

**Oracle® Communications**

**Diameter Signaling Router**

DSR C-Class Software Installation and Configuration  
Guide

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**ORACLE®**

### 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].

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## 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.

**Table 2. Terminology**

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 <b>Place Association</b> 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.



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 <b>SBR</b> .
Server Group Primary Site	<p>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 <b>Policy and Charging Mated Sites</b> place association.</p> <p>For the Diameter Custom Application (DCA), these sites (Places) are configured in <b>Applications Region</b> place association.</p> <p>The primary site may be in a different site (place) for each configured SOAM or SBR server group.</p> <p>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.</p>
Server Group Secondary Site	<p>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 <b>Policy and Charging Mated Sites</b> place association.</p> <p>For the Diameter Custom Application (DCA), these sites (places) are configured in <b>Applications Region</b> place association.</p> <p>The secondary site may be in a different site (place) for each configured SOAM or SBR server group.</p> <p>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.</p>
Server Group Tertiary Site	<p>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 &amp; Charging DRA application, these sites (places) are all configured within a single <b>Policy and Charging Mated Sites</b> place association.</p> <p>The tertiary site may be in a different site (place) for each configured SOAM or SBR server group.</p> <p>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.</p>
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 <b>Session and Binding Repository</b> .

Term	Definition
Site	<p>Applicable for various applications, a site is type of <b>place</b>. A place is configured object that allows servers to be associated with a physical location.</p> <p>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.</p> <p>For the Policy &amp; 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.</p>
Software Centric	<p>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.</p>
Three Site Redundancy	<p>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.</p> <p>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.</p>
Two Site Redundancy	<p>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.</p> <p>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.</p>

## 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.

Each step has a checkbox the user should check to keep track of the progress of the procedure.

The Title column describes the operations to perform during that step.

Each command the user enters, and any response output, is formatted in 10-point Courier font.

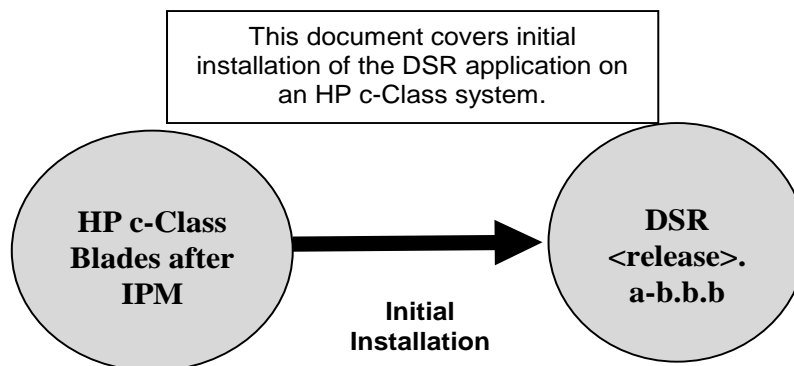
	Title	Directive/Result Step
1. <input type="checkbox"/>	Change directory	Change to the backout directory. <pre>\$ cd /var/TKLC/backout</pre>
2. <input type="checkbox"/>	<b>ServerX</b> : Connect to the console of the server	Establish a connection to the server using cu on the terminal server/console. <pre>\$ cu -l /dev/ttyS7</pre>
3. <input type="checkbox"/>	Verify Network Element data	View the Network Elements configuration data; verify the data; save and print report. 1. Select <b>Configuration &gt; Network Elements</b> 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

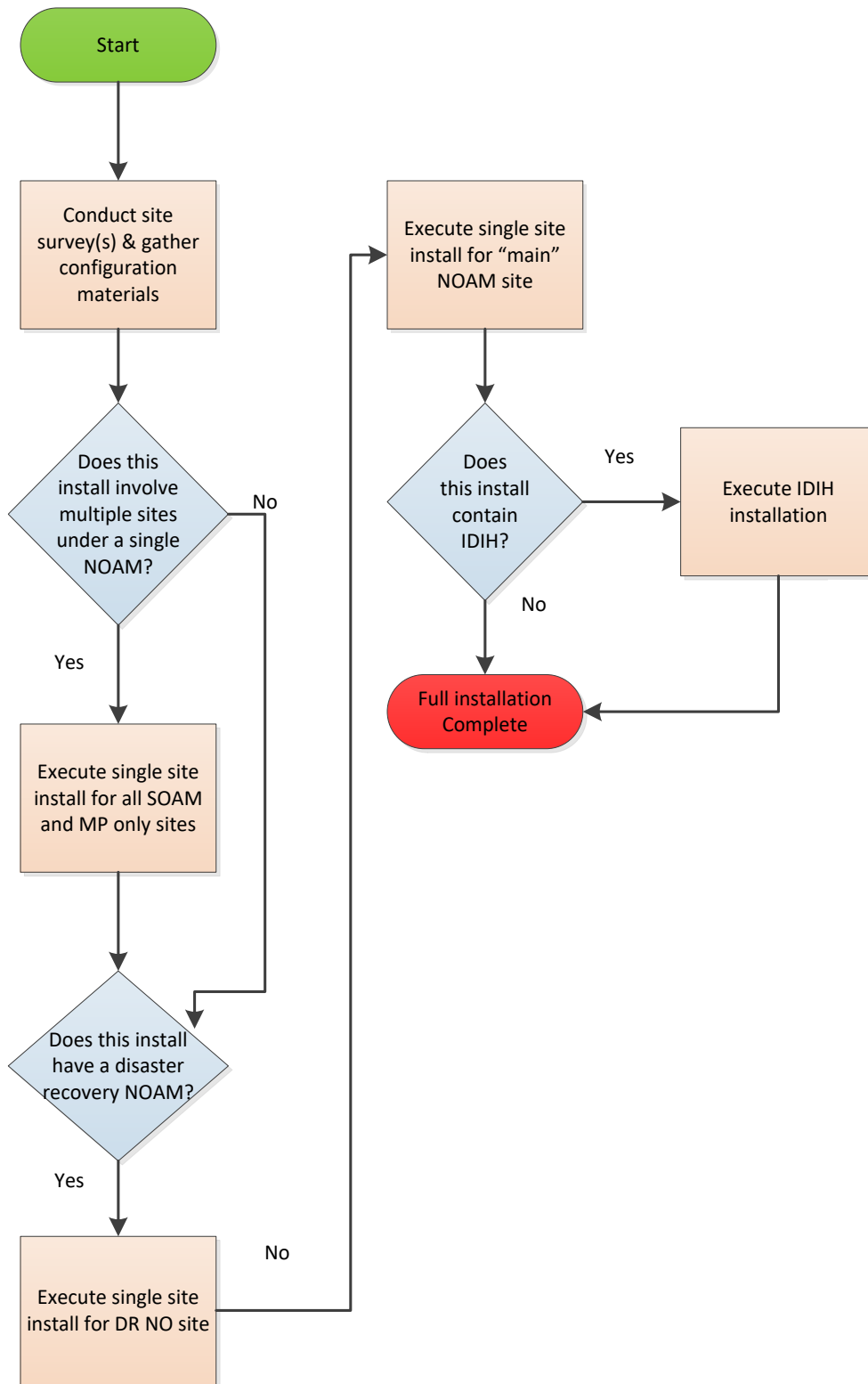
A successful installation of DSR requires careful planning and assessment of all configuration materials and installation variables. Once a site survey has been conducted with the customer, the installer should use this section to map out the exact procedure list that is executed at each site.

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:

1. 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.

**Table 2. Optional Features**

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

<b>Feature</b>	<b>Document</b>
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

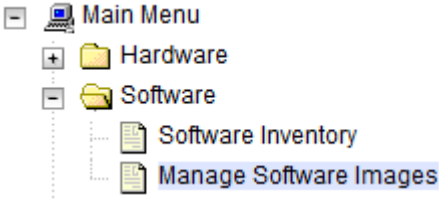
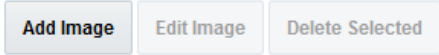
#### Procedure 1. Load Application and TPD ISO onto PMAC Server

Step#	Procedure	Description
		<p>This procedure loads the DSR application and TPD ISO into the PMAC server.</p> <p><b>Needed Material:</b> Application Media</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>



Step#	Procedure	Description
1. <input type="checkbox"/>	<b>TVOE Host:</b> Load application ISO	<p>Add the Application ISO image to the PMAC, this can be done in one of three ways:</p> <ol style="list-style-type: none"> <li>1. Insert the Application CD required by the application into the removable media drive.</li> <li>2. Attach the USB device containing the ISO image to a USB port.</li> <li>3. Copy the application iso file to the PMAC server into the <b>/var/TKLC/smac/image/isoimages/home/smacftpusr/</b> directory as pmacftpusr user:</li> </ol> <p>cd into the directory where your ISO image is located on the <b>TVOE Host (not on the PMAC server)</b>.</p> <p>Using sftp, connect to the PMAC server.</p> <pre>\$ sftp pmacftpusr@&lt;pmac_management_network_ip&gt; \$ put &lt;image&gt;.iso</pre> <p>After the image transfer is 100% complete, close the connection:</p> <pre>\$ quit</pre>
2. <input type="checkbox"/>	<b>PMAC GUI:</b> Login	<ol style="list-style-type: none"> <li>1. Open web browser and enter: <pre>https://&lt;PMAC_Mgmt_Network_IP&gt;</pre> </li> <li>2. Login as <b>guiadmin</b> user:</li> </ol>  <p>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.</p> <p>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</p> <p>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</p>

Step#	Procedure	Description				
3. <input type="checkbox"/>	<p><b>PMAC GUI:</b> Attach the software image to the PMAC guest</p>	<p>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.</p> <ol style="list-style-type: none"> <li>1. In the PMAC GUI, navigate to <b>VM Management</b>.</li> <li>2. Select the PMAC guest.</li> <li>3. On the resulting View VM Guest page, select the Media tab.</li> <li>4. Under the Media tab, find the ISO image in the <b>Available Media</b> list, and click its <b>Attach</b> button.</li> </ol> <p>After a pause, the image displays in the <b>Attached Media</b> list.</p> <hr/> <p><b>View guest 5010441PMAC</b></p> <p>VM Info   Software   Network   <b>Media</b></p> <hr/> <p><a href="#">Attached Media</a>   Available Media</p> <hr/> <div style="border: 1px solid gray; padding: 5px;"> <p><b>Attached Media</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Attached</th> <th style="width: 85%;">Image Path</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"> <input type="button" value="Detach"/> </td> <td>/var/TKLC/voe/mapping-isos/5010441PMAC.iso</td> </tr> </tbody> </table> </div>	Attached	Image Path	<input type="button" value="Detach"/>	/var/TKLC/voe/mapping-isos/5010441PMAC.iso
Attached	Image Path					
<input type="button" value="Detach"/>	/var/TKLC/voe/mapping-isos/5010441PMAC.iso					

Step#	Procedure	Description
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Add application image</p>	<p>1. Navigate to <b>Software &gt; Manage Software Images</b>.</p>  <p>2. Click <b>Add Image</b>.</p> <p>3. Select the image from the list.</p>  <p>If the image was supplied on a CD or a USB drive, it displays as a virtual device (<b>device://...</b>). 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, <b>device://dev/sr1</b>. 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.</p> <p>If in step 1 the image was transferred to PMAC using sftp, it displays in the list as a local file <b>/var/TKLC/....</b></p> <p><b>Main Menu: Software -&gt; Manage Software Images [Add Image]</b></p> <hr/> <p>Images may be added from any of these sources:</p> <ul style="list-style-type: none"> <li>• Oracle-provided media in the PM&amp;C host's CD/DVD drive (Refer to Note)</li> <li>• USB media attached to the PM&amp;C's host (Refer to Note)</li> <li>• External mounts. Prefix the directory with "extfile://".</li> <li>• These local search paths:             <ul style="list-style-type: none"> <li>◦ /var/TKLC/upgrade/*.iso</li> <li>◦ /var/TKLC/smac/image/isoimages/home/smacftpusr/*.iso</li> </ul> </li> </ul> <p>Note: CD and USB images mounted on PM&amp;C's VM host must first be made accessible to the PM&amp;C VM gu</p> <p>Path: <input type="text"/></p> <p>Description: <input type="text"/></p> <hr/> <p><input type="button" value="Add New Image"/> <input type="button" value="Cancel"/></p> <p>4. Select the appropriate path and click <b>Add New Image</b>.</p> <p>You may check the progress using the <b>Task Monitoring</b> link. Observe the green bar indicating success.</p> <p>Once the green bar is displayed, remove the DSR application Media from the optical drive of the management server.</p>
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Load TPD ISO</p>	<p>If the TPD ISO has not been loaded onto the PMAC already, <b>repeat</b> steps 1 through 4 to load it using the TPD media or ISO.</p>

## 4.1.2 Execute DSR Fast Deployment for NOAMs

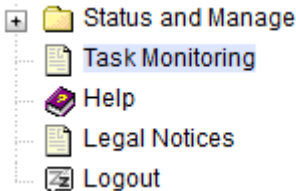
### Procedure 2. Configure NOAM Servers

Step#	Procedure	Description
<p>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.</p> <p><b>Prerequisite:</b> TVOE and PMAC (virtualized) have been installed on the first RMS server as described in [6].</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<p><b>TVOE Host (Not PMAC):</b> Configure control network bond for back-back configurations</p>	<p>Establish an SSH session to the second RMS server via the control IP address accessed from the site PMAC. Login as <b>admusr</b>.</p> <p>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 &lt;ethernet_interface_1&gt;, otherwise <b>skip to the next step</b>.</p> <p><b>Note:</b> Section TVOE Network Configuration, step 2, should have already been executed on the TVOE host that hosts the PMAC server.</p> <p><b>Note:</b> 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.</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm set --device=bond0 - -primary=eth01 Interface bond0 updated</pre>
2. <input type="checkbox"/>	<p><b>PMAC Server:</b> Login</p>	<p>Establish an SSH session to the PMAC server and login as <b>admusr</b>.</p>

Step#	Procedure	Description
3. □	<b>PMAC Server:</b> Update the DSR fast deployment template (Part 1)	<ol style="list-style-type: none"> <li>Perform the following command to navigate to the directory containing the DSR fast deployment template:             <pre data-bbox="509 323 938 369">\$ cd /usr/TKLC/smac/etc</pre> <p>DSR Fast Deployment Template Names:</p> <p><b>NOAM on Rack Mount Servers:</b> DSR_NOAM_FD_RMS.xml</p> <p><b>NOAM on Blade Servers:</b> DSR_NOAM_FD_Blade.xml</p> </li> <li>Update the following items within the Fast deployment xml:             <p><b>TPD and DSR ISO:</b></p> <pre data-bbox="553 583 1398 978">&lt;software&gt;   &lt;!--Target TPD release Image here --&gt;   &lt;image id="tpd"&gt;     &lt;name&gt;TPD.install- 7.7.0.0.0-88.68.0-OracleLinux6.10-x86_64&lt;/name&gt;   &lt;/image&gt;   &lt;!--Target DSR release Image here --&gt;   &lt;image id="dsr"&gt;     &lt;name&gt;DSR-8.5.0.0.0_90.11.0-x86_64&lt;/name&gt;   &lt;/image&gt; &lt;/software&gt;</pre> <p><b>Note:</b> These are the images uploaded from Procedure 1. Load Application and TPD ISO onto PMAC Server. Do <b>NOT</b> append <b>.iso</b> to the image name. To copy and paste the image name from the command line, issue the following command:</p> <pre data-bbox="509 1136 1125 1180">\$ ls /var/TKLC/smac/image/repository</pre> </li> </ol>

Step#	Procedure	Description
4. <input type="checkbox"/>	<b>PMAC Server:</b> Update the DSR fast deployment template for bond 1 – optional (Part 2)	<b>Bond 1 Creation:</b> <b>Skip this step if Bond1 will not be created.</b> <ol style="list-style-type: none"> <li>Uncomment the following items from <b>BOTH</b> tvoe host id="NOAM1" and tvoe host id="NOAM2" by removing the encapsulated '&lt;!--' '--&gt;' brackets as highlighted below:</li> <li>Update the Ethernet interfaces that are to be enslaved by bond1.  <pre> &lt;!-- &lt;tpdinterface id="bond1"&gt; &lt;device&gt;bond1&lt;/device&gt; &lt;type&gt;Bonding&lt;/type&gt; &lt;bonddata&gt; &lt;bondinterfaces&gt;&lt;bond1_eth_interface1&gt;,&lt;bond1_eth_interface2&gt;&lt;/bondinterfaces&gt; &lt;bondopts&gt;mode=active-backup,miimon=100&lt;/bondopts&gt; &lt;/bonddata&gt; &lt;onboot&gt;yes&lt;/onboot&gt; &lt;bootproto&gt;none&lt;/bootproto&gt; &lt;/tpdinterface&gt; --&gt; </pre> </li> </ol>
5. <input type="checkbox"/>	<b>PMAC Server:</b> Update the DSR fast deployment template management/XMI combination (Part 3)	<p>Only execute this step if your management network and xmi networks are combined; otherwise, skip this step.</p> <ol style="list-style-type: none"> <li>Modify the template to reflect the following on <b>BOTH</b> tvoe host id="NOAM1" and tvoe host id="NOAM2":  <b>Remove</b> the following stanzas:  <pre> &lt;mgmtbondinterface&gt; &lt;mgmtvlan&gt; &lt;mgmtsubnet&gt; &lt;mgmtdefaultgateway&gt; &lt;tpdinterface id="management"&gt; (and all sub elements) &lt;tpdbridge id="management"&gt; (and all sub elements) </pre> <b>Replace</b> the following under &lt;tpdroute id="management_default"&gt;:            management with xmi for &lt;device&gt;management&lt;/device&gt;            \$\$mgmtdefaultgateway\$\$ with \$\$xmidefaultgateway\$\$ for &lt;gateway&gt;\$\$mgmtdefaultgateway\$\$&lt;/gateway&gt; </li> <li>Add the following under &lt;tpdbridge id="xmi"&gt;:  <pre> &lt;address&gt;&lt;TVOE_Host_Server_XMI_IP&gt;&lt;/address&gt; &lt;netmask&gt; \$\$xmisubnet\$\$&lt;/netmask&gt; </pre> </li> </ol> <p><b>Note:</b> If the IP address is IPv6, then use &lt;IPv6address&gt; as the prefix.            For example:  <pre> &lt;IPv6address&gt;2405:200:330:A127:101::a5/112&lt;/IPv6addresses&gt; </pre> </p>

Step#	Procedure	Description
6. <input type="checkbox"/>	<b>PMAC Server:</b> Validate and run the fast deployment file	<ol style="list-style-type: none"> <li>Validate/Create the fast deployment file by executing the following command:  <b>For NOAMs deployed on rack mount servers:</b>  <pre>\$ sudo fdconfig validate --file=DSR_NOAM_FD_RMS.xml</pre> <b>For NOAMs deployed on blade servers:</b>  <pre>\$ sudo fdconfig validate --file=DSR_NOAM_FD_Blade.xml</pre> <p><b>Note:</b> Refer to DSR Fast Deployment Configuration for information of the variables that must be input during execution of NOAM fast deployment.</p> </li> <li>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:  <pre>--- NOTICE --- Config Data saved as a new file: "./DSR_NOAM_FD_Blade_20151217T102402.xml" --- NOTICE ---  Configuration file validation successful. Validation complete [admusr@GuestPMACeco upgrade]\$</pre> </li> <li>Execute the following commands to run the fast deployment file:  <pre>\$ screen \$ sudo fdconfig config --file=&lt;Created_FD_File&gt;.xml</pre> <p><b>Note:</b> This is a long duration command. If the screen command was run prior to executing the fdconfig, perform a <b>screen -dr</b> to resume the screen session in the event of a terminal timeout, etc.</p> </li> </ol>

Step#	Procedure	Description																																																																								
7. □	<b>PMAC GUI:</b> Monitor the configuration	<p>1. If not already done so, establish a GUI session on the PMAC server.</p> <p>2. Navigate to <b>Task Monitoring</b>.</p>  <p>3. Monitor the DSR NOAM TVOE configuration to completion:</p> <table border="1" data-bbox="511 598 1404 871"> <tbody> <tr> <td>1570</td> <td>Accept</td> <td>RMS: pc:5010439 Guest: Brains_DSRNOAM2</td> <td>Success</td> <td>COMPLETE</td> <td>N/A</td> <td>0:01:05</td> <td>2016-09-15 15:48:55</td> <td>100%</td> </tr> <tr> <td>1569</td> <td>Accept</td> <td>RMS: pc:5010441 Guest: Brains_DSRNOAM1</td> <td>Success</td> <td>COMPLETE</td> <td>N/A</td> <td>0:01:05</td> <td>2016-09-15 15:48:55</td> <td>100%</td> </tr> <tr> <td>1568</td> <td>Upgrade</td> <td>RMS: pc:5010439 Guest: Brains_DSRNOAM2</td> <td>Success</td> <td>COMPLETE</td> <td></td> <td>0:10:05</td> <td>2016-09-15 15:37:26</td> <td>100%</td> </tr> <tr> <td>1567</td> <td>Upgrade</td> <td>RMS: pc:5010441 Guest: Brains_DSRNOAM1</td> <td>Success</td> <td>COMPLETE</td> <td></td> <td>0:10:05</td> <td>2016-09-15 15:37:26</td> <td>100%</td> </tr> <tr> <td>1566</td> <td>Install OS</td> <td>RMS: pc:5010441 Guest: Brains_DSRNOAM1</td> <td>Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64</td> <td>COMPLETE</td> <td>N/A</td> <td>0:14:00</td> <td>2016-09-15 15:21:48</td> <td>100%</td> </tr> <tr> <td>1565</td> <td>Install OS</td> <td>RMS: pc:5010439 Guest: Brains_DSRNOAM2</td> <td>Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64</td> <td>COMPLETE</td> <td>N/A</td> <td>0:14:13</td> <td>2016-09-15 15:21:38</td> <td>100%</td> </tr> <tr> <td>1564</td> <td>Create Guest</td> <td>RMS: pc:5010441 Guest: Brains_DSRNOAM1</td> <td>Guest creation completed (Brains_DSRNOAM1)</td> <td>COMPLETE</td> <td></td> <td>0:00:22</td> <td>2016-09-15 15:21:08</td> <td>100%</td> </tr> <tr> <td>1563</td> <td>Create Guest</td> <td>RMS: pc:5010439 Guest: Brains_DSRNOAM2</td> <td>Guest creation completed (Brains_DSRNOAM2)</td> <td>COMPLETE</td> <td></td> <td>0:00:12</td> <td>2016-09-15 15:21:07</td> <td>100%</td> </tr> </tbody> </table> <p><b>Note:</b> Should a failure occur with fdconfig, logs can be accessed in <code>/var/TKLC/log/fdconfig/fdconfig.log</code>.</p> <pre>[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 ----- begin ----- Dump of DB steps: NUM PHS DLY INFRA ID SVRTYPE CMD ELEMENT PRE STATE TO BGTS COMMAND TEXT ----- -- 1 1 0 pmac Fast_Deployment 0 21 0 Complete 300 0 Check PM&amp;C is available 2 1 0 pmac Fast_Deployment 0 1 1 1 Skipped 300 0 Add Cabinet 3 1 0 pmac Fast_Deployment 0 3 melbourne_RMS3 1 Skipped 900 0 Add Rms 4 2 0 pmac Fast_Deployment 1 Run this command to restart the <b>fdconfig</b> after a failure has occurred and has been resolved: \$ sudo fdconfig restart -- file=deploy_melbourne_20170329T202458_701b.fdcdb</pre>	1570	Accept	RMS: pc:5010439 Guest: Brains_DSRNOAM2	Success	COMPLETE	N/A	0:01:05	2016-09-15 15:48:55	100%	1569	Accept	RMS: pc:5010441 Guest: Brains_DSRNOAM1	Success	COMPLETE	N/A	0:01:05	2016-09-15 15:48:55	100%	1568	Upgrade	RMS: pc:5010439 Guest: Brains_DSRNOAM2	Success	COMPLETE		0:10:05	2016-09-15 15:37:26	100%	1567	Upgrade	RMS: pc:5010441 Guest: Brains_DSRNOAM1	Success	COMPLETE		0:10:05	2016-09-15 15:37:26	100%	1566	Install OS	RMS: pc:5010441 Guest: Brains_DSRNOAM1	Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64	COMPLETE	N/A	0:14:00	2016-09-15 15:21:48	100%	1565	Install OS	RMS: pc:5010439 Guest: Brains_DSRNOAM2	Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64	COMPLETE	N/A	0:14:13	2016-09-15 15:21:38	100%	1564	Create Guest	RMS: pc:5010441 Guest: Brains_DSRNOAM1	Guest creation completed (Brains_DSRNOAM1)	COMPLETE		0:00:22	2016-09-15 15:21:08	100%	1563	Create Guest	RMS: pc:5010439 Guest: Brains_DSRNOAM2	Guest creation completed (Brains_DSRNOAM2)	COMPLETE		0:00:12	2016-09-15 15:21:07	100%
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1565	Install OS	RMS: pc:5010439 Guest: Brains_DSRNOAM2	Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64	COMPLETE	N/A	0:14:13	2016-09-15 15:21:38	100%																																																																		
1564	Create Guest	RMS: pc:5010441 Guest: Brains_DSRNOAM1	Guest creation completed (Brains_DSRNOAM1)	COMPLETE		0:00:22	2016-09-15 15:21:08	100%																																																																		
1563	Create Guest	RMS: pc:5010439 Guest: Brains_DSRNOAM2	Guest creation completed (Brains_DSRNOAM2)	COMPLETE		0:00:12	2016-09-15 15:21:07	100%																																																																		

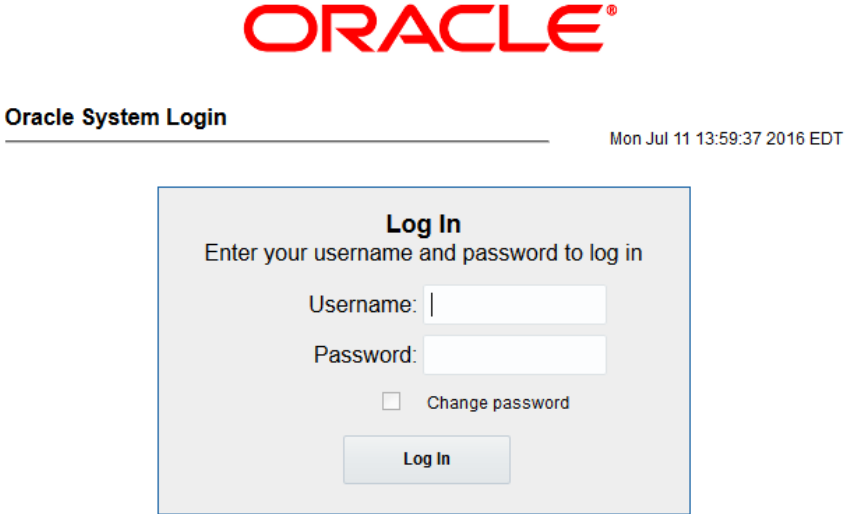


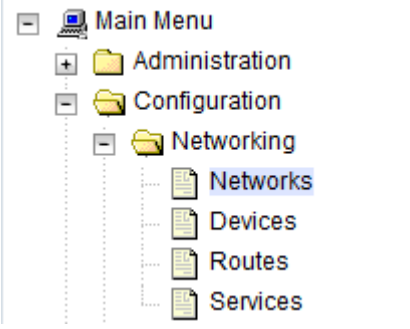

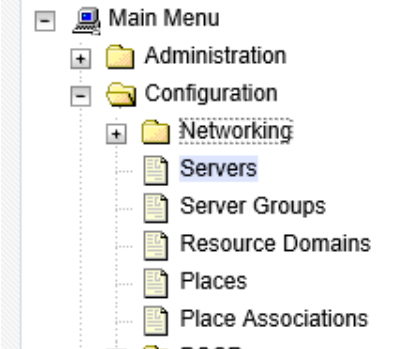
Step#	Procedure	Description
8. <input type="checkbox"/>	<b>PMAC Server:</b> Backup FDC file	<p>Create the <b>fdc</b> directory so the NOAM fdc file is backed up by PMAC: Issue the following commands:</p> <ol style="list-style-type: none"> <li>1. Create the fdc backup directory:  <pre>\$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/fdc</pre> </li> <li>2. Copy the fdc file to the fdc backup directory:  <pre>\$ sudo cp /usr/TKLC/smac/etc/&lt;fdc_file&gt; /usr/TKLC/smac/etc/fdc/</pre> </li> </ol>

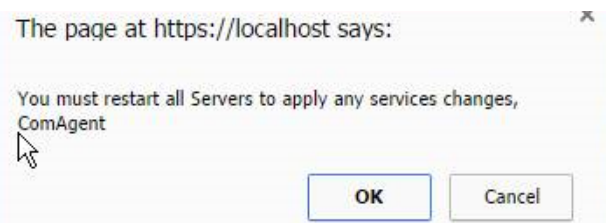
### 4.1.3 Configure NOAMs

#### Procedure 3. Configure the First NOAM NE and Server

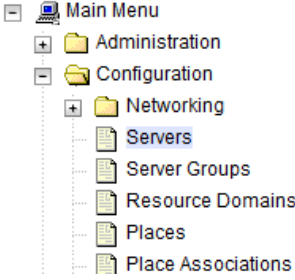

Step#	Procedure	Description
<p>This procedure configures the first NOAM server. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Save the NOAM network data to an XML file	<ol style="list-style-type: none"> <li>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.</li> <li>2. Select an appropriate file name and save the file to a known location on your computer.</li> </ol> <p>A suggested filename format is <b>Appname_NName_NetworkElement.XML</b>, so for example a DSR2 NOAM network element XML file would have a filename <b>DSR2_NOAM_NetworkElement.xml</b>.</p> <p>Alternatively, you can update the sample DSR network element file. It can be found on the management server at:</p> <pre>/usr/TKLC/smac/etc/SAMPLE-NetworkElement.xml</pre> <p>A sample XML file can also be found in Sample Network Element and Hardware Profiles.</p> <p><b>Note:</b> These limitations apply when specifying a network element name:</p> <ul style="list-style-type: none"> <li>• A 1-32-character string.</li> <li>• Valid characters are alphanumeric and underscore.</li> <li>• Must contain at least one alpha and must not start with a digit.</li> </ul>

Step#	Procedure	Description
<p>2. □</p>	<p><b>NOAM GUI:</b> Login</p>	<p>Using the XMI IP address configured in Procedure 2. Configure NOAM Servers (\$NOAM1_xmi_IP_address), log into the NOAM GUI as the <b>guiadmin</b> user:</p> 

Step#	Procedure	Description									
<p>3.</p> <p><input type="checkbox"/></p>	<p>Create the NOAM network element using the XML file</p>	<p>1. Navigate to <b>Configuration &gt; Networking &gt; Networks</b>.</p>  <p>2. Click <b>Browse</b> and type the pathname to the NOAM network XML file.</p> <p>To create a new Network Element, upload a valid configuration file:</p> <p><input type="button" value="Browse..."/> zombie.xml <input type="button" value="Upload File"/></p> <p>Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.</p> <p>3. Click <b>Upload File</b> to upload the XML file and configure the NOAM network element.</p> <p>4. 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.</p> 									
<p>4.</p> <p><input type="checkbox"/></p>	<p>Map services to networks</p>	<p>1. Navigate to <b>Configuration &gt; Services</b>.</p>  <p>2. Click <b>Edit</b> and set the services as shown in the table.</p> <table border="1" data-bbox="495 1722 1396 1858"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>&lt;IMI Network&gt;</td> <td>&lt;XMI Network&gt;</td> </tr> <tr> <td>Replication</td> <td>&lt;IMI Network&gt;</td> <td>&lt;XMI Network&gt;</td> </tr> </tbody> </table>	Name	Intra-NE Network	Inter-NE Network	OAM	<IMI Network>	<XMI Network>	Replication	<IMI Network>	<XMI Network>
Name	Intra-NE Network	Inter-NE Network									
OAM	<IMI Network>	<XMI Network>									
Replication	<IMI Network>	<XMI Network>									


Step#	Procedure	Description																																							
		<table border="1"> <tr> <td>Signaling</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>HA_Secondary</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>HA_MP_Secondary</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>Replication_MP</td> <td>&lt;IMI Network&gt;</td> <td>Unspecified</td> </tr> <tr> <td>ComAgent</td> <td>&lt;IMI Network&gt;</td> <td>Unspecified</td> </tr> </table> <p>For example, if your IMI network is named <b>IMI</b> and your XMI network is named <b>XMI</b>, then your services config should look like the following:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>INTERNALIMI</td> <td>INTERNALXMI</td> </tr> <tr> <td>Replication</td> <td>INTERNALIMI</td> <td>INTERNALXMI</td> </tr> <tr> <td>Signaling</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>HA_Secondary</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>HA_MP_Secondary</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>Replication_MP</td> <td>INTERNALIMI</td> <td>Unspecified</td> </tr> <tr> <td>ComAgent</td> <td>INTERNALIMI</td> <td>Unspecified</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p> <ol style="list-style-type: none"> <li>Click <b>OK</b> to apply the Service-to-Network selections.</li> <li>Click <b>OK</b> when asked to restart all servers.</li> </ol> 	Signaling	Unspecified	Unspecified	HA_Secondary	Unspecified	Unspecified	HA_MP_Secondary	Unspecified	Unspecified	Replication_MP	<IMI Network>	Unspecified	ComAgent	<IMI Network>	Unspecified	Name	Intra-NE Network	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
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ComAgent	INTERNALIMI	Unspecified																																							
5. □	Insert the 1st NOAM server	1. Navigate to <b>Configuration &gt; Servers</b> .																																							

Step#	Procedure	Description
		<div data-bbox="516 247 795 525"> </div> <p data-bbox="493 535 1393 598">2. Click <b>Insert</b> to insert the new NOAM server into servers table (the first or server).</p> <div data-bbox="505 619 873 661"> </div> <p data-bbox="493 682 852 709">3. Enter the fields as follows:</p> <p data-bbox="540 730 1367 913"> <b>Hostname:</b> &lt;Hostname&gt;  <b>Role:</b> NETWORK OAM&amp;P  <b>System ID:</b> &lt;Site System ID&gt;  <b>Hardware Profile:</b> DSR TVOE Guest  <b>Network Element Name:</b> [Choose NE from Drop Down Box]         </p> <div data-bbox="500 919 1242 1312"> </div> <p data-bbox="493 1327 1414 1381">The network interface fields become available with selection choices based on the chosen hardware profile and network element.</p> <p data-bbox="493 1396 1360 1451">4. Type the server IP addresses for the XMI network. Select <b>XMI</b> for the interface. Leave the <b>VLAN</b> checkbox unchecked.</p> <p data-bbox="540 1470 1333 1528"><b>Note:</b> The XMI server IP must match <b>\$NOAM1_xmi_IP_address</b> configured in Procedure 2.</p> <p data-bbox="493 1549 1341 1604">5. Type the server IP addresses for the IMI network. Select <b>IMI</b> for the interface. Leave the <b>VLAN</b> checkbox unchecked.</p> <p data-bbox="540 1623 1315 1682"><b>Note:</b> The IMI server IP must match <b>\$NOAM1_imi_IP_address</b> configured in Procedure 2.</p> <div data-bbox="500 1703 1427 1848"> </div>

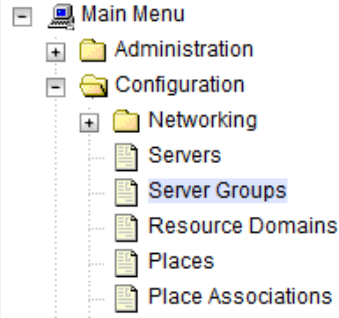
Step#	Procedure	Description				
		<p>6. Add the following NTP servers:</p> <table border="1" data-bbox="516 285 1390 422"> <thead> <tr> <th data-bbox="516 285 971 331">NTP Server</th> <th data-bbox="971 285 1390 331">Preferred?</th> </tr> </thead> <tbody> <tr> <td data-bbox="516 331 971 422">&lt;TVOE_XMI_IP_Address (NO1)/ TVOE_Mgmt_IP_Address (NO1)&gt;</td> <td data-bbox="971 331 1390 422">Yes</td> </tr> </tbody> </table> <p>7. Click <b>OK</b> when you have completed entering all the server data.</p>	NTP Server	Preferred?	<TVOE_XMI_IP_Address (NO1)/ TVOE_Mgmt_IP_Address (NO1)>	Yes
NTP Server	Preferred?					
<TVOE_XMI_IP_Address (NO1)/ TVOE_Mgmt_IP_Address (NO1)>	Yes					
<p>6. <input type="checkbox"/></p>	<p>Export the initial configuration</p>	<p>1. Navigate to <b>Configuration &gt; Servers</b>.</p>  <p>2. From the GUI screen, select the NOAM server and click <b>Export</b> to generate the initial configuration data for that server.</p> 				
<p>7. <input type="checkbox"/></p>	<p><b>NOAM:</b> Copy configuration file to 1<sup>st</sup> NOAM server</p>	<p>1. Establish an SSH session to the 1<sup>st</sup> NOAM server by logging in as the <b>admusr</b> user.</p> <p>2. Copy the configuration file created in the previous step from the /var/TKLC/db/filemgmt directory on the 1<sup>st</sup> NOAM to the /var/tmp directory.</p> <p>The configuration file has a filename like <b>TKLCConfigData.&lt;hostname&gt;.sh</b>. The following is an example:</p> <pre data-bbox="544 1220 1401 1318">\$ sudo cp /var/TKLC/db/filemgmt/TKLCConfigData.blade01.sh /var/tmp/TKLCConfigData.sh</pre>				
<p>8. <input type="checkbox"/></p>	<p><b>NOAM:</b> Wait for configuration to complete</p>	<p>The automatic configuration daemon looks for the file named <b>TKLCConfigData.sh</b> in the <b>/var/tmp</b> directory, implements the configuration in the file, and then prompts the user to reboot the server.</p> <p>Wait to be prompted to reboot the server, but <b>DO NOT</b> reboot the server, it is rebooted later on in this procedure.</p> <p><b>Note:</b> Ignore the warning about removing the USB key, since no USB key is present.</p>				

