen8"
#Hw="SUNNETRAX4270M3"
# Comment this line out if server is standalone Type="Management"
# Tvoe Config
#
TvoeName="thunderbolt"
TvoeIp="10.250.51.8"
Mask="255.255.255.0"
Gateway="10.250.51.1"
TvoeNtp="10.250.32.10"
TvoeIp6="2607:f0d0:1002:51::4/64"
TvoeIp6Gw="fe80::0"
```

DSR C-Class Software Installation and Configuration Guide

xmibond
XmiDev="bond0"
XmiEth="eth01,eth02"
imibond
ImiDev="bond1"
ImiEth="eth03,eth04"
xmi/management
MgmtInt="bond0.3"
MgmtIntType="Vlan"
MgmtIntVlanid="3"
imi
ImiInt="bond1.5"
ImiIntType="Vlan"
ImiIntVlanid="5"
<pre># Oracle Guest Config</pre>
OraName="thunderbolt-ora"
OraIp="10.250.51.6"
OraMask=\$Mask
OraGw=\$Gateway
OraIp6="2607:f0d0:1002:51::5/64"
OraIp6Gw="\$TvoeIp6Gw"
<pre># Mediation Guest Config</pre>
MedName="thunderbolt-med"
MedIp="10.250.51.10"
MedMask=\$Mask
MedGw=\$Gateway
ImiIp="192.168.32.11"
ImiMask="255.255.255.224"
MedIp6="2607:f0d0:1002:51::6/64"
MedIp6Gw="\$TvoeIp6Gw"
ImiIp6="2608:f0d0:1002:51::6/64"
<pre># Application Guest Config</pre>
AppName="thunderbolt-app"
AppIp="10.250.51.11"
AppMask=\$Mask
AppGw=\$Gateway
AppIp6="2607:f0d0:1002:51::7/64"
AppIp6Gw="\$TvoeIp6Gw"

Appendix J. IDIH External Drive Removal

This procedure should only be run if the user intends to do a fresh installation on an existing IDIH.

Procedure 55. IDIH External Drive Removal

Step#	Procedure	Description				
This procedure destroys all of the data in the Oracle database.						
Warning: Do not perform this procedure on an IDIH system unless you intent to do a fresh TVOE installation.						
Check of number	off (√) each ste r.	p as it is completed. Boxes have been provided for this purpose under each step				
If this p	rocedure fails,	contact My Oracle Support (MOS) and ask for assistance.				
1.	PMAC GUI:	1. Open web browser and enter:				
	Login	https:// <pmac_mgmt_network_ip></pmac_mgmt_network_ip>				
		2. Login as guiadmin user:				
		ORACLE				
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT				
		Log In Enter your username and password to log in				
		Deseword:				
		Log In				
2.	PMAC GUI:	Before a re-installation can be performed, the IDIH VMs must be removed first. 1. Navigate to VM Management.				
	Delete VMs, if	🗧 😋 Software				
	Software Inventory					
		Manage Software Images				
		VM Management				
		2. Select each of the IDIH VMs and click Delete .				
		Edit Delete Clone Guest Refresh Device Map Install OS				
		Upgrade Accept Upgrade Reject Upgrade				
		Patch Accept Patches Reject Patches				

Step#	Procedure	Description
3. []	IDIH TVOE Host: Login	Establish an ssh session to the TVOE host and login as admusr.