Step#	Procedure	Description
9. <input type="checkbox"/>	<b>NOAM:</b> Set the time zone and reboot the server	<p>1. From the command line prompt, execute <b>set_ini_tz.pl</b>.</p> <p>This sets the system time zone. The following command example uses the America/New_York time zone.</p> <p>2. Replace as appropriate with the time zone you have selected for this installation.</p> <p>For a full list of valid time zones, see List of Frequently Used Time Zones.</p> <pre>\$ sudo /usr/TKLC/appworks/bin/set_ini_tz.pl "America/New_York" \$ sudo init 6</pre>
10. <input type="checkbox"/>	<b>1<sup>st</sup> NOAM:</b> Configure networking for dedicated netbackup interface (optional)	<p><b>Note:</b> Only execute this step if your NOAM is using a dedicated Ethernet interface for NetBackup.</p> <p>Obtain a terminal window to the 1<sup>st</sup> NOAM server by logging in as the <b>admusr</b> user.</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm set --device=NetBackup --type=Ethernet --onboot=yes --address=&lt;NO1_NetBackup_IP_Address&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; \$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=netbackup --address=&lt;NetBackup_Svr_Network_ID&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; --gateway=&lt;NO1_NetBackup_Gateway_IP_Address&gt;</pre>
11. <input type="checkbox"/>	<b>1<sup>st</sup> NOAM Server:</b> Verify server health	<p>Execute the following command on the 1<sup>st</sup> NOAM server and make sure that no errors are returned:</p> <pre>\$ sudo syscheck Running modules in class hardware...OK Running modules in class disk...OK Running modules in class net...OK Running modules in class system...OK Running modules in class proc...OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log</pre>

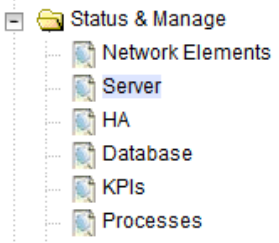
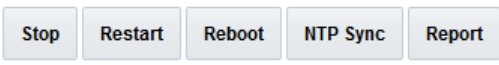
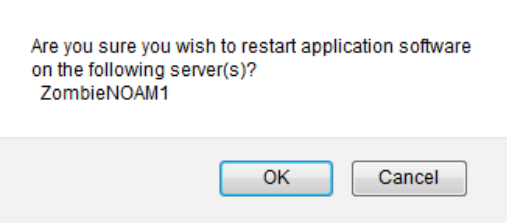
**Procedure 4. Configure the NOAM Server Group**

Step#	Procedure	Description
<p>This procedure configures the NOAM server group.                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Login</p>	<p>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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;N01_XMI_IP_Address&gt;">https://&lt;N01_XMI_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <hr/> <p><i>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</i></p> <p><i>Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.</i></p>



Step#	Procedure	Description																		
2. <input type="checkbox"/>	<b>NOAM GUI:</b> Enter NOAM server group data	<ol style="list-style-type: none"> <li>Navigate to <b>Configuration &gt; Server Groups</b>.                              </li> <li>Click <b>Insert</b> and fill the following fields:                             <div style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid #ccc; margin-bottom: 5px;"> <span>Insert</span> <span>Edit</span> <span>Delete</span> <span>Report</span> </div> <p> <b>Server Group Name:</b> &lt;Server Group Name&gt;  <b>Level:</b> A  <b>Parent:</b> None  <b>Function:</b> DSR (Active/Standby Pair)  <b>WAN Replication Connection Count:</b> Use Default Value                             </p> <p><b>Adding new server group</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Desc</th> </tr> </thead> <tbody> <tr> <td>Server Group Name *</td> <td><input type="text" value="ZombieNOAM"/></td> <td>Uniqu requir</td> </tr> <tr> <td>Level *</td> <td>A <input type="button" value="v"/></td> <td>Selec</td> </tr> <tr> <td>Parent *</td> <td>NONE <input type="button" value="v"/></td> <td>Selec</td> </tr> <tr> <td>Function *</td> <td>DSR (active/standby pair) <input type="button" value="v"/></td> <td>Selec</td> </tr> <tr> <td>WAN Replication Connection Count</td> <td><input type="text" value="1"/></td> <td>Speci</td> </tr> </tbody> </table> <div style="display: flex; justify-content: space-between; border-top: 1px solid #ccc; margin-top: 5px;"> <span>Ok</span> <span>Apply</span> <span>Cancel</span> </div> </div> </li> <li>Click <b>OK</b> when all fields are filled in.</li> </ol>	Field	Value	Desc	Server Group Name *	<input type="text" value="ZombieNOAM"/>	Uniqu requir	Level *	A <input type="button" value="v"/>	Selec	Parent *	NONE <input type="button" value="v"/>	Selec	Function *	DSR (active/standby pair) <input type="button" value="v"/>	Selec	WAN Replication Connection Count	<input type="text" value="1"/>	Speci
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WAN Replication Connection Count	<input type="text" value="1"/>	Speci																		

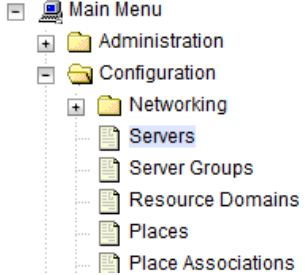

Step#	Procedure	Description						
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Edit the NOAM server group</p>	<ol style="list-style-type: none"> <li>From the GUI, navigate to <b>Configuration &gt; Server Groups</b>.</li> <li>Select the new server group and click <b>Edit</b>.</li> </ol> <div data-bbox="500 352 850 405" style="border: 1px solid gray; padding: 2px; margin: 5px 0;"> <span style="border: 1px solid gray; padding: 2px 5px;">Insert</span> <span style="border: 1px solid gray; padding: 2px 5px;">Edit</span> <span style="border: 1px solid gray; padding: 2px 5px;">Delete</span> <span style="border: 1px solid gray; padding: 2px 5px;">Report</span> </div> <ol style="list-style-type: none"> <li>Select the network element that represents the NOAM.</li> </ol> <table border="1" data-bbox="500 478 1243 590" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Server</th> <th style="width: 30%;">SG Inclusion</th> <th style="width: 30%;">Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>ZombieNOAM1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>In the portion of the screen that lists the servers for the server group, find the NOAM server being configured.</li> <li>Mark the <b>Include in SG</b> checkbox.</li> <li>Leave other boxes blank.</li> <li>Click <b>OK</b>.</li> </ol>	Server	SG Inclusion	Preferred HA Role	ZombieNOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare
Server	SG Inclusion	Preferred HA Role						
ZombieNOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare						
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>NOAM:</b> Verify NOAM blade server role</p>	<ol style="list-style-type: none"> <li>From terminal window to the iLO of the first NOAM server, execute the following command:</li> </ol> <div data-bbox="500 898 1338 951" style="border: 1px solid gray; padding: 2px; margin: 5px 0;"> <pre>\$ha.mystate</pre> </div> <ol style="list-style-type: none"> <li>Verify the <b>DbReplication</b> and <b>VIP</b> items under the <b>resourceId</b> column have a value of <b>Active</b> under the <b>role</b> column.</li> </ol> <p>You might have to wait a few minutes for it to become in that state.</p> <p>Example:</p> <pre data-bbox="500 1108 1430 1381">[admusr@HPC-NO2 ~]\$ ha.mystate resourceId      role      node DC  subResources      lastUpdate ----- DbReplication  Act/Act  A2071.032 *    0      171220:070034.301 VIP            Act/Act  A2071.032 *    0      171220:070034.371 CacdProcessRes Act/Act  A2071.032 *    0      171220:070034.371 CAPM_HELP_Proc Act/OOS  A2071.032 *    0      171220:064311.992 DSROAM_Proc    Act/Act  A2071.032 *    0      171220:070034.295 CAPM_PSFS_Proc Act/Act  A2071.032 *    0      171220:070034.295 VSTPOAM_Proc   Act/OOS  A2071.032 *    0      171220:064311.994 [admusr@HPC-NO2 ~]\$</pre>						

Step#	Procedure	Description
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Restart NOAM server</p>	<p>1. From the NOAM GUI, navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Select the NOAM server. Click <b>Restart</b>.</p>  <p>3. Click <b>OK</b> on the confirmation screen.</p>  <p>4. Wait for restart to complete.</p>

**Procedure 5. Configure the Second NOAM Server**

Step#	Procedure	Description
<p>This procedure configures the second NOAM server.                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Login</p>	<p>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:</p> <div data-bbox="495 520 1349 569" style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;NO1_XMI_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div data-bbox="527 646 1365 1430" style="text-align: center;">  </div>
<p>2. <input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Insert the 2<sup>nd</sup> NOAM server</p>	<p>1. Navigate to <b>Configuration &gt; Servers</b>.</p> <div data-bbox="495 1514 833 1801" style="border: 1px solid gray; padding: 5px; margin: 5px 0;">  </div> <p>2. Click <b>Insert</b> to insert the 2<sup>nd</sup> NOAM server into servers table (the first or server).</p>

Step#	Procedure	Description				
		<div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> <span style="float: right;"> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Export"/> <input type="button" value="Report"/> </span> <p>3. Enter the fields as follows:</p> <p><b>Hostname:</b> &lt;Hostname&gt;  <b>Role:</b> NETWORK OAM&amp;P  <b>System ID:</b> &lt;Site System ID&gt;  <b>Hardware Profile:</b> DSR TVOE Guest  <b>Network Element Name:</b> [Choose NE from dropdown box]</p> <div style="border: 1px solid gray; padding: 5px;"> <p>Hostname * <input type="text" value="ZombieNOAM2"/></p> <p>Role * <input type="text" value="NETWORK OAM&amp;P"/> ▼</p> <p>System ID <input type="text"/></p> <p>Hardware Profile <input type="text" value="DSR TVOE Guest"/> ▼</p> <p>Network Element Name * <input type="text" value="ZombieNOAM"/> ▼</p> <p>Location <input type="text" value="pc5010439"/></p> </div> <p>The network interface fields become available with selection choices based on the chosen hardware profile and network element.</p> <p>4. Type the server IP addresses for the XMI network. Select <b>XMI</b> for the interface. Leave the <b>VLAN</b> checkbox unchecked.</p> <p><b>Note:</b> The XMI server IP must match '\$NOAM2_xmi_IP_address' configured in Procedure 2.</p> <p>5. Type the server IP addresses for the IMI network. Select <b>IMI</b> for the interface. Leave the <b>VLAN</b> checkbox unchecked.</p> <p><b>Note:</b> The IMI server IP must match '\$NOAM2_imi_IP_address' configured in Procedure 2.</p> <div style="border: 1px solid gray; padding: 5px;"> <p>XMI (10.240.213.0/24) <input type="text" value="10.240.213.3"/> <input type="text" value="xmi"/> ▼ <input type="checkbox"/> VLAN (4)</p> <p>IMI (169.254.1.0/24) <input type="text" value="169.254.1.3"/> <input type="text" value="imi"/> ▼ <input type="checkbox"/> VLAN (3)</p> </div> <p>6. Add the following NTP servers:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">NTP Server</th> <th style="width: 30%;">Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;TVOE_XMI_IP_Address(NO2)/ TVOE_Mgmt_IP_Address(NO2)&gt;</td> <td style="text-align: center;">Yes</td> </tr> </tbody> </table> <p>7. Click <b>OK</b> when you have completed entering all the server data.</p> </div>	NTP Server	Preferred?	<TVOE_XMI_IP_Address(NO2)/ TVOE_Mgmt_IP_Address(NO2)>	Yes
NTP Server	Preferred?					
<TVOE_XMI_IP_Address(NO2)/ TVOE_Mgmt_IP_Address(NO2)>	Yes					

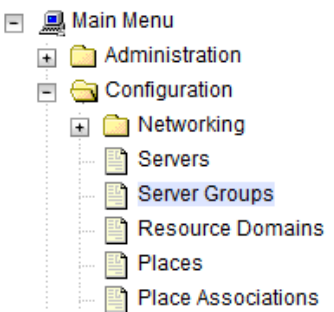
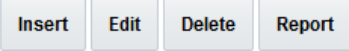
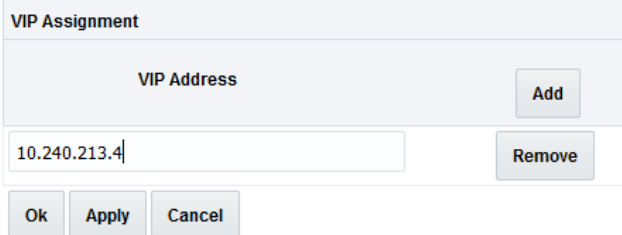
Step#	Procedure	Description
3. <input type="checkbox"/>	<b>NOAM GUI:</b> Export the initial configuration	<p>1. Navigate to <b>Configuration &gt; Servers</b>.</p>  <p>2. From the GUI screen, select the NOAM server and click <b>Export</b> to generate the initial configuration data for that server.</p> 
4. <input type="checkbox"/>	<b>1<sup>st</sup> NOAM Server:</b> Copy configuration file to 2 <sup>nd</sup> NOAM server	<p>1. Obtain a terminal session to the 1<sup>st</sup> NOAM as the <b>admusr</b> user.</p> <p>2. Execute the following command to configure the 2<sup>nd</sup> NOAM server:</p> <pre data-bbox="500 856 1417 961">\$ sudo scp -r /var/TKLC/db/filemgmt/TKLCConfigData.&lt;NOAM2_Hostname&gt;.sh admusr@&lt;NOAM2_xmi_IP_address&gt;:/var/tmp/TKLCConfigData.sh</pre>
5. <input type="checkbox"/>	<b>2<sup>nd</sup> NOAM Server:</b> Verify configuration was called and reboot the server	<p>1. Establish an SSH session to the 2<sup>nd</sup> NOAM server (NOAM2_xmi_IP_address)</p> <p>2. Login as the <b>admusr</b> user.</p> <p>3. The automatic configuration daemon looks for the file named <b>TKLCConfigData.sh</b> in the <b>/var/tmp</b> directory, implements the configuration in the file, and asks the user to reboot the server.</p> <p>4. Verify configuration was called by checking the following file.</p> <pre data-bbox="500 1276 1417 1392">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify the following message is displayed: [SUCCESS] script completed successfully!</p> <p>5. Reboot the server.</p> <pre data-bbox="500 1455 1417 1497">\$ sudo init 6</pre> <p>6. Wait for the server to reboot.</p>

Step#	Procedure	Description
6. <input type="checkbox"/>	<b>2<sup>nd</sup> NOAM Server:</b> Configure networking for dedicated netbackup interface (optional)	<p><b>Note:</b> Only execute this step if your NOAM is using a dedicated Ethernet interface for NetBackup.</p> <p>Obtain a terminal window to the 2<sup>nd</sup> NOAM server by logging in as the <b>admusr</b> user.</p> <pre data-bbox="496 401 1409 709">\$ sudo /usr/TKLC/plat/bin/netAdm set --device=netbackup --type=Ethernet --onboot=yes --address=&lt;NO2_NetBackup_IP_Address&gt; --netmask=&lt;NO2_NetBackup_NetMask&gt; \$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=netbackup --address=&lt;NetBackup_Svr_Network_ID&gt; --netmask=&lt;NO2_NetBackup_NetMask&gt; --gateway=&lt;NO2_NetBackup_Gateway_IP_Address&gt;</pre>
7. <input type="checkbox"/>	<b>2<sup>nd</sup> NOAM Server:</b> Verify server health	<p>Execute the following command on the 2<sup>nd</sup> NOAM server and make sure that no errors are returned.</p> <pre data-bbox="496 800 1409 1058">\$ sudo syscheck Running modules in class hardware...OK Running modules in class disk...OK Running modules in class net...OK Running modules in class system...OK Running modules in class proc...OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log</pre>

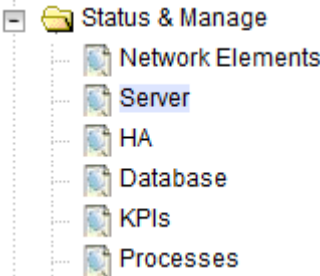
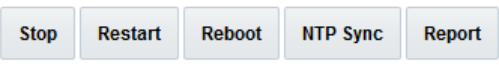
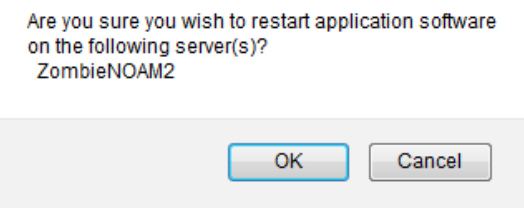
**Procedure 6. Complete NOAM Server Group Configuration**

Step #	Procedure	Description
<p>This procedure finishes configuring the NOAM server group.                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Login</p>	<p>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:</p> <div data-bbox="495 548 1349 596" style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;NO1_XMI_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div data-bbox="495 667 1365 1457" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> </div>



Step #	Procedure	Description									
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b>                      Edit the NOAM server group data and add VIP address</p>	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Select the NOAM server group and click <b>Edit</b>.</p>  <p>3. Add the 2<sup>nd</sup> NOAM server to the server group by marking the <b>Include in SG</b> checkbox for the 2<sup>nd</sup> NOAM server.</p> <table border="1" data-bbox="500 846 1427 1077"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>ZombieNOAM1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> <tr> <td>ZombieNOAM2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> </tbody> </table> <p>4. Click <b>Apply</b>.</p> <p>5. Add a NOAM VIP by clicking <b>Add</b>.</p> <p>6. Type the <b>VIP Address</b> and click <b>OK</b>.</p> 	Server	SG Inclusion	Preferred HA Role	ZombieNOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare	ZombieNOAM2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare
Server	SG Inclusion	Preferred HA Role									
ZombieNOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare									
ZombieNOAM2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare									

Step #	Procedure	Description
<p>3. <input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Establish GUI session</p>	<p>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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;NOAM_XMI_VIP_IP_Address&gt;">https://&lt;NOAM_XMI_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <p><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p><small>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</small></p>
<p>4. <input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Wait for remote database alarm to clear</p>	<p>1. Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p>  <p>2. Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p>

Step #	Procedure	Description
5. <input type="checkbox"/>	<b>NOAM GUI:</b> Restart 2 <sup>nd</sup> NOAM server	<p>1. From the NOAM GUI, navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Select the 2<sup>nd</sup> NOAM server. Click <b>Restart</b>.</p>  <p>3. Click <b>OK</b> to the confirmation screen.</p>  <p>4. Wait for restart to complete 3-5 minutes before proceeding.</p>

#### 4.1.4 Install NetBackup Client (Optional)

##### Procedure 7. Install NetBackup Client (Optional)

Step#	Procedure	Description
<p>This procedure downloads and installs NetBackup client software on the server. Location of the bptest_notify and bpend_notify scripts is required for the execution of this procedure. For Appworks-based applications, the scripts are located as follows:</p> <ul style="list-style-type: none"> <li>• /usr/TKLC/appworks/sbin/bptest_notify</li> <li>• /usr/TKLC/appworks/sbin/bpend_notify</li> </ul> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Install NetBackup client software	<p>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.</p> <p><b>Note:</b> This is not common. If the answer to the previous question is not known, then use NetBackup Client Installation Using PLATCFG.</p>
2. <input type="checkbox"/>	Install NetBackup client software	<p>Choose the same method used in step 1 to install NetBackup on the 2<sup>nd</sup> NOAM.</p>

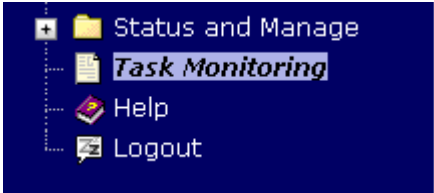
## 4.2 Install and Configure DR-NOAM Servers (Optional)

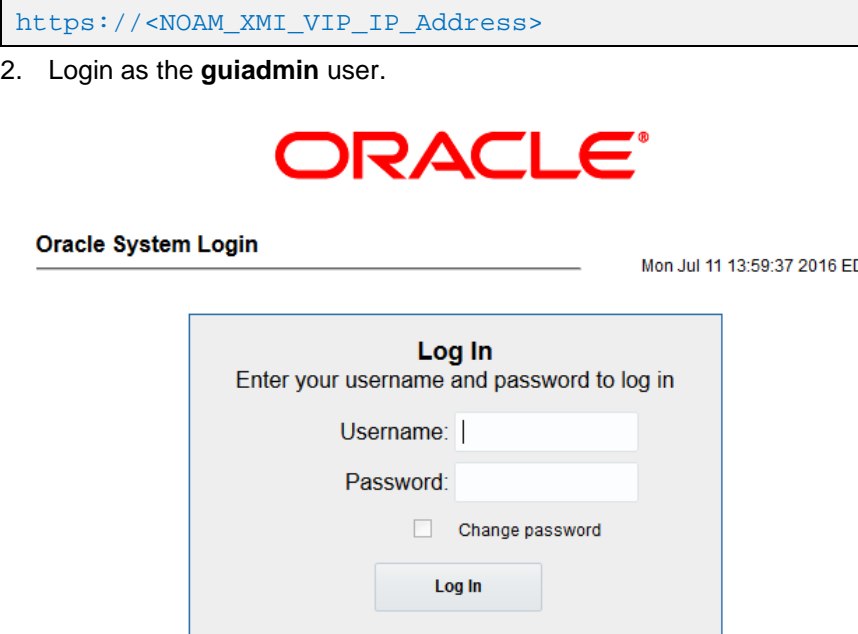
### 4.2.1 Execute DSR Fast Deployment for DR-NOAMs

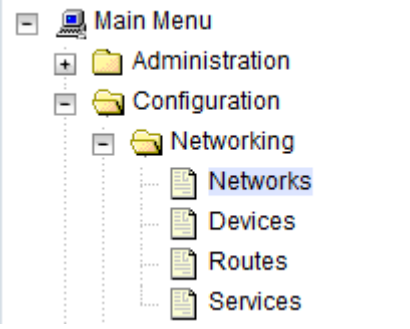

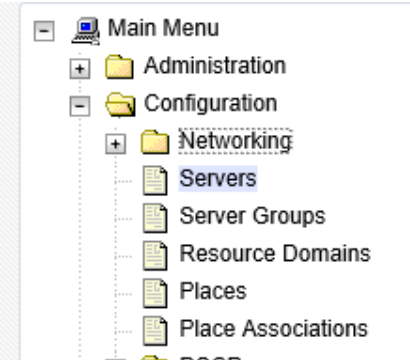
#### Procedure 8. NOAM Configuration for DR Site

Step#	Procedure	Description
<p>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.</p> <p><b>Prerequisite:</b> TVOE and PMAC (virtualized) have been installed on the First DR-NOAM RMS server as described in [6].</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>PMAC Server:</b> Login	Establish an SSH session to the PMAC server and login as <b>admusr</b> .
2. <input type="checkbox"/>	<b>PMAC Server:</b> Update the DSR fast deployment template (Part 1)	<p>1. Perform the following command to navigate to the directory containing the DSR fast deployment template:</p> <pre style="border: 1px solid black; padding: 2px;">\$ cd /usr/TKLC/smac/etc</pre> <p>DSR Fast Deployment Template Names:</p> <p><b>NOAM on Rack Mount Servers:</b> DSR_NOAM_FD_RMS.xml</p> <p><b>NOAM on Blade Servers:</b> DSR_NOAM_FD_Blade.xml</p> <p>2. Update the following items within the Fast deployment xml:</p> <p><b>TPD and DSR ISO:</b></p> <pre style="border: 1px solid black; padding: 2px;">&lt;software&gt;   &lt;!--Target TPD release Image here --&gt;   &lt;image id="tpd"&gt;     &lt;name&gt;TPD.install- 7.7.0.0.0-88.68.0-OracleLinux6.10-x86_64&lt;/name&gt;   &lt;/image&gt;   &lt;!--Target DSR release Image here --&gt;   &lt;image id="dsr"&gt;     &lt;name&gt;DSR- 8.5.0.0.0_90.11.0-x86_64&lt;/name&gt;   &lt;/image&gt; &lt;/software&gt;</pre> <p><b>Note:</b> These are the images uploaded from Procedure 1. Load Application and TPD ISO onto PMAC Server. Do <b>NOT</b> append <b>.iso</b> to the image name. To copy and paste the image name from the command line, issue the following command:</p> <pre style="border: 1px solid black; padding: 2px;">\$ ls /var/TKLC/smac/image/repository</pre>

Step#	Procedure	Description
3. <input type="checkbox"/>	<b>PMAC Server:</b> Update the DSR fast deployment template for bond 1 – optional (Part 2)	<b>Bond 1 Creation:</b> <b>Skip this step if Bond1 will not be created.</b> <ol style="list-style-type: none"> <li>Uncomment the following items from <b>BOTH</b> tvoe host id="NOAM1" and tvoe host id="NOAM2" by removing the encapsulated '&lt;!--' '--&gt;' brackets as highlighted below:</li> <li>Update the Ethernet interfaces that are to be enslaved by bond1.  <pre> &lt;!-- &lt;tpdinterface id="bond1"&gt; &lt;device&gt;bond1&lt;/device&gt; &lt;type&gt;Bonding&lt;/type&gt; &lt;bonddata&gt; &lt;bondinterfaces&gt;&lt;bond1_eth_interface1&gt;,&lt;bond1_eth_inter face2&gt;&lt;/bondinterfaces&gt; &lt;bondopts&gt;mode=active-backup,miimon=100&lt;/bondopts&gt; &lt;/bonddata&gt; &lt;onboot&gt;yes&lt;/onboot&gt; &lt;bootproto&gt;none&lt;/bootproto&gt; &lt;/tpdinterface&gt; --&gt; </pre> </li> </ol>
4. <input type="checkbox"/>	<b>PMAC Server:</b> Update the DSR fast deployment template management /XMI combination (Part 3)	<p>Only execute this step if your management network and xmi networks are combined; otherwise, skip this step.</p> <ol style="list-style-type: none"> <li>Modify the template to reflect the following on <b>BOTH</b> tvoe host id="NOAM1" and tvoe host id="NOAM2":  <b>Remove</b> the following stanzas:  <pre> &lt;mgmtbondinterface&gt; &lt;mgmtvlan&gt; &lt;mgmtsubnet&gt; &lt;mgmtdefaultgateway&gt; &lt;tpdinterface id="management"&gt; (and all sub elements) &lt;tpdbridge id="management"&gt; (and all sub elements) </pre> <b>Replace</b> the following under &lt;tpdroute id="management_default"&gt;:            management with xmi for &lt;device&gt;management&lt;/device&gt;            \$\$mgmtdefaultgateway\$\$ with \$\$xmidefaultgateway\$\$ for            &lt;gateway&gt;\$\$mgmtdefaultgateway\$\$&lt;/gateway&gt; </li> <li>Add the following under &lt;tpdbridge id="xmi"&gt;:  <pre> &lt;address&gt;&lt;TVOE_Host_Server_XMI_IP&gt;&lt;/address&gt; &lt;netmask&gt; \$\$xmisubnet\$\$&lt;/netmask&gt; </pre> <b>Note:</b> If the IP address is IPv6, then use &lt;IPv6address&gt; as the prefix.            For example:  <pre> &lt;IPv6address&gt;2405:200:330:A127:101::a5/112&lt;/IPv6address &gt; </pre> </li> </ol>

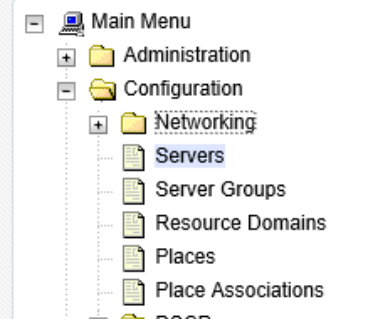

Step#	Procedure	Description																																																																																										
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>PMAC Server:</b> Validate and run the fast deployment file</p>	<ol style="list-style-type: none"> <li>Validate/Create the fast deployment file by executing the following command: <b>For NOAMs deployed on rack mount servers:</b> <pre>\$ sudo fdconfig validate --file=DSR_NOAM_FD_RMS.xml</pre><b>For NOAMs deployed on blade servers:</b> <pre>\$ sudo fdconfig validate --file=DSR_NOAM_FD_Blade.xml</pre> <b>Note:</b> Refer to DSR Fast Deployment Configuration for information of the variables that must be input during execution of NOAM fast deployment.</li> <li>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: <pre>--- NOTICE --- Config Data saved as a new file: "./DSR_NOAM_FD_Blade_20151217T102402.xml" --- NOTICE ---  Configuration file validation successful. Validation complete [admusr@GuestPMACeco upgrade]\$</pre></li> <li>Execute the following commands to run the fast deployment file: <pre>\$ screen \$ sudo fdconfig config --file=&lt;Created_FD_File&gt;.xml</pre> <b>Note:</b> This is a long duration command. If the screen command was run prior to executing the fdconfig, perform a <b>screen -dr</b> to resume the screen session in the event of a terminal timeout, etc.</li> </ol>																																																																																										
<p>6.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Monitor the configuration</p>	<ol style="list-style-type: none"> <li>If not already done so, establish a GUI session on the PMAC server.</li> <li>Navigate to <b>Task Monitoring</b>. </li> <li>Monitor the DSR NOAM TVOE configuration to completion. <table border="1" data-bbox="492 1535 1409 1812"> <thead> <tr> <th>ID</th> <th>Action</th> <th>RMS</th> <th>Guest</th> <th>Status</th> <th>Phase</th> <th>Time</th> <th>Start</th> <th>End</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1570</td> <td>Accept</td> <td>RMS: pc5010439</td> <td>Guest: Brains_DSRNOAM2</td> <td>Success</td> <td>COMPLETE</td> <td>N/A</td> <td>0:01:05</td> <td>2016-09-15 15:48:55</td> <td>100%</td> </tr> <tr> <td>1569</td> <td>Accept</td> <td>RMS: pc5010441</td> <td>Guest: Brains_DSRNOAM1</td> <td>Success</td> <td>COMPLETE</td> <td>N/A</td> <td>0:01:05</td> <td>2016-09-15 15:48:55</td> <td>100%</td> </tr> <tr> <td>1568</td> <td>Upgrade</td> <td>RMS: pc5010439</td> <td>Guest: Brains_DSRNOAM2</td> <td>Success</td> <td>COMPLETE</td> <td></td> <td>0:10:05</td> <td>2016-09-15 15:37:26</td> <td>100%</td> </tr> <tr> <td>1567</td> <td>Upgrade</td> <td>RMS: pc5010441</td> <td>Guest: Brains_DSRNOAM1</td> <td>Success</td> <td>COMPLETE</td> <td></td> <td>0:10:05</td> <td>2016-09-15 15:37:26</td> <td>100%</td> </tr> <tr> <td>1566</td> <td>Install OS</td> <td>RMS: pc5010441</td> <td>Guest: Brains_DSRNOAM1</td> <td>Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64</td> <td>COMPLETE</td> <td>N/A</td> <td>0:14:00</td> <td>2016-09-15 15:21:48</td> <td>100%</td> </tr> <tr> <td>1565</td> <td>Install OS</td> <td>RMS: pc5010439</td> <td>Guest: Brains_DSRNOAM2</td> <td>Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64</td> <td>COMPLETE</td> <td>N/A</td> <td>0:14:13</td> <td>2016-09-15 15:21:38</td> <td>100%</td> </tr> <tr> <td>1564</td> <td>Create Guest</td> <td>RMS: pc5010441</td> <td>Guest: Brains_DSRNOAM1</td> <td>Guest creation completed (Brains_DSRNOAM1)</td> <td>COMPLETE</td> <td></td> <td>0:00:22</td> <td>2016-09-15 15:21:08</td> <td>100%</td> </tr> <tr> <td>1563</td> <td>Create Guest</td> <td>RMS: pc5010439</td> <td>Guest: Brains_DSRNOAM2</td> <td>Guest creation completed (Brains_DSRNOAM2)</td> <td>COMPLETE</td> <td></td> <td>0:00:12</td> <td>2016-09-15 15:21:07</td> <td>100%</td> </tr> </tbody> </table> </li> </ol>	ID	Action	RMS	Guest	Status	Phase	Time	Start	End	Progress	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_DSRNOAM1	Success	COMPLETE	N/A	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		0:10:05	2016-09-15 15:37:26	100%	1566	Install OS	RMS: pc5010441	Guest: Brains_DSRNOAM1	Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64	COMPLETE	N/A	0:14:00	2016-09-15 15:21:48	100%	1565	Install OS	RMS: pc5010439	Guest: Brains_DSRNOAM2	Done: TPD.install-7.3.0.0.0_88.27.0-OracleLinux6.8-x86_64	COMPLETE	N/A	0:14:13	2016-09-15 15:21:38	100%	1564	Create Guest	RMS: pc5010441	Guest: Brains_DSRNOAM1	Guest creation completed (Brains_DSRNOAM1)	COMPLETE		0:00:22	2016-09-15 15:21:08	100%	1563	Create Guest	RMS: pc5010439	Guest: Brains_DSRNOAM2	Guest creation completed (Brains_DSRNOAM2)	COMPLETE		0:00:12	2016-09-15 15:21:07	100%
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Step#	Procedure	Description
7. <input type="checkbox"/>	<b>PMAC Server:</b> Backup FDC file	<p>Create the <b>fdc</b> directory so the DR-NOAM fdc file is backed up by PMAC: Issue the following commands:</p> <ol style="list-style-type: none"> <li>1. Create the fdc backup directory:  <pre>\$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/fdc</pre> </li> <li>2. Copy the fdc file to the fdc backup directory:  <pre>\$ sudo cp /usr/TKLC/smac/etc/&lt;fdc_file&gt; /usr/TKLC/smac/etc/fdc/</pre> </li> </ol>
8. <input type="checkbox"/>	Save the NOAM network data to an XML file	<p>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.</p> <p>A suggested filename format is <b>Appname_NName_NetworkElement.XML</b>, so for example a DSR2 NOAM network element XML file would have a filename <b>DSR2_NOAM_NetworkElement.xml</b>.</p> <p>Alternatively, you can update the sample DSR network element file. It can be found on the management server at:</p> <pre>/usr/TKLC/smac/etc/SAMPLE-NetworkElement.xml</pre> <p>A sample XML file can also be found in Sample Network Element and Hardware Profiles.</p> <p><b>Note:</b> 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.</p>
9. <input type="checkbox"/>	<b>Primary NOAM VIP GUI:</b> Login	<ol style="list-style-type: none"> <li>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:  <pre>https://&lt;NOAM_XMI_VIP_IP_Address&gt;</pre> </li> <li>2. Login as the <b>guiadmin</b> user.</li> </ol> 

Step#	Procedure	Description																								
<p>10.</p> <p><input type="checkbox"/></p>	<p><b>PRIMARY NOAM VIP GUI:</b> Insert the DR NOAM network element</p>	<p>1. Navigate to <b>Configuration &gt; Networking &gt; Networks</b>.</p>  <p>2. Click <b>Browse</b> and type the pathname to the DR-NOAM network XML file.</p> <p>To create a new Network Element, upload a valid configuration file:</p> <p><input type="button" value="Browse..."/> zombie.xml <input type="button" value="Upload File"/></p> <p>Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.</p> <p>3. Click <b>Upload File</b> to upload the XML file and configure the DR-NOAM network element.</p> <p>4. 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.</p>  <table border="1" data-bbox="495 1144 1404 1218"> <thead> <tr> <th>Network Name</th> <th>Network Type</th> <th>Default</th> <th>Locked</th> <th>Routed</th> <th>VLAN</th> <th>Configured Interfaces</th> <th>Network</th> </tr> </thead> <tbody> <tr> <td>XML</td> <td>OAM</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>4</td> <td>0</td> <td>10.240.213.0/24</td> </tr> <tr> <td>IMP</td> <td>OAM</td> <td>No</td> <td>Yes</td> <td>No</td> <td>3</td> <td>0</td> <td>169.254.1.0/24</td> </tr> </tbody> </table>	Network Name	Network Type	Default	Locked	Routed	VLAN	Configured Interfaces	Network	XML	OAM	Yes	Yes	Yes	4	0	10.240.213.0/24	IMP	OAM	No	Yes	No	3	0	169.254.1.0/24
Network Name	Network Type	Default	Locked	Routed	VLAN	Configured Interfaces	Network																			
XML	OAM	Yes	Yes	Yes	4	0	10.240.213.0/24																			
IMP	OAM	No	Yes	No	3	0	169.254.1.0/24																			
<p>11.</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP GUI:</b> Insert the 1st DR-NOAM server</p>	<p>1. Navigate to <b>Configuration &gt; Servers</b>.</p>  <p>2. Click <b>Insert</b> to insert the new DR-NOAM server into servers table.</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Export"/> <input type="button" value="Report"/></p> <p>3. Enter the fields as follows:</p> <p><b>Hostname:</b> <span style="color: blue;">&lt;Hostname&gt;</span></p> <p><b>Role:</b> NETWORK OAM&amp;P</p>																								



Step#	Procedure	Description																										
		<p><b>System ID:</b> &lt;Site System ID&gt;  <b>Hardware Profile:</b> <a href="#">DSR TVOE Guest</a>  <b>Network Element Name:</b> [Choose NE from dropdown box]</p> <p><b>Adding a new server</b></p> <table border="1" data-bbox="505 407 1203 898"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Hostname *</td> <td>ZombieDRNOAM1</td> </tr> <tr> <td>Role *</td> <td>NETWORK OAM&amp;P</td> </tr> <tr> <td>System ID</td> <td></td> </tr> <tr> <td>Hardware Profile</td> <td>DSR TVOE Guest</td> </tr> <tr> <td>Network Element Name *</td> <td>ZombieDRNOAM</td> </tr> <tr> <td>Location</td> <td>pc5010441</td> </tr> </tbody> </table> <p>The network interface fields become available with selection choices based on the chosen hardware profile and network element.</p> <p>4. Type the server IP addresses for the XMI network. Select <b>XMI</b> for the interface. <b>Leave the VLAN checkbox unchecked.</b></p> <p><b>Note:</b> The XMI server IP must match '\$DR-NOAM_xmi_IP_address' configured in step 2.</p> <p>5. Type the server IP addresses for the IMI network. Select <b>IMI</b> for the interface. Leave the <b>VLAN</b> checkbox unchecked.</p> <p><b>Note:</b> The IMI server IP must match '\$DR-NOAM_xmi_IP_address' configured in step 2.</p> <table border="1" data-bbox="493 1293 1328 1415"> <tbody> <tr> <td>XMI (10.240.213.0/24)</td> <td>10.240.213.5</td> <td>xmi</td> <td><input type="checkbox"/> VLAN (4)</td> </tr> <tr> <td>IMI (169.254.1.0/24)</td> <td>169.254.1.5</td> <td>imi</td> <td><input type="checkbox"/> VLAN (3)</td> </tr> </tbody> </table> <p>6. Add the following NTP servers:</p> <table border="1" data-bbox="516 1478 1390 1612"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;TVOE_XMI_IP_Address (DR-NO1)/ TVOE_Mgmt_IP_Address (DR-NO1)&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>7. Click <b>OK</b> when you have completed entering all the server data.</p>	Attribute	Value	Hostname *	ZombieDRNOAM1	Role *	NETWORK OAM&P	System ID		Hardware Profile	DSR TVOE Guest	Network Element Name *	ZombieDRNOAM	Location	pc5010441	XMI (10.240.213.0/24)	10.240.213.5	xmi	<input type="checkbox"/> VLAN (4)	IMI (169.254.1.0/24)	169.254.1.5	imi	<input type="checkbox"/> VLAN (3)	NTP Server	Preferred?	<TVOE_XMI_IP_Address (DR-NO1)/ TVOE_Mgmt_IP_Address (DR-NO1)>	Yes
Attribute	Value																											
Hostname *	ZombieDRNOAM1																											
Role *	NETWORK OAM&P																											
System ID																												
Hardware Profile	DSR TVOE Guest																											
Network Element Name *	ZombieDRNOAM																											
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XMI (10.240.213.0/24)	10.240.213.5	xmi	<input type="checkbox"/> VLAN (4)																									
IMI (169.254.1.0/24)	169.254.1.5	imi	<input type="checkbox"/> VLAN (3)																									
NTP Server	Preferred?																											
<TVOE_XMI_IP_Address (DR-NO1)/ TVOE_Mgmt_IP_Address (DR-NO1)>	Yes																											

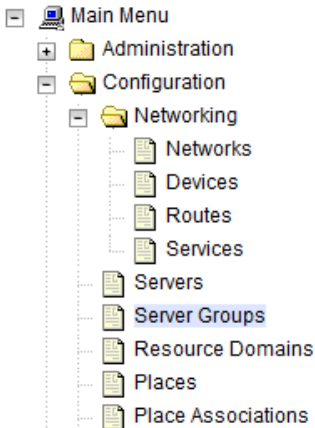
Step#	Procedure	Description
12. <input type="checkbox"/>	<b>PRIMARY NOAM VIP GUI:</b> Export the initial configuration	<p>1. Navigate to <b>Configuration &gt; Servers</b>.</p>  <p>2. From the GUI screen, select the DR-NOAM server and click <b>Export</b> to generate the initial configuration data for that server.</p> 
13. <input type="checkbox"/>	<b>1<sup>st</sup> NOAM Server:</b> Copy configuration file to DR-NOAM NOAM server	<p>1. Obtain a terminal session to the primary NOAM as the <b>admusr</b> user.</p> <p>2. Execute the following command to configure the DR-NOAM server.</p> <pre data-bbox="542 890 1419 1024">\$ sudo scp -r /var/TKLC/db/filemgmt/TKLCConfigData.&lt;DR-NOAM_Hostname&gt;.sh admusr@&lt;DR-NOAM_xmi_IP_address&gt;:/var/tmp/TKLCConfigData.sh</pre>
14. <input type="checkbox"/>	<b>1<sup>st</sup> DR-NOAM Server:</b> Verify configuration was called and reboot the server	<p>1. Establish an SSH session to the DR-NOAM server (DR-NOAM_XMI_IP_address)</p> <p>2. Login as the <b>admusr</b> user.</p> <p>3. The automatic configuration daemon looks for the file named <b>TKLCConfigData.sh</b> in the <b>/var/tmp</b> directory, implements the configuration in the file, and asks the user to reboot the server.</p> <p>4. Verify configuration was called by checking the following file.</p> <pre data-bbox="542 1335 1419 1453">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify the following message is displayed: [SUCCESS] script completed successfully!</p> <p>5. Reboot the server:</p> <pre data-bbox="542 1516 1419 1558">\$ sudo init 6</pre> <p>6. Wait for the server to reboot.</p>

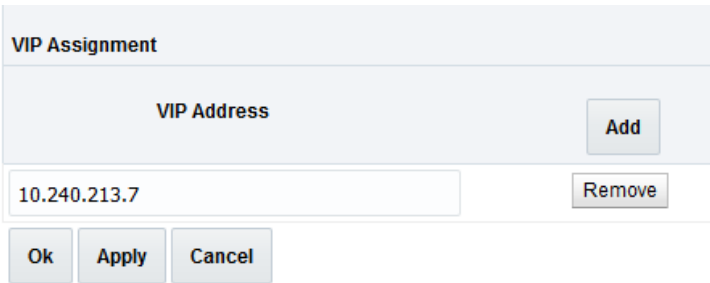
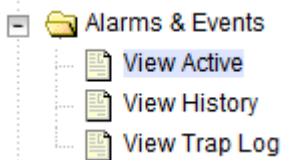
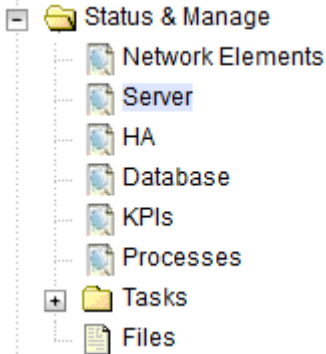
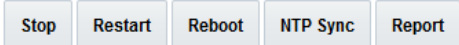
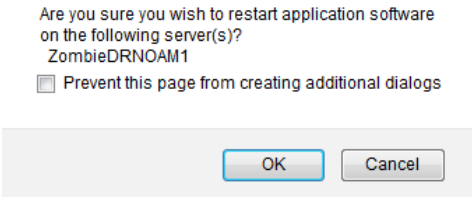
Step#	Procedure	Description				
15. <input type="checkbox"/>	<b>1<sup>st</sup> DR-NOAM:</b> Configure networking for dedicated NetBackup interface (optional)	<p><b>Note:</b> Only execute this step if your DR-NOAM is using a dedicated Ethernet interface for NetBackup.</p> <p>Obtain a terminal window to the 1<sup>st</sup> DR-NOAM server by logging in as the <b>admusr</b> user.</p> <pre> \$ sudo /usr/TKLC/plat/bin/netAdm set --device=netbackup --type=Ethernet --onboot=yes --address=&lt;NO1_NetBackup_IP_Address&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; \$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=netbackup --address=&lt;NetBackup_Svr_Network_ID&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; --gateway=&lt;NO1_NetBackup_Gateway_IP_Address&gt;                     </pre>				
16. <input type="checkbox"/>	<b>1<sup>st</sup> DR-NOAM Server:</b> Verify server health	<p>Execute the following command on the 1<sup>st</sup> DR-NOAM server and make sure that no errors are returned.</p> <pre> \$ sudo syscheck Running modules in class hardware...OK Running modules in class disk...OK Running modules in class net...OK Running modules in class system...OK Running modules in class proc...OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log                     </pre>				
17. <input type="checkbox"/>	Repeat for 2 <sup>nd</sup> DR NOAM server	<p><b>Repeat</b> steps 7 through 12 to configure 2<sup>nd</sup> DR-NOAM server. When inserting the 2<sup>nd</sup> DR-NOAM server, change the NTP server address to the following:</p> <table border="1" data-bbox="516 1150 1388 1278"> <thead> <tr> <th data-bbox="516 1150 1003 1197">NTP Server</th> <th data-bbox="1003 1150 1388 1197">Preferred?</th> </tr> </thead> <tbody> <tr> <td data-bbox="516 1197 1003 1278">&lt;TVOE_XMI_IP_Address (DR-NO2)/ TVOE_Mgmt_IP_Address (DR-NO2)&gt;</td> <td data-bbox="1003 1197 1388 1278">Yes</td> </tr> </tbody> </table>	NTP Server	Preferred?	<TVOE_XMI_IP_Address (DR-NO2)/ TVOE_Mgmt_IP_Address (DR-NO2)>	Yes
NTP Server	Preferred?					
<TVOE_XMI_IP_Address (DR-NO2)/ TVOE_Mgmt_IP_Address (DR-NO2)>	Yes					

## 4.2.2 Pair DR-NOAMs

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

Step#	Procedure	Description
<p>This procedure pairs the DR-NOAM site.</p> <p><b>Prerequisite:</b> Installation for DR-NOAM site complete.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1.</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP GUI:</b> Login</p>	<p>1. 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:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div style="text-align: center;">  </div> <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <hr/> <p><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p><small>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</small></p>

Step#	Procedure	Description									
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP GUI:</b> Enter DR-NOAM server group data</p>	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Click <b>Insert</b> and fill the following fields:</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <p style="text-align: center;"> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/> </p> <p><b>Server Group Name:</b> &lt;Enter Server Group Name&gt;</p> <p><b>Level:</b> A</p> <p><b>Parent:</b> None</p> <p><b>Function:</b> DSR (Active/Standby Pair)</p> <p><b>WAN Replication Connection Count:</b> Use Default Value</p> </div> <p>3. Click <b>OK</b> when all fields are filled in.</p>									
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP GUI:</b> Update server group</p>	<p>1. Select the <b>Server Group</b> that was created in the previous step and click <b>Edit</b>.</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <p style="text-align: center;"> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/> </p> </div> <p>2. Mark the <b>Include in SG</b> checkboxes for <b>both</b> DR-NOAM servers.</p> <p>3. Click <b>Apply</b>.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Server</th> <th style="width: 35%;">SG Inclusion</th> <th style="width: 35%;">Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>ZombieDRNOAM1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> <tr> <td>ZombieDRNOAM2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> </tbody> </table>	Server	SG Inclusion	Preferred HA Role	ZombieDRNOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare	ZombieDRNOAM2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare
Server	SG Inclusion	Preferred HA Role									
ZombieDRNOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare									
ZombieDRNOAM2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare									

Step#	Procedure	Description
<p>4. <input type="checkbox"/></p>	<p>Primary NOAM VIP GUI: Add DR NOAM VIP</p>	<p>1. Click <b>Add</b> for the VIP Address and enter an <b>IP Address</b> for the VIP.</p>  <p>2. Click <b>Apply</b>. Verify the banner information message states data committed.</p>
<p>5. <input type="checkbox"/></p>	<p><b>Primary NOAM VIP</b> GUI: Wait for remote database alarm to clear</p>	<p>1. Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p>  <p>2. Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p>
<p>6. <input type="checkbox"/></p>	<p><b>Primary NOAM VIP</b> GUI: Restart 1<sup>st</sup> DR NOAM server</p>	<p>1. From the NOAM GUI, navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Select the 1<sup>st</sup> DR NOAM server. Click <b>Restart</b>.</p>  <p>3. Click <b>OK</b> on the confirmation screen.</p>  <p>4. Wait for the restart to complete 3-5 minutes before proceeding.</p>

Step#	Procedure	Description
7. <input type="checkbox"/>	<b>Primary NOAM VIP GUI:</b> Restart the application on the 2 <sup>nd</sup> DR NOAM server	Repeat steps 6. , but this time, select the 2 <sup>nd</sup> DR NOAM server.
8. <input type="checkbox"/>	<b>Primary NOAM:</b> Modify DSR OAM process	<ol style="list-style-type: none"> <li>Establish an SSH session to the primary NOAM, login as <b>admusr</b>.</li> <li>Execute the following commands:           <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Retrieve the cluster ID of the DR-NOAM:</p> <pre>\$ sudo iqt -fClusterID TopologyMapping where "NodeID='&lt;DR_NOAM_Host_Name&gt;' " Server_ID      NodeID ClusterID       1 Oahu-DSR-DR-NOAM-2      A1055</pre> <p>Execute the following command to start the DSR OAM process on the DR-NOAM:</p> <pre>\$ echo "&lt;clusterID&gt; DSROAM_Proc Yes"   iload -ha -xun - fcluster -fresource -foptional HaClusterResourceCfg</pre> </div> </li> </ol>

### 4.2.3 Install NetBackup Client (Optional)

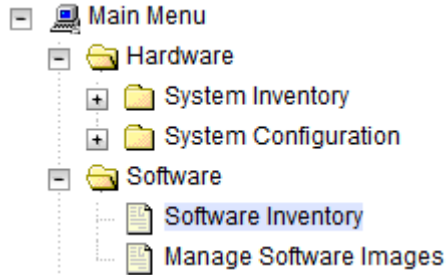
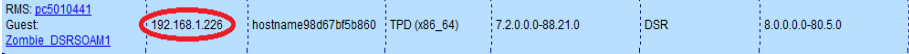
#### Procedure 10. Install NetBackup Client (Optional)

Step#	Procedure	Description
<p>This procedure downloads and installs NetBackup client software on the server.</p> <p>Location of the bpstart_notify and bpend_notify scripts is required for the execution of this procedure. For Appworks-based applications, the scripts are located as follows:</p> <ul style="list-style-type: none"> <li>/usr/TKLC/appworks/sbin/bpstart_notify</li> <li>/usr/TKLC/appworks/sbin/bpend_notify</li> </ul> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Install NetBackup client software	<p>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.</p> <p><b>Note:</b> This is not common. If the answer to the previous question is not known, then use Appendix H.1 NetBackup Client Installation Using PLATCFG.</p>
2. <input type="checkbox"/>	Install NetBackup client software	Choose the same method used in step 1 to install NetBackup on the 2 <sup>nd</sup> NOAM.

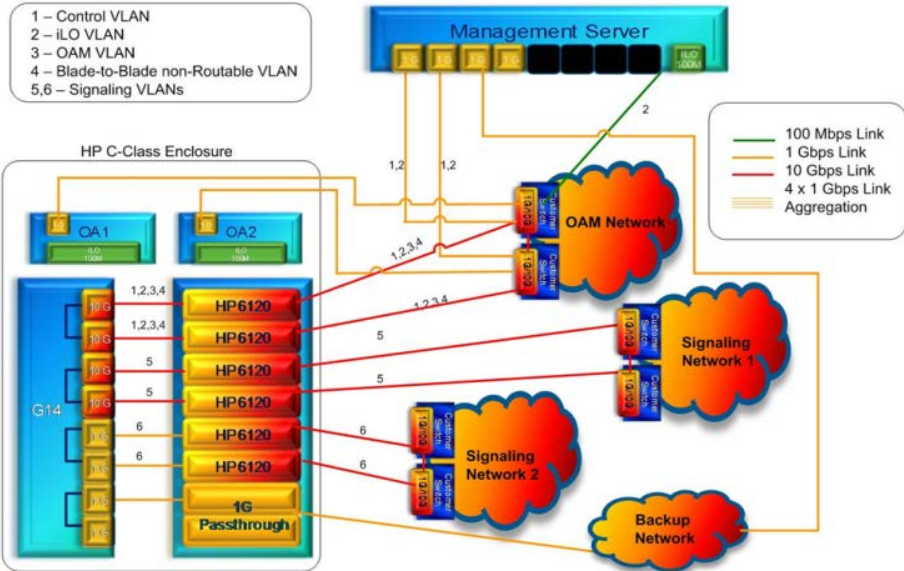
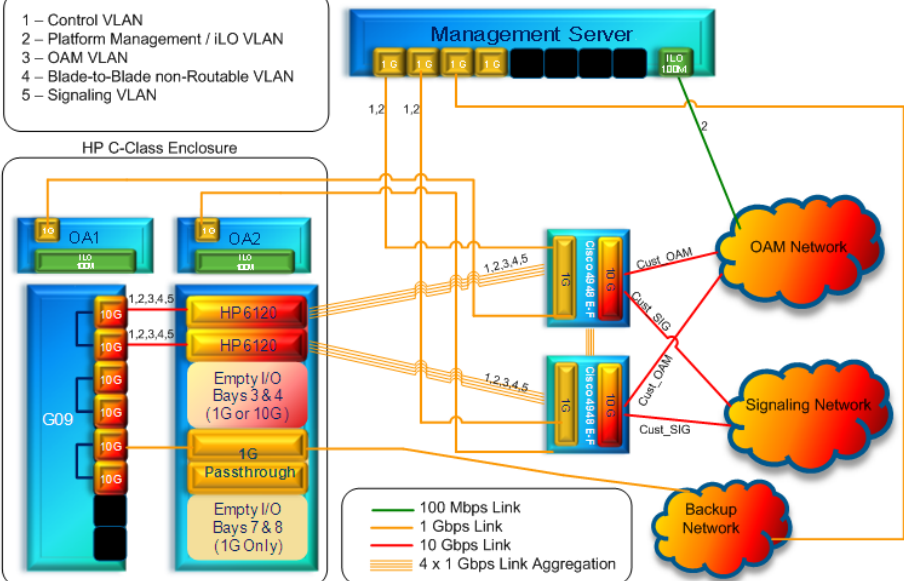
## 4.3 Install and Configure SOAM Servers

### 4.3.1 Configure SOAM TVOE Server Blades

#### Procedure 11. Configure SOAM TVOE Server Blades

Step#	Procedure	Description
<p>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.</p> <p><b>Note:</b> 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.</p> <p><b>Prerequisite:</b> TVOE OS has been installed on the target server blades as per instructions in [6].</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<p><b>PMAC Server:</b> Exchange SSH keys between PMAC and TVOE server</p>	<p>Use the PMAC GUI to determine the control network IP address of the TVOE server.</p> <ol style="list-style-type: none"> <li>From the PMAC GUI, navigate to <b>Software &gt; Software Inventory</b>.</li> </ol>  <ol style="list-style-type: none"> <li>Note the IP address TVOE server.</li> </ol>  <ol style="list-style-type: none"> <li>From a terminal window connection on the PMAC, login as the <b>admusr</b> user.</li> <li>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.</li> <li>When asked for the password, type the password for the TVOE server.</li> </ol> <pre>\$ keyexchange admusr@&lt;TVOE_Control_Blade_IP_address&gt;</pre>
2. <input type="checkbox"/>	<p><b>TVOE Server:</b> Login and copy configuration scripts from PMAC</p>	<ol style="list-style-type: none"> <li>Login as <b>admusr</b> on the TVOE server using the control IP address noted above.</li> <li>Execute the following commands:</li> </ol> <p>You can copy the scripts to any path even on /home/admusr. In this case, instead of /usr/TKLC, the new path should be used, for example, /home/admusr.</p> <pre>\$ sudo scp admusr@&lt;PMAC_Control_IP_address&gt;:/usr/TKLC/smac/etc/TVOE* /usr/TKLC/ \$ sudo chmod 777 /usr/TKLC/TVOE*</pre>

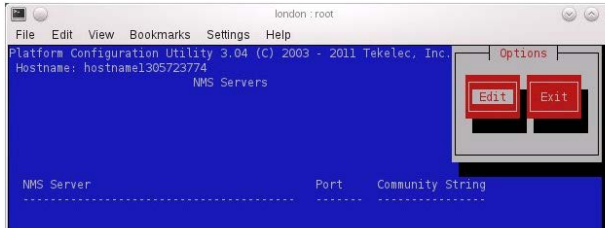



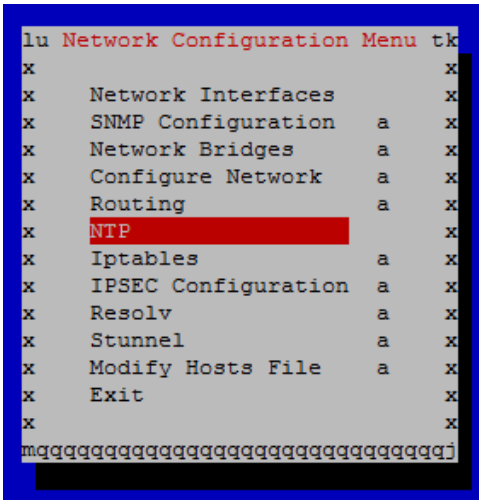
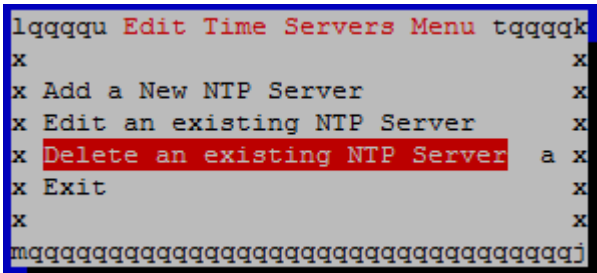
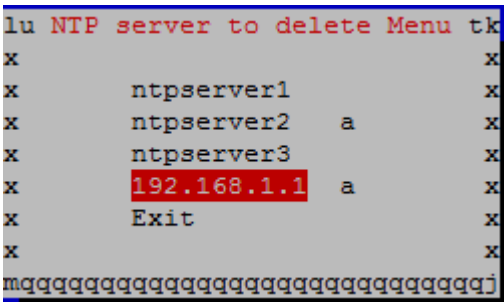
Step#	Procedure	Description
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>TVOE Server:</b> Mezzanine card/ segregated OAM/XMI network configuration</p>	<p>Perform this step if your TVOE server blade <b>DOES</b> have mezzanine cards <b>AND</b> you are running OAM/XMI traffic on a separate physical network (example below). If you do not have mezzanine cards, skip this step.</p>  <p>Execute the following command:</p> <pre>\$ sudo /usr/TKLC/TVOEcfg.sh --xmivlan=&lt;XMI_VLAN_ID&gt; --imivlan=&lt;IMI_VLAN_ID&gt; mezz</pre>
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>TVOE Server:</b> No mezzanine card/ No segregated OAM/XMI network configuration</p>	<p>Perform this step if your TVOE server blade <b>DOES NOT</b> have mezzanine cards <b>AND/OR</b> you are <b>NOT</b> running OAM/XMI traffic over a separate physical network (example below).</p>  <p>Execute the following command:</p> <pre>\$ sudo /usr/TKLC/TVOEcfg.sh --xmivlan=&lt;XMI_VLAN_ID&gt; --imivlan=&lt;IMI_VLAN_ID&gt;</pre>

Step#	Procedure	Description
5. <input type="checkbox"/>	<b>TVOE Server:</b> Verify TVOE configuration	<p>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 <b>INTERNAL-IMI</b> and <b>INTERNAL-XMI</b> VLAN IDs, respectively. For layer-2 only deployments, the IMI and XMI VLAN IDs are obtained from the customer.</p> <p>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):</p> <pre data-bbox="508 537 1222 842">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!</pre> <p><b>Note:</b> 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 <b>repeat</b> either step 3 or 4.</p> <pre data-bbox="508 961 1425 1010">sudo ./usr/TKLC/TVOEclean.sh</pre>
6. <input type="checkbox"/>	<b>TVOE Server:</b> Configure XMI IP and default route	<ol style="list-style-type: none"> <li data-bbox="508 1020 1425 1297">1. Configure IP address on the XMI network: <pre data-bbox="508 1073 1425 1297">\$ sudo /usr/TKLC/plat/bin/netAdm set --type=Bridge --name=xmi --address=&lt;TVOE_XMI_IP_ADDRESS&gt; --netmask=&lt;TVOE_XMI_Netmask/Prefix&gt; /sys/class/net/bond1/bonding/primary has 0 lines, nothing to do. Bridge xmi was added.</pre> </li> <li data-bbox="508 1308 1425 1440">2. Restart network services: <pre data-bbox="508 1360 1425 1440">\$ sudo service network restart [wait for the prompt to return]</pre> </li> <li data-bbox="508 1451 1425 1612">3. Set the default route: <pre data-bbox="508 1503 1425 1612">\$ sudo /usr/TKLC/plat/bin/netAdm add --route=default --device=xmi --gateway=&lt;TVOE_XMI_Gateway_IP_Address&gt; Route to xmi added.</pre> </li> </ol>

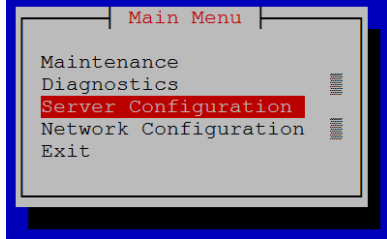
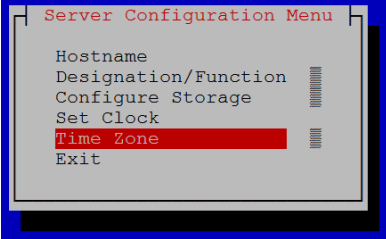
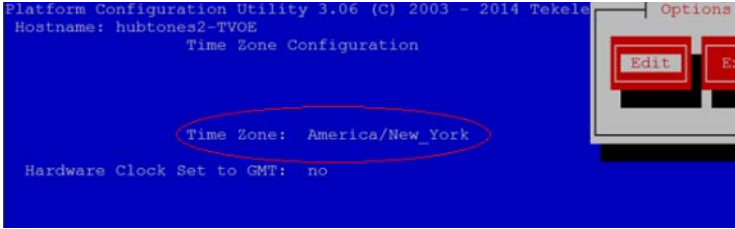
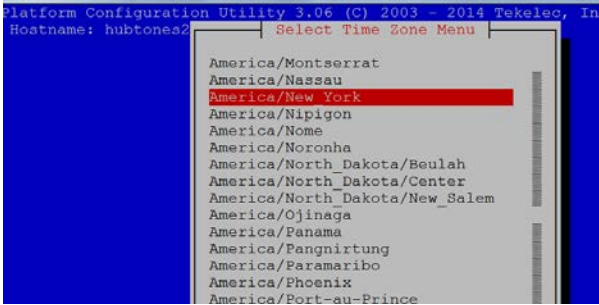
Step#	Procedure	Description
7. <input type="checkbox"/>	<b>TVOE Server:</b> Configure NetBackup dedicated interface and bridge (optional)	<p>In these examples, &lt;interface&gt; is replaced with the actual ethernet interface that is used as the dedicated NetBackup port. For instance, <b>eth01</b> or <b>eth22</b>.</p> <p>Un-bonded ethernet interface:</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm set --device=&lt;Ethernet interface&gt; --slave=no --onboot=yes</pre> <p><b>[OPTIONAL]</b> If this installation is using jumbo frames, set the ethernet interface MTU to the desired jumbo frame size:</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm set --device=&lt;Ethernet interface&gt; -- MTU=&lt;NetBackup_MTU_size&gt;</pre> <p>Create NetBackup VM bridge interface:</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=netbackup --bridgeInterfaces=&lt;Ethernet interface&gt; --onboot=yes</pre>
8. <input type="checkbox"/>	<b>TVOE Server:</b> Configure networking for dedicated NetBackup interface (optional)	<p><b>Note:</b> Only execute this step if using a dedicated ethernet interface for NetBackup.</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm set --device=NetBackup --type=Ethernet --onboot=yes --address=&lt;NO1_NetBackup_IP_Adress&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; \$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=netbackup --address=&lt;NetBackup_Svr_Network_ID&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; --gateway=&lt;NO1_NetBackup_Gateway_IP_Address&gt;</pre>

Step#	Procedure	Description
<p>9.</p> <p><input type="checkbox"/></p>	<p><b>TVOE Server:</b> Set hostname</p>	<pre data-bbox="511 245 1421 289">\$ sudo su - platcfg</pre> <div data-bbox="511 296 1079 646"> <p>The screenshot shows a terminal window titled "Main Menu". The menu items are: Maintenance (highlighted in red), Diagnostics, Server Configuration, Network Configuration, and Exit. There are navigation arrows on the right side of the menu.</p> </div> <p data-bbox="511 657 1421 716">4. Navigate to <b>Server Configuration &gt; Hostname &gt; Edit</b> and enter a new hostname for your server:</p> <div data-bbox="511 730 1096 1041"> <p>The screenshot shows a dialog box titled "Edit Hostname". It contains a text field with the hostname "dsrTVOE-blade11" and a cursor. Below the text field are two buttons: "OK" and "Cancel".</p> </div> <p data-bbox="511 1052 1421 1081">5. Click <b>OK</b> and click <b>Exit</b> until you are at the platcfg main menu again.</p> <p data-bbox="511 1098 1421 1188"><b>Note:</b> 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.</p>

Step#	Procedure	Description
10. <input type="checkbox"/>	<b>TVOE Server:</b> Configure SNMP	<ol style="list-style-type: none"> <li data-bbox="505 247 1344 310">1. From the platcfg main menu, navigate to <b>Network Configuration &gt; SNMP Configuration &gt; NMS Configuration.</b></li> </ol>  <ol style="list-style-type: none"> <li data-bbox="505 569 675 596">2. Click <b>Edit.</b></li> <li data-bbox="505 613 919 640">3. Click <b>Add a New NMS Server.</b></li> </ol>  <ol style="list-style-type: none"> <li data-bbox="505 869 1370 932">4. Enter the following NMS servers, clicking <b>OK</b> after each one and then selecting the <b>Add NMS</b> option again:</li> <li data-bbox="505 949 1175 976">5. Enter the <b>Hostname/IP</b> of the customer NMS server.</li> <li data-bbox="505 993 781 1020">6. For port, enter <b>162.</b></li> <li data-bbox="505 1037 1321 1100">7. For Community String, enter the community string provided in the customer specific NAPD document.</li> <li data-bbox="505 1117 902 1144">8. Enter the <b>IP</b> of the SOAM VIP</li> <li data-bbox="505 1161 675 1188">9. Click <b>Exit.</b></li> <li data-bbox="505 1205 1265 1232">10. Select <b>Yes</b> when asked to restart the Alarm Routing Service.</li> <li data-bbox="505 1249 1192 1276">11. Once done, click <b>Exit</b> to quit to the platcfg main menu.</li> </ol>


Step#	Procedure	Description
11. <input type="checkbox"/>	<b>RMS iLO/iLOM:</b> Delete PMAC VM as NTP source on RMS	<ol style="list-style-type: none"> <li data-bbox="505 247 1073 279">1. Navigate to <b>Network Configuration &gt; NTP</b>.   </li> <li data-bbox="505 795 1019 827">2. Select <b>Delete an existing NTP Server</b>.   </li> <li data-bbox="505 1119 1122 1150">3. Select the PMAC VM Control IP and click <b>Enter</b>.   </li> </ol> <p data-bbox="553 1472 932 1503">The NTP Menu screen displays.</p>

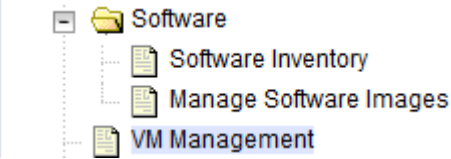
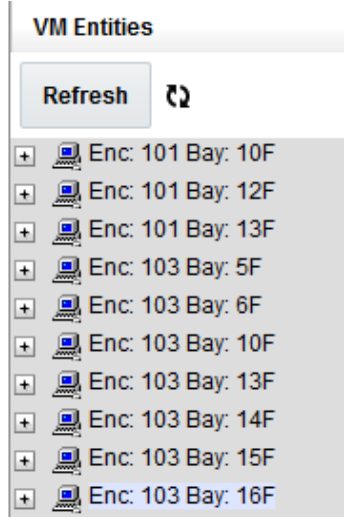
Step#	Procedure	Description
12. <input type="checkbox"/>	<b>TVOE Server:</b> Configure NTP. Edit an existing NTP server	<p>                         Edit an existing NTP server.                     </p> <pre> lu NTP server to edit Menu tk X X ntpserver1 X X ntpserver2 X X ntpserver3 a X X 10.75.156.6 a X X Exit X X mqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqj                     </pre> <p>1. Select appropriate NTP server and edit the details.</p> <pre> lqqqqqqqqqq Edit an NTP Server tqqqqqqqqqqqk X X Address: 10.75.156.6 X X Hostname (optional): X X Options: iburst X X X lqqqqk lqqqqqqqqk X X x OK x x Cancel x X X mqqqqj mqqqqqqqqj X X X mqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqj                     </pre> <p>2. Enter appropriate data and click <b>OK</b>.</p> <p>3. Click <b>Exit</b> to return to the platcfg menu.</p>

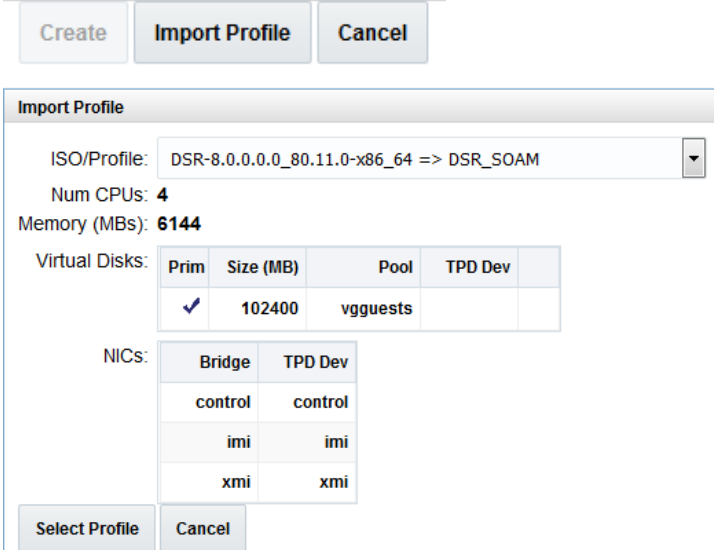
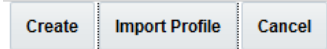
Step#	Procedure	Description
<p>13.</p> <p><input type="checkbox"/></p>	<p><b>TVOE Server:</b> Configure time zone</p>	<p>1. If not already in the utility, then use this command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo su - platcfg</pre> <p>2. Navigate to Server Configuration &gt; Time Zone.</p> <div style="display: flex; justify-content: space-around;">   </div>  <p>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.</p> <p>3. Click <b>Edit</b>.</p>  <p>4. Select the desired time zone from the list and click <b>Enter</b>.</p> <p>5. Continue clicking <b>Exit</b> until you are out of the platcfg program.</p>
<p>14.</p> <p><input type="checkbox"/></p>	<p><b>TVOE Server:</b> Reboot</p>	<p>Reboot the server by executing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre>
<p>15.</p> <p><input type="checkbox"/></p>	<p><b>TVOE Server:</b> Repeat procedure for other TVOE blades</p>	<p>Configuration of this TVOE server blade is complete. <b>Repeat</b> this procedure from the beginning for other TVOE hosts that need to be configured.</p>
<p>16.</p> <p><input type="checkbox"/></p>	<p>Install SDS (optional)</p>	<p>If this deployment contains SDS, SDS can now be installed. Refer to document referenced in [4].</p>


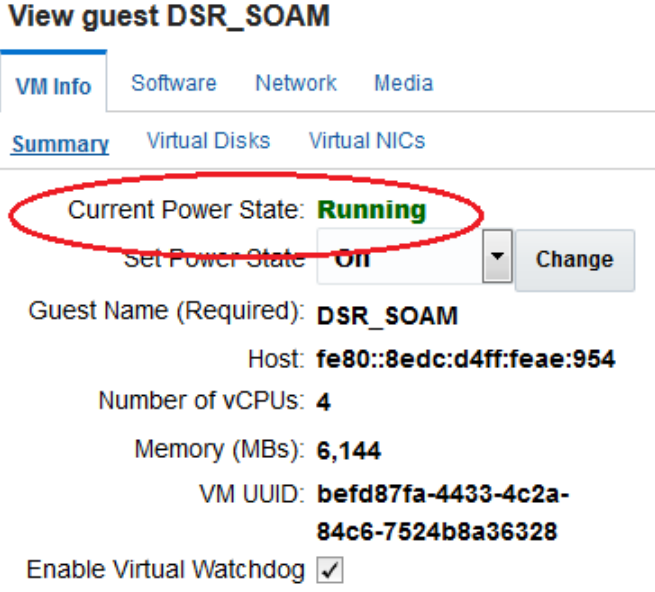


**Procedure 12. Create SOAM Guest VMs**

Step#	Procedure	Description
<p>This procedure creates a DSR SOAM virtual machine (referred to as a guest) on a TVOE server blade. It must be repeated for every SOAM server you want to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target blade server.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>1. Open web browser, navigate to the PMAC GUI, and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;pmac_Mgmt_Network_IP_Address&gt;">https://&lt;pmac_Mgmt_Network_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <hr/> <p><i>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</i></p> <p><i>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</i></p>

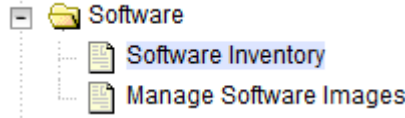
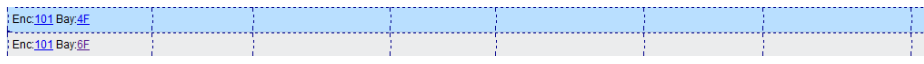
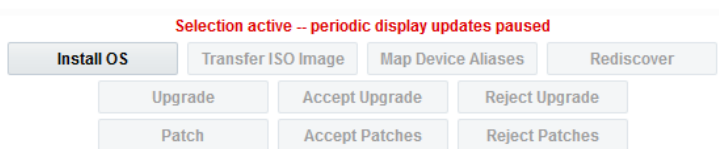


Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b>                      Navigate to VM management of the target server blade</p>	<p>1. Navigate to <b>VM Management</b>.</p>  <p>2. Select the TVOE server blade server from the VM Entities listing on the left side of the screen. The selected server's guest machine configuration displays in the remaining area of the window.</p>  <p>3. Click <b>Create Guest</b>.</p>