4 .	IDIH TVOE	Execute the following command to verify the external drive exists for HP BL460 Blade:
	Host: Verify	<pre>\$ sudo hpssacli ctrl slot=3 ld all show</pre>
	external	The following information displays:
	exists for HP BL460	Smart Array P410i in Slot 3 array A
	Blade	logicaldrive 1 (3.3 TB, RAID 1+0, OK)
5. □	IDIH TVOE	Execute the following command to verify the external drive exists for HP DL380 Gen8 RMS :
	Verify	<pre>\$ sudo hpssacli ctrl slot=2 ld all show</pre>
	external drive	The following information displays:
	exists for	Smart Array P420 in Slot 2
	HP DL380 Gen8	array A logicaldrive 1 (1 1 TB, RAID 1+0, OK)
	RMS	
6.		Execute the following command to verify the external drive exists for Netra X3 :
	Host:	<pre>\$ sudo storcli -ldinfo -l1 -a0 head</pre>
	Verify external	The following information displays:
	drive	Adapter 0 Virtual Drive Information:
	exists for Netra X3	Name:
		RAID Level: Primary-1, Secondary-0, RAID Level Qualifier-0
		Size: 1.633 TB
		State: Optimal
		Strip Size: 64 KB
7 .	IDIH TVOE	Execute the following command to verify the external drive exists for HP DL380 Gen9 RMS :
	Host: Verify	<pre>\$ sudo hpssacli ctrl slot=0 ld all show</pre>
ex dri ex HF	external	The following information displays:
	arive exists for	Smart Array P440ar in Slot 0 (Embedded)
	HP DL380	array A
	RMS	iogicaldrive I (838.3 GB, RAID I, OK) arrav B
		logicaldrive 2 (838.3 GB, RAID 1, OK)
		array C
		logicaldrive 3 (838.3 GB, RAID 1, OK)

Step#	Procedure	Description
8.	IDIH TVOE Host: Remove the external drive and volume group for HP BL460 Blade	Execute the following command to remote the external drive and volume group for HP BL460 Blade: \$ sudo /usr/TKLC/plat/sbin/storageClean hpdiskslot=3 The following information displays: Called with options: hpdiskslot=3 WARNING: This destroys all application data on the server! Continue? [Y/N]
9.	IDIH TVOE Host: Remove the external drive and volume group for HP DL380 Gen8 RMS	<pre>Execute the following command to remote the external drive and volume group for HP DL380 Gen8 RMS: \$ sudo /usr/TKLC/plat/sbin/storageClean hpdiskslot=2 The following information displays: Called with options: hpdiskslot=2 WARNING: This destroys all application data on the server! Continue? [Y/N]</pre>
10.	IDIH TVOE Host: Remove the external drive and volume Group for Netra X3 with one external disk	<pre>Execute the following command to remote the external drive and volume group for Netra X3 with one external disk: \$ sudo vgs VG #PV #LV #SN Attr VSize VFree external 1 1 0 wzn- 1.63t 73.58g vgguests 1 6 0 wzn- 538.56g 138.56g vgroot 1 6 0 wzn- 19.00g 4.25g \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ poolName=externallevel=pv \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=externallevel=scrub \$ sudo megacli -cfglddel -l1 -a0</pre>

Step#	Procedure	Description	
11. []	IDIH TVOE	Execute the following command to remote the external drive and volume group for Netra X3 with three external disks :	
	HOST: Remove the external drive and volume group for Netra X3 with three external disks	<pre>for Netra X3 with three external disks: \$ sudo vgs VG #PV #LV #SN Attr VSize VFree external1 1 1 0 wzn- 557.86g 24.86g external2 1 1 0 wzn- 557.86g 24.86g vguests 1 6 0 wzn- 557.86g 24.86g vguests 1 6 0 wzn- 538.56g 138.56g vgroot 1 6 0 wzn- 19.00g 4.25g \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ poolName=external3level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ poolName=external2level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ poolName=external1level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ poolName=external3level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external3level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external2level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external1level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external1level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external1level=scrub [root@hellcat ~]# sudo storcli -cfglddel -13 -a0 [root@hellcat ~]# sudo storcli -cfglddel -12 -a0</pre>	
12.	IDIH TVOE HOST: Remove the External Drive and Volume Group for HP DL380 Gen9 RMS	<pre>Execute the following command to remote the external drive and volume group for HP DL380 Gen9 RMS: \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ poolName=external2level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ poolName=external1level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external2level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external1level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external1level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ vgName=external1level=scrub \$ sudo hpssacli ctrl slot=0 ld 3 delete \$ sudo hpssacli ctrl slot=0 ld 2 delete</pre>	

Appendix K. DSR Fast Deployment Configuration

The following table contains the variables the NOAM DSR fast deployment asks for during NOAM deployment.

Fast Deployment Variable	Description	Value
Cabinet ID of this Enclosure? (NOAM Blade Deployment Only)	This value should match the value entered from Section "Enclosure and Blades Setup" from reference [6].	
Enclosure ID? (NOAM Blade Deployment Only)	This value should match the value entered from Section "Enclosure and Blades Setup" from reference [1].	
Bay number of the First NOAM TVOE Host (NOAM Blade	This value will be the blade number of the first NOAM server.	
Deployment Only)	<i>Note</i> : 'F' MUST append the bay number (example: 8F)	
Bay number of the Second NOAM TVOE Host (NOAM	This value will be the blade number of the second NOAM server.	
Blade Deployment Only)	<i>Note</i> : 'F' MUST append the bay number (example: 16F).	
iLO/iLOM IP address of the First Rack Mount Server	This value will be the iLO/iLOM IP address of the First rack mount server.	
(NOAM Rack Mount Server Deployments Only)	<i>Note</i> : If the NOAM is located on the same TVOE host as the PMAC, this value will be the one entered in procedure "Add Rack Mount Server to the PMAC System Inventory" from reference [1].	
iLO/iLOM IP address of the Second Rack Mount Server (NOAM Rack Mount Server Deployments Only)	This value will be the iLO/iLOM IP address of the First rack mount server.	
iLO/iLOM username of the First Rack Mount Server (NOAM	This value will be the iLO/iLOM username of the first rack mount server.	
Rack Mount Server Deployments Only)	<i>Note</i> : If the NOAM is located on the same TVOE host as the PMAC, this value will be the one entered in procedure "Add Rack Mount Server to the PMAC System Inventory" from reference [1].	
iLO/iLOM username of the Second Rack Mount Server (NOAM Rack Mount Server Deployments Only)	This value will be the iLO/iLOM username of the second rack mount server.	

Fast Deployment Variable	Description	Value
iLO/iLOM password of the First Rack Mount Server (NOAM Rack Mount Server Deployments Only)	This value will be the iLO/iLOM password of the first rack mount server. Note: If the NOAM is located on the same TVOE host as the PMAC, this value will be the one entered	
	in procedure "Add Rack Mount Server to the PMAC System Inventory" from reference [1].	
iLO/iLOM password of the Second Rack Mount Server (NOAM Rack Mount Server Deployments Only)	This value will be the iLO/iLOM password of the second rack mount server.	
Hostname for the First TVOE Host	This value will be the hostname of the first TVOE host.	
Hostname for the Second TVOE Host	This value will be the hostname of the second TVOE host.	
XMI IP address of the First TVOE Host (NOAM Blade Deployment Only)	This value will be the XMI IP address of the first TVOE host.	
XMI IP address of the Second TVOE Host (NOAM Blade Deployment Only)	This value will be the XMI IP address of the second TVOE host.	
PMAC VM Name of the First NOAM	This value will be the VM name (visible from VM Management on the PMAC).	
PMAC VM Name of the Second NOAM	This value will be the VM name (visible from VM Management on the PMAC).	
First NOAM Hostname	This value will be the first NOAM hostname.	
Second NOAM Hostname	This value will be the second NOAM hostname.	
XMI IP address of the First NOAM	This value will be the XMI IP address of the first NOAM. Note: this value will be used to access the NOAM GUI for configuration.	
Customer Provided NTP Server #1	Customer provided NTP source. Refer to Figure 2 of [1].	NTP Server #1:
Customer Provided NTP Server #2		NTP Server #2:
Customer Provided NTP Server #3		NTP Server #3:
XMI bond interface	This value will be the XMI bond interface. Example: bond0.3	
XMI VLAN ID	This value will be the XMI VLAN ID. Example: 3	

Fast Deployment Variable	Description	Value
IMI bond interface	This value will be the IMI bond interface. Example: bond0.4	
IMI VLAN ID	This value will be the IMI VLAN ID. Example: 4.	
Management bond interface (NOAM Rack Mount Server	This value will be the Management bond interface. Example: bond0.2	
Deployments Only)	<i>Note</i> : If NOAMs are located on the same TVOE host as the PMAC, this value MUST match what was configured in Section "TVOE Network Configuration" of reference [1].	
Management VLAN ID (NOAM Rack Mount Server	This value will be the Management VLAN ID. Example: 2.	
Deployments Only)	<i>Note</i> : If NOAMs are located on the same TVOE host as the PMAC, this value MUST match what was configured in Section "TVOE Network Configuration" of reference [1].	
xmi Network IP Subnet Mask	This value will be the xmi IP network subnet mask.	