Step#	Procedure	Description									
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Configure VM guest parameters</p>	<p>1. Click <b>Import Profile</b>.</p>  <p>2. From the <b>ISO/Profile</b> list, select the entry that matches depending on the hardware your SOAM VM TVOE server is running on and your preference for NetBackup interfaces:</p> <p><b>Note:</b> Select the LARGE SOAM profile specific to the release if the number of connections is greater than 5k.</p> <table border="1" data-bbox="505 1056 1406 1323"> <thead> <tr> <th>SOAM VM TVOE Hardware Type(s)</th> <th>Dedicated Netbackup Interface?</th> <th>Choose Profile (&lt;Application ISO NAME&gt;→)</th> </tr> </thead> <tbody> <tr> <td>HP BL460 Gen 8 Blade, HP BL460 Gen 9 Blade</td> <td>No</td> <td>DSR_SOAM</td> </tr> <tr> <td>HP BL460 Gen 8 Blade, HP BL460 Gen 9 Blade</td> <td>Yes</td> <td>DSR_SOAM_NBD</td> </tr> </tbody> </table> <p>3. Click <b>Select Profile</b>.</p> <p>4. You can edit the name, if you wish. For instance, <b>DSR_SOAM_A</b> or <b>DSR_SOAM_B</b>. (This does not become the ultimate hostname. It is just an internal tag for the VM host manager.)</p> <p>5. Click <b>Create</b>.</p> 	SOAM VM TVOE Hardware Type(s)	Dedicated Netbackup Interface?	Choose Profile (<Application ISO NAME>→)	HP BL460 Gen 8 Blade, HP BL460 Gen 9 Blade	No	DSR_SOAM	HP BL460 Gen 8 Blade, HP BL460 Gen 9 Blade	Yes	DSR_SOAM_NBD
SOAM VM TVOE Hardware Type(s)	Dedicated Netbackup Interface?	Choose Profile (<Application ISO NAME>→)									
HP BL460 Gen 8 Blade, HP BL460 Gen 9 Blade	No	DSR_SOAM									
HP BL460 Gen 8 Blade, HP BL460 Gen 9 Blade	Yes	DSR_SOAM_NBD									

Step#	Procedure	Description
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for guest creation to complete</p>	<ol style="list-style-type: none"> <li>1. Navigate to <b>Task Monitoring</b> to monitor the progress of the guest creation task. A separate task displays for each guest creation you have launched.</li> <li>2. Wait or refresh the screen until you see that the guest creation task has completed successfully.</li> </ol> 
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify guest machine is running</p>	<ol style="list-style-type: none"> <li>1. Navigate to <b>VM Management</b>.</li> <li>2. Select the TVOE server blade on which the guest machine was just created.</li> <li>3. 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 <b>Running</b>.</li> </ol>  <p>VM Creation for this guest is complete. <b>Repeat</b> from step 2 for any remaining SOAM VMs (for instance, the standby SOAM) that must be created.</p>

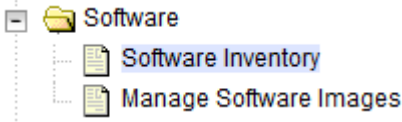
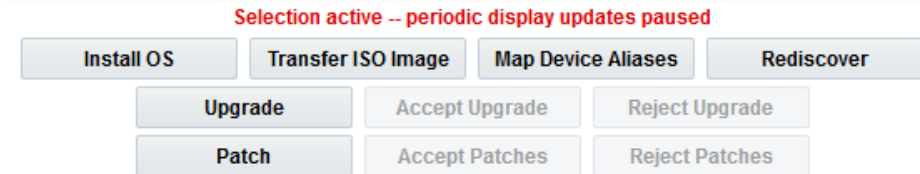
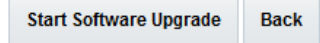
**Procedure 13. IPM Blades and VMs**

Step#	Procedure	Description
<p>This procedure installs TPD on blade servers and blade server guest VMS.</p> <p><b>Prerequisites:</b></p> <ul style="list-style-type: none"> <li>• Enclosures containing the blade servers targeted for IPM that have been configured.</li> <li>• TVOE has been installed and configured on blade servers that will host DSR NOAM VMs.</li> <li>• DSR NOAM and SOAM guest VMs have been created successfully.</li> </ul> <p><b>Needed Material:</b> TPD Media (64-bits)</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI: Login</b></p>	<p>1. Open web browser, navigate to the PMAC GUI, and enter a URL of:</p> <div data-bbox="475 709 1328 758" style="border: 1px solid black; padding: 2px;"> <p><code>https://&lt;pmac_Mgmt_Network_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guidadmin</b> user.</p> <div data-bbox="475 835 1349 1619" style="border: 1px solid black; padding: 10px;"> </div>

Step#	Procedure	Description																												
2. <input type="checkbox"/>	<b>PMAC GUI:</b> Select servers for OS install	<p>1. Navigate to <b>Software &gt; Software Inventory</b>.</p>  <p>2. 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.</p> <p><b>Note:</b> VMs have the text <b>Guest: &lt;VM_GUEST_NAME&gt;</b> underneath the physical blade or RMS that hosts them.</p>  <p>3. Click Install OS.</p> 																												
3. <input type="checkbox"/>	<b>PMAC GUI:</b> Initiate OS install	<p>1. 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.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Targets</b></p> <table border="1"> <thead> <tr> <th>Entity</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Enc:103 Bay:6F Guest: DSR_SOAM</td> <td></td> </tr> </tbody> </table> </div> <div style="width: 50%;"> <p><b>Select Image</b></p> <table border="1"> <thead> <tr> <th>Image Name</th> <th>Type</th> <th>Architecture</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>TPD.install-6.7.1.0.0_84.28.0-OracleLinux6.6-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td>TPD 84.28 for mutant build sanity</td> </tr> <tr style="background-color: #e0f0ff;"> <td>TPD.install-7.2.0.0.0_88.23.0-OracleLinux6.7-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td></td> </tr> <tr> <td>TPD.install-7.2.0.0.0_88.24.0-OracleLinux6.7-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td></td> </tr> <tr> <td>TPD.install-7.2.0.0.0_88.25.0-OracleLinux6.7-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td>TPD 88.25</td> </tr> <tr> <td>TVOE-3.2.0.0.0_88.24.0-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td></td> </tr> </tbody> </table> </div> </div> <p>2. Click <b>Start Software Install</b>.</p>  <p>3. When a confirmation screen displays, click <b>OK</b> to proceed.</p>	Entity	Status	Enc:103 Bay:6F Guest: DSR_SOAM		Image Name	Type	Architecture	Description	TPD.install-6.7.1.0.0_84.28.0-OracleLinux6.6-x86_64	Bootable	x86_64	TPD 84.28 for mutant build sanity	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	TVOE-3.2.0.0.0_88.24.0-x86_64	Bootable	x86_64	
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TPD.install-6.7.1.0.0_84.28.0-OracleLinux6.6-x86_64	Bootable	x86_64	TPD 84.28 for mutant build sanity																											
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																											
TVOE-3.2.0.0.0_88.24.0-x86_64	Bootable	x86_64																												
4. <input type="checkbox"/>	<b>PMAC GUI:</b> Monitor OS install	<p>Navigate to <b>Task Monitoring</b> to monitor the progress of the OS Installation background task. A separate task displays for each blade affected.</p>  <p>When the installation is complete, the task changes to green and the progress bar indicates 100%.</p>																												

**Procedure 14. Install the Application Software**

Step#	Procedure	Description
<p>This procedure installs Diameter Signaling Router on the blade servers.                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>PMAC GUI: Login</b></p>	<p>1. Open web browser, navigate to the PMAC GUI, and enter a URL of:  <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <a href="https://&lt;pmac_Mgmt_Network_IP_Address&gt;">https://&lt;pmac_Mgmt_Network_IP_Address&gt;</a> </div>                     2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <p><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p><small>Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.</small></p>

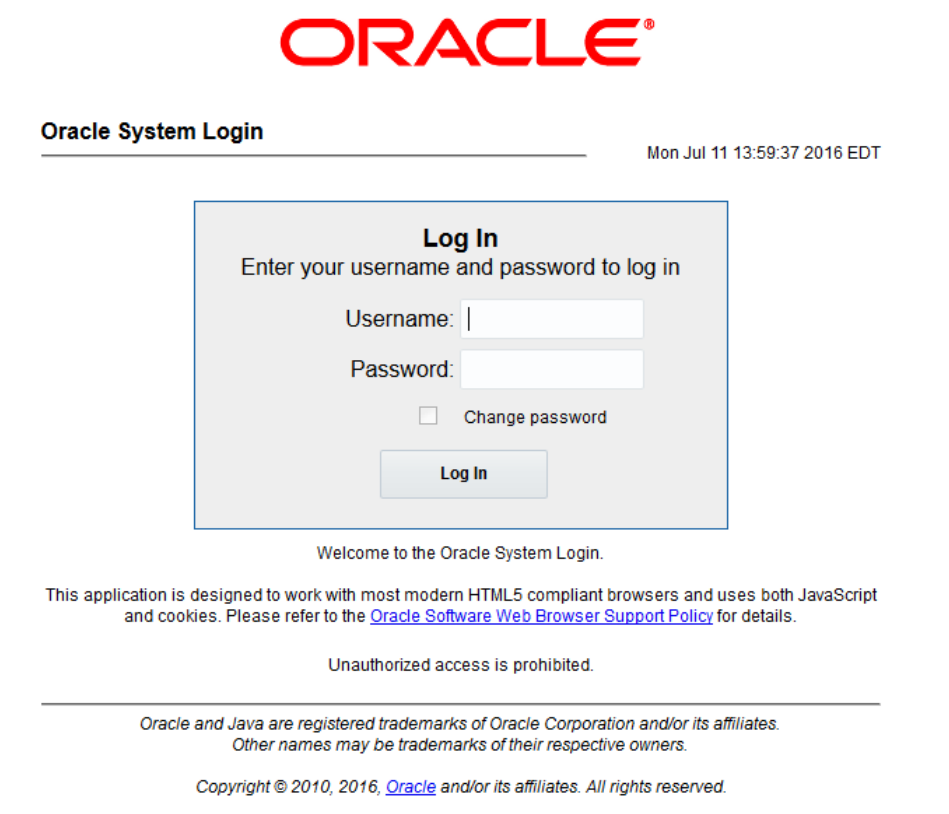
Step#	Procedure	Description																																																																		
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Select servers for application install</p>	<p>1. Navigate to <b>Software &gt; Software Inventory</b>.</p>  <p>2. Select the servers on which the application is to be installed. If you want to install the same application image to more than one server, you may select multiple servers by clicking multiple rows individually. Selected rows are highlighted in green.</p> <p><b>Note:</b> VMs have the text <b>Guest: &lt;VM_GUEST_NAME&gt;</b> underneath the physical blade that hosts them.</p> <table border="1" data-bbox="472 646 1432 705"> <tr> <td>Enc:103 Bay:6F</td> <td>192.168.1.78</td> <td>hostname4dcea68bb6ad</td> <td>TPD (x86_64)</td> <td>7.2.0.0.0-88.24.0</td> </tr> <tr> <td>Guest: DSR_SOAM</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>3. Click <b>Upgrade</b>.</p> 	Enc:103 Bay:6F	192.168.1.78	hostname4dcea68bb6ad	TPD (x86_64)	7.2.0.0.0-88.24.0	Guest: DSR_SOAM																																																												
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Guest: DSR_SOAM																																																																				
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Initiate application install</p>	<p>1. The left side of this screen shows the servers affected by this application installation. From the list of available bootable images on the right side of the screen, select one application image to install to all of the selected servers.</p> <p><b>Software Upgrade - Select Image</b></p> <p>Tasks*</p> <table border="1" data-bbox="472 1199 1432 1633"> <thead> <tr> <th colspan="2">Targets</th> <th colspan="4">Select Image</th> </tr> <tr> <th>Entity</th> <th>Status</th> <th>Image Name</th> <th>Type</th> <th>Architecture</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Enc:103 Bay:6F Guest: DSR_SOAM</td> <td></td> <td>DSR-7.0.1.0.0_70.28.7-x86_64</td> <td>Upgrade</td> <td>x86_64</td> <td>DSR mutant build 70.28.7</td> </tr> <tr style="background-color: #e0f0ff;"> <td></td> <td></td> <td>DSR-8.0.0.0.0_80.10.0-x86_64</td> <td>Upgrade</td> <td>x86_64</td> <td></td> </tr> <tr> <td></td> <td></td> <td>DSR-8.1.0.0.0_81.1.0-x86_64</td> <td>Upgrade</td> <td>x86_64</td> <td></td> </tr> <tr> <td></td> <td></td> <td>DSR-8.1.0.0.0_81.2.0-x86_64</td> <td>Upgrade</td> <td>x86_64</td> <td>DSR 81.2.0</td> </tr> <tr> <td></td> <td></td> <td>TPD install-6.7.1.0.0_84.28.0-OracleLinux6.6-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td>TPD 84.28 for mutant build s</td> </tr> <tr> <td></td> <td></td> <td>TPD install-7.2.0.0.0_88.23.0-OracleLinux6.7-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td></td> </tr> <tr> <td></td> <td></td> <td>TPD install-7.2.0.0.0_88.24.0-OracleLinux6.7-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td></td> </tr> <tr> <td></td> <td></td> <td>TPD install-7.2.0.0.0_88.25.0-OracleLinux6.7-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td>TPD 88.25</td> </tr> <tr> <td></td> <td></td> <td>TVOE-3.2.0.0.0_88.24.0-x86_64</td> <td>Bootable</td> <td>x86_64</td> <td></td> </tr> </tbody> </table> <p>2. Click <b>Start Software Upgrade</b>.</p>  <p>3. When a confirmation screen displays, click <b>OK</b> to proceed with the install.</p>	Targets		Select Image				Entity	Status	Image Name	Type	Architecture	Description	Enc:103 Bay:6F Guest: DSR_SOAM		DSR-7.0.1.0.0_70.28.7-x86_64	Upgrade	x86_64	DSR mutant build 70.28.7			DSR-8.0.0.0.0_80.10.0-x86_64	Upgrade	x86_64				DSR-8.1.0.0.0_81.1.0-x86_64	Upgrade	x86_64				DSR-8.1.0.0.0_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			TVOE-3.2.0.0.0_88.24.0-x86_64	Bootable	x86_64	
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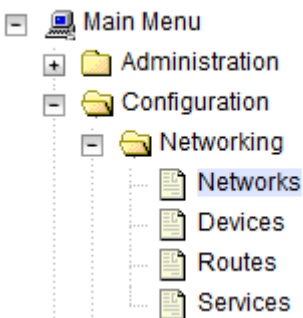
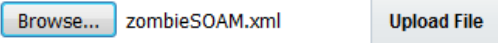



Step#	Procedure	Description															
4. <input type="checkbox"/>	<b>PMAC GUI:</b> Monitor the installation status	<p>Navigate to <b>Task Monitoring</b> to monitor the progress of the Application Installation task. A separate task displays for each blade affected.</p> <p><b>Main Menu: Task Monitoring</b></p> <p>Filter* <input type="text"/></p> <table border="1"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>State</th> </tr> </thead> <tbody> <tr> <td>322</td> <td>Upgrade</td> <td>Enc:103 Bay:6F Guest: DSR_SOAM</td> <td>Success</td> <td>COMPLETE</td> </tr> <tr> <td>321</td> <td>Install OS</td> <td>Enc:103 Bay:6F Guest: DSR_SOAM</td> <td>Done: TPD.install-7.2.0.0.0_88.24.0-OracleLinux6.7-x86_64</td> <td>COMPLETE</td> </tr> </tbody> </table> <p>When the installation is complete, the task changes to green and the progress bar indicates 100%.</p>	ID	Task	Target	Status	State	322	Upgrade	Enc:103 Bay:6F Guest: DSR_SOAM	Success	COMPLETE	321	Install OS	Enc:103 Bay:6F Guest: DSR_SOAM	Done: TPD.install-7.2.0.0.0_88.24.0-OracleLinux6.7-x86_64	COMPLETE
ID	Task	Target	Status	State													
322	Upgrade	Enc:103 Bay:6F Guest: DSR_SOAM	Success	COMPLETE													
321	Install OS	Enc:103 Bay:6F Guest: DSR_SOAM	Done: TPD.install-7.2.0.0.0_88.24.0-OracleLinux6.7-x86_64	COMPLETE													
5. <input type="checkbox"/>	<b>PMAC GUI:</b> Accept/Reject upgrade	<p>Navigate to <b>Software &gt; Software Inventory</b> to accept the software installation. Select all the servers on which the application has been installed in the previous steps and click <b>Accept Upgrade</b>.</p> <table border="1"> <tbody> <tr> <td>TPD (x86_64)</td> <td>7.2.0.0.0-88.24.0</td> <td>DSR</td> <td>8.0.0.0.0-80.10.0 Pending Upgrade Acc/Rej</td> </tr> <tr> <td>TPD (x86_64)</td> <td>7.2.0.0.0-88.24.0</td> <td>DSR</td> <td>8.0.0.0.0-80.10.0</td> </tr> </tbody> </table> <p style="color: red; text-align: center;">Selection active -- periodic display updates paused</p> <div style="text-align: center;"> <span>Install OS</span>   <span>Transfer ISO Image</span>   <span>Map Device Aliases</span>   <span>Rediscover</span> </div> <div style="text-align: center; margin-top: 10px;"> <span>Upgrade</span>   <span>Accept Upgrade</span>   <span>Reject Upgrade</span> </div> <div style="text-align: center; margin-top: 10px;"> <span>Patch</span>   <span>Accept Patches</span>   <span>Reject Patches</span> </div> <p><b>Note:</b> Once the upgrade has been accepted, the App version changes from <b>Pending Acc/Rej</b> to the version number of the application.</p>	TPD (x86_64)	7.2.0.0.0-88.24.0	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							
TPD (x86_64)	7.2.0.0.0-88.24.0	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														

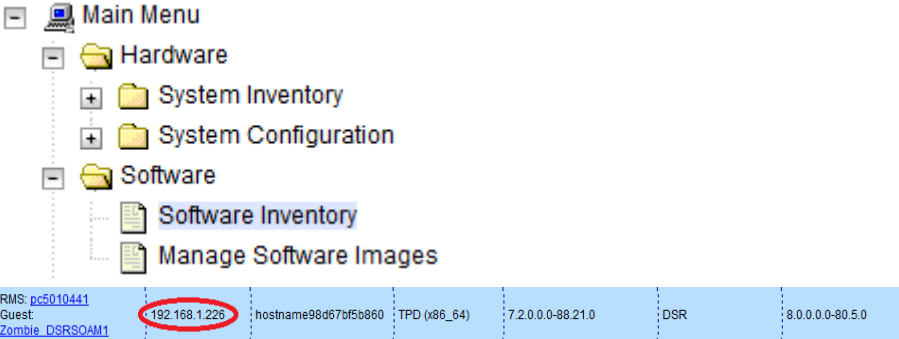
### 4.3.2 Configure SOAMs


#### Procedure 15. Configure SOAM NE

Step#	Procedure	Description
<p>This procedure configures the SOAM network element.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>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:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 

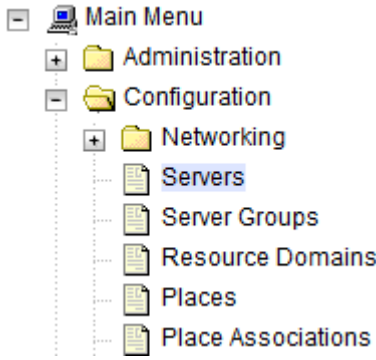
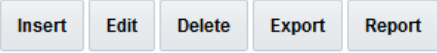
Step#	Procedure	Description																								
<p>2.</p> <p>☐</p>	<p><b>NOAM VIP GUI:</b> Create the SOAM network element using an XML file</p>	<p>1. Navigate to <b>Networking &gt; Networks</b>.</p>  <p>Refer to Sample Network Element and Hardware Profiles for a sample network element xml file.</p> <p>2. Click <b>Browse</b> and type the pathname to the SOAM network XML file.</p> <p>To create a new Network Element, upload a valid configuration file:</p>  <p>Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.</p> <p>3. Click <b>Upload File</b> to upload the XML file and configure the SOAM network element.</p> <p>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.</p>  <table border="1" data-bbox="495 1123 1427 1249"> <thead> <tr> <th>Network Name</th> <th>Network Type</th> <th>Default</th> <th>Locked</th> <th>Routed</th> <th>VLAN</th> <th>Configured Interfaces</th> <th>Network</th> </tr> </thead> <tbody> <tr> <td>XMI</td> <td>OAM</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>4</td> <td>0</td> <td>10.240.2</td> </tr> <tr> <td>IMI</td> <td>OAM</td> <td>No</td> <td>Yes</td> <td>No</td> <td>3</td> <td>0</td> <td>169.254.</td> </tr> </tbody> </table>	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.
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
<p>This procedure configures the SOAM servers.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p>Exchange SSH keys between SOAM site's local PMAC and the SOAM server</p>	<p>Use the PMAC GUI to determine the control network IP address of the server that is to be the SOAM server.</p> <ol style="list-style-type: none"> <li>From the PMAC GUI, navigate to <b>Software &gt; Software Inventory</b>.</li> </ol>  <ol style="list-style-type: none"> <li>Note the IP address for the SOAM server.</li> <li>From a terminal window connection on the PMAC, login as the <b>admusr</b> user.</li> <li>Exchange SSH keys between the PMAC and the SOAM server using the keyexchange utility and the control network IP address for the SOAM server.</li> <li>When asked for the password, type the password for the <b>admusr</b>.</li> </ol> <pre>\$ keyexchange admusr@&lt;SO1_Control_IP Address&gt;</pre>
<p>2. <input type="checkbox"/></p>	<p>Exchange SSH keys between NOAM and PMAC at the SOAM site (if necessary)</p>	<p><b>Note:</b> If this SOAM shares the same PMAC as the NOAM, then you can skip this step.</p> <ol style="list-style-type: none"> <li>From a terminal window connection on the NOAM VIP, as the <b>admusr</b>, exchange SSH keys for admusr between the NOAM and the PMAC for this SOAM site using the keyexchange utility.</li> <li>When asked for the password, enter the <b>admusr</b> password for the PMAC server.</li> </ol> <pre>\$ keyexchange admusr@&lt;SO1_Site_PMAC_Mgmt_IP_Address&gt;</pre>

Step#	Procedure	Description
<p>3. <input type="checkbox"/></p>	<p>NOAM VIP GUI: Login</p>	<p>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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div style="text-align: center;">  <p>The screenshot shows the Oracle System Login interface. At the top is the Oracle logo. Below it is the text 'Oracle System Login' and the date 'Mon Jul 11 13:59:37 2016 EDT'. A central box contains a 'Log In' form with fields for 'Username:' and 'Password:', a 'Change password' checkbox, and a 'Log In' button. Below the form, it says 'Welcome to the Oracle System Login.' and provides information about browser compatibility and unauthorized access. At the bottom, there is a copyright notice for Oracle and Java.</p> </div>

Step#	Procedure	Description				
		<p><b>Hardware Profile:</b> <a href="#">DSR TVOE Guest</a></p> <p><b>Network Element Name:</b> [Choose NE from dropdown box]</p> <p><b>Adding a new server</b></p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Hostname * <input type="text" value="ZombiesSOAM1"/></p> <p>Role * <input type="text" value="SYSTEM OAM"/></p> <p>System ID <input type="text"/></p> <p>Hardware Profile <input type="text" value="DSR TVOE Guest"/></p> <p>Network Element Name * <input type="text" value="ZombieSOAM"/></p> </div> <p>The network interface fields become available with selection choices based on the chosen hardware profile and network element.</p> <ol style="list-style-type: none"> <li>Type the server IP addresses for the XMI network. Select XMI for the interface. Leave the VLAN checkbox unchecked.</li> <li>Type the server IP addresses for the IMI network. Select IMI for the interface. Leave the VLAN checkbox unchecked.</li> </ol> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>XMI (10.240.213.0/24) <input type="text" value="10.240.213.9"/> <input type="text" value="xmi"/> <input type="checkbox"/> VLAN (4)</p> <p>IMI (169.254.1.0/24) <input type="text" value="169.254.1.9"/> <input type="text" value="imi"/> <input type="checkbox"/> VLAN (3)</p> </div> <ol style="list-style-type: none"> <li>Add the following NTP servers: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">NTP Server</th> <th style="width: 40%;">Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;TVOE_XMI_IP_Address (SO1)&gt;</td> <td>Yes</td> </tr> </tbody> </table> </li> <li>Click <b>OK</b> when you have completed entering all the server data.</li> </ol>	NTP Server	Preferred?	<TVOE_XMI_IP_Address (SO1)>	Yes
NTP Server	Preferred?					
<TVOE_XMI_IP_Address (SO1)>	Yes					

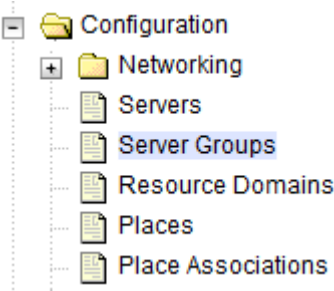
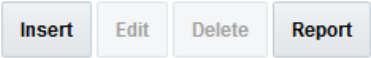
Step#	Procedure	Description
5. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Export the initial configuration	<p>1. Navigate to <b>Configuration &gt; Servers</b>.</p>  <p>2. From the GUI screen, select the SOAM server and click <b>Export</b> to generate the initial configuration data for that server.</p> 
6. <input type="checkbox"/>	<b>NOAM VIP:</b> Copy configuration file to 1 <sup>st</sup> SOAM server	<p>1. Obtain a terminal session to the NOAM VIP as the <b>admusr</b> user.</p> <p>2. Use the <b>awpushcfg</b> utility to copy the configuration file created in the previous step from the <code>/var/TKLC/db/filemgmt</code> directory on the NOAM to the 1<sup>st</sup> SOAM server, using the Control network IP address for the 1<sup>st</sup> SOAM server.</p> <p>The configuration file has a filename like <b>TKLCConfigData.&lt;hostname&gt;.sh</b>.</p> <pre data-bbox="542 1108 1419 1157">\$ sudo awpushcfg</pre> <p>The <code>awpushcfg</code> utility is interactive, so the user is asked for the following:</p> <ul style="list-style-type: none"> <li>• IP address of the local PMAC server: Use the management network address from the PMAC.</li> <li>• Username: Use <b>admusr</b></li> <li>• Control network IP address for the target server: In this case, enter the control IP for the 1<sup>st</sup> SOAM server.</li> <li>• Hostname of the target server: Enter the server name configured in step 4.</li> </ul>

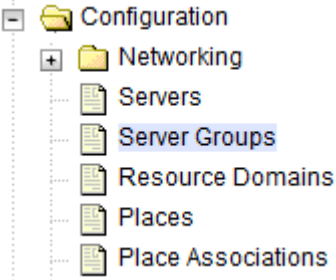
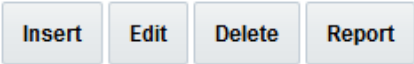
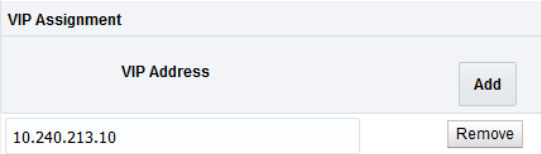
Step#	Procedure	Description				
<p>7. <input type="checkbox"/></p>	<p><b>1<sup>st</sup> SOAM Server:</b> Verify awpushcfg was called and reboot the server</p>	<ol style="list-style-type: none"> <li>Obtain a terminal window connection on the 1<sup>st</sup> SOAM server console by establishing an ssh session from the NOAM VIP terminal console.  <pre>\$ ssh admusr@&lt;SO1_Control_IP&gt;</pre> </li> <li>Login as the <b>admusr</b> user.</li> <li>The automatic configuration daemon looks for the file named <b>TKLCConfigData.sh</b> in the <b>/var/tmp</b> directory, implements the configuration in the file, and asks the user to reboot the server.</li> <li>Verify awpushcfg was called by checking the following file.  <pre>\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre>                     Verify the following message is displayed:  <pre>[SUCCESS] script completed successfully!</pre> </li> <li>Reboot the server.  <pre>\$ sudo init 6</pre> </li> <li>Wait for the server to reboot.</li> </ol>				
<p>8. <input type="checkbox"/></p>	<p><b>1<sup>st</sup> SOAM Server:</b> Verify server health</p>	<p>Execute the following command on the 1<sup>st</sup> SOAM server and make sure that no errors are returned:</p> <pre>\$ sudo syscheck Running modules in class hardware...OK Running modules in class disk...OK Running modules in class net...OK Running modules in class system...OK Running modules in class proc...OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log</pre>				
<p>9. <input type="checkbox"/></p>	<p>Insert and Configure the 2<sup>nd</sup> SOAM server</p>	<p><b>Repeat</b> this procedure to insert and configure the 2<sup>nd</sup> SOAM server:</p> <table border="1" data-bbox="516 1272 1390 1369"> <thead> <tr> <th data-bbox="516 1272 940 1318">NTP Server</th> <th data-bbox="940 1272 1390 1318">Preferred?</th> </tr> </thead> <tbody> <tr> <td data-bbox="516 1318 940 1369">&lt;TVOE_XMI_IP_Address (SO2)&gt;</td> <td data-bbox="940 1318 1390 1369">Yes</td> </tr> </tbody> </table> <p>Instead of data for the 1<sup>st</sup> SOAM server, insert the network data for the 2<sup>nd</sup> SOAM server, transfer the <b>TKLCConfigData</b> file to the 2<sup>nd</sup> SOAM server, and reboot the 2<sup>nd</sup> SOAM server when prompted at a terminal window.</p>	NTP Server	Preferred?	<TVOE_XMI_IP_Address (SO2)>	Yes
NTP Server	Preferred?					
<TVOE_XMI_IP_Address (SO2)>	Yes					
<p>10. <input type="checkbox"/></p>	<p>Install NetBackup client software on SOAMs (optional)</p>	<p>If you are using NetBackup at this site, then execute Procedure 10. Install NetBackup Client (Optional) again to install the NetBackup Client on all SOAM servers.</p>				

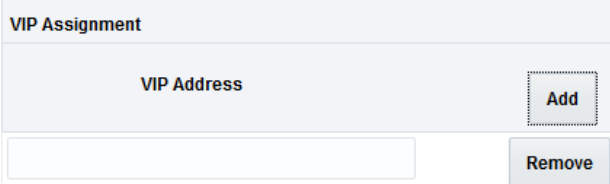
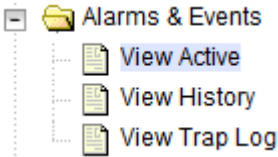


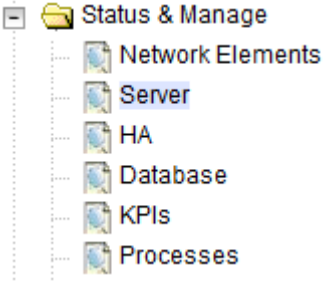
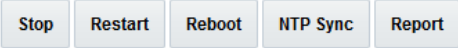
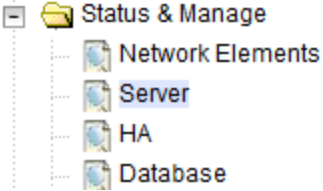
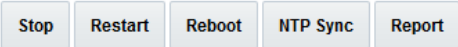
**Procedure 17. Configure the SOAM Server Group**


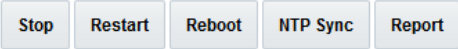
Step#	Procedure	Description
<p>This procedure configures the SOAM server group.                      Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.                      If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1.  <input type="checkbox"/></p>	<p>NOAM VIP                      GUI: Login</p>	<p>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:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <hr/> <p><i>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</i></p> <p><i>Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.</i></p>

Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b></p> <p>GUI: Enter SOAM server group data</p>	<p>Allow approximately <b>5 minutes</b> for the 2<sup>nd</sup> SOAM server to reboot.</p> <p>1. Navigate to the GUI <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Select <b>Insert</b>.</p>  <p>3. Add the SOAM server group name along with the values for the following fields:</p> <p><b>Name:</b> &lt;Hostname&gt;</p> <p><b>Level:</b> B</p> <p><b>Parent:</b> [Select the NOAM Server Group]</p> <p><b>Function:</b> DSR (Active/Standby Pair)</p> <p><b>WAN Replication Connection Count:</b> Use Default Value</p> <p>4. Click <b>OK</b> when all fields are filled.</p> <p><b>Note:</b> For DSR mated sites, <b>repeat</b> this step for additional SOAM server groups where the preferred SOAM spares may be entered before the active/standby SOAMs.</p>

Step#	Procedure	Description									
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the SOAM server group and add a VIP address</p>	<p>1. From the GUI, navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Select the new SOAM server group and click <b>Edit</b>.</p>  <p>3. Add both SOAM servers to the server group primary site by marking the <b>Include in SG</b> checkbox.</p> <p>4. Do not check any of the <b>Preferred Spare</b> checkboxes.</p> <table border="1" data-bbox="479 835 1256 1024"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>ZombieSOAM1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> <tr> <td>ZombieSOAM2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> </tbody> </table> <p>5. Click <b>Apply</b>.</p> <p>6. Add a SOAM VIP by clicking <b>Add</b>. Type the <b>VIP Address</b> and click <b>OK</b>.</p> 	Server	SG Inclusion	Preferred HA Role	ZombieSOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare	ZombieSOAM2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare
Server	SG Inclusion	Preferred HA Role									
ZombieSOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare									
ZombieSOAM2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare									

Step#	Procedure	Description												
<p>4. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the SOAM server group and add preferred spares for site redundancy (optional)</p>	<p>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 <b>Include in SG</b> checkbox. Also, mark the <b>Preferred Spare</b> checkbox.</p> <table border="1" data-bbox="483 348 1300 638"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>ZombieSOAM1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> <tr> <td>ZombieSOAM2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> <tr> <td>ZombieSOAMsp</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Prefer server as spare</td> </tr> </tbody> </table> <p>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 <b>Include in SG</b> checkbox. Also, mark the <b>Preferred Spare</b> checkbox.</p> <p><b>Note:</b> The preferred spare servers must be server group secondary and tertiary sites. There should be servers from three separate sites (locations).</p> <p>For more information about server group secondary site, tertiary site, or site redundancy, see the 1.3 Terminology section.</p>	Server	SG Inclusion	Preferred HA Role	ZombieSOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare	ZombieSOAM2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare	ZombieSOAMsp	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Prefer server as spare
Server	SG Inclusion	Preferred HA Role												
ZombieSOAM1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare												
ZombieSOAM2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare												
ZombieSOAMsp	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Prefer server as spare												
<p>5. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the SOAM server group and add additional SOAM VIPs (optional)</p>	<p>1. To add additional SOAM VIPs, click <b>Add</b>.</p> <p>2. Type the <b>VIP Address</b>.</p> <p>3. Click <b>OK</b>.</p> <p><b>Note:</b> Additional SOAM VIPs only apply to SOAM server groups with preferred spare SOAMs.</p> 												
<p>6. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Wait for remote database alarm to clear</p>	<p>Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p>  <p>Wait for the <b>Remote Database re-initialization in progress</b> alarm to clear before proceeding.</p>												

Step#	Procedure	Description
<p>7. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Restart 1<sup>st</sup> SOAM server</p>	<p>1. From the NOAMP GUI, select <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Select the <b>1st</b> SOAM server.</p> <p>3. Click <b>Restart</b>.</p> <p>4. Click <b>OK</b> on the confirmation screen.</p> <p>5. Wait for restart to complete.</p> 
<p>8. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Restart 2<sup>nd</sup> SOAM server</p>	<p>1. From the NOAMP GUI, select <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Select the <b>2<sup>nd</sup></b> SOAM server.</p> <p>3. Click <b>Restart</b>.</p> <p>4. Click <b>OK</b> on the confirmation screen.</p> <p>5. Wait for restart to complete.</p> 

Step#	Procedure	Description
9. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Restart all preferred spare SOAM servers	<p>If additional preferred spare servers are not configured for Secondary or Tertiary Sites, this step can be skipped.</p> <ol style="list-style-type: none"> <li>If additional preferred spare servers are configured for Secondary and/or Tertiary Sites, navigate to <b>Status &amp; Manage &gt; Server</b>.</li> </ol>  <ol style="list-style-type: none"> <li>Select all <b>Preferred Spare</b> SOAM servers.</li> <li>Click <b>Restart</b>.</li> <li>Click <b>OK</b> on the confirmation screen.</li> </ol> 

**Procedure 18. Activate PCA (PCA Only)**

Step#	Procedure	Description
<p>This procedure activates PCA.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	(PCA Only) Activate PCA Feature	<p>If you are installing PCA, execute applicable procedures (added SOAM site activation or complete system activation) from [7] to activate PCA.</p> <p><b>Note:</b> If not all SOAM sites are ready at this point, then you should repeat activation for each <b>new</b> SOAM site that comes online.</p> <p><b>Note:</b> Ignore steps to restart DA-MPs and SBRs that have yet to be configured.</p>


**Procedure 19. Activate DCA (DCA Only)**

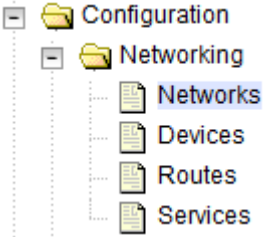
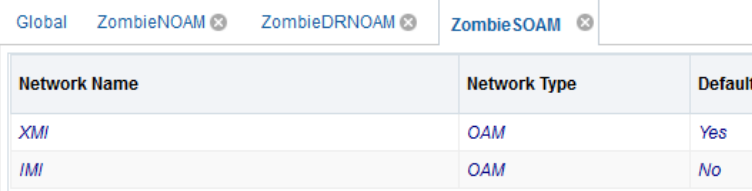

Step#	Procedure	Description
<p>This procedure activates DCA.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	(DCA Only) Activate PCA Feature	<p>If you are installing DCA, execute procedures [11] to activate DCA Framework and Feature.</p> <p><b>Note:</b> If not all SOAM sites are ready at this point, then you should repeat activation for each <b>new</b> SOAM site that comes online.</p> <p><b>Note:</b> Ignore steps to restart DA-MPs and SBRs that have yet to be configured.</p>