Management Network IP subnet mask	This value will be the management IP network subnet mask.	
xmi Network IP default gateway	This value will be the default gateway of the xmi network.	
Management Network IP default gateway	This value will be the default gateway of the management network.	

Appendix L. Growth/De-Growth

For scenarios where growth or de-growth is required, it may be necessary to delete or re-shuffle VM guests, SDS, and DSR servers. Appendix L.1 explains how to add individual VMs and add various DSR/SDS servers. Appendix L.2 explains how to delete individual VMs and move or remove various DSR/SDS servers.

Appendix L.1 Growth

For growth scenarios where it is necessary to add DSR servers, the following sequence of steps should be followed:

Step	Procedure(s)
Perform backups	Procedure 56. Perform Backups
Perform system health check	Procedure 57. Perform Health Check
Identify servers which are affected by the growth:	
DR-NOAM	
SOAM Spares	
MP (SBR, IPFE)	
Add new servers Create and Configure the VMs on new servers (SOAM spare and DR-NOAMs only)	Procedure 58. Add a New Server/VMs
Configure servers in new VM locations	NOAM/DR-NOAM: Procedure 59. Growth: DR-NOAM SOAM: Procedure 60. Growth: SOAM spare (PCA Only) MP: Procedure 61. Growth: MP or Procedure 62.
Post growth health check	Procedure 62. Post Growth Health Check
Post growth backups	Procedure 63. Post Growth Backups

Procedure 56. Perform Backups

Step#	Procedure	Description
This procedure backs up all necessary items before a growth scenario.		
Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.		
If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.		
1 .	Backup TVOE	Back up all TVOE host configurations by executing Procedure 41. Back Up TVOE Configuration.
2.	Backup PMAC	Backup the PMAC application by executing Procedure 42. Back Up PMAC Application.
3. □	Backup NOAM/SOAM databases	Backup the NOAM and SOAM databases by executing Procedure 43. NOAM Database Backup and Procedure 44. SOAM Database Backup.
Procedure 57. Perform Health Check

Step# Proce	edure D	Description		
This procedure	e verifies sy	system status and log all alarms.		
Check off (√) e number.	each step as	p as it is completed. Boxes have been provided for this purpose under each step		
If this procedu	re fails, con	ontact My Oracle Support (MOS) and ask for assistance.		
1. NOAI GUI:	M VIP 1 Login	 Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of: https://<primary address="" ip="" noam="" vip=""></primary> 		
	2	2. Login as the guiadmin user.		
		ORACLE		
		Oracle System Login		
		Log In Enter your username and password to log in Username:		
		Password:		
		Change password		
		Log In		
		Welcome to the Oracle System Login.		
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.		
		Unauthorized access is prohibited.		
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Step#	Procedure	Description				
2.	. NOAM VIP GUI: Verify server status 1. Navigate to Status & Manage > Status & Manage . . .			je > Server . Irmal (Norm) for	Server. (Norm) for:	
		Alarm (Alm), Da Appl State Enabled Enabled Enabled Do not proceed Norm. If any of restore the non- activation. If the Alarm (Alm acceptable to pr alarms should b activation may b alarms	Alm Norm Norm with Growth/De these are not No Norm status to N n) status is not No oceed. If there a e analyzed prior be able to procee	Norm Norm Norm Norm Growth if any of rm, corrective a lorm before proc orm but only Mir the Major or Critit to proceeding w d in the presence	And Processes Reporting Status Norm Norm Norm the above state ction should be to ceeding with the nor alarms are p cal alarms prese ith the feature are see of certain Majo	(Proc). Proc Norm Norm Norm S are not taken to feature resent, it is ent, these ctivation. The pr or Critical
3.	NOAM VIP GUI: Verify server configuration	 alarms. 1. Navigate to Configuration > Server Groups. Configuration Configuration Networking Servers Server Groups Resource Domains Places Places Place Associations 2. Verify the configuration data is correct for your network. 				

Step#	Procedure	Description
4.	NOAM VIP GUI: Log current alarms	 Navigate to Alarms & Events > View Active. Alarms & Events View Active View History View Trap Log Click Report. Export Report Clear Selections Save or Print this report, keep copies for future reference. Print Save Back
5. []	SOAM VIP GUI: Repeat for SOAM	Repeat steps 1-4 for the SOAM.

Procedure 58. Add a New Server/VMs

Step#	Procedure	Description		
This pro	ocedure adds a nev	v rack mount serve	er.	
Check numbe	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
If this p	rocedure fails, cont	act My Oracle Sup	port (MOS) and ask for assistance.	
1.	Add/Configure additional servers	Follow the sectio	ns below to install and configure additional servers:	
		DR-NOAMs:	Section 4.2.1 Execute DSR Fast Deployment for DR- NOAMs	
		Spare SOAMs:	Procedure 11. Configure SOAM TVOE Server Blades	
		MPs:	Insert blade in desired location.	
2 .	Add/Configure new VMs	 Create new virtual Machines for the Spare SOAMs by following Procedure 12. Create SOAM Guest VMs. 		
		2. Install TPD a and VMs.	and DSR Software by following Procedure 13. IPM Blades	

Procedure 59. Growth: DR-NOAM

Step#	Procedure	Description			
This pro Prerequ • NE	 This procedure configures a DR-NOAM on the new virtual machine for VM growth scenarios. Prerequisites: NEW Virtual Machine Created TPD/DSR software installed 				
Check of number If this p	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.				
1.	NOAM VIP GUI: Configure the DR- NOAM	Configure the DR-NOAM by executing the steps referenced in the following procedures: DSR DR-NOAM: Section 4.2.2 Pair DR-NOAMs (Section 4.2.3 Install NetBackup Client (Optional).			
2.	DR- NOAM: Activate optional features (DSR only)	If there are any optional features currently activated, the feature activation procedures need to be run again. Refer to Section 3.4 Optional Features.			

Procedure 60. Growth: SOAM spare (PCA Only)

Step# Procedure Description

This procedure configures an SOAM spare on the new virtual machine for VM growth scenarios. Prerequisites:

- NEW Virtual Machine Created
- TPD/DSR software installed

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

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

1.	NOAM VIP GUI: Configure the SOAM	 Configure the SOAM spare by executing the following procedures: Procedure 15. Configure SOAM NE Procedure 16. Configure the SOAM Servers
	spare	• Procedure 17. Configure the SOAM Server Group (steps 1, 4, 6, and 9)
2 .	NOAM GUI: Activate optional features	If there are any optional features currently activated, the feature activation procedures need to be run again. Refer to Section 3.3 Optional Features.

Procedure 61. Growth: MP

Step#	Procedure	Description			
This pro	This procedure configures an MP on the new virtual machine for growth scenarios.				
Prereq	Prerequisite: TPD/DSR software installed				
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.				
1.	NOAM VIP GUI: Configure the MP	Configure the MP/DP by executing the steps referenced in the following procedures: DSR MP : Procedure 20. Configure MP Blade Servers (steps 1-2, 7-14, 15, 17 (Optional))			

Procedure 62. Post Growth Health Check

15-17 (Optional))

Step#	Procedure	Description		
This pro	ocedure verifies	system status and logs all alarms after growth.		
Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	rocedure fails, c	contact My Oracle Support (MOS) and ask for assistance.		

Step#	Procedure	Description			
1.	NOAM VIP GUI: Login	1. Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:			
		https:// <primary address="" ip="" noam="" vip=""></primary>			
		2. Login as the guiadmin user.			
		ORACLE® Oracle System Login Mon Jul 11 13:59:37 2016 EDT			
		Log In Enter your username and password to log in Username: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.			
2.	NOAM VIP GUI: Verify server status	1. Navigate to Status & Manage Status & Manage Network Elements Server HA Database KPIs Processes 2. Verify all server status is Normal (Norm) for Alarm (Alm), Database (DB), Replication Status, and Processes (Proc). Appl State Alm Inabled Norm Inabled Norm			
		Enabled Norm Norm Norm			

Step#	Procedure	Description	
3.	NOAM VIP GUI: Verify server configuration	 Navigate to Configuration > Server Groups. Configuration Configuration Networking Servers Server Groups Resource Domains Places Place Associations Verify the configuration data is correct for your network. 	