## 4.4 Configure MP Servers

### 4.4.1 Configure MP Blade Servers

#### Procedure 20. Configure MP Blade Servers

Step#	Procedure	Description
<p>This procedure configures MP blade servers (IPFE, SBR, DA-MP).                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p>NOAM VIP GUI: Login</p>	<p>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:</p> <div style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <b>guidadmin</b> user.</p> <div style="text-align: center; margin: 20px 0;">  </div> <div style="text-align: center; margin: 10px 0;"> <p><b>Oracle System Login</b> <span style="float: right;">Mon Jul 11 13:59:37 2016 EDT</span></p> <hr style="width: 50%; margin: 0 auto;"/> </div> <div style="border: 1px solid gray; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center;"><b>Log In</b></p> <p style="text-align: center;">Enter your username and password to log in</p> <p style="text-align: center;">Username: <input style="width: 100%;" type="text"/></p> <p style="text-align: center;">Password: <input style="width: 100%;" type="password"/></p> <p style="text-align: center;"><input type="checkbox"/> Change password</p> <p style="text-align: center;"><input type="button" value="Log In"/></p> </div> <p style="text-align: center; margin: 10px 0;">Welcome to the Oracle System Login.</p> <p style="text-align: center; font-size: small;">This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p style="text-align: center; font-size: x-small;">Unauthorized access is prohibited.</p> <hr style="width: 50%; margin: 10px auto;"/> <p style="text-align: center; font-size: x-small;">Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</p> <p style="text-align: center; font-size: x-small;">Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</p>

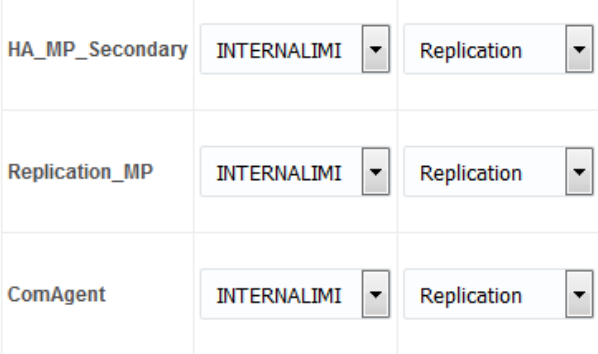
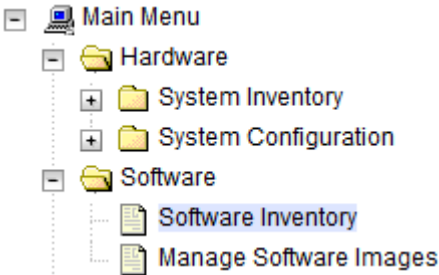
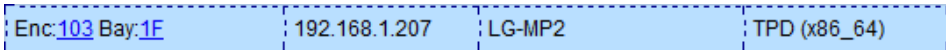
Step#	Procedure	Description									
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b>                      Navigate to signaling network configuration on screen</p>	<p>1. Navigate to <b>Configuration &gt; Networking &gt; Networks</b>.</p>  <p>2. Select the associated SOAM tab for the MP server.</p>  <table border="1" data-bbox="483 655 1230 798"> <thead> <tr> <th>Network Name</th> <th>Network Type</th> <th>Default</th> </tr> </thead> <tbody> <tr> <td>XMI</td> <td>OAM</td> <td>Yes</td> </tr> <tr> <td>IMI</td> <td>OAM</td> <td>No</td> </tr> </tbody> </table> <p>3. Click <b>Insert</b> in the lower left corner.</p> 	Network Name	Network Type	Default	XMI	OAM	Yes	IMI	OAM	No
Network Name	Network Type	Default									
XMI	OAM	Yes									
IMI	OAM	No									



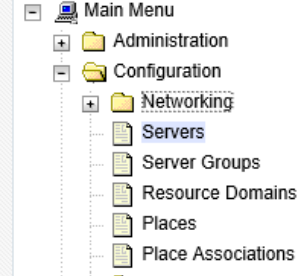
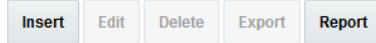
Step#	Procedure	Description																											
<p>3. <input type="checkbox"/></p>	<p><b>NOAMP VIP:</b> Add signaling networks</p>	<p>1. Enter the <b>Network Name</b>, <b>VLAN ID</b>, <b>Network Address</b>, <b>Netmask</b>, and <b>Router IP</b> that matches the signaling network.</p> <p><b>Insert Network</b></p> <table border="1" data-bbox="496 384 1179 1171"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Network Name *</td> <td> xsi1 </td> <td>The name of this network. [Defat</td> </tr> <tr> <td>Network Type</td> <td> Signaling ▼ </td> <td>The type of this network.</td> </tr> <tr> <td>VLAN ID *</td> <td> 6 </td> <td>The VLAN ID to use for this netw</td> </tr> <tr> <td>Network Address *</td> <td> 10.196.227.0 </td> <td>The network address of this netv</td> </tr> <tr> <td>Netmask *</td> <td> 255.255.255.0 </td> <td>Subnetting to apply to servers wi</td> </tr> <tr> <td>Router IP</td> <td> 10.196.227.1 </td> <td>The IP address of a router on thi one monitored.</td> </tr> <tr> <td>Default Network</td> <td> <input type="radio"/> Yes  <input checked="" type="radio"/> No                 </td> <td>A selection indicating whether thi</td> </tr> <tr> <td>Routed</td> <td> <input checked="" type="radio"/> Yes  <input type="radio"/> No                 </td> <td>Whether or not this network is ro</td> </tr> </tbody> </table> <p> <input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p> <p><b>Note:</b> Even if the network does not use VLAN tagging, you should enter the correct VLAN ID here as indicated by the NAPD.</p> <ol style="list-style-type: none"> <li>1. Select <b>Signaling</b> for Network Type.</li> <li>2. Select <b>No</b> for Default Network.</li> <li>3. Select <b>Yes</b> for Routable.</li> <li>4. Click <b>OK</b>, if you are finished adding signaling networks.</li> </ol> <p>–OR–</p> <p>Click <b>Apply</b> to save this signaling network and <b>repeat</b> this step to enter additional signaling networks.</p>	Field	Value	Description	Network Name *	xsi1	The name of this network. [Defat	Network Type	Signaling ▼	The type of this network.	VLAN ID *	6	The VLAN ID to use for this netw	Network Address *	10.196.227.0	The network address of this netv	Netmask *	255.255.255.0	Subnetting to apply to servers wi	Router IP	10.196.227.1	The IP address of a router on thi one monitored.	Default Network	<input type="radio"/> Yes <input checked="" type="radio"/> No	A selection indicating whether thi	Routed	<input checked="" type="radio"/> Yes <input type="radio"/> No	Whether or not this network is ro
Field	Value	Description																											
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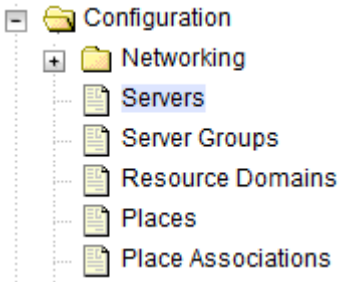
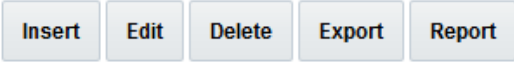
Step#	Procedure	Description																											
<p>4. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> [PCA/DCA Only]: Define SBR DB replication network</p>	<p><b>Note:</b> Execute this step only if you are defining a separate, dedicated network for SBR replication.</p> <p>1. Enter the <b>Network Name</b>, <b>VLAN ID</b>, <b>Network Address</b>, <b>Netmask</b>, and <b>Router IP</b> that matches the SBR DB Replication network.</p> <p><b>Insert Network</b></p> <table border="1" data-bbox="500 485 1045 1314"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Network Name *</td> <td>replication</td> <td>The name of this</td> </tr> <tr> <td>Network Type</td> <td>Signaling ▼</td> <td>The type of this n</td> </tr> <tr> <td>VLAN ID *</td> <td>9</td> <td>The VLAN ID to u</td> </tr> <tr> <td>Network Address *</td> <td>10.240.77.0</td> <td>The network add</td> </tr> <tr> <td>Netmask *</td> <td>255.255.255.0</td> <td>Subnetting to ap</td> </tr> <tr> <td>Router IP</td> <td>10.240.77.1</td> <td>The IP address c one monitored.</td> </tr> <tr> <td>Default Network</td> <td><input type="radio"/> Yes <input checked="" type="radio"/> No</td> <td>A selection indic:</td> </tr> <tr> <td>Routed</td> <td><input checked="" type="radio"/> Yes <input type="radio"/> No</td> <td>Whether or not th</td> </tr> </tbody> </table> <p><b>Note:</b> Even if the network does not use VLAN Tagging, you should enter the correct VLAN ID here as indicated by the NAPD.</p> <p>2. Click <b>Signaling</b> for Network Type. 3. Click <b>No</b> for Default Network. 4. Click <b>Yes</b> for Routable. 5. Click <b>OK</b>. If you are finished adding signaling networks.</p> <p>–OR– Click <b>Apply</b> to save this signaling network and <b>repeat</b> this step to enter additional signaling networks.</p>	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 *	255.255.255.0	Subnetting to ap	Router IP	10.240.77.1	The IP address c one monitored.	Default Network	<input type="radio"/> Yes <input checked="" type="radio"/> No	A selection indic:	Routed	<input checked="" type="radio"/> Yes <input type="radio"/> No	Whether or not th
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<p>5. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> [PCA/DCA Only]: Perform</p>	<p><b>Note:</b> Execute this step only if you are defining a separate, dedicated network for SBR Replication.</p> <p>1. Navigate to <b>Configuration &gt; Services</b>.</p>																											

Step#	Procedure	Description												
	additional service to networks mapping	<div data-bbox="516 237 771 472"> </div> <p data-bbox="472 499 643 527">2. Click <b>Edit</b>.</p> <div data-bbox="483 552 641 600"> </div> <p data-bbox="472 638 1146 665">3. Set the services according to one of these scenarios:</p> <ul data-bbox="472 684 1406 1035" style="list-style-type: none"> <li>• If the dual path HA configuration is required:                             <p data-bbox="521 730 1076 758">Set up the inter-NE network to the XMI network</p> <p data-bbox="521 779 1341 806">Set up the intra-NE network to the IMI network for HA_MP secondary.</p> <p data-bbox="521 827 1406 1035">This configuration uses the XMI network as a secondary path to preserve the HA status of SBRs grouped between multiple sites. If the primary HA path <b>SBR DB Replication Network</b> becomes lost or impaired, the XMI network preserves the HA state and prevents the servers from entering into a scenario known as <b>HA Split-Brain</b>. Preventing HA Split-Brain keeps the existing database in sync, but the DSR mate site is isolated from the active SBR and results in traffic loss until SBR DB replication network is restored.</p> <table border="1" data-bbox="521 1052 1421 1272"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>HA_MP_Secondary</td> <td>&lt;IMI Network&gt;</td> <td>&lt;XMI Network&gt;</td> </tr> <tr> <td>Replication_MP</td> <td>&lt;IMI Network&gt;</td> <td>&lt;SBR DB Replication Network&gt;</td> </tr> <tr> <td>ComAgent</td> <td>&lt;IMI Network&gt;</td> <td>&lt;SBR DB Replication Network&gt;</td> </tr> </tbody> </table> <div data-bbox="483 1283 1089 1583"> </div> </li> <li>• If the dual path HA configuration is NOT required:                             <p data-bbox="521 1646 1373 1673">Set up the inter-NE network to SBR DB replication (configured in step 5).</p> <p data-bbox="521 1694 1341 1722">Set up the intra-NE network to the IMI network for HA_MP secondary.</p> <p data-bbox="521 1743 1406 1862">This condition allows an <b>HA Split-Brain</b> condition between the SBRs if the SBR DB replication network becomes lost or impaired. During an HA Split-Brain condition, an active SBR server exists at each site, but the database is not in sync between the SBRs.</p> </li> </ul>	Name	Intra-NE Network	Inter-NE Network	HA_MP_Secondary	<IMI Network>	<XMI Network>	Replication_MP	<IMI Network>	<SBR DB Replication Network>	ComAgent	<IMI Network>	<SBR DB Replication Network>
Name	Intra-NE Network	Inter-NE Network												
HA_MP_Secondary	<IMI Network>	<XMI Network>												
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Step#	Procedure	Description												
		<table border="1" data-bbox="521 237 1421 459"> <thead> <tr> <th data-bbox="521 237 792 317">Name</th> <th data-bbox="792 237 1008 317">Intra-NE Network</th> <th data-bbox="1008 237 1421 317">Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td data-bbox="521 317 792 363">HA_MP_Secondary</td> <td data-bbox="792 317 1008 363">&lt;IMI Network&gt;</td> <td data-bbox="1008 317 1421 363">&lt;SBR DB Replication Network&gt;</td> </tr> <tr> <td data-bbox="521 363 792 409">Replication_MP</td> <td data-bbox="792 363 1008 409">&lt;IMI Network&gt;</td> <td data-bbox="1008 363 1421 409">&lt;SBR DB Replication Network&gt;</td> </tr> <tr> <td data-bbox="521 409 792 459">ComAgent</td> <td data-bbox="792 409 1008 459">&lt;IMI Network&gt;</td> <td data-bbox="1008 409 1421 459">&lt;SBR DB Replication Network&gt;</td> </tr> </tbody> </table>  <p data-bbox="480 835 1135 867">4. Click <b>OK</b> to apply the Service-to-Network selections.</p>	Name	Intra-NE Network	Inter-NE Network	HA_MP_Secondary	<IMI Network>	<SBR DB Replication Network>	Replication_MP	<IMI Network>	<SBR DB Replication Network>	ComAgent	<IMI Network>	<SBR DB Replication Network>
Name	Intra-NE Network	Inter-NE Network												
HA_MP_Secondary	<IMI Network>	<SBR DB Replication Network>												
Replication_MP	<IMI Network>	<SBR DB Replication Network>												
ComAgent	<IMI Network>	<SBR DB Replication Network>												
<p data-bbox="224 890 256 953">6. <input type="checkbox"/></p>	<p data-bbox="305 890 443 1163"><b>PMAC:</b> Exchange SSH keys between MP site's local PMAC and the MP server</p>	<p data-bbox="472 890 1412 953">Use the MP site's PMAC GUI to determine the control network IP address of the blade server that is to be an MP server.</p> <ol data-bbox="472 961 1287 1024" style="list-style-type: none"> <li data-bbox="472 961 1287 1024">1. From the MP site's PMAC GUI, navigate to <b>Software &gt; Software Inventory</b>.</li> </ol>   <ol data-bbox="472 1383 1401 1598" style="list-style-type: none"> <li data-bbox="472 1383 967 1415">2. Note the IP address for an MP server.</li> <li data-bbox="472 1430 1369 1493">3. From a terminal window connection on the MP site's PMAC, login as the <b>admusr</b> user.</li> <li data-bbox="472 1507 1401 1598">4. Exchange SSH keys for admusr between the PMAC and the MP blade server using the keyexchange utility and the control network IP address for the MP blade server.</li> </ol> <pre data-bbox="521 1619 1386 1661" style="border: 1px solid black; padding: 5px;">\$ keyexchange admusr@&lt;MP_Control_Blade_IP Address&gt;</pre> <ol data-bbox="472 1671 1409 1734" style="list-style-type: none"> <li data-bbox="472 1671 1409 1734">5. When asked for the password, type the password for the <b>admusr</b> of the MP server.</li> </ol>												

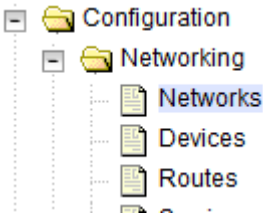
Step#	Procedure	Description															
7. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Insert the MP server (Part 1)	<p>Before creating the MP blade server, first identify the hardware profile.</p> <p><b>Hardware Profile:</b> In the following step, select the profile that matches your MP physical hardware and enclosure networking environment.</p> <p><b>Note:</b> You must go through the process of identifying the enclosure switches, mezzanine cards and Ethernet interfaces of the network prior and blade(s) used before selecting the profile.</p> <table border="1" data-bbox="472 470 1406 758"> <thead> <tr> <th data-bbox="472 470 716 552">Profile Name</th> <th data-bbox="716 470 1062 552">Number of Enclosure Switches (Pairs)?</th> <th data-bbox="1062 470 1406 552">Bonded Signaling Interfaces?</th> </tr> </thead> <tbody> <tr> <td data-bbox="472 552 716 604">1-Pair</td> <td data-bbox="716 552 1062 604">1</td> <td data-bbox="1062 552 1406 604">Yes</td> </tr> <tr> <td data-bbox="472 604 716 657">2-Pair</td> <td data-bbox="716 604 1062 657">2</td> <td data-bbox="1062 604 1406 657">Yes</td> </tr> <tr> <td data-bbox="472 657 716 709">3-Pair-bonded</td> <td data-bbox="716 657 1062 709">3</td> <td data-bbox="1062 657 1406 709">Yes</td> </tr> <tr> <td data-bbox="472 709 716 758">3-Pair-un-bonded</td> <td data-bbox="716 709 1062 758">3</td> <td data-bbox="1062 709 1406 758">No</td> </tr> </tbody> </table> <p><b>Note:</b> If none of the above profiles properly describe your MP server blade, then you create your own in a text editor (see Figure 7 of Appendix A Sample Network Element and Hardware Profiles) and copy it into the <b>/var/TKLC/appworks/profiles/</b> directory of the active NOAM server, the standby NOAM server, and both the DR NOAM servers (if applicable).</p> <p><b>Note:</b> After transferring the above file, set the proper file permission by executing the following command:</p> <pre data-bbox="472 1024 1427 1066">\$ sudo chmod 777 /var/TKLC/appworks/profiles/&lt;profile name&gt;</pre> <p>Make note of the profile used here since it is used in server creation in the following step.</p>	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
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															

Step#	Procedure	Description												
<p>8.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Insert the MP server (Part 2)</p>	<p>1. Navigate to <b>Configuration &gt; Servers</b>.</p>  <p>2. Click <b>Insert</b> to insert the new MP server into servers table.</p>  <p>3. Enter the following values:</p> <p><b>Hostname:</b> &lt;Hostname&gt;  <b>Role:</b> MP  <b>Network Element Name:</b> [Choose Network Element]  <b>Hardware Profile:</b> Select the profile that matches your MP physical hardware and enclosure networking environment from step 7.  <b>Location:</b> &lt;Enter an optional location description&gt;</p> <p>OAM Interfaces [At least one interface is required.]:</p> <table border="1" data-bbox="479 1018 1388 1333"> <thead> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>XMI (10.240.213.0/24)</td> <td>10.240.213.44</td> <td>bond0 <input checked="" type="checkbox"/> VLAN (4)</td> </tr> <tr> <td>IMI (169.254.1.0/24)</td> <td>169.254.1.6</td> <td>bond0 <input checked="" type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>xsi1 (10.196.227.0/24)</td> <td>10.196.227.44</td> <td>bond1 <input checked="" type="checkbox"/> VLAN (6)</td> </tr> </tbody> </table> <p>The interface configuration form displays.</p> <p><b>Note:</b> If networks have been configured previously, but are not required on the server, simply remove the populated network IP from the IP address field and this device is not created on the server.</p> <p>4. Type the IP addresses for all networks. Select the correct bond or interface. Ensure the correct bond and VLAN tagging (if required) is selected.</p> <p>5. <b>(Optional)</b> If dedicated network for SBR replication has been defined, enter the SBR replication IP address. Select the proper bond or interface, and select the <b>VLAN</b> checkbox if VLAN tagging is required.</p>	Network	IP Address	Interface	XMI (10.240.213.0/24)	10.240.213.44	bond0 <input checked="" type="checkbox"/> VLAN (4)	IMI (169.254.1.0/24)	169.254.1.6	bond0 <input checked="" type="checkbox"/> VLAN (3)	xsi1 (10.196.227.0/24)	10.196.227.44	bond1 <input checked="" type="checkbox"/> VLAN (6)
Network	IP Address	Interface												
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IMI (169.254.1.0/24)	169.254.1.6	bond0 <input checked="" type="checkbox"/> VLAN (3)												
xsi1 (10.196.227.0/24)	10.196.227.44	bond1 <input checked="" type="checkbox"/> VLAN (6)												

Step#	Procedure	Description								
9. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Insert the MP server (Part 3)	<p>1. Add the following NTP servers:</p> <table border="1"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;TVOE_XMI_IP_Address (SO1)&gt;</td> <td>Yes</td> </tr> <tr> <td>&lt;TVOE_XMI_IP_Address (SO2)&gt;</td> <td>No</td> </tr> <tr> <td>&lt;MP_Site_PMAC_TVOE_IP_Address&gt;</td> <td>No</td> </tr> </tbody> </table> <p><b>Note:</b> For multiple enclosure deployments, prefer the SOAM TVOE Host that is located in the same enclosure as the MP server.</p> <p>2. Click <b>OK</b> when all fields are entered to finish MP server insertion.</p>	NTP Server	Preferred?	<TVOE_XMI_IP_Address (SO1)>	Yes	<TVOE_XMI_IP_Address (SO2)>	No	<MP_Site_PMAC_TVOE_IP_Address>	No
NTP Server	Preferred?									
<TVOE_XMI_IP_Address (SO1)>	Yes									
<TVOE_XMI_IP_Address (SO2)>	No									
<MP_Site_PMAC_TVOE_IP_Address>	No									
10. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Export the configuration	<p>1. Navigate to <b>Configuration &gt; Servers</b>.</p>  <p>2. From the GUI screen, select the MP server and click <b>Export</b> to generate the initial configuration data for that server.</p> 								
11. <input type="checkbox"/>	<b>NOAM VIP:</b> Copy configuration file to MP server	<p>1. Obtain a terminal session to the NOAM VIP as the <b>admusr</b> user.</p> <p>2. Use the <b>awpushcfg</b> utility to copy the configuration file created in the previous step from the <b>/var/TKLC/db/filemgmt</b> directory on the NOAM to the MP server, using the Control network IP address for the MP server.</p> <p>The configuration file has a filename like <b>TKLCConfigData.&lt;hostname&gt;.sh</b>.</p> <pre>\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user is asked for the following:</p> <ul style="list-style-type: none"> <li>IP address of the local PMAC server: Use the management network address from the PMAC.</li> <li>Username: Use <b>admusr</b></li> <li>Control network IP address for the target server: In this case, enter the control IP for the MP server).</li> <li>Hostname of the target server: Enter the server name configured in step 9.</li> </ul>								

Step#	Procedure	Description
12. <input type="checkbox"/>	<b>MP Server:</b> Verify awpushcfg was called and reboot the configured server	<ol style="list-style-type: none"> <li data-bbox="472 247 1398 310">1. Obtain a terminal window connection on the MP server console by establishing an ssh session from the NOAM VIP terminal console. <pre data-bbox="521 323 1398 373">\$ ssh admusr@&lt;MP_Control_IP&gt;</pre></li> <li data-bbox="472 380 1398 411">2. Login as the <b>admusr</b> user.</li> <li data-bbox="472 426 1398 594">3. Verify awpushcfg was called by checking the following file: <pre data-bbox="521 478 1398 594">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre>Verify the following message is displayed: <pre data-bbox="521 520 1398 594">[SUCCESS] script completed successfully!</pre></li> <li data-bbox="472 606 1398 701">4. Reboot the server: <pre data-bbox="521 653 1398 701">\$ sudo init 6</pre></li> <li data-bbox="472 711 1398 774">5. Proceed to the next step once the server finishes rebooting. The server is done rebooting once the login prompt is displayed.</li> </ol>
13. <input type="checkbox"/>	<b>MP Server:</b> Verify server health	<ol style="list-style-type: none"> <li data-bbox="472 795 1398 827">1. After the reboot, login as admusr.</li> <li data-bbox="472 842 1398 905">2. Execute the following command as super-user on the server and make sure that no errors are returned: <pre data-bbox="521 919 1398 1180">\$ sudo syscheck</pre>Running modules in class hardware...OK Running modules in class disk...OK Running modules in class net...OK Running modules in class system...OK Running modules in class proc...OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log</li> </ol>




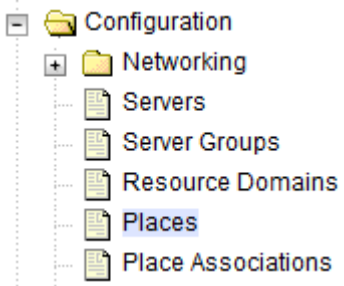
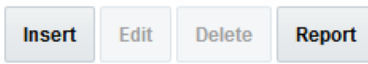
Step#	Procedure	Description
14. <input type="checkbox"/>	<b>MP Server:</b> Delete auto-configured default route on MP and replace it with a network route via the XMI network-Part 1 (optional)	<p><b>Note:</b> THIS STEP IS <b>OPTIONAL</b> AND SHOULD ONLY BE EXECUTED IF YOU PLAN TO CONFIGURE A <b>DEFAULT ROUTE</b> ON YOUR MP THAT USES A SIGNALING (XSI) NETWORK INSTEAD OF THE XMI NETWORK.</p> <p>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.</p> <ol style="list-style-type: none"> <li>1. Using the iLO facility, log into the MP as the <b>admusr</b> user. Alternatively, you can log into the site's PMAC then SSH to the MP's control address.</li> <li>2. Determine &lt;XMI_Gateway_IP&gt; from your SO site network element info.</li> <li>3. Gather the following items: <ul style="list-style-type: none"> <li>• &lt;NO_XMI_Network_Address&gt;</li> <li>• &lt;NO_XMI_Network_Netmask&gt;</li> <li>• &lt;DR_NO_XMI_Network_Address&gt;</li> <li>• &lt;DR_NO_XMI_Network_Netmask&gt;</li> <li>• &lt;TVOE_Mgmt_XMI_Network_Address&gt;</li> <li>• &lt;TVOE_Mgmt_XMI_Network_Netmask&gt;</li> </ul> </li> </ol> <p><b>Note:</b> You can either consult the XML files you imported earlier, or go to the NO GUI and view these values from the <b>Configuration &gt; Network Elements</b> screen.</p> 

Step#	Procedure	Description
15. <input type="checkbox"/>	<b>MP Server:</b> Delete auto-configured default route on MP and replace it with a network route via the XMI network-Part 2 (optional)	<ol style="list-style-type: none"> <li>Establish a connection to the MP server and login as <b>admusr</b>.</li> <li>Create network routes to the NO's XMI(OAM) network:  <b>Note:</b> 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. <pre> \$ sudo /usr/TKLC/plat/bin/netAdm add -route=net --address=&lt;NO_Site_Network_ID&gt; -- netmask=&lt;NO_Site_Network_Netmask&gt; --gateway=&lt;MP_XMI_Gateway_IP_Address&gt; -- device=&lt;MP_XMI_Interface&gt; </pre> </li> <li>Create network routes to the DR NO's XMI (OAM) network: <pre> \$ sudo /usr/TKLC/plat/bin/netAdm add -route=net --address=&lt;DR-NO_Site_Network_ID&gt; --netmask=&lt;&lt;DR-NO_Site_Network_Netmask&gt; --gateway=&lt;MP_XMI_Gateway_IP_Address&gt; -- device=&lt;MP_XMI_Interface&gt; </pre> </li> <li>Create network routes to the management server TVOE XMI (OAM) network for NTP: <pre> \$ sudo /usr/TKLC/plat/bin/netAdm add -route=net --address=&lt;TVOE_Mgmt_Network_Address&gt; --netmask=&lt;TVOE_Mgmt_Network_Netmask&gt; --gateway=&lt;MP_XMI_Gateway_IP_Address&gt; -- device=&lt;MP_XMI_Interface&gt; </pre> </li> <li><b>(Optional)</b> 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 --address=&lt;Customer_NMS_IP&gt; -- gateway=&lt;MP_XMI_Gateway_IP_Address&gt; --device=&lt;MP_XMI_Interface&gt; </pre> </li> <li>Repeat for any existing customer NMS stations.</li> <li>Delete the existing default route: <ol style="list-style-type: none"> <li>Login to primary NOAM VIP GUI.</li> <li>Navigate to <b>Configuration &gt; Networking &gt; Networks</b>.</li> <li>Select the respective SOAM tab.</li> <li>Select the XMI network and click <b>Unlock</b>. Click <b>OK</b> to confirm.</li> <li>Navigate to <b>Configuration &gt; Networking &gt; Routes</b>.</li> <li>Select the XMI route and click <b>Delete</b>.</li> <li>Click <b>OK</b> to confirm.</li> <li>Repeat steps 1 through 7 for all required MPs to delete the XMI routes.</li> <li>Navigate to <b>Configuration &gt; Networking &gt; Networks</b>.</li> <li>Select the respective SOAM tab.</li> <li>Select the XMI network and click <b>Lock</b>.</li> <li>Click <b>OK</b> to confirm.</li> </ol> </li> </ol>

Step#	Procedure	Description
16. <input type="checkbox"/>	<b>MP Server:</b> Verify connectivity	<p>1. Establish a connection to the MP server and login as <b>admusr</b>.</p> <p>2. Ping active NO XMI IP address to verify connectivity:</p> <pre data-bbox="475 342 1422 499">\$ ping &lt;ACTIVE_NO_XMI_IP_Address&gt; 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</pre> <p>3. <b>(Optional)</b> Ping Customer NMS Station(s):</p> <pre data-bbox="475 562 1422 720">\$ ping &lt;Customer_NMS_IP&gt; PING 172.4.116.8 (172.4.118.8) 56(84) bytes of data. 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</pre> <p>4. 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.</p>
17. <input type="checkbox"/>	Repeat for remaining MP at all sites	<b>Repeat</b> this entire procedure for all remaining MP blades (DA-MP, and IPFE).


**Procedure 21. Configure Places and Assign MP Servers to Places (PCA/DCA Only)**

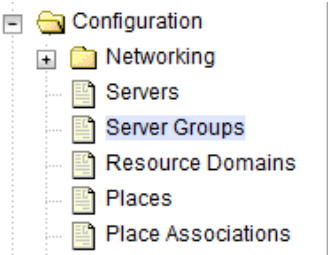
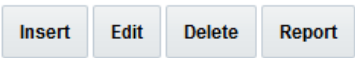
Step#	Procedure	Description
<p>This procedure adds places in the Policy and Charging DRA network.                      Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.                      If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>1. 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:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>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.</p>

Step#	Procedure	Description															
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure Places</p>	<p>1. Navigate to <b>Configuration &gt; Places</b>.</p>  <p>2. Click <b>Insert</b>.</p>  <p><b>Inserting a new Place</b></p> <table border="1" data-bbox="479 787 1291 1186"> <thead> <tr> <th colspan="3">Place</th> </tr> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Place Name *</td> <td>ZombiePlace</td> <td>Unique identifier used to label a Place. [Default and space.] [A value is required.]</td> </tr> <tr> <td>Parent *</td> <td>NONE</td> <td>The Parent of this Place [A value is required.]</td> </tr> <tr> <td>Place Type *</td> <td>Site</td> <td>The Type of this Place [A value is required.]</td> </tr> </tbody> </table> <p>3. Enter the fields as follows:</p> <p><b>Place Name:</b> &lt;Site Name&gt;  <b>Parent:</b> NONE  <b>Place Type:</b> Site</p> <p>4. <b>Repeat</b> this step for each of the PCA Places (Sites) in the network.            See the Terminology section for more information on Sites and Places.</p>	Place			Field	Value	Description	Place Name *	ZombiePlace	Unique identifier used to label a Place. [Default 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.]
Place																	
Field	Value	Description															
Place Name *	ZombiePlace	Unique identifier used to label a Place. [Default 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.]															

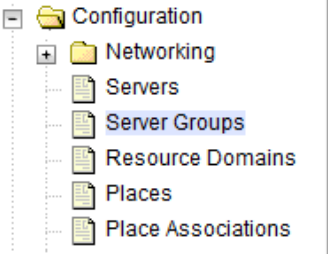

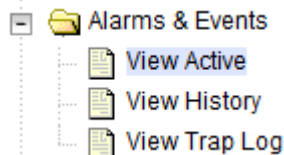
Step#	Procedure	Description																						
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Assign MP servers to places</p>	<p>1. Select the place configured in step 2 and click <b>Edit</b>.</p> <div style="border: 1px solid gray; padding: 5px; margin: 5px 0;"> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/> </div> <p>2. For each place you have defined, select the set of MP servers that are assigned to those places.</p> <div style="border: 1px solid gray; padding: 10px; margin: 5px 0;"> <p><b>Editing Place ZombiePlace</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Place Type *</td> <td style="width: 50%;"> <input type="text" value="Site"/> </td> <td style="width: 30%;">The Ty</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>Servers</b></td> </tr> <tr> <td rowspan="2">ZombieNOAM</td> <td><input type="checkbox"/> ZombieNOAM1</td> <td rowspan="2">Availal</td> </tr> <tr> <td><input type="checkbox"/> ZombieNOAM2</td> </tr> <tr> <td rowspan="2">ZombieDRNOAM</td> <td><input type="checkbox"/> ZombieDRNOAM1</td> <td rowspan="2">Availal</td> </tr> <tr> <td><input type="checkbox"/> ZombieDRNOAM2</td> </tr> <tr> <td rowspan="3">ZombieSOAM</td> <td><input type="checkbox"/> ZombieSOAM1</td> <td rowspan="3">Availal</td> </tr> <tr> <td><input type="checkbox"/> ZombieSOAM2</td> </tr> <tr> <td><input checked="" type="checkbox"/> ZombieDAMP1</td> </tr> <tr> <td></td> <td><input checked="" type="checkbox"/> ZombieDAMP2</td> <td></td> </tr> </table> <div style="margin-top: 5px;"> <input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </div> </div> <p>3. Check all the checkboxes for <b>PCA DA-MP</b> and <b>SBR</b> servers assigned to this place.</p> <p>4. <b>Repeat</b> this step for all other DA-MP or SBR servers you want to assign to places.</p> <p><b>Note:</b> All PCA DA-MPs, and SBR MPs must be added to the Site Place that corresponds to the physical location of the server.</p> <p>See the Terminology section for more information on sites.</p>	Place Type *	<input type="text" value="Site"/>	The Ty	<b>Servers</b>			ZombieNOAM	<input type="checkbox"/> ZombieNOAM1	Availal	<input type="checkbox"/> ZombieNOAM2	ZombieDRNOAM	<input type="checkbox"/> ZombieDRNOAM1	Availal	<input type="checkbox"/> ZombieDRNOAM2	ZombieSOAM	<input type="checkbox"/> ZombieSOAM1	Availal	<input type="checkbox"/> ZombieSOAM2	<input checked="" type="checkbox"/> ZombieDAMP1		<input checked="" type="checkbox"/> ZombieDAMP2	
Place Type *	<input type="text" value="Site"/>	The Ty																						
<b>Servers</b>																								
ZombieNOAM	<input type="checkbox"/> ZombieNOAM1	Availal																						
	<input type="checkbox"/> ZombieNOAM2																							
ZombieDRNOAM	<input type="checkbox"/> ZombieDRNOAM1	Availal																						
	<input type="checkbox"/> ZombieDRNOAM2																							
ZombieSOAM	<input type="checkbox"/> ZombieSOAM1	Availal																						
	<input type="checkbox"/> ZombieSOAM2																							
	<input checked="" type="checkbox"/> ZombieDAMP1																							
	<input checked="" type="checkbox"/> ZombieDAMP2																							

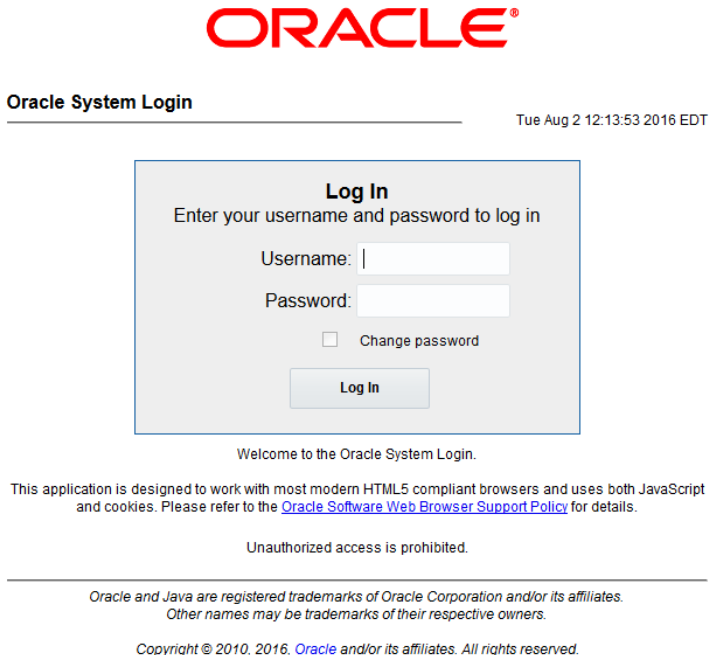
**Procedure 22. Configure the MP Server Group(s) and Profile(s)**

Step#	Procedure	Description
<p>This procedure configures MP server groups.                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>1. 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:</p> <div data-bbox="488 548 1344 596" style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guidadmin</b> user.</p>  <p style="text-align: center;">Welcome to the Oracle System Login.</p> <p style="text-align: center;">This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p style="text-align: center;">Unauthorized access is prohibited.</p> <hr/> <p style="text-align: center;"><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p style="text-align: center;"><small>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</small></p>


Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Enter MP server group data</p>	<p>From the data collected from step 2, create the server group with the following:</p> <ol style="list-style-type: none"> <li>1. Navigate to <b>Configuration &gt; Server Groups</b>.</li> </ol>  <ol style="list-style-type: none"> <li>2. Select <b>Insert</b>.</li> </ol>  <ol style="list-style-type: none"> <li>3. Enter the following fields:                     <p><b>Server Group Name:</b> &lt;Server Group Name&gt;</p> <p><b>Level:</b> C</p> <p><b>Parent:</b> [SOAMP server group that is parent to this MP]</p> <p><b>Function:</b> Select the proper function for this MP server group (gathered in step 2)</p> <p><b>WAN Replication Connection Count:</b> Use Default Value</p> </li> <li>4. Click <b>OK</b> when all fields are filled in.</li> </ol>

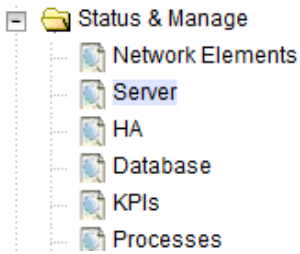
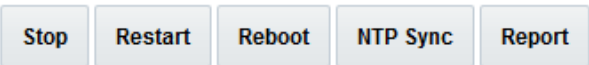