4.	NOAM VIP GUI: Log current alarms	 Navigate to Alarms & Events > View Active. Alarms & Events View Active View History View Trap Log Click Report. Export Report Clear Selections Save or Print this report and keep copies for future reference. Print Save Back Compare this alarm report with those gathered in Procedure 57. Perform Health Check. 	
5. []	SOAM VIP GUI: Repeat	Repeat steps 1-3 for the SOAM.	

Procedure 63. Post Growth Backups

Step#	Procedure	Description			
This pro	ocedure backs up	all necessary items after a growth scenario.			
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	rocedure fails, con	tact My Oracle Support (MOS) and ask for assistance.			
1. □	Backup TVOE	Backup all TVOE host configurations by executing Procedure 41. Back Up TVOE Configuration.			
2 .	Backup PMAC	Backup the PMAC application by executing Procedure 42. Back Up PMAC Application.			
3. □	Backup NOAM/SOAM databases	Backup the NOAM and SOAM databases by executing Procedure 43. NOAM Database Backup and Procedure 44. SOAM Database Backup.			

Appendix L.2 De-Growth

For De-growth scenarios where it is necessary to remove/delete DSR/SDS MP(SBR, IPFE) servers, the following sequence of steps should be followed:

Step	Procedure(s)
Perform backups	Procedure 64. Perform Backups
Perform system health check	Procedure 65. Perform Health Check
Identify servers affected by the de-growth: DSR MP (SBR, IPFE)	
Remove identified servers from server group	Procedure 66. Remove Server from Server Group
Shutdown and remove the identified server's VM	
Post de-growth health check	Procedure 67. Post Growth Health Check
Post de-growth backups	Procedure 68. Post Growth Backups

Procedure 64. Perform Backups

Step#	Procedure	Description
This pro	ocedure backs up a	Il necessary items before a growth scenario.
Check numbe	off (√) each step as r.	it is completed. Boxes have been provided for this purpose under each step
If this p	rocedure fails, cont	act My Oracle Support (MOS) and ask for assistance.
1.	Backup TVOE	Backup all TVOE host configurations by executing Procedure 41. Back Up TVOE Configuration.
2 .	Backup PMAC	Backup the PMAC application by executing Procedure 42. Back Up PMAC Application.
3. □	Backup NOAM/SOAM databases	Backup the NOAM and SOAM databases by executing Procedure 43. NOAM Database Backup and Procedure 44. SOAM Database Backup.

Procedure 65. Perform Health Check

Step#	Procedure	Description
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This procedure verifies system status and logs all alarms.

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

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

Step#	Procedure	Description
1.	NOAM VIP GUI: Login	 Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>
		2. Login as the guiadmin user.
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT
		Log In Enter your username and password to log in Username: Password: Change password Log In
		Welcome to the Oracle System Login.
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.
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Step#	Procedure	Description				
2. NOAM VIP GUI: Verify server status		 Navigate to Status & Manage > Server. Status & Manage Network Elements Server HA Database KPIs Processes Verify all server status is Normal (Norm) for Alarm (Alm), Database (DB), Replication Status, and Processes (Proc). 				
		Appl State	Alm	DB	Reporting Status	Proc
		Enabled	Norm	Norm	Norm	Norm
		Enabled	Norm	Norm	Norm	Norm
		Enabled	Norm	Norm	Norm	Norm
		Enabled	Norm	Norm	Norm	Norm
		Do not proceed to with Growth/De-Growth if any of the above states are not Norm. If any of these are not Norm, corrective action should be taken to restore the non-Norm status to Norm before proceeding with the feature activation. If the Alarm (Alm) status is not Norm but only Minor alarms are present, it is acceptable to proceed. If there are Major or Critical alarms present, these alarms should be analyzed prior to proceeding with the feature activation. The activation may be able to proceed in the presence of certain Major or Critical alarms				ates are not taken to feature present, it is ent, these ctivation. The or or Critical
3.		1. Navigate t	o Configuration :	> Server Group	S.	