Step#	Procedure	Description									
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the MP server groups to include MP blades</p>	<p>1. From the GUI, navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Select a server group you just created and click <b>Edit</b>.</p>  <p>3. Mark the <b>Include in SG</b> checkbox for every MP server you want to include in this server group. Leave other checkboxes blank.</p> <table border="1" data-bbox="495 758 1292 957"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>ZombieDAMP1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> <tr> <td>ZombieDAMP2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> </tbody> </table> <p><b>Note:</b> The MPs should be included in the server group one at a time. Do not include multiple MPs at a time in the server group.</p> <p>4. Click <b>OK</b>.</p>	Server	SG Inclusion	Preferred HA Role	ZombieDAMP1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare	ZombieDAMP2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare
Server	SG Inclusion	Preferred HA Role									
ZombieDAMP1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare									
ZombieDAMP2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare									
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Wait for remote database alarm to clear</p>	<p>1. Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>2. Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p> 									

Step#	Procedure	Description
5. <input type="checkbox"/>	SOAM VIP GUI: Login	<p>1. 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:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;Primary_SOAM_VIP_IP_Address&gt;">https://&lt;Primary_SOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <p><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p><small>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</small></p>

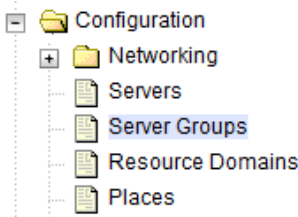
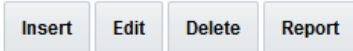
Step#	Procedure	Description														
6. <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Assign Profiles to DA-MPs from SOAM GUI	<ol style="list-style-type: none"> <li data-bbox="488 245 1427 1371">                     Navigate to <b>Diameter Common &gt; MPs &gt; Profile Assignments</b>.                     <div data-bbox="532 296 911 531" style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <pre>                             graph TD                                 DC[Diameter Common] --&gt; Dashboard[Dashboard]                                 DC --&gt; NI[Network Identifiers]                                 DC --&gt; MPs[MPs]                                 MPs --&gt; Profiles[Profiles]                                 MPs --&gt; PA[Profile Assignments]                             </pre> </div> <p data-bbox="537 548 1219 573">Refer to the DA-MP section profile table below for profiles.</p> <table border="1" data-bbox="493 583 1062 947"> <thead> <tr> <th data-bbox="493 583 683 625">DA-MP</th> <th data-bbox="683 583 1062 625">MP Profile</th> </tr> </thead> <tbody> <tr> <td data-bbox="493 625 683 785">ZombieDAMP1</td> <td data-bbox="683 625 1062 785">G8/G9:Relay</td> </tr> <tr> <td data-bbox="493 785 683 947">ZombieDAMP2</td> <td data-bbox="683 785 1062 947">G8/G9:Relay</td> </tr> </tbody> </table> </li> <li data-bbox="488 961 1427 1318">                     For each MP, select the proper profile assignment based on the MP's hardware type and the function it serves:                     <table border="1" data-bbox="488 1037 1386 1318"> <thead> <tr> <th data-bbox="488 1037 721 1079">Profile Name</th> <th data-bbox="721 1037 1386 1079">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="488 1079 721 1163">G8/G9:Relay</td> <td data-bbox="721 1079 1386 1163">G8/G9 DA-MP half height blade running the relay application</td> </tr> <tr> <td data-bbox="488 1163 721 1247">G8/G9:Database</td> <td data-bbox="721 1163 1386 1247">G8/G9 DA-MP half height blade running a database application (e.g., FABR, RBAR)</td> </tr> <tr> <td data-bbox="488 1247 721 1318">G8/G9:Session</td> <td data-bbox="721 1247 1386 1318">G8/G9 DA-MP half height blade running a session application (e.g., CPA, PCA)</td> </tr> </tbody> </table> </li> <li data-bbox="488 1331 1427 1371">                     When finished, click <b>Assign</b>.                 </li> </ol>	DA-MP	MP Profile	ZombieDAMP1	G8/G9:Relay	ZombieDAMP2	G8/G9:Relay	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)
DA-MP	MP Profile															
ZombieDAMP1	G8/G9:Relay															
ZombieDAMP2	G8/G9:Relay															
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)															

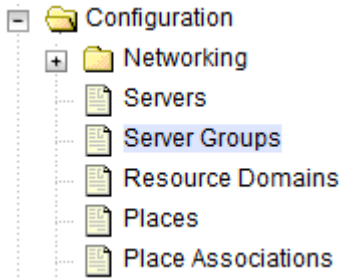
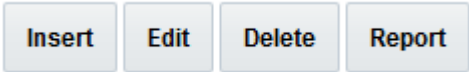
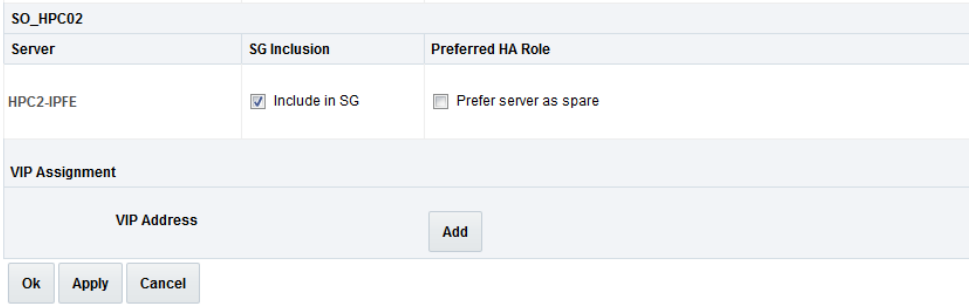
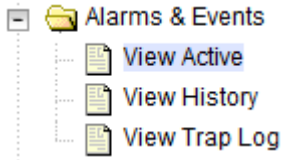
Step#	Procedure	Description
<p>7. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>1. If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <hr/> <p><i>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</i></p> <p><i>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</i></p>

Step#	Procedure	Description
<p>8.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Restart MP blade servers</p>	<p>1. Navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. For each MP server:</p> <ul style="list-style-type: none"> <li>• Select the MP server.</li> <li>• Click <b>Restart</b>.</li> <li>• Click <b>OK</b> on the confirmation screen. Wait for the message that tells you that the restart was successful.</li> </ul>  <p><b>Note:</b> Policy and Charging DRA installations/DCA installations: You may continue to see alarms related to ComAgent until you complete the PCA/DCA installation.</p>

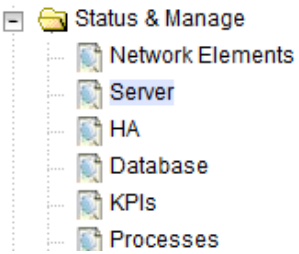
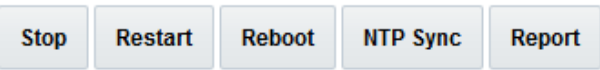
**Procedure 23. Configure IPFE Server Groups**

Step#	Procedure	Description
<p>This procedure configures the VIPs for the signaling networks on the MPs.                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p>NOAM VIP GUI: Login</p>	<p>1. 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:</p> <div data-bbox="467 548 1321 596" style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div data-bbox="487 661 1339 1459" style="text-align: center;">  </div>


Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Enter MP server group data</p>	<p>Create the server group for each individual IPFE as follows:</p> <ol style="list-style-type: none"> <li>Navigate to <b>Configuration &gt; Server Groups</b>.</li> </ol>  <ol style="list-style-type: none"> <li>Click <b>Insert</b>.</li> </ol>  <ol style="list-style-type: none"> <li>Fill out the following fields:           <p><b>Server Group Name:</b> &lt;Server Group Name&gt;</p> <p><b>Level:</b> C</p> <p><b>Parent:</b> [SOAMP Server Group That is Parent To this MP]</p> <p><b>Function:</b> IP Front End</p> <p><b>WAN Replication Connection Count:</b> Use Default Value</p> </li> <li>Select <b>OK</b>.</li> </ol>

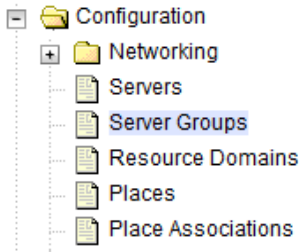
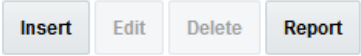
Step#	Procedure	Description
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the MP server group and add VIPs (only for 1+1)</p>	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Select the server group you just created and click <b>Edit</b>.</p>  <p>3. Mark the <b>Include in SG</b> checkbox for the MP server to include in this server group. Leave other checkboxes unmarked.</p> <p><b>Note:</b> Each IPFE MP server should have an individual Server Group of type IPFE.</p>  <p>4. Click <b>OK</b>.</p>
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Wait for Remote Database Alarm to Clear</p>	<p>1. Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p>  <p>2. Wait for the alarm <b>Remote Database re-initialization in progress</b> to clear before proceeding.</p>

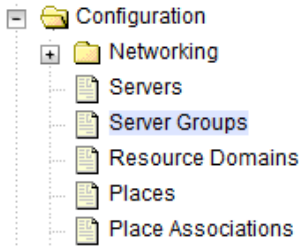

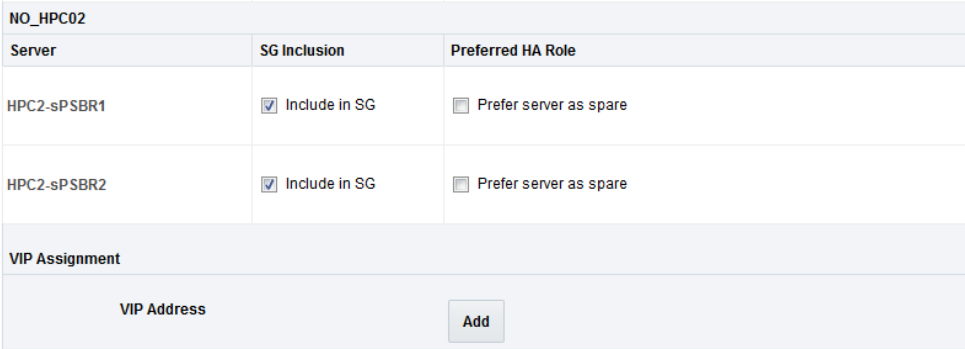


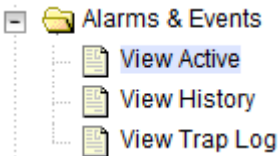
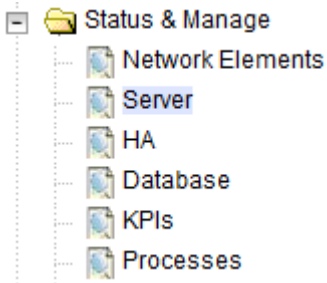
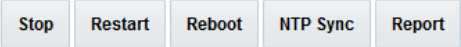
Step#	Procedure	Description
5. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Restart MP blade servers	<p>1. Navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. For each MP server:</p> <ul style="list-style-type: none"> <li>• Select the MP server.</li> <li>• Click <b>Restart</b>.</li> <li>• Click <b>OK</b> to the confirmation screen. Wait for the message that tells you the restart was successful.</li> </ul> 

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

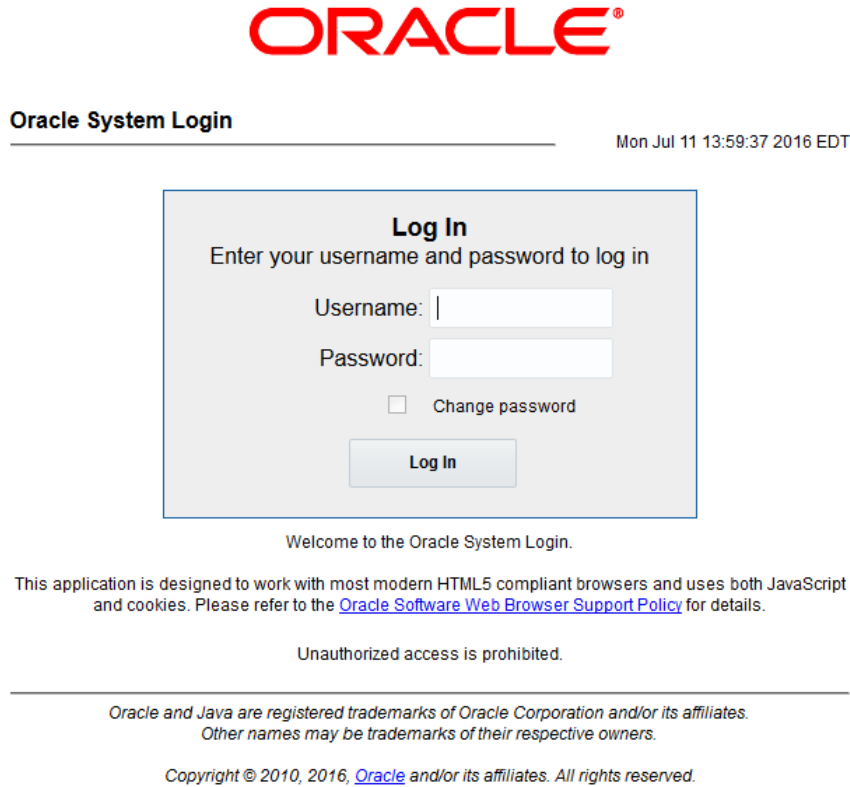
Step#	Procedure	Description
<p>This procedure configures MP server groups as session SBRs.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Login	<p>1. 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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 

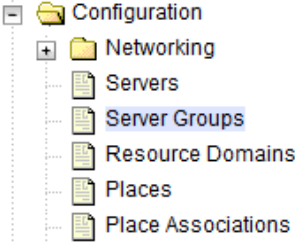
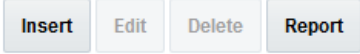
Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Create a server group for each site</p>	<p>1. Navigate to <b>Configuration &gt; Server Group</b>.</p>  <p>2. Click <b>Insert</b> and fill the following fields.</p>  <p><b>Server Group Name:</b> &lt;Server Group Name&gt;  <b>Level:</b> C  <b>Parent:</b> &lt;SOAMP Server Group that is Parent to this MP&gt;  <b>Function:</b> SBR  <b>WAN Replication Connection Count:</b> 8</p> <p>3. Click <b>OK</b>.</p>

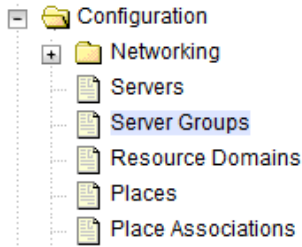

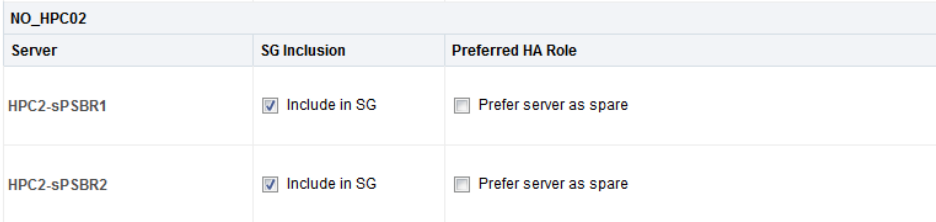
Step#	Procedure	Description
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the MP server groups to include MP blades</p>	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Select a server group you just created and click <b>Edit</b>.</p>  <p>3. Mark the <b>Include in SG</b> checkbox for the MP server you want to include in this server group.</p> <p>4. Leave other checkboxes blank.</p> <p><b>Note:</b> The MPs should be included in the server group one at a time. Do not include multiple MPs at a time in the server group.</p>  <p>5. Click <b>OK</b>.</p>

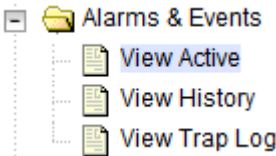
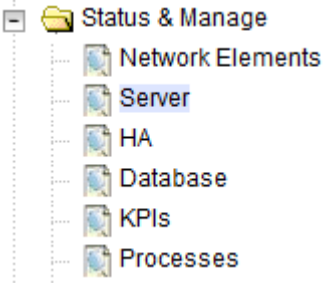
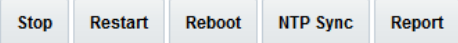
Step#	Procedure	Description						
<p>4. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> (PCA/DCA ONLY) Edit the MP Server Group and add Preferred Spares for Site Redundancy (Optional)</p>	<p>If the Two Site Redundancy feature for the policy and charging SBR server group/session binding repository SBR server group is wanted, add a MP server that is located in a separate site (location) to the server group by marking the <b>Include in SG</b> checkbox. Also, mark the <b>Preferred Spare</b> checkbox.</p> <table border="1" data-bbox="500 373 1430 499"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>ZombieSBRsp</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Prefer server as spare</td> </tr> </tbody> </table> <p>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 <b>Include in SG</b> checkbox. Also, mark the <b>Preferred Spare</b> checkbox for both servers.</p> <p><b>Note:</b> The <b>Preferred Spare</b> 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).</p> <p>For more information about Site Redundancy for Policy and Charging SBR/Session Binding Repository Server Groups, see the 1.3 Terminology section.</p> <p>Click <b>OK</b> to save.</p>	Server	SG Inclusion	Preferred HA Role	ZombieSBRsp	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Prefer server as spare
Server	SG Inclusion	Preferred HA Role						
ZombieSBRsp	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Prefer server as spare						
<p>5. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Wait for remote database alarm to clear</p>	<p>Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p>  <p>Wait for the <b>Remote Database re-initialization in progress</b> alarm to clear before proceeding.</p>						
<p>6. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Restart MP blade servers</p>	<p>1. Navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Select the MP server. 3. Click <b>Restart</b>. 4. Click <b>OK</b> on the confirmation screen. 5. Wait for restart to complete.</p> 						

**Procedure 25. Configure the Binding SBR Server Group(s)**

Step#	Procedure	Description
<p>This procedure configures MP server groups as binding SBRs.                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>1. 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:</p> <div data-bbox="488 548 1344 596" style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guidadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <hr/> <p><i>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</i></p> <p><i>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</i></p>

Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Create a server group for each site</p>	<p>1. Navigate to <b>Configuration &gt; Server Group</b>.</p>  <p>2. Click <b>Insert</b> and fill the following fields.</p>  <p><b>Server Group Name:</b> &lt;Server Group Name&gt;  <b>Level:</b> C  <b>Parent:</b> &lt;SOAMP Server Group that is Parent to this MP&gt;  <b>Function:</b> SBR  <b>WAN Replication Connection Count:</b> 8</p> <p>3. Click <b>OK</b>.</p>


Step#	Procedure	Description
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the MP server groups to include MP blades</p>	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Select a server group you just created and click <b>Edit</b>.</p>  <p>3. Mark the <b>Include in SG</b> checkbox for the MP server you want to include in this server group.</p> <p>4. Leave other checkboxes blank.</p> <p><b>Note:</b> The MPs should be included in the server group one at a time. Do not include multiple MPs at a time in the server group.</p>  <p>VIP Assignment</p> <p>VIP Address <input type="text"/> <input type="button" value="Add"/></p> <p><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></p> <p>5. Click <b>OK</b>.</p>

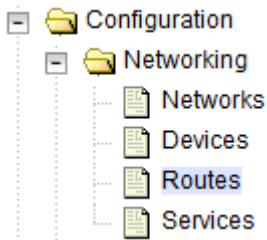
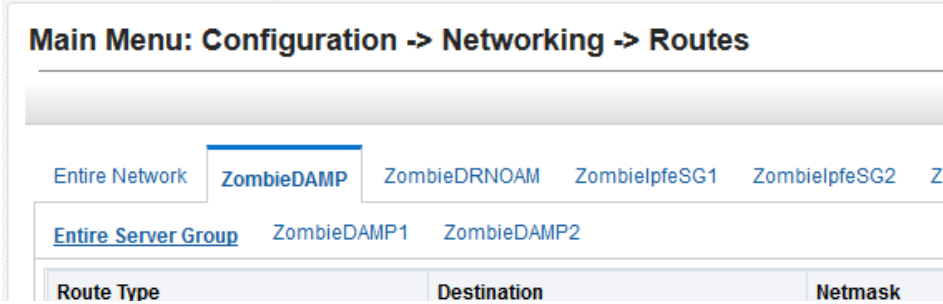
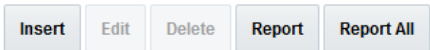
Step#	Procedure	Description						
<p>4. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> (PCA/DCA ONLY) Edit the MP Server Group and add Preferred Spares for Site Redundancy (Optional)</p>	<p>If the Two Site Redundancy feature for the policy and charging SBR server group/session binding repository SBR server group is wanted, add a MP server that is located in a separate site (location) to the server group by marking the <b>Include in SG</b> checkbox. Also, mark the <b>Preferred Spare</b> checkbox.</p> <table border="1" data-bbox="500 407 1427 537"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>Zombie SBRsp</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Prefer server as spare</td> </tr> </tbody> </table> <p>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 <b>Include in SG</b> checkbox. Also, mark the <b>Preferred Spare</b> checkbox for both servers.</p> <p><b>Note:</b> The <b>Preferred Spare</b> 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).</p> <p>For more information about Site Redundancy for Policy and Charging SBR/Session Binding Repository Server Groups, see the 1.3 Terminology section.</p> <p>Click <b>OK</b> to save.</p>	Server	SG Inclusion	Preferred HA Role	Zombie SBRsp	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Prefer server as spare
Server	SG Inclusion	Preferred HA Role						
Zombie SBRsp	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Prefer server as spare						
<p>5. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Wait for remote database alarm to clear</p>	<p>Navigate to <b>Alarms &amp; Events &gt; View Active.</b></p>  <p>Wait for the <b>Remote Database re-initialization in progress</b> alarm to clear before proceeding.</p>						
<p>6. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Restart MP blade servers</p>	<p>1. Navigate to <b>Status &amp; Manage &gt; Server.</b></p>  <p>2. Select the MP server. 3. Click <b>Restart</b>. 4. Click <b>OK</b> on the confirmation screen. 5. Wait for restart to complete.</p> 						



## 4.4.2 Configure Signaling Devices

### Procedure 26. Configure the Signaling Network Routes

Step#	Procedure	Description
<p>This procedure configures signaling network routes on MP-type servers (DA-MP, IPFE, etc.). Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>1. 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:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <p><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p><small>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</small></p>

Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b></p> <p><b>GUI: Add route</b></p>	<p>1. Navigate to <b>Configuration &gt; Networking &gt; Routes</b>.</p>  <p>2. Select the MP server group tab and verify the <b>Entire Server Group</b> link is selected, if not, select the link.</p>  <p>3. Click <b>Insert</b> to add additional routes.</p> 


Step#	Procedure	Description																		
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Add a default route for MPs going through signaling network gateway (Optional)</p>	<p>Only execute this step if you performed Procedure 20. , step 15. , which removed the XMI gateway default route on MPs.</p> <p>If your MP servers no longer have a default route, then you can now insert a default route to use one of the signaling network gateways.</p> <p><b>Insert Route on DAMP_SG</b></p> <table border="1" data-bbox="483 449 959 987"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Descript</th> </tr> </thead> <tbody> <tr> <td>Route Type *</td> <td> <input type="radio"/> Net  <input checked="" type="radio"/> Default  <input type="radio"/> Host                 </td> <td>Select a r</td> </tr> <tr> <td>Device *</td> <td>bond0.5</td> <td>Select thi</td> </tr> <tr> <td>Destination</td> <td></td> <td>The dest</td> </tr> <tr> <td>Netmask</td> <td></td> <td>A valid ne</td> </tr> <tr> <td>Gateway IP *</td> <td></td> <td>The IP ac</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p> <ol style="list-style-type: none"> <li>Enter the fields as follows:                     <ul style="list-style-type: none"> <li><b>Route Type:</b> Default</li> <li><b>Device:</b> Select the signaling device that is directly attached to the network where the XSI default gateway resides</li> <li><b>Gateway IP:</b> The XSI gateway you wish to use for default signaling network access.</li> </ul> </li> <li>Click <b>OK</b>.</li> </ol>	Field	Value	Descript	Route Type *	<input type="radio"/> Net <input checked="" type="radio"/> Default <input type="radio"/> Host	Select a r	Device *	bond0.5	Select thi	Destination		The dest	Netmask		A valid ne	Gateway IP *		The IP ac
Field	Value	Descript																		
Route Type *	<input type="radio"/> Net <input checked="" type="radio"/> Default <input type="radio"/> Host	Select a r																		
Device *	bond0.5	Select thi																		
Destination		The dest																		
Netmask		A valid ne																		
Gateway IP *		The IP ac																		

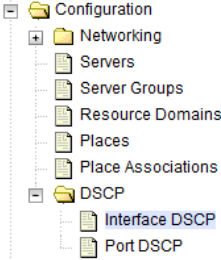
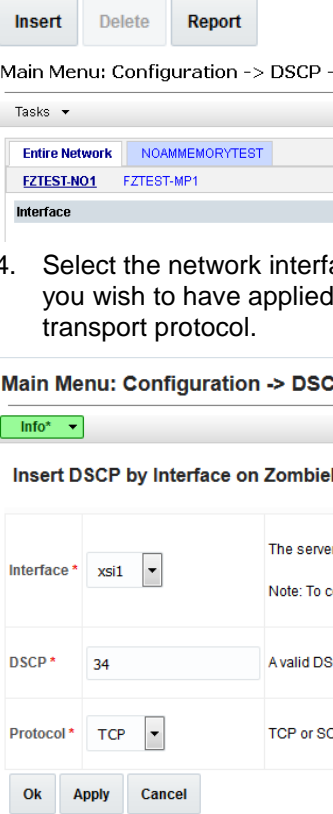
Step#	Procedure	Description						
4. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Add network routes for diameter peers	<p>This step adds the IP and/or IPv6 routes to diameter peer destination networks. This ensures diameter traffic uses the gateway(s) on the signaling networks.</p> <div data-bbox="472 317 857 554" style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Route Type *</td> <td> <input checked="" type="radio"/> Net  <input type="radio"/> Default  <input type="radio"/> Host </td> </tr> <tr> <td>Device *</td> <td>bond0.5</td> </tr> </tbody> </table> </div> <ol style="list-style-type: none"> <li>Enter the fields as follows: <ul style="list-style-type: none"> <li><b>Route Type:</b> <a href="#">Net, Default, Host</a></li> <li><b>Device:</b> <a href="#">Select the appropriate signaling interface that will be used to connect to that network.</a></li> <li><b>Destination:</b> <a href="#">Enter the Network ID of Network to which the peer node is connected to.</a></li> <li><b>Netmask:</b> <a href="#">Enter the corresponding Netmask (if configuring Net routes).</a></li> <li><b>Gateway IP:</b> <a href="#">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.</a></li> </ul> </li> <li>Click <b>Apply</b> and repeat to enter more routes, if necessary.</li> <li>Click <b>OK</b> to save the latest route and leave this screen.</li> </ol> <p><b>Layer 3 Configurations Aggregation Switch Configurations Only:</b> Routes should be configured on the aggregation switches so that destination networks configured in this step are reachable. This can be done by running the following <b>netconfig</b> commands from the site's local PMAC. For example:</p> <p><b>Add routes (IPv4 and IPv6):</b></p> <pre style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;">\$ sudo netConfig --device=switch1A addRoute network=10.10.10.0/24 nexthop=10.50.76.81 \$ sudo netConfig --device=switch1A addRoute network6=2001::/64 nexthop=fd0f::1</pre> <p><b>Delete routes (IPv4 and IPv6):</b></p> <pre style="border: 1px solid gray; padding: 5px;">\$ sudo netConfig --device=switch1A deleteRoute network=10.10.10.0/24 nexthop=10.50.76.81 \$ sudo netConfig -device=switch1A deleteRoute network6=2001::/64 nexthop=fd0f::1</pre>	Field	Value	Route Type *	<input checked="" type="radio"/> Net <input type="radio"/> Default <input type="radio"/> Host	Device *	bond0.5
Field	Value							
Route Type *	<input checked="" type="radio"/> Net <input type="radio"/> Default <input type="radio"/> Host							
Device *	bond0.5							

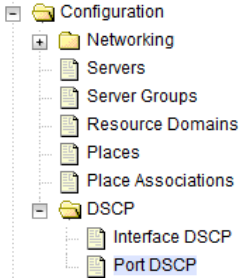
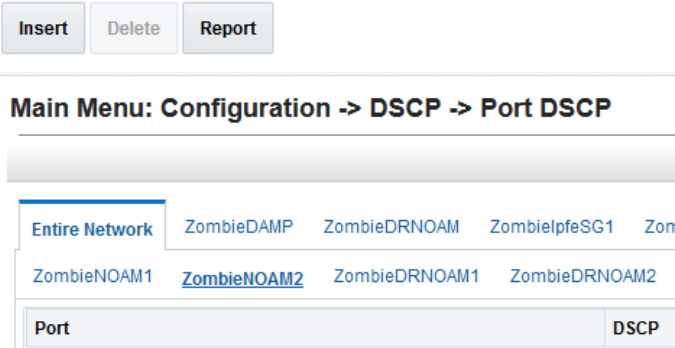
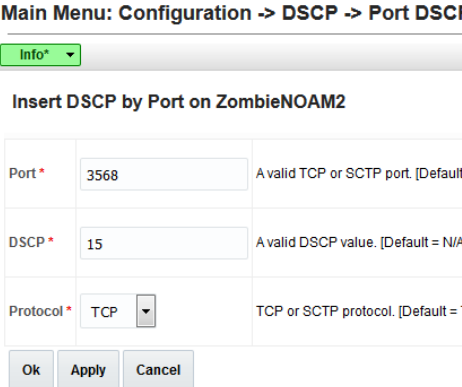
Step#	Procedure	Description
5. <input type="checkbox"/>	<b>Local PMAC:</b> Perform a netConfig backup	<p>After the routes are added to the aggregation switches using netconfig, take a <b>netconfig backup</b> so the new routes are retained in the backup.</p> <p>1. Execute the following command:</p> <pre data-bbox="467 363 1419 447">\$ netConfig backupConfiguration --device=&lt;Switch Hostname&gt; service=&lt;ssh_Service&gt; filename=&lt;Backup Filename&gt;</pre> <p>2. Copy the files to the backup directory:</p> <pre data-bbox="467 510 1419 573">\$ sudo /bin/mv -i ~&lt;switch_backup_user&gt;/&lt;switch_name&gt;-backup* /usr/TKLC/smac/etc/switch/backup</pre>
6. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Repeat for all other MP server groups	<p>The routes entered in this procedure are now configured on all MPs in the server group for the first MP you selected.</p> <p>If you have additional MP server groups, repeat this procedure, but this time select an MP from the next MP server group.</p> <p>Continue until you have covered all MP server groups. This includes DAMP, IPFE servers.</p> <p><b>Note:</b> IPFE and DAMP servers must have the same routes configured.</p>

### 4.4.3 Configure DSCP (Optional)

#### Procedure 27. Configure DSCP Values for Outgoing Traffic

Step#	Procedure	Description
<p>This procedure configures the DSCP values for outgoing packets on servers. DSCP values can be applied to an outbound interface as a whole, or to all outbound traffic using a specific TCP or SCTP source port. This step is optional and should only be executed if has been decided that your network uses packet DSCP markings for quality-of-service purposes.</p> <p><b>Note:</b> If your enclosure switches already have DSCP configuration for the signaling VLANs, then the switch configuration override the settings in this procedure. It is strongly recommended, however, that you configure DSCP here at the application level where you have the most knowledge about outgoing traffic patterns and qualities.</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p>NOAM VIP GUI: Login</p>	<p>1. 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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 

Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b></p> <p>Option 1: Configure interface DSCP</p>	<p><b>Note:</b> The values displayed in the screenshots are for demonstration purposes only. The exact DSCP values for your site vary.</p> <ol style="list-style-type: none"> <li>1. Navigate to <b>Configuration &gt; DSCP &gt; Interface DSCP</b>.</li> </ol>  <ol style="list-style-type: none"> <li>2. Select the server you want to configure from the list of servers on the 2<sup>nd</sup> line. You can view all servers with <b>Entire Network</b> selected; or limit yourself to a particular server group by clicking on that server group name's tab.</li> <li>3. Click <b>Insert</b>.</li> </ol>  <ol style="list-style-type: none"> <li>4. Select the network interface from the dropdown box. Enter the <b>DSCP value</b> you wish to have applied to packets leaving this interface and select the transport protocol.</li> <li>5. Click <b>OK</b> if there are no more interfaces on this server to configure, or click <b>Apply</b> to finish this interface and continue with more interfaces by selecting them from the drop down and entering their <b>DSCP values</b>.</li> </ol>


Step#	Procedure	Description
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Option 2: Configure port DSCP</p>	<p><b>Note:</b> The values displayed in the screenshots are for demonstration purposes only. The exact DSCP values for your site vary.</p> <ol style="list-style-type: none"> <li>Navigate to <b>Configuration &gt; DSCP &gt; Port DSCP</b>.</li> </ol>  <ol style="list-style-type: none"> <li>Select the server you want to configure from the list of servers on the 2<sup>nd</sup> line. You can view all servers with <b>Entire Network</b> selected; or limit yourself to a particular server group by clicking on that server group name's tab.</li> <li>Click <b>Insert</b>.</li> </ol>  <ol style="list-style-type: none"> <li>Enter the source port, DSCP value, and select the transport protocol.</li> </ol>  <ol style="list-style-type: none"> <li>Click <b>OK</b> if there are no more port DSCPs on this server to configure, or <b>Apply</b> to finish this port entry and continue entering more port <b>DSCP mappings</b>.</li> </ol>

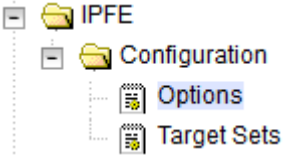
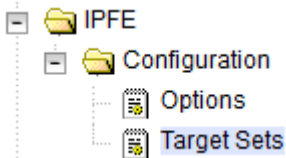
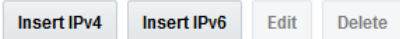


Step#	Procedure	Description
4. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Repeat for additional servers	Repeat steps 2-3 for all remaining servers.