	GUI: Verity	🚊 🕞 Confi	iguration			
	configuration	👘 🛄 N	etworking			
	een geraa					
		Server Groups				
		E R	esource Domains			
		🖺 P	laces			
		🖺 P	lace Associations			
		2. Verify the	configuration data	is correct for yo	ur network.	

Step#	Procedure	Description	
4.	NOAM VIP GUI: Log current alarms	 Navigate to Alarms & Events > View Active. Alarms & Events View Active View History View Trap Log Click Report. Export Report Clear Selections Save or Print this report and keep copies for future reference. Print Save Back 	
5. 	SOAM VIP GUI: Repeat for	Repeat steps 1-4 for the SOAM.	

Procedure 66. Remove Server from Server Group

Step#	Procedure	Description			
Once the its serve	e server's that r group.	will be deleted have been identified, the server first needs to be removed from			
The follo	wing procedu	re removes a server from a server group.			
Warning	j: It is re from a	ecommended that no more than one server from each server group be removed a server group at a time.			
Check o number.	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this pr	ocedure fails,	contact My Oracle Support (MOS) and ask for assistance.			
1. []	NOAM VIP GUI: Login	1. Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:			
		https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>			
		2. Login as the guiadmin user.			
		ORACLE			
		Oracle System Login			
		Mon Jul 11 13:59:37 2016 EDT			
		Enter your username and password to log in			
		Username:			
		Password:			
		Change password			
		Log In			
		Welcome to the Oracle System Login.			
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.			
		Unauthorized access is prohibited.			
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Step#	Procedure	Description
2.	NOAM VIP GUI: Set server to OOS	 Navigate to Status & Manage > HA. Status & Manage Network Elements Server HA Database KPIs Processes Click Edit. Set the server's Max Allowed HA Role to OOS.
		Zombie S S7MP1 Active
		Zombie S S7MP2 Spare Observer 00S
		4. Click OK .

Step#	Procedure	Description		
3.	NOAM VIP GUI: Remove server from server group	 Navigate to Configuration > Server Groups. Configuration Networking Servers Server Groups Resource Domains Places Place Associations Select the server group for which the server from step 2 that was placed OOS. Click Edit. Insert Edit Delete Report		
		Server Group Name *	ZombieSS7SG1	Unique identifier used to labe with a digit.] [A value is require
		Level *	C	Select one of the Levels supp
		Parent *	ZombieSOAM	Select an existing Server Grou
		Function *	SS7-IWF	Select one of the Functions s
		WAN Replication Connection Count	1	Specify the number of TCP co
		Zombie SOAM 📄 Prefer Network	Element as spare	
		Server	SG Inclusion	Preferred HA Role
		Zombie S S7MP1	Include in SG	Prefer server as spare
		VIP Assianment 4. Click OK. Ok Apply Cancel		

Procedure 67. Post Growth He	alth Check
------------------------------	------------

This procedure verifies sys Check off (√) each step as number. If this procedure fails, cont 1. NOAM VIP GUI: Login	Description		
Check off (√) each step as number. If this procedure fails, cont 1. NOAM VIP 1. GUI: Login	ocedure verifies system status and logs all alarms after growth.		
If this procedure fails, cont 1. NOAM VIP GUI: Login	p as it is completed. Boxes have been provided for this purpose under each step		
1. NOAM VIP 1. GUI: Login	tact My Oracle Support (MOS) and ask for assistance.		
	1. Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:		
	https:// <primary_noam_vip_ip_address></primary_noam_vip_ip_address>		
2.	. Login as the guiadmin user.		
	ORACLE		
	Oracle System Login — Mon Jul 11 13:59:37 2016 EDT		
	Image: Section 1.1 Sect		

Step#	Procedure	Description				
2.	NOAM VIP GUI: Verify server status	 Navigate to Status & Manage > Server. Status & Manage Network Elements Server HA Database KPIs Processes Verify all server status is Normal (Norm) for Alarm (Alm), Database (DB), Replication Status, and Processes (Proc). 			Patabase (DB),	
		Appl State A	lm	DB	Reporting Status	Proc
		Enabled 1	lorm	Norm	Norm	Norm
		Enabled 1	lorm	Norm	Norm	Norm
		Enabled N	lorm	Norm	Norm	Norm
		Enabled N	lorm	Norm	Norm	<u>Norm</u>
3.	NOAM VIP GUI: Verify server configuration	 Navigate to Ca Configura Configura Netwo Serve Serve Reso Place Verify the cont 	ation orking rs r Groups urce Domains s Associations figuration data	is correct for yc	s . our network.	
4.	NOAM VIP GUI: Log current alarms	 Navigate to Al Alarms & View / View / View / View / View / View / Click Report. Export F Save or Print Print Save Ba 	larms & Even Events Active History Trap Log Report this report, ke	ts > View Activ	e. ure reference.	
		4. Compare this Health Check.	alarm report v	vith those gather	ed in Procedur	re 57. Perform
5. []	GUI: Repeat	Repeat steps 1-3	for the SOAM			

Procedure 68. Post Growth Backups

Step#	Procedure	Description			
This pro	ocedure backs up a	Il necessary items after a growth scenario.			
Check of number	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.				
If this p	rocedure fails, conta	act My Oracle Support (MOS) and ask for assistance.			
1 .	Backup TVOE	Backup all TVOE host configurations by executing Procedure 41. Back Up TVOE Configuration.			
2.	Backup PMAC	Backup the PMAC application by executing Procedure 42. Back Up PMAC Application.			
3. □	Backup NOAM/SOAM databases	Backup the NOAM and SOAM Databases by executing Procedure 43. NOAM Database Backup and Procedure 44. SOAM Database Backup.			

Appendix M.Restore SNMP Configuration to SNMPv3 (Optional)

Procedure 69. Restore SNMP Configuration to SNMP v3

Step#	Procedure	Description		
This procedure restores SNMP configuration to SNMPv3 for forwarding of SNMP traps from each individual server.				
Note:	If SNMP is conf (section 4.5, ste	igured with SNMPv2c and SNMPv3 as enabled versions as a workaround step eps 6-9) and the SNMPv3 is required to be configured		
Check of number	heck off ($$) each step as it is completed. Boxes have been provided for this purpose under each step umber.			
	(Workaround) Primary NOAM VIP GUI: Login	 Note: This workaround should be performed only if SNMP is configured with SNMPv2c and SNMPv3 as enabled versions as a workaround (section 4.5, steps 6-9) and the SNMPv3 is required to be configured. 1. Establish a GUI session on the NOAM server by using the XMI VIP IP address. Open the web browser and enter a URL of: 		
		https:// <noam_xmi_vip_ip_address></noam_xmi_vip_ip_address>		
		Oracle System Login Mon Jul 11 13:59:37 2016 EDT		
		Log In Enter your username and password to log in Username: Password: Password: Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.		

Step#	Procedure	Description
2.	NOAM VIP GUI:	1. Navigate to Administration > Remote Servers > SNMP Trapping.
	Configure	🖃 🚊 Main Menu
	system-wide	📄 😋 Administration
	receiver(s)	🔚 General Options
		Access Control
		Software Management
		Remote Servers
		SNMP Trapping
		Data Export
		DNS Configuration
		2 Select the Server Group tab for SNMP trap configuration. The server
		group that is configured for SNMPv2c & SNMPv3 as a workaround:
		Main Menu: Administration -> Remote Servers
		Info* •
		Name
		3 Click Edit
		Insert Edit Delete Suspend Resume
		4. Update the Enabled Versions as SNMPv3 :
		Enabled Versions SNMPv3
		5. Click OK .

Appendix N. My Oracle Support (MOS)

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

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

- 1. Select **2** for New Service Request.
- 2. Select 3 for Hardware, Networking and Solaris Operating System Support.
- 3. Select one of the following options:
 - For technical issues such as creating a new Service Request (SR), select 1.
 - For non-technical issues such as registration or assistance with MOS, select 2.

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

Emergency Response

In the event of a critical service situation, emergency response is offered by the CAS main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.

Locate Product Documentation on the Oracle Help Center

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

- 1. Access the Oracle Help Center site at http://docs.oracle.com.
- 2. Click Industries.
- 3. Under the Oracle Communications subheading, click the **Oracle Communications** documentation link. The Communications Documentation page appears. Most products covered by these documentation sets display under the headings Network Session Delivery and Control Infrastructure or Platforms.
- 4. Click on your **Product** and then the Release Number. A list of the entire documentation set for the selected product and release displays. To download a file to your location, right-click the PDF link, select **Save target as** (or similar command based on your browser), and save to a local folder.