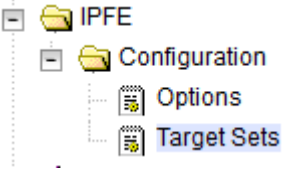

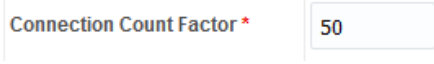


#### 4.4.4 Configure IP Front End Servers (Optional)

##### Procedure 28. IP Front End (IPFE) Configuration

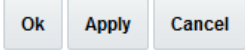
Step#	Procedure	Description
<p>This procedure configures IP Front End (IPFE), and optimize performance.                      Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.                      If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Login	<p>1. 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:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><code>https://&lt;Primary_SOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 

Step#	Procedure	Description												
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Configuration of replication IPFE association data</p>	<p>3. Navigate to <b>IPFE &gt; Configuration &gt; Options</b>.</p>  <p>4. Enter the IP address of the 1<sup>st</sup> IPFE in the <b>IPFE-A1 IP Address</b> field and the IP address of the 2<sup>nd</sup> IPFE in the <b>IPFE-A2 IP Address</b> field.</p> <p>5. If applicable, enter the address of the third and fourth IPFE servers in <b>IPFE-B1 IP Address</b> and <b>IPFE-B2 IP Address</b> fields.</p> <p><b>Configuration Options</b></p> <table border="1" data-bbox="511 655 1393 926"> <thead> <tr> <th>Variable</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Inter-IPFE Synchronization</b></td> </tr> <tr> <td>IPFE-A1 IP Address</td> <td>169.254.1.11 - ZombieIPFE1</td> <td>IPv4 or IPv6 This selection</td> </tr> <tr> <td>IPFE-A2 IP Address</td> <td>169.254.1.12 - ZombieIPFE2</td> <td>IPv4 or IPv6 This selection</td> </tr> </tbody> </table> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>It is recommended that the address reside on the IMI (Internal Management Interface) network.</li> <li>IPFE-A1 and IPFE-A2 must have connectivity between each other via these addresses. The same applies with IPFE-B1 and IPFE-B2.</li> <li>Accept default configuration for remaining entries.</li> </ul>	Variable	Value	Description	<b>Inter-IPFE Synchronization</b>			IPFE-A1 IP Address	169.254.1.11 - ZombieIPFE1	IPv4 or IPv6 This selection	IPFE-A2 IP Address	169.254.1.12 - ZombieIPFE2	IPv4 or IPv6 This selection
Variable	Value	Description												
<b>Inter-IPFE Synchronization</b>														
IPFE-A1 IP Address	169.254.1.11 - ZombieIPFE1	IPv4 or IPv6 This selection												
IPFE-A2 IP Address	169.254.1.12 - ZombieIPFE2	IPv4 or IPv6 This selection												
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Configuration of IPFE target sets, Part 1 (insert target set)</p>	<p>1. Navigate to <b>IPFE &gt; Configuration &gt; Target Sets</b>.</p>  <p>2. Click either <b>Insert IPv4</b> or <b>Insert IPv6</b> depending on the IP version of the target set you plan to use.</p> 												

Step#	Procedure	Description
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Configure IPFE target sets, Part 2 (target set configuration)</p>	<p>Continued from the previous step, the following are configurable:</p> <p><b>Protocols:</b> Protocols the target set supports.</p> <div data-bbox="505 323 1182 422"> <p>Protocols</p> <p><input type="radio"/> TCP only</p> <p><input type="radio"/> SCTP only</p> <p><input checked="" type="radio"/> Both TCP and SCTP</p> </div> <p><b>Delete Age:</b> 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 <b>Delete Age</b> configuration, are treated as a new connection and do not automatically go to the same application server.</p> <div data-bbox="505 646 1003 705"> <p>Delete Age * <input type="text" value="600"/></p> </div> <p>Load Balance Algorithm: <b>Hash</b> or <b>Least Load</b> options.</p> <div data-bbox="505 814 1015 913"> <p>Load Balance Algorithm</p> <p><input type="radio"/> Hash</p> <p><input checked="" type="radio"/> Least Load</p> </div> <p><b>Note:</b> For the IPFE to provide Least Load distribution, <b>IPFE &gt; Configuration &gt; Options</b>, Monitoring Protocol must be set to <b>Heartbeat</b> so that the application servers can provide the load information the IPFE uses to select the <b>least-loaded</b> server for connections.</p> <div data-bbox="527 1073 808 1226"> <pre> graph TD     IPFE[IPFE] --&gt; Configuration[Configuration]     Configuration --&gt; Options[Options]     Options --&gt; TargetSets[Target Sets]     </pre> </div> <div data-bbox="505 1255 1110 1314"> <p>Monitoring Protocol * <input type="text" value="Heartbeat"/></p> </div> <p><b>Note:</b> The Least Load option is the default setting, and is the recommended option with exception of unique backward compatibility scenarios.</p> <ol style="list-style-type: none"> <li>Execute the following command if Hash Load Balance Algorithm was selected above. We recommend you cut and paste to prevent errors.</li> <li>Establish an SSH session to the SOAM VIP, login as <b>admusr</b>.</li> </ol> <div data-bbox="505 1539 1308 1650"> <pre>\$ sudo iset -fvalue="50" DpiOption where "name='MpEngIngressMpsPercentile'" === changed 1 records ===</pre> </div>


Step#	Procedure	Description
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Configuration of IPFE target sets, Part 3 (target set configuration)</p>	<p>5. Navigate to <b>IPFE &gt; Configuration &gt; Target Sets</b>.</p>  <p>6. <b>(Optional):</b> If you have selected the <b>Least Load algorithm</b>, you may configure the following fields to adjust the algorithm's behavior.</p> <p><b>MPS Factor:</b> 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.</p>  <p><b>Connection Count Factor:</b></p>  <p>To configure Reserved Ingress MPS, navigate to <b>Diameter &gt; Configuration &gt; Configuration Sets &gt; Capacity Configuration Sets</b>. If you choose not to use Reserved Ingress MPS, set <b>MPS Factor</b> to 0 and <b>Connection Count Factor</b>, described below, to 100.</p> <p><b>Connection Count Factor:</b> This is the other component of the <b>least load</b> algorithm. This field allows you to set it from 0 (not used in load calculations) to 100 (the only component used for load calculations). Increase this setting if connection storms (the arrival of many connections at a very rapid rate) are a concern.</p> <p><b>Allowed Deviation:</b> 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.</p> 
<p>6.</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Configuration of IPFE Target sets-Part 4 (Target Set Configuration)</p>	<p><b>Primary Public IP Address:</b> IP address for the target set.</p> 

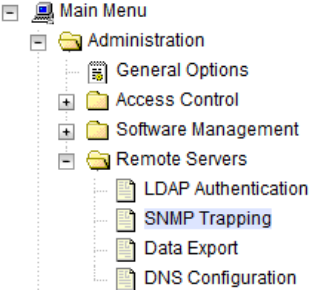
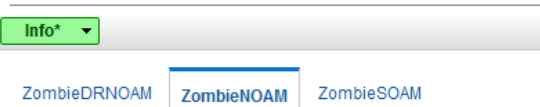
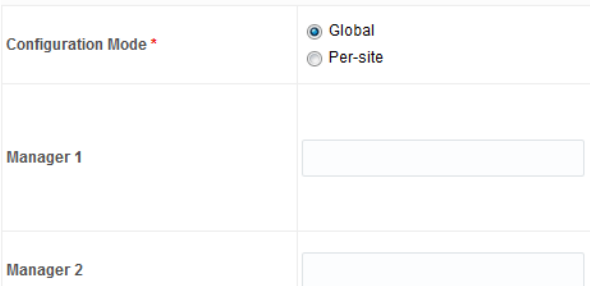
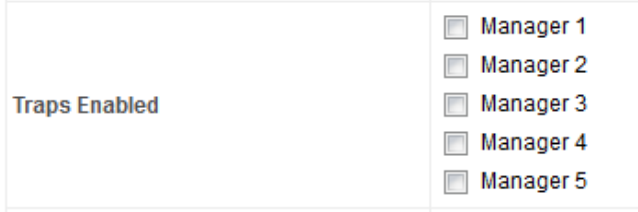
Step#	Procedure	Description								
		<p><b>Note:</b> This address must reside on the XSI (External Signaling Interface) network because it is used by the application clients to reach the application servers. This address <b>MUST NOT</b> be a real interface address (that is, must not be associated with a network interface card).</p> <p><b>Active IPFE:</b> IPFE to handle the traffic for the target set address.</p> <p><b>Secondary Public IP Address:</b> If this target set supports either multi-homed SCTP or Both TCP and SCTP, provide a Secondary IP Address.</p> <div data-bbox="500 552 1344 1031" style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <p><b>Alternate Public IP Address†</b></p> <p>Alternate Address <input type="text"/></p> <hr/> <p>Active IPFE for alternate address</p> <p> <input checked="" type="radio"/> IPFE A1 ----- <input type="radio"/> IPFE A2  <input type="radio"/> IPFE B1 ----- <input type="radio"/> IPFE B2                 </p> </div> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• A secondary address is required to support SCTP multi-homing. A secondary address can support TCP, but the TCP connections will not be multi-homed.</li> <li>• If SCTP multi-homing is to be supported, select the mate IPFE of the Active IPFE for the Active IPFE for secondary address to ensure that SCTP failover functions as designed.</li> </ul> <p><b>Target Set IP List:</b> Select an IP address; a secondary IP address, if supporting SCTP multi-homing; a description; and a weight for the application server.</p> <div data-bbox="500 1394 1357 1545" style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <p><b>Target Set IP List</b></p> <table border="1"> <thead> <tr> <th>IP Address</th> <th>Alternate IP Address</th> <th>Description</th> <th>Weighting</th> </tr> </thead> <tbody> <tr> <td>E1 - Select -</td> <td>- Select -</td> <td></td> <td>100 x</td> </tr> </tbody> </table> <p>Add <span style="float: right;">Weighting range is 0 - 65535</span></p> </div> <p><b>Note:</b> The IP address must be on the XSI network since they must be on the same network as the target set address. This address must also match the IP version of the target set address (IPv4 or IPv6). If the Secondary Public IP Address is configured, it must reside on the same application server as the first IP address.</p> <p><b>Note:</b> If all application servers have an equal weight (e.g., 100, which is the default), they have an equal chance of being selected. Application servers with larger weights have a greater chance of being selected.</p> <p>7. Click <b>Add</b> to add more application servers (up to 16).</p>	IP Address	Alternate IP Address	Description	Weighting	E1 - Select -	- Select -		100 x
IP Address	Alternate IP Address	Description	Weighting							
E1 - Select -	- Select -		100 x							

Step#	Procedure	Description
		8. Click <b>Apply</b> . 
7. <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Repeat for additional configuration of IPFE target sets	<b>Repeat</b> 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 procedure configures forwarding of SNMP Traps from each individual server. <b>Note:</b> If SNMP configuration is not required, skip to step 6. 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. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Login	1. 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: <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">                         https://&lt;Primary_NOAM_VIP_IP_Address&gt;                     </div> 2. Login as the <b>guiadmin</b> user. 


Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure system-wide SNMP trap receiver(s)</p>	<ol style="list-style-type: none"> <li>Navigate to <b>Administration &gt; Remote Servers &gt; SNMP Trapping</b>.                      </li> <li>Select the Server Group tab for SNMP trap configuration:                     <p><b>Main Menu: Administration -&gt; Remote Servers</b></p>  </li> <li>Type the IP address or hostname of the Network Management Station (NMS) you wish to forward traps to. This IP should be reachable from the NOAMP's <b>XMI</b> network.</li> <li>Continue to type additional secondary, tertiary, etc., manager IPs in the corresponding slots if desired.                     <p><b>SNMP Trap Configuration Insert for ZombieNOAM</b></p>  </li> <li>Check <b>Traps Enabled</b> checkboxes for the manager servers being configured:                     <p><b>Traps Enabled</b></p>  </li> <li>Enter the <b>SNMP Community Name</b>.</li> </ol>

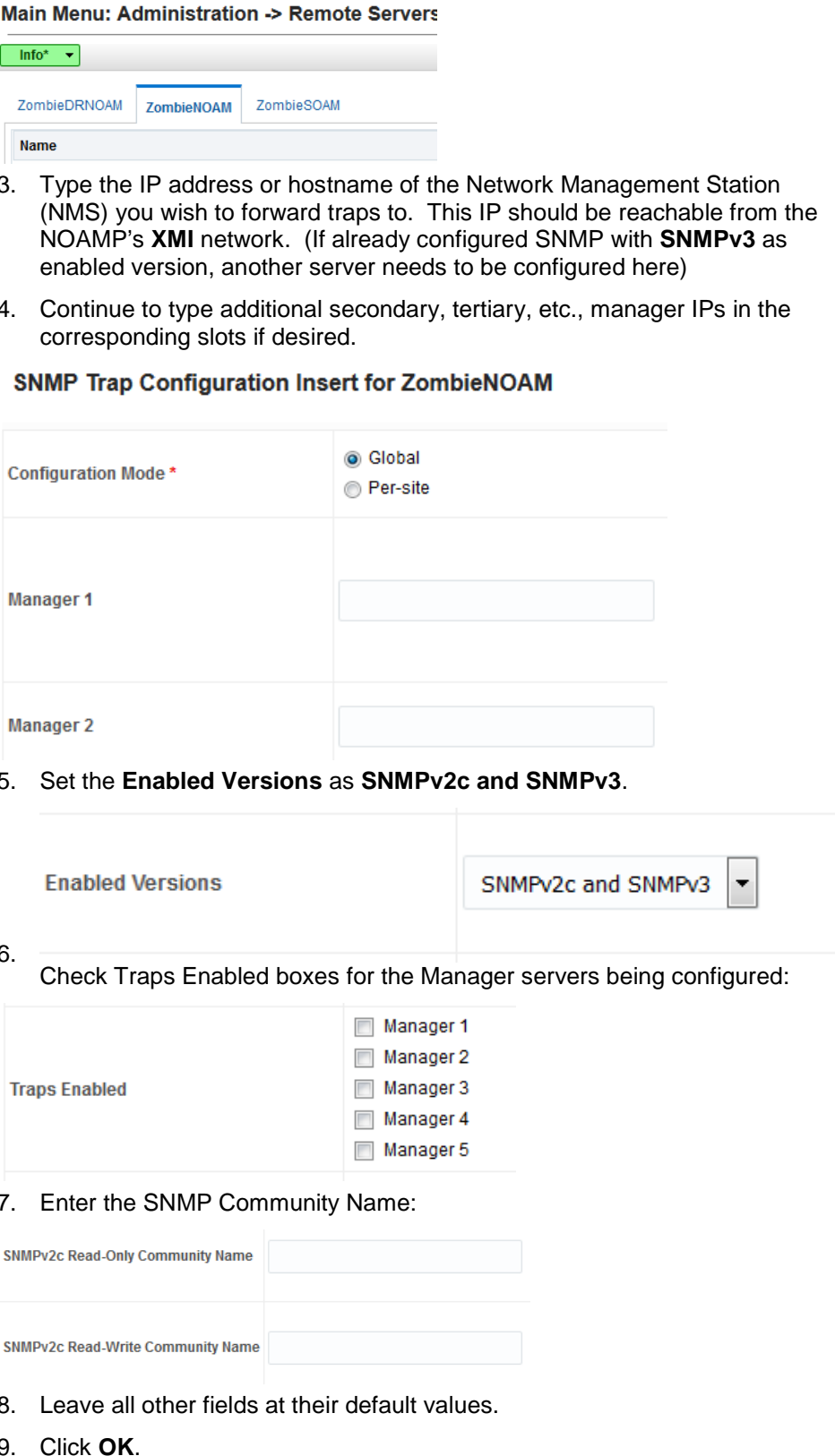
Step#	Procedure	Description
		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">SNMPv2c Read-Only Community Name</div> <input style="width: 45%; height: 20px;" type="text"/> </div> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">SNMPv2c Read-Write Community Name</div> <input style="width: 45%; height: 20px;" type="text"/> </div> <p>7. Leave all other fields at their default values.</p> <p>8. Click <b>OK</b>.</p>
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAMP VIP:</b> Enable traps from individual servers (optional)</p>	<p><b>Note:</b> 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.</p> <p>This procedure requires all servers, including DPs, have an XMI interface on which the customer SNMP target server (NMS) is reachable.</p> <p>1. Navigate to <b>Administration &gt; Remote Servers &gt; SNMP Trapping</b>.</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <ul style="list-style-type: none"> <li>[-] Main Menu <ul style="list-style-type: none"> <li>[-] Administration <ul style="list-style-type: none"> <li>General Options</li> <li>[+] Access Control</li> <li>[+] Software Management</li> <li>[-] Remote Servers <ul style="list-style-type: none"> <li>LDAP Authentication</li> <li>SNMP Trapping</li> <li>Data Export</li> <li>DNS Configuration</li> </ul> </li> </ul> </li> </ul> </li> </ul> </div> <p>2. Make sure the checkbox next to <b>Enabled</b> is checked, if not, check it.</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Traps from Individual Servers <input checked="" type="checkbox"/> Enabled</p> </div> <p>3. Click <b>Apply</b> and verify the data is committed.</p>




Step#	Procedure	Description
<p>4. <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>1. Open web browser, navigate to the PMAC GUI, and enter a URL of:  <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px 0;"> <a href="https://&lt;pmac_network_Network_IP_Address&gt;">https://&lt;pmac_network_Network_IP_Address&gt;</a> </div> </p> <p>2. Login as the <b>guiadmin</b> user.</p> <div style="text-align: center; margin: 20px 0;">  </div>

Step#	Procedure	Description
5. <input type="checkbox"/>	<b>PMAC GUI:</b> Update the TVOE host SNMP community string	<ol style="list-style-type: none"> <li>Navigate to <b>Administration &gt; Credentials &gt; SNMP Community String Update</b>.</li> <li>Mark the <b>Use Site Specific Read/Write Community String</b> checkbox.                             <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Select <b>Read Only</b> or <b>Read/Write</b> Community String:</p> <p><input type="radio"/> Read Only <input checked="" type="radio"/> Read/Write</p> <p>Check this box if updating servers using the <b>Site Specific</b> SNMP Community String:</p> <p><input checked="" type="checkbox"/> Use Site Specific <b>Read/Write</b> Community String</p> <p>Community String: <input style="width: 200px;" type="text"/></p> <p>Note: The Community String value can be 1 to 31 uppercase, lowercase, or numeric characters.</p> </div> </li> <li>Click <b>Update Servers</b>.</li> <li>Click <b>OK</b> to the following prompt:                             <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p><small>You are about to update the Read/Write SNMP Credentials on all known supporting TVOE servers and the PM&amp;C guest on the control network of this PM&amp;C. Changing of SNMP Community Strings is 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.</small></p> <p><small>Are you sure you want to continue?</small></p> <p style="text-align: right;"><input type="button" value="OK"/> <input type="button" value="Cancel"/></p> </div> </li> </ol>

Step#	Procedure	Description
<p>6.</p> <p><input type="checkbox"/></p>	<p>(Workaround)</p> <p><b>NOAM VIP GUI:</b> Login</p>	<p><b>Note:</b> Perform this workaround step only in the following cases:</p> <ul style="list-style-type: none"> <li>• If SNMP is not configured (i.e., if above steps 1-5 are skipped).</li> <li>• If SNMP is already configured and <b>SNMPv3</b> is selected as enabled version.</li> </ul> <p><b>Note:</b> 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.</p> <ol style="list-style-type: none"> <li>1. 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:</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <ol style="list-style-type: none"> <li>2. Login as the <b>guiadmin</b> user.</li> </ol> <div style="text-align: center; margin: 20px 0;">  </div> <div style="text-align: center;"> <p><b>Oracle System Login</b></p> <hr style="width: 50%; margin: 0 auto;"/> <p style="font-size: small;">Mon Jul 11 13:59:37 2016 EDT</p> </div> <div style="border: 1px solid gray; padding: 10px; margin: 20px auto; width: 80%;"> <p style="text-align: center;"><b>Log In</b></p> <p style="text-align: center;">Enter your username and password to log in</p> <p style="text-align: center;">Username: <input style="width: 100%;" type="text"/></p> <p style="text-align: center;">Password: <input style="width: 100%;" type="password"/></p> <p style="text-align: center;"><input type="checkbox"/> Change password</p> <p style="text-align: center;"><input type="button" value="Log In"/></p> </div> <p style="text-align: center; font-size: small;">Welcome to the Oracle System Login.</p> <p style="text-align: center; font-size: x-small;">This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p style="text-align: center; font-size: x-small;">Unauthorized access is prohibited.</p>
<p>7.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure system-wide SNMP trap receiver(s)</p>	<ol style="list-style-type: none"> <li>1. Navigate to <b>Administration &gt; Remote Servers &gt; SNMP Trapping</b>.</li> </ol> <div style="margin-left: 20px;"> <ul style="list-style-type: none"> <li><input type="checkbox"/> Main Menu <ul style="list-style-type: none"> <li><input type="checkbox"/> Administration <ul style="list-style-type: none"> <li><input type="checkbox"/> General Options</li> <li><input type="checkbox"/> Access Control</li> <li><input type="checkbox"/> Software Management</li> <li><input type="checkbox"/> Remote Servers <ul style="list-style-type: none"> <li><input type="checkbox"/> LDAP Authentication</li> <li><input type="checkbox"/> <b>SNMP Trapping</b></li> <li><input type="checkbox"/> Data Export</li> <li><input type="checkbox"/> DNS Configuration</li> </ul> </li> </ul> </li> </ul> </li> </ul> </div> <ol style="list-style-type: none"> <li>2. Select the Server Group tab for SNMP trap configuration:</li> </ol>

Step#	Procedure	Description
		<p><b>Main Menu: Administration -&gt; Remote Servers</b></p>  <p>3. Type the IP address or hostname of the Network Management Station (NMS) you wish to forward traps to. This IP should be reachable from the NOAMP's <b>XMI</b> network. (If already configured SNMP with <b>SNMPv3</b> as enabled version, another server needs to be configured here)</p> <p>4. Continue to type additional secondary, tertiary, etc., manager IPs in the corresponding slots if desired.</p> <p><b>SNMP Trap Configuration Insert for ZombieNOAM</b></p> <p>5. Set the <b>Enabled Versions</b> as <b>SNMPv2c and SNMPv3</b>.</p> <p>6. Check Traps Enabled boxes for the Manager servers being configured:</p> <p>7. Enter the SNMP Community Name:</p> <p>8. Leave all other fields at their default values.</p> <p>9. Click <b>OK</b>.</p>

Step#	Procedure	Description
8. <input type="checkbox"/>	<b>PMAC GUI:</b> Login	<p>1. Open web browser, navigate to the PMAC GUI, and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px 0;"> <a href="https://&lt;pmac_network_Network_IP_Address&gt;">https://&lt;pmac_network_Network_IP_Address&gt;</a> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>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.</p> <p><i>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</i></p> <p><i>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</i></p>

Step#	Procedure	Description
<p>9. <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Update the TVOE host SNMP community string</p>	<p>3. Navigate to <b>Administration &gt; Credentials &gt; SNMP Community String Update</b>.</p> <p>4. Mark the <b>Use Site Specific Read/Write Community String</b> checkbox.</p> <hr/> <p>Select <b>Read Only</b> or <b>Read/Write</b> Community String:  <input type="radio"/> Read Only <input checked="" type="radio"/> Read/Write</p> <p>Check this box if updating servers using the <b>Site Specific</b> SNMP Community String:  <input checked="" type="checkbox"/> Use Site Specific <b>Read/Write</b> Community String</p> <p>Community String: <input type="text"/></p> <p>Note: The Community String value can be 1 to 31 uppercase, lowercase, or numeric characters.</p> <hr/> <p><input type="button" value="Update Servers"/></p> <p>5. Click <b>Update Servers</b>.</p> <p>6. Click <b>OK</b> to the following prompt:</p> <p><small>You are about to update the Read/Write SNMP Credentials on all known supporting TVOE servers and the PM&amp;C guest on the control network of this PM&amp;C. Changing of SNMP Community Strings is only 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.</small></p> <p><small>Are you sure you want to continue?</small></p> <p><input type="button" value="OK"/> <input type="button" value="Cancel"/></p>
<p>10. <input type="checkbox"/></p>	<p><b>SNMPv3 (optional)</b></p>	<p>Refer to Restore SNMP Configuration to SNMPv3 (Optional) to restore SNMPv3 after installation, if required</p>

## 4.6 IDIH Installation and Configuration (Optional)

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

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

### 4.6.1 IDIH Installation

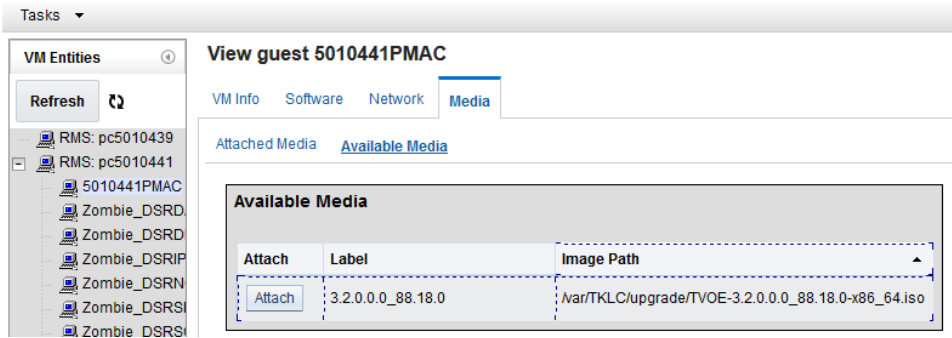
The installation procedure uses the **fast deployment** utility (fdconfig) bundled with the PMAC server to install and configure IDIH.

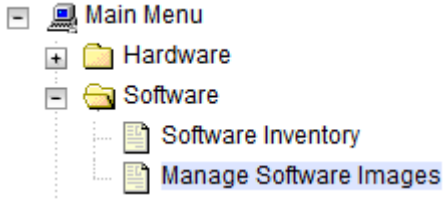
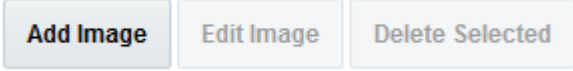
#### Procedure 30. IDIH Configuration

Step#	Procedure	Description
<p>This procedure installs and configures IDIH.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>TVOE Host:</b> Load application ISO	<p>Add the Application ISO images (<b>mediation, application, and oracleGuest</b>) to the PMAC, this can be done in one of three ways:</p> <ol style="list-style-type: none"> <li>1. Insert the Application CD required by the application into the removable media drive.</li> <li>2. Attach the USB device containing the ISO image to a USB port.</li> <li>3. Copy the application iso file to the PMAC server into the <b>/var/TKLC/smac/image/isoimages/home/smacftpusr/</b> directory as pmacftpusr user:  cd into the directory where your ISO image is located on the <b>TVOE Host (not on the PMAC server)</b></li> <li>4. Using sftp, connect to the PMAC server   <pre>\$ sftp pmacftpusr@&lt;pmac_management_network_ip&gt; \$ put &lt;image&gt;.iso</pre> </li> <li>5. After the image transfer is 100% complete, close the connection:   <pre>\$ quit</pre> </li> </ol> <p><b>Note:</b> 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.</p>

Step#	Procedure	Description
<p>2. <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>1. Open web browser, navigate to the PMAC GUI, and enter a URL of:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><code>https://&lt;pmac_network_Network_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 

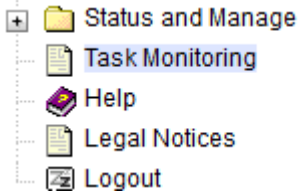


Step#	Procedure	Description						
3. □	<p><b>PMAC GUI:</b> Attach the software image to the PMAC guest</p>	<p>If the image is on a CD or USB device, continue with this step. If in step 1 the ISO image was transferred directly to the PMAC guest via sftp, skip the rest of this step and continue with step 4.</p> <ol style="list-style-type: none"> <li>1. In the PMAC GUI, navigate to <b>VM Management</b>. Select the <b>PMAC guest</b> from the VM Entities list. On the resulting View VM Guest page, select the Media tab.</li> <li>2. Under the Media tab, find the ISO image in the <b>Available Media</b> list, and click its <b>Attach</b> button. After a pause, the image displays in the <b>Attached Media</b> list.</li> </ol> <p><b>Main Menu: VM Management</b></p>  <p>The screenshot displays the VMware vSphere interface for VM Management. On the left, the 'VM Entities' pane shows a tree view with 'RMS: pc5010439' and 'RMS: pc5010441' expanded to show '5010441PMAC' and its sub-entities: 'Zombie_DSRD', 'Zombie_DSRD', 'Zombie_DSRIP', 'Zombie_DSRN', 'Zombie_DSRSI', and 'Zombie_DSRSI'. The main area shows the 'View guest 5010441PMAC' page with tabs for 'VM Info', 'Software', 'Network', and 'Media'. The 'Media' tab is active, showing 'Attached Media' and 'Available Media' sections. The 'Available Media' section contains a table with the following data:</p> <table border="1" data-bbox="722 793 1437 940"> <thead> <tr> <th>Attach</th> <th>Label</th> <th>Image Path</th> </tr> </thead> <tbody> <tr> <td><input type="button" value="Attach"/></td> <td>3.2.0.0.0_88.18.0</td> <td>/var/TKLC/upgrade/TVOE-3.2.0.0.0_88.18.0-x86_64.iso</td> </tr> </tbody> </table>	Attach	Label	Image Path	<input type="button" value="Attach"/>	3.2.0.0.0_88.18.0	/var/TKLC/upgrade/TVOE-3.2.0.0.0_88.18.0-x86_64.iso
Attach	Label	Image Path						
<input type="button" value="Attach"/>	3.2.0.0.0_88.18.0	/var/TKLC/upgrade/TVOE-3.2.0.0.0_88.18.0-x86_64.iso						

Step#	Procedure	Description
4. <input type="checkbox"/>	<b>PMAC GUI:</b> Add application image	<ol style="list-style-type: none"> <li>Navigate to <b>Software &gt; Manage Software Images</b>.   </li> <li>Click <b>Add Image</b>. Select the image from the list.   <p>If the image was supplied on a CD or a USB drive, it displays as a virtual device (<b>device://...</b>). 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, <b>device://dev/sr1</b>. 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.</p> <p>If in step 1 the image was transferred to PMAC via sftp, it displays in the list as a local file <b>/var/TKLC/....</b></p> </li> <li>Select the appropriate path and click <b>Add New Image</b>.</li> <li>You may check the progress using the <b>Task Monitoring</b> link. Observe the green bar indicating success.</li> <li>Once the green bar is displayed, remove the DSR application Media from the optical drive of the management server.</li> </ol>
5. <input type="checkbox"/>	<b>PMAC:</b> Establish terminal session	Establish an SSH session to the PMAC and login as <b>admusr</b> .
6. <input type="checkbox"/>	<b>PMAC:</b> Reset the create guest default timeout and other timeout parameters	<ol style="list-style-type: none"> <li>Execute the following commands:  <pre data-bbox="496 1392 1458 1633">\$ sudo sqlite3 /usr/TKLC/plat/etc/TKLCfd-config/db/fdcRepo.fdcdb 'update params set value=3000 where name="DEFAULT_CREATE_GUEST_TIMEOUT"'; \$ sudo pmacadm setParam --paramName=defaultTpdProvdTimeout --paramValue=120 \$ sudo pmacadm setParam --paramName=guestDiskDeployTimeout --paramValue=50</pre> </li> <li>To verify whether the above values are set correctly, run the below commands.  <pre data-bbox="496 1724 1458 1898">\$ sudo sqlite3 /usr/TKLC/plat/etc/TKLCfd-config/db/fdcRepo.fdcdb 'select name, value from params where name like "%TIMEOUT%"; \$ sudo pmacadm getParam --paramName=defaultTpdProvdTimeout \$ sudo pmacadm getParam --paramName=guestDiskDeployTimeout</pre> </li> </ol>

Step#	Procedure	Description
7. <input type="checkbox"/>	<b>PMAC:</b> Copy the fdc.cfg file to the guest-dropin directory	<ol style="list-style-type: none"> <li>Copy the fdc.cfg file to the pmac guest-dropin directory.</li> <li>Execute the following command: <pre>\$ sudo cp /usr/TKLC/smac/html/TPD/mediation-*/fdc.cfg /var/TKLC/smac/guest-dropin</pre> </li> </ol>
8. <input type="checkbox"/>	<b>PMAC:</b> Configure the fdc.cfg file	<ol style="list-style-type: none"> <li>Configure the fdc.cfg file. See IDIH Fast Deployment Configuration for a breakdown of the parameters.</li> <li>Update the software versions, hostnames, bond interfaces, network addresses, and network VLAN information for the TVOE host and IDIH guests that you are installing.</li> </ol>
9. <input type="checkbox"/>	<b>PMAC:</b> Run the FDC creation script idihFdc.sh	<ol style="list-style-type: none"> <li>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. Example: hostname.cfg <b>Note:</b> The following hostname for guests has been reserved for internal use. Please try to avoid them: <ul style="list-style-type: none"> <li>oracle</li> <li>mediation</li> <li>appserver</li> </ul> Here are the suggested hostname for guests: <ul style="list-style-type: none"> <li>&lt;server hostname&gt;-ora example, thunderbolt-ora</li> <li>&lt;server hostname&gt;-med example, thunderbolt-med</li> <li>&lt;server hostname&gt;-app example, thunderbolt-app</li> </ul> </li> <li>Run the FDC creation script <b>fdc.sh</b>.</li> <li>Execute the following commands: <pre>\$cd /var/TKLC/smac/guest-dropin/ \$sudo /usr/TKLC/smac/html/TPD/mediation-8.5.0.0.0_90.x.x-x86_64/fdc.sh fdc.cfg</pre> </li> </ol> <p><b>Note:</b> Verify the values in the xml generated from the fdc.sh script match those of the values entered in fdc.cfg.</p>

Step#	Procedure	Description
10. <input type="checkbox"/>	<b>TVOE Host:</b> Verify/Remove external devices	<ol style="list-style-type: none"> <li>1. Establish an SSH session to the TVOE host that hosts the IDIH and login as <b>admusr</b>.</li> <li>2. Before IDIH has ever been installed, or after the external disk removal procedure has been successfully completed, execute the following command: <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>\$ ls /dev/sd*</pre> </div> Verify you only have sda* devices (e.g., sda1, sda2, etc.)  Expected output:  <pre>\$ ls /dev/sd* /dev/sda /dev/sda1 /dev/sda2 /dev/sda3</pre> </li> </ol> <p><b>Note:</b> 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 (&gt; ls /dev/sd*)</p>
11. <input type="checkbox"/>	<b>TVOE Host:</b> Verify logical bond, int and imi bridge	<ol style="list-style-type: none"> <li>1. Establish an SSH session to the TVOE Host which will host the IDIH, login as <b>admusr</b>.</li> <li>2. On the TVOE host, Execute the following command to verify the logical bond [0.x], int and imi bridge exist or not. <pre>\$ brctl show</pre> </li> <li>3. If Logical bond does not exist, run following commands to create the logical bond, int and imi bridge. <pre>\$ sudo netAdm add --device=bond0.&lt;imi_vlan&gt; --onboot=yes \$ sudo netAdm add --type=Bridge --name=imi -- bridgeInterfaces=bond0. &lt;imi_vlan&gt; --onboot=yes \$ sudo netAdm add --type=Bridge --name=int --onboot=yes</pre> </li> <li>4. After adding the logical bond, int and imi bridge, execute following command and verify the logical bond,int and imi bridge added successfully. <pre>\$ brctl show</pre> </li> </ol> <p><b>Note:</b> Logical bond [0.x] x could be any valid integer number.</p>
12. <input type="checkbox"/>	<b>PMAC:</b> Run the fdconfig configuration	<p>Execute the following commands:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>\$ screen \$ sudo fdconfig config --file=hostname_xx-xx-xx.xml</pre> </div> <p>Example:</p> <pre>\$ sudo fdconfig config --file=tvoe-ferbrms4_01-22-15.xml</pre> <p><b>Note:</b> This is a long duration command. If the screen command was run prior to executing the fdconfig, perform a <b>screen -dr</b> to resume the screen session in the event of a terminal timeout etc.</p>

Step#	Procedure	Description
13. <input type="checkbox"/>	<b>PMAC GUI:</b> Monitor the configuration	<ol style="list-style-type: none"> <li>If not already done so, establish a GUI session on the PMAC server.</li> <li>Navigate to <b>Task Monitoring</b>.   </li> <li>Monitor the IDIH configuration to completion.</li> </ol>

## 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.

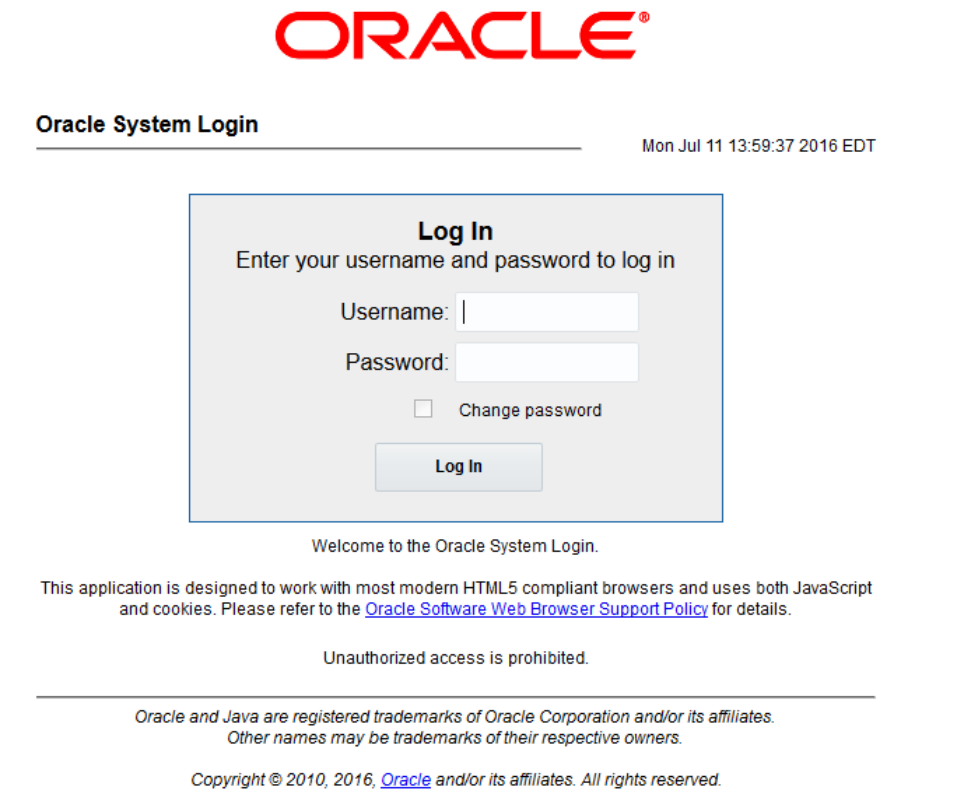
### Procedure 31. Configure DSR Reference Data Synchronization for IDIH

Step#	Procedure	Description
<p>This procedure configures DSR reference data synchronization for IDIH.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>IDIH Application Server:</b> Login	<ol style="list-style-type: none"> <li>Establish an SSH session to the IDIH application server. Login as user <b>admusr</b>.</li> <li>Issue the following commands to login as <b>tekelec</b> user.  <pre>\$ sudo su - tekelec</pre> </li> </ol>
2. <input type="checkbox"/>	<b>IDIH Application Server:</b> Execute configuration script.	<ol style="list-style-type: none"> <li>Execute the following script:  <pre>\$ apps/trda-config.sh</pre> <p>Example output:</p> <pre>corsair-app:/usr/TKLC/xIH apps/trda-config.sh dos2unix: converting file /usr/TKLC/xIH/bea/user_projects/domains/tekelec/nsp/trace- refdata-ad 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:</pre> </li> </ol>

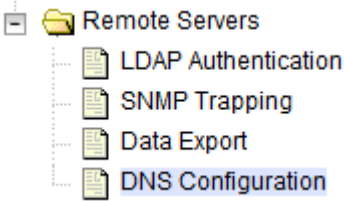
Step#	Procedure	Description
		<pre> Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production With the Partitioning, Automatic Storage Management, OLAP, Advanced Analytics and Real Application Testing options SQL&gt; SQL&gt; 2 3 4 5 1 row merged. SQL&gt; Commit complete. SQL&gt; Disconnected 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 Buildfile: /usr/TKLC/xIH/apps/trace-refdata- adapter/build.xml app.disable: common.weblogic.stop:     [echo]     [echo]     [echo] =====     [echo] application: xihtra     [echo] date: 2015-10-01 15:04:41     [echo] =====     [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     [java] &lt;Oct 1, 2015 3:05:08 PM EDT&gt; &lt;Info&gt; &lt;J2EE Deployment SPI&gt; &lt;BEA-260121&gt; &lt;Initiating     [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 Buildfile: /usr/TKLC/xIH/apps/trace-refdata- adapter/build.xml app.enable: common.weblogic.start: </pre>

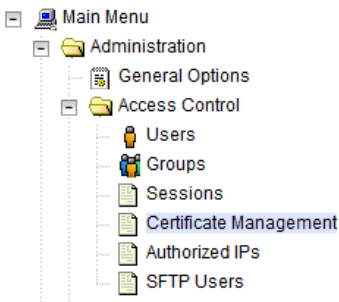

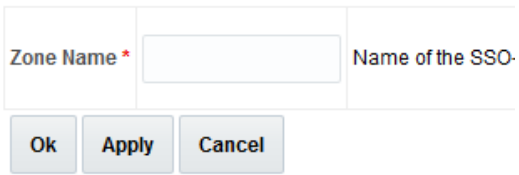
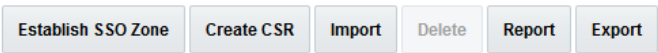
Step#	Procedure	Description
		<pre> [echo] [echo] [echo] ===== [echo] application: xihtra [echo] date:    2015-10-01 15:05:10 [echo] =====  [echo] == start application EAR [echo] date:    2015-10-01 15:05:10 [java] weblogic.Deployer invoked with options: - adminurl t3://appserver:7001 - userconfigprojects/domains/tekelec/keyfile.secure -name xIH Trace Reference Data Adapter -start [java] &lt;Oct 1, 2015 3:05:56 PM EDT&gt; &lt;Info&gt; &lt;J2EE Deployment SPI&gt; &lt;BEA-260121&gt; &lt;Initiating [java] Task 25 initiated: [Deployer:149026]start application xIH Trace Reference Data Ada [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> <p>2. For prompt <b>Please enter DSR SOAM server IP address</b>, enter the VIP of the DSR SOAM and click <b>Enter</b>.</p> <p><b>Note:</b> If the address entered is unreachable the script exits with an <b>Unable to connect to &lt;ip-address&gt;!</b> error.</p>
3. <input type="checkbox"/>	<b>IDIH App Server:</b> Monitor completion	<p>1. Monitor the log file located at:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <pre>/var/TKLC/xIH/log/apps/weblogic/apps/application.log</pre> </div> <p>2. Examine the log file for entries containing text <b>Trace Reference Data Adapter</b>.</p>

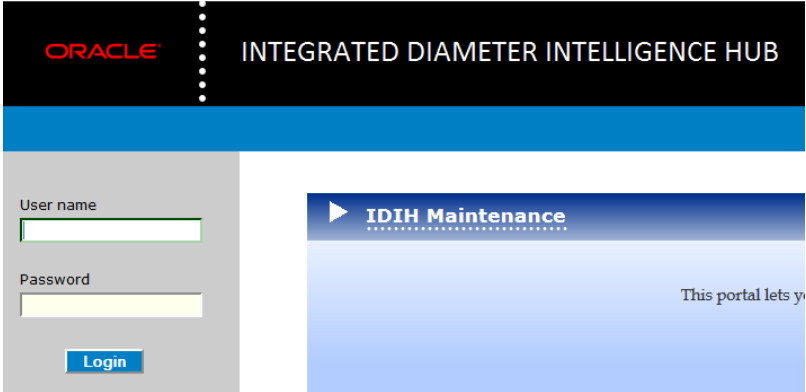
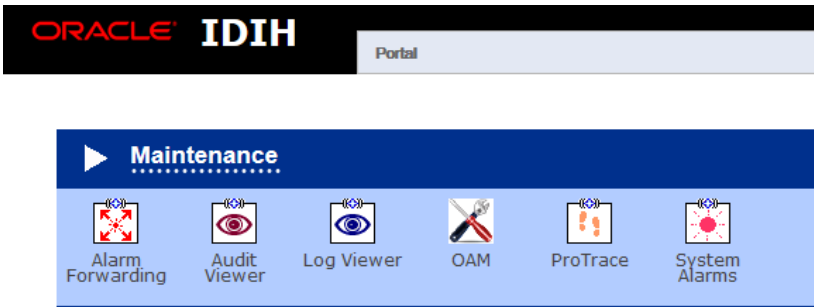
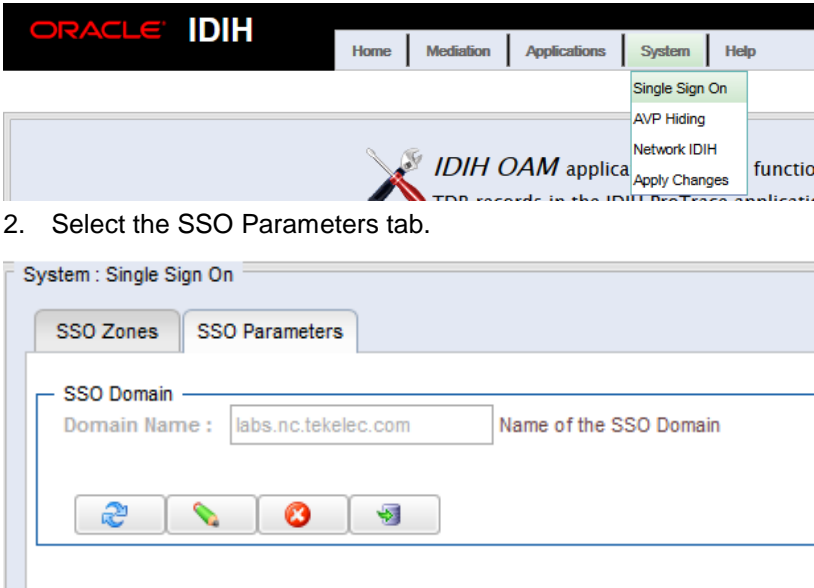
**Procedure 32. IDIH Configuration: Configuring the SSO Domain (Optional)**

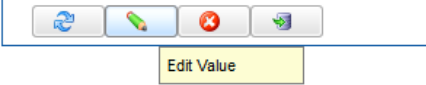

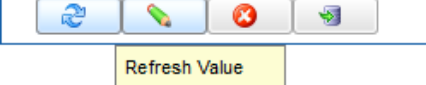
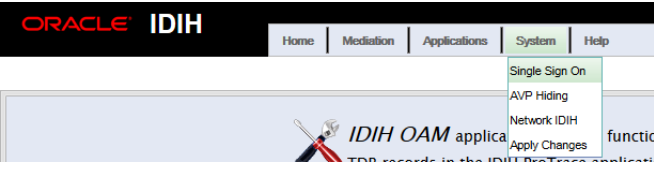
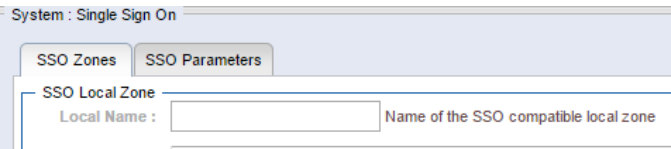
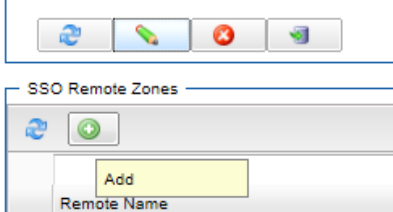
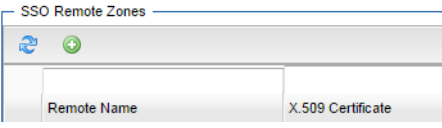
Step#	Procedure	Description
<p>This procedure configures SSO domain for IDIH.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>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:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 





Step#	Procedure	Description																
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure DNS</p>	<p>1. Navigate to <b>Administration &gt; Remote Servers &gt; DNS Configuration.</b></p>  <p>2. Select the NOAM tab:</p> <p><b>Main Menu: Administration -&gt; Remote Servers -&gt; DNS Configuration</b></p> <p>Info*</p> <p>ZombieNOAM    ZombieDRNOAM    ZombieSOAM</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="text-align: right;">No DNS configured.</td> </tr> </tbody> </table> <p>3. Configure values for the following fields:</p> <ul style="list-style-type: none"> <li>• Domain Name</li> <li>• Name Server</li> <li>• Search Domain 1</li> </ul> <div style="border: 1px solid #ccc; padding: 5px;"> <p><b>External DNS Name Server</b></p> <table border="1"> <thead> <tr> <th></th> <th>Address</th> </tr> </thead> <tbody> <tr> <td>Configuration Mode *</td> <td> <input checked="" type="radio"/> Global  <input type="radio"/> Per-site                 </td> </tr> <tr> <td>Name Server</td> <td><input type="text"/></td> </tr> </tbody> </table> <p><b>Domain Search Order</b></p> <table border="1"> <thead> <tr> <th></th> <th>Domain Name</th> </tr> </thead> <tbody> <tr> <td>Search Domain 1</td> <td><input type="text"/></td> </tr> <tr> <td>Search Domain 2</td> <td><input type="text"/></td> </tr> </tbody> </table> </div> <p>4. If values have already been configured, click <b>Cancel</b>; otherwise, configure the above values and click <b>OK</b>.</p> <p><input type="button" value="Ok"/>    <input type="button" value="Cancel"/></p>	Name	Value	No DNS configured.			Address	Configuration Mode *	<input checked="" type="radio"/> Global <input type="radio"/> Per-site	Name Server	<input type="text"/>		Domain Name	Search Domain 1	<input type="text"/>	Search Domain 2	<input type="text"/>
Name	Value																	
No DNS configured.																		
	Address																	
Configuration Mode *	<input checked="" type="radio"/> Global <input type="radio"/> Per-site																	
Name Server	<input type="text"/>																	
	Domain Name																	
Search Domain 1	<input type="text"/>																	
Search Domain 2	<input type="text"/>																	

Step#	Procedure	Description
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Establish SSO local zone</p>	<p>1. Navigate to <b>Access Control &gt; Certification Management.</b></p>  <p>2. Click <b>Establish SSO Zone.</b></p>  <p>Enter a value for <b>Zone Name:</b></p>  <p>3. Click <b>OK.</b></p> <p>Information for the new Certificate type of SSO Local displays.</p> <p>4. Click <b>Report.</b></p>  <p>The Certificate Report displays.</p> <p>5. Select and copy the encoded certificate text to the clipboard for future access.</p> <p>Example of Certificate report:</p> <pre data-bbox="500 1333 1448 1827"> -----BEGIN CERTIFICATE----- MIICKzCCAdWgAwIBAgIJAOVfSLNc3CeJMA0GCSqGSIb3DQEBCwUAMHExCzAJBgNV BAYTA1VTMQswCQYDVQQIDAJQZjEQMA4GA1UEBwwHUmfSZWlnaDEPMA0GA1UECgwG T3JhY2x1MQswCQYDVQQQLDAJQVjEQMA4GA1UEAwwHTG1iZXJ0eTETMBEGCSqGSIb3 DQEJARYEdGVzdDAeFw0xNTA1MDQxNDIzNTRaFw0xNjA1MDMxNDIzNTRaMHExCzAJ BgNVBAYTA1VTMQswCQYDVQQIDAJQZjEQMA4GA1UEBwwHUmfSZWlnaDEPMA0GA1UE CgwGT3JhY2x1MQswCQYDVQQQLDAJQVjEQMA4GA1UEAwwHTG1iZXJ0eTETMBEGCSqG SIb3DQEJARYEdGVzdDBcMA0GCSqGSIb3DQEBAQUAA0sAMEgCQQCZ/MpkhlvMP/iJ s5xDO2MwxJm3jYim43H8gR9pfBTMNP6L9kluJYi+2T0hngJFQLpIn6SK6pXnuAGY f/vDwfqPAGMBAAGjUDBOMB0GA1UdDgQWBBS6IzIOLP1gizQ6+BERr8Fo2XyDVDAf BgNVHSMEGDAwBS6IzIOLP1gizQ6+BERr8Fo2XyDVBAMBgNVHRMBETADAQH/MA0G CSqGSIb3DQEBCwUAA0EAOWIqBMEQyvfvvt38r/yfgIx3w5dN8SBwhjHC5TpJrHV6U zFlg5dfzoLz7ditjGohWJ919VRw39LQ81KFp7SMXwA== -----END CERTIFICATE----- </pre>

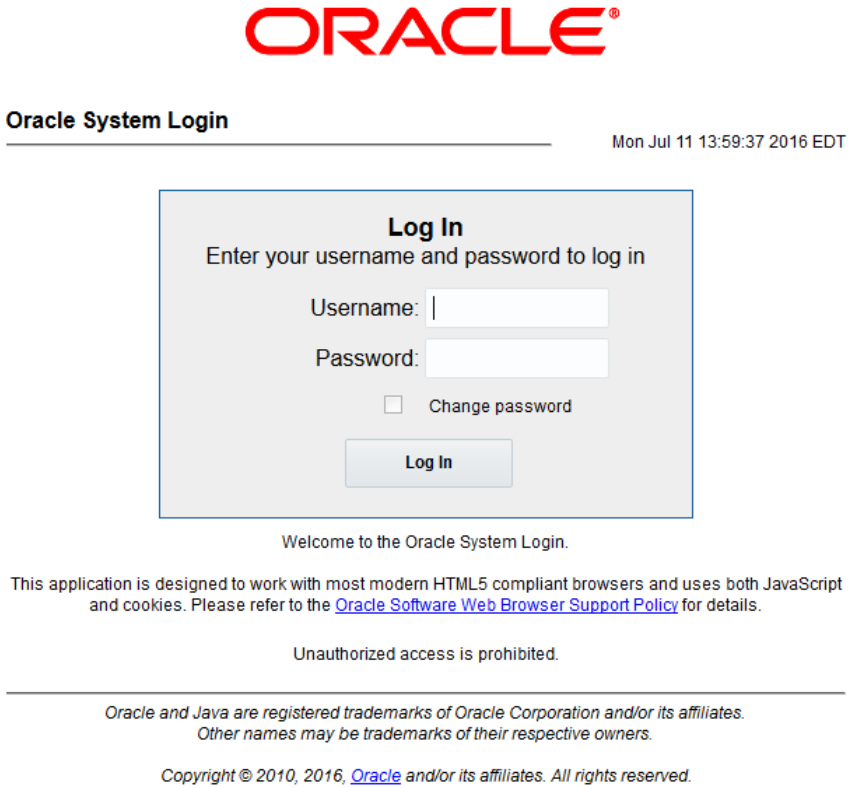
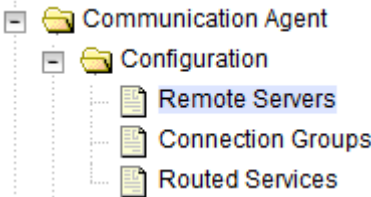

Step#	Procedure	Description
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>IDIH Application Server GUI:</b> Login</p>	<p>1. Establish a GUI session on the IDIH application server:</p> <p>2. Login as the <b>idihadmin</b> user:</p> 
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>IDIH Application Server GUI:</b> Launch the OAM portal</p>	<p>Navigate to the OAM portal Icon to Launch the OAM web application:</p> 
<p>6.</p> <p><input type="checkbox"/></p>	<p><b>IDIH Application Server GUI:</b> Configure the SSO domain</p>	<p>1. Navigate to <b>System &gt; Single Sign On</b>.</p>  <p>2. Select the SSO Parameters tab.</p> <p>3. Click the <b>Edit Value</b> icon.</p>

Step#	Procedure	Description
		 <p>4. Enter a value for the Domain Name.</p> <p><b>Note:</b> This should be the same domain name assigned in the DSR NOAM DNS configuration (step 2).</p> <p>5. Click the <b>Save</b> icon.</p>  <p>6. Click the <b>Refresh</b> icon to display data saved for the remote zone.</p> 
<p>7.</p> <p><input type="checkbox"/></p>	<p><b>IDIH Application Server GUI:</b> Configure the SSO remote zone</p>	<p>1. Navigate to <b>System &gt; Single Sign On.</b></p>  <p>2. Select the <b>SSO Zones</b> tab.</p>  <p>3. Click the <b>Add</b> icon.</p>  <p>4. Enter a value for field <b>Remote Name</b>.</p>  <p>5. For field <b>X.509 Certificate</b>, paste the encoded certificate text from the clipboard that was previously copied from the DSR NOAM.</p>


Step#	Procedure	Description
		<p>X.509 Certificate</p> <pre>-----BEGIN CERTIFICATE----- MIIENTCCAx2gAwIBAgIBAMA0GA1UECgwGT3JhY2xiMREwDwYDVQQLDAhBcHBjCQEWEnN1cHBvcnRAb3JhY2xiLmNvbTAeFw0xNTA3M1FDASBgNVBAcMC01vbnJpc3ZpbGxiMQ8wDQYDVQQKLCdHlwZT1BV1NTTzEhMB8GCSpGSlb3DQEJARYSc3VwclpwYDdhXchb5bhORLUGCsSpo4RzHHlvKAu7DNI2GSs9gDrVBDyqDqmBhP1stxGAaBFhnbSuUma2Qgy4mKppfeyXLLx5+c5EwkS8OhB9AVqwjX+oETf58WYKAgIX82c8rAWFoAUUnwCZ+1CZucSz4AivgXb122X/SLYwDAYDVR0TBAlTJi7N8HC9AEe0Sn8akEdE9pJHP7NwGjY1v5581Z2dnJ2e dxoXMVS5tEOO5Ea5PKk8Zyl3QCet1sEa5CRjilbOU94hjC CERTIFICATE-----</pre> <p>6. Click the <b>Save</b> icon.</p>  <p>7. Click the <b>Refresh</b> icon to display the data saved for remote zone.</p> 

**Procedure 33. IDIH Configuration: Configure IDIH in the DSR**

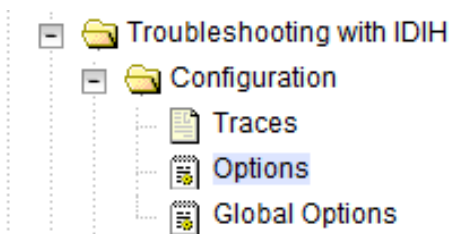
Step#	Procedure	Description
<p>This procedure completes the IDIH integration on the DSR.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>NOAM VIP GUI: Login</b>	<p>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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guidadmin</b> user.</p>

Step#	Procedure	Description
		 <p style="text-align: center;"><b>ORACLE®</b></p> <p><b>Oracle System Login</b> <span style="float: right;">Mon Jul 11 13:59:37 2016 EDT</span></p> <div style="border: 1px solid gray; padding: 10px; width: fit-content; margin: 20px auto;"> <p style="text-align: center;"><b>Log In</b></p> <p style="text-align: center;">Enter your username and password to log in</p> <p>Username: <input type="text"/></p> <p>Password: <input type="password"/></p> <p style="text-align: center;"><input type="checkbox"/> Change password</p> <p style="text-align: center;"><input type="button" value="Log In"/></p> </div> <p style="text-align: center;">Welcome to the Oracle System Login.</p> <p style="text-align: center;">This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p style="text-align: center;">Unauthorized access is prohibited.</p> <hr/> <p style="text-align: center;"><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p style="text-align: center;"><small>Copyright © 2010, 2016, Oracle and/or its affiliates. All rights reserved.</small></p>
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure ComAgent connection</p>	<ol style="list-style-type: none"> <li>Navigate to <b>Communication Agent &gt; Configuration &gt; Remote Servers</b>.              </li> <li>Click <b>Insert</b>.              </li> <li>Add the IDIH mediation server.</li> <li>For the remote server IP address field, type the IMI IP address of the IDIH Mediation Server.</li> <li>For the IP address preference field, type the IP protocol preference (if IPv6 and IPv4 are configured).</li> </ol>

Step#	Procedure	Description
		<p><b>Inserting Remote Servers</b></p> <p>6. Set the Remote Server Mode to <b>Server</b>.</p> <p>7. Select the DA-MP server group from the <b>Available Local Server Groups</b> column.</p> <p>8. Click the <b>&gt;&gt;</b> button to move the DA-MP server group to the <b>Assigned Local Server Groups</b> column.</p> <p>9. Click <b>OK</b>.</p>

Step#	Procedure	Description
3. <input type="checkbox"/>	<b>SOAM VIP GUI: Login</b>	<p>1. 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:</p> <div data-bbox="472 323 1328 373" style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;Primary_SOAM_VIP_IP_Address&gt;">https://&lt;Primary_SOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div data-bbox="495 451 1347 1228" style="text-align: center;">  </div>



Step#	Procedure	Description												
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Configure IDIH hostname</p>	<p>1. Navigate to <b>Diameter &gt; Troubleshooting with IDIH &gt; Configuration &gt; Options.</b></p>  <p>2. Select the mediation server configured in step to in the <b>IDIH Host Name</b> field from the list.</p> <p>3. Type the fully qualified domain name (or IP address) of the application server in the <b>IDIH Visualization Address</b> field:</p> <p><b>IDIH Configuration</b></p> <table border="1" data-bbox="479 777 1331 1323"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Descri</th> </tr> </thead> <tbody> <tr> <td>Max bandwidth *</td> <td><input type="text" value="25"/></td> <td>Maximu will dis [Default</td> </tr> <tr> <td>IDIH Host Name</td> <td><input type="text" value="- Select -"/></td> <td>The Ho [Default</td> </tr> <tr> <td>IDIH Visualization address</td> <td><input type="text"/></td> <td>The IP ; If an IP [Default</td> </tr> </tbody> </table> <p><input type="button" value="Apply"/> <input type="button" value="Cancel"/></p> <p>4. Click <b>Apply</b>.</p>	Field	Value	Descri	Max bandwidth *	<input type="text" value="25"/>	Maximu will dis [Default	IDIH Host Name	<input type="text" value="- Select -"/>	The Ho [Default	IDIH Visualization address	<input type="text"/>	The IP ; If an IP [Default
Field	Value	Descri												
Max bandwidth *	<input type="text" value="25"/>	Maximu will dis [Default												
IDIH Host Name	<input type="text" value="- Select -"/>	The Ho [Default												
IDIH Visualization address	<input type="text"/>	The IP ; If an IP [Default												

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

Step#	Procedure	Description
<p>This procedure configures the SMTP mail server.</p> <p><b>Note:</b> 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.</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>IDIH Application Server:</b> Login</p>	<p>Establish an SSH session to the IDIH Application Server and login as <b>admusr</b>.</p>
<p>2. <input type="checkbox"/></p>	<p><b>IDIH Application Server:</b> Configure the authenticated mail server</p>	<p>5. Enter the platcfg menu, execute the following command:</p> <pre data-bbox="500 743 889 789">\$ sudo su - platcfg</pre> <p>6. Select Application Server Configuration.</p> <pre data-bbox="500 842 992 1108">lqqqqqqqqqqqq Main Menu tqqqqqqqqqqqk x x Maintenance x x Diagnostics a x x Server Configuration a x x Network Configuration a x x Remote Consoles a x x Security x x Application Server Configuration a x x Exit x v</pre> <p>7. Select <b>SMTP Configuration</b>.</p> <pre data-bbox="500 1171 992 1339">lu Application Server Configuration Menu tk x x SNMP Agent Configuration x x SMTP Configuration x x Exit x x x mqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq</pre> <p>8. Click <b>Edit</b>.</p> <p>9. Enter the following parameters:</p> <ul style="list-style-type: none"> <li>• Mail Server IP Address</li> <li>• User</li> <li>• Password</li> <li>• Email Address (From)</li> <li>• Mail smtp timeout</li> <li>• Mail smtp connectiontimeout</li> <li>• SNMP over SSL used?</li> </ul> <p>10. Click <b>OK</b>.</p> <p>11. Click <b>Exit</b> to exit the platcfg menu.</p>



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

Step#	Procedure	Description
<p>This procedure changes the default network interface.</p> <p><b>Note:</b> Initially the default network interface used to transport TTRs from DSR to DIH uses the internal IMI network; however, this can be changed if required. It should be noted that changing this interface could degrade performance of TTR transmission.</p> <p><b>Note:</b> A script is provided to manage the settings so that the operator doesn't need to know the details required to apply the settings. There are two settings 'interface.name' and 'interface.enabled'.</p> <p>When interface.enabled=True then communications over the 'interface.name =value', where value is the name of the network interface as defined on the platform, is the only specified interface that is used for communications.</p> <p>When 'interface.enabled=False' then communications over the named interface is not enforced, that is, all interfaces configured on the platform are allowed to be used for communications.</p> <p>For example, if it is required to use the XMI interface for communication instead of the default internal IMI interface, then the operator would supply 'xmi' when prompted for the interface name and 'True' when prompted if interface filtering should be applied.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>IDIH Mediation Server:</b> Login	<p>1. Establish an SSH session to the IDIH mediation server. Login as user <b>admusr</b>.</p> <p>2. Issue the following commands to login as <b>tekelec</b> user.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo su - tekelec</pre>
2. <input type="checkbox"/>	<b>IDIH Mediation Server:</b> Execute the change interface script	<p>Execute the change interface script with the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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 CTRL-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 restarting mediation configuration bundle...</pre>

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

**(Optional)**

Step#	Procedure	Description
<p>This procedure generates a disaster recovery fdc file.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Identify backup server	<p>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:</p> <ul style="list-style-type: none"> <li>• TVOE</li> <li>• PMAC</li> <li>• DSR NOAM</li> <li>• DSR SOAM</li> </ul>
2. <input type="checkbox"/>	<b>PMAC:</b> Establish terminal session	Establish an SSH session to the PMAC. Login as <b>admusr</b> .
3. <input type="checkbox"/>	<b>PMAC:</b> Verify Upgrade fdc file exists	<p>Execute the following commands to verify the upgrade FDC file for IDIH exists:</p> <pre>\$ cd /var/TKLC/smac/guest-dropin \$ ls -l *.xml</pre> <p>The following output is expected:</p> <pre>-rw-r----- 1 root smac 9542 May 11 09:43 &lt;idih_install&gt;.xml -rw-r----- 1 root smac 5107 May 11 09:43 &lt;idih_upgrade&gt;.xml</pre> <p><b>Note:</b> The &lt;idih_upgrade&gt;.xml file is the same file used for upgrade and disaster recovery procedures.</p>
4. <input type="checkbox"/>	<b>PMAC:</b> Transfer the FDC file to a remote server	<p>Login to the backup server identified in <b>step 1</b> 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.</p> <pre>\$ sudo scp admusr@&lt;PMAC_IP_Address&gt;:/var/TKLC/smac/guest-dropin/&lt;idih_upgrade.xml&gt; /path/to/destination/</pre> <p>When prompted, enter the admusr user password and click <b>Enter</b>.</p> <p>If the Customer System is a Windows system please refer to reference [1] Using WinSCP to copy the backup image to the customer system.</p>

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

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

Step#	Procedure	Description
<p>This procedure changes the alarm severity and/or identifiers to ignore on the mediation server.</p> <p><b>Note:</b> Initially the default is to ignore alarms with severity 4 (informational)</p> <p><b>Note:</b> 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'</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>IDIH Mediation Server:</b> Login	<ol style="list-style-type: none"> <li>1. Establish an SSH session to the IDIH mediation server. Login as user <b>admusr</b>.</li> <li>2. Issue the following commands to login as <b>tekelec</b> user.</li> </ol> <pre>\$ sudo su - tekelec</pre>

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

## 4.7 Post-Install Activities


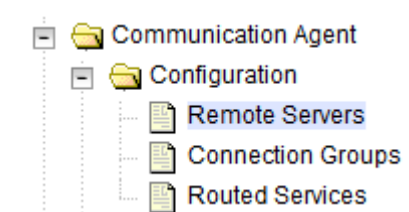
### 4.7.1 Activate Optional Features

#### Procedure 39. Activate Optional Features

Step#	Procedure	Description
<p>This procedure installs DSR optional components once regular installation is complete.</p> <p><b>Prerequisite:</b> All previous DSR installation steps have been completed.</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	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.


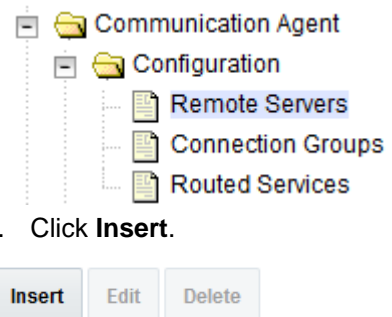
## 4.7.2 Configure ComAgent Connections (DSR + SDS)


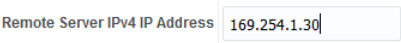


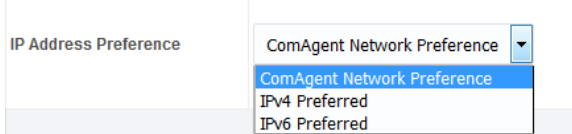
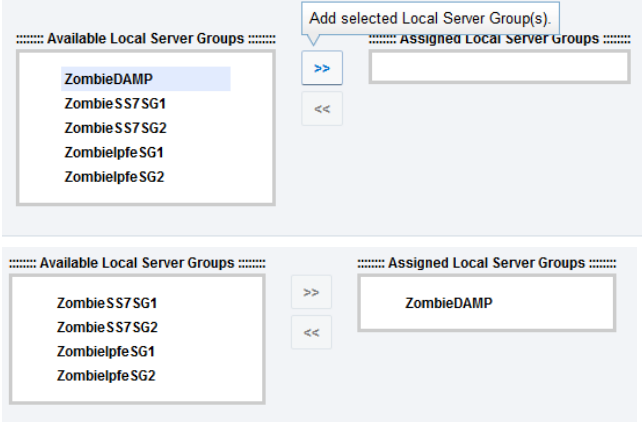

### Procedure 40. Configure ComAgent Connections (DSR + SDS)

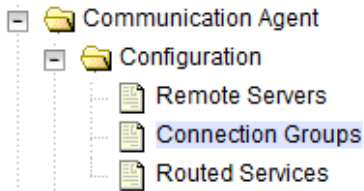
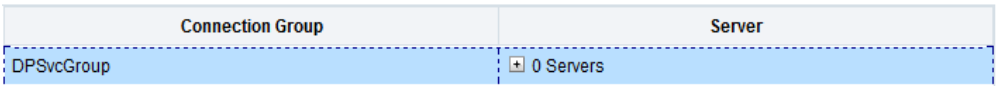
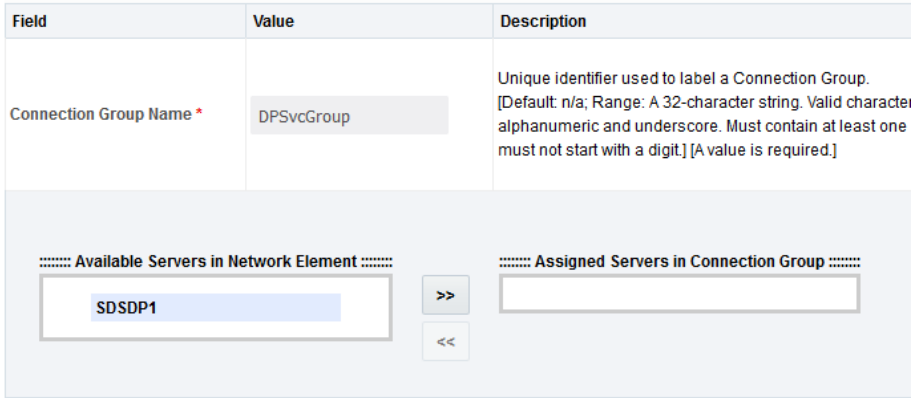
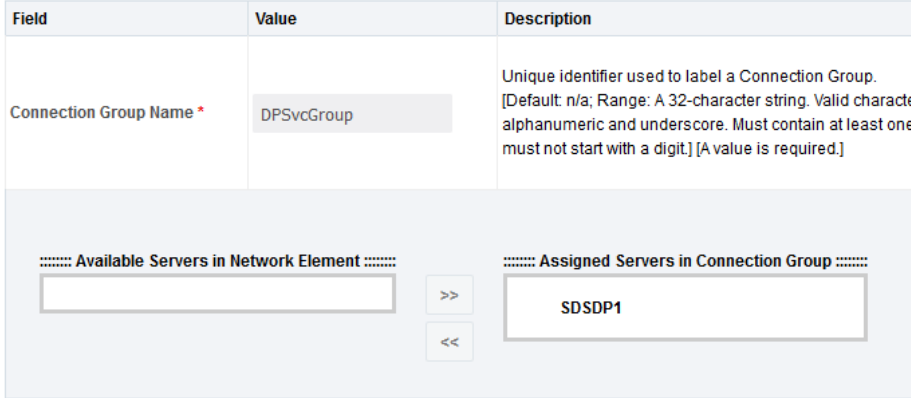
Step#	Procedure	Description
<p>This procedure configures ComAgent connections on DSR/SDS for use in the FABR application.  <b>Prerequisite:</b> FABR application is activated.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI: Login</b></p>	<p>1. Establish a GUI session on the SDS NOAM by using the XMI VIP address. Open the web browser and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;Primary_SDS_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 
<p>2. <input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI: Configure remote server IP address</b></p>	<p>1. Navigate to <b>Communication Agent &gt; Configuration &gt; Remote Servers</b>.</p>  <p>2. Click <b>Insert</b>.</p> <div style="margin-top: 10px;"> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/></p> </div>



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

Step#	Procedure	Description
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>DSR NOAM VIP GUI: Login</b></p>	<p>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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;Primary_DSR_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p>  <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <p><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p><small>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</small></p>
<p>6.</p> <p><input type="checkbox"/></p>	<p><b>DSR NOAM VIP GUI: Configure remote server IP address</b></p>	<p>1. Navigate to <b>Communication Agent &gt; Configuration &gt; Remote Servers</b>.</p>  <p>2. Click <b>Insert</b>.</p>

Step#	Procedure	Description
<p>7.</p> <p><input type="checkbox"/></p>	<p><b>DSR NOAM VIP GUI:</b> Configure remote server IP address</p>	<p>1. Type the <b>Remote Server Name</b> for the SDS DP server:</p>  <p>2. Type the Remote Server IMI IP Address.</p>   <p><b>Note:</b> This should be the IMI IP address of the DP server.</p> <p>3. Select <b>Server</b> for the <b>Remote Server Mode</b> from the list.</p>  <p>4. Select <b>IP Address Preference</b> (ComAgent Network Preference, IPv4 Preferred, or IPv6 Preferred) from the list.</p>  <p>5. Select the <b>Local Server Group</b> for the DSR MP server group, click &gt;&gt;.</p>  <p>6. Click <b>Apply</b>.</p> 
<p>8.</p> <p><input type="checkbox"/></p>	<p><b>DSR NOAM VIP GUI:</b> Repeat</p>	<p><b>Repeat</b> steps 6-7 for each remote DP in the same SOAM NE.</p>

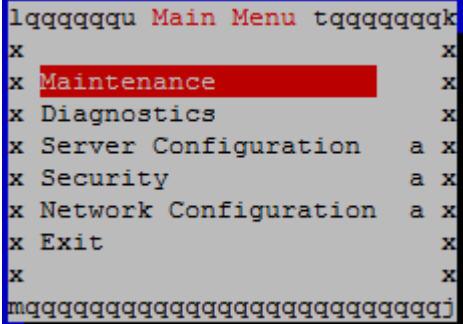
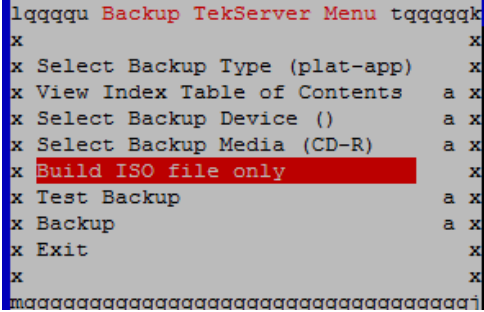
Step#	Procedure	Description
9. <input type="checkbox"/>	<b>DSR NOAM VIP GUI:</b> Configure Connection Groups	Navigate to <b>Communication Agent &gt; Configuration &gt; Connection Groups</b> . 
10. <input type="checkbox"/>	<b>DSR NOAM VIP GUI:</b> Edit connection groups	1. Select the <b>DPSvcGroup Connection Group</b> .  2. Click <b>Edit</b> . 3. Select the desired DP servers from the Available Servers in Network Element. <b>Editing existing Connection Groups</b>  4. Click <b>&gt;&gt;</b> . <b>Editing existing Connection Groups</b>  5. Click <b>OK</b> .

Step#	Procedure	Description						
11. <input type="checkbox"/>	<b>DSR NOAM VIP GUI:</b> Verify correct number of servers in group	Verify correct number of servers are in the connection group.  <table border="1"> <thead> <tr> <th>Connection Group</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>DPSvcGroup</td> <td><input type="checkbox"/> 1 Server</td> </tr> <tr> <td></td> <td>..... <a href="#">SDSDP1</a></td> </tr> </tbody> </table>	Connection Group	Server	DPSvcGroup	<input type="checkbox"/> 1 Server		..... <a href="#">SDSDP1</a>
Connection Group	Server							
DPSvcGroup	<input type="checkbox"/> 1 Server							
	..... <a href="#">SDSDP1</a>							

### 4.7.3 Back Up TVOE Configuration

#### Procedure 41. Back Up TVOE Configuration

Step#	Procedure	Description
<p>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 number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	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: <ul style="list-style-type: none"> <li>• TVOE</li> <li>• PMAC</li> <li>• DSR NOAM</li> <li>• DSR SOAM</li> </ul>
2. <input type="checkbox"/>	<b>TVOE Server:</b> Login	Establish an SSH session to the TVOE host server and login as <b>admusr</b> .


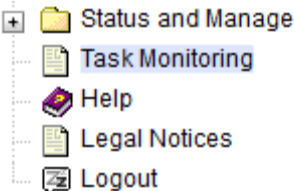
Step#	Procedure	Description
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>TVOE Server:</b> Build ISO backup file</p>	<p>1. Execute the following command from the TVOE server:</p> <pre data-bbox="500 296 1032 342">\$ sudo su - platcfg</pre>  <p>2. Navigate to <b>Maintenance &gt; Backup and Restore &gt; Backup Platform (CD/DVD)</b>.</p> <p>The Backup TekServer Menu screen displays.</p> <p><b>Note:</b> 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.</p> <p>3. Build the backup ISO image by selecting <b>Build ISO file only</b>.</p>  <p><b>Note:</b> Creating the ISO image may happen so quickly that this screen may only display for an instant.</p> <p>4. 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: <b>hostname1307466752-plat-app-201104171705.iso</b></p> <p>5. Exit out of platcfg by selecting <b>Exit</b>.</p>

Step#	Procedure	Description
4. <input type="checkbox"/>	<b>Backup Server:</b> Transfer TVOE files to backup server	<p>1. 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.</p> <pre>\$ sudo scp tvoexfer@&lt;TVOE IP Address&gt;:backup/* /path/to/destination/</pre> <p>2. When asked, type the tvoexfer user password and press <b>Enter</b>.</p> <p>3. If the customer system is a Windows system, refer [6] using WinSCP to copy the backup image to the customer system.</p> <p>The TVOE backup file has now been successfully placed on the backup server.</p>
5. <input type="checkbox"/>	Repeat for additional TVOE servers	<b>Repeat</b> steps 3-4 for additional TVOE servers.

#### 4.7.4 Back Up PMAC Application

##### Procedure 42. Back Up PMAC Application

Step#	Procedure	Description
<p>This procedure backs up each PMAC application installed in this procedure.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Identify backup server	<p>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:</p> <ul style="list-style-type: none"> <li>• TVOE</li> <li>• PMAC</li> <li>• DSR NOAM</li> <li>• DSR SOAM</li> </ul>
2. <input type="checkbox"/>	<b>PMAC Server:</b> Login	Establish an SSH session to the PMAC server and login as <b>admusr</b> .
3. <input type="checkbox"/>	<b>PMAC Server:</b> Build backup file	<p>Execute the following command from the PMAC server:</p> <pre>\$ sudo /usr/TKLC/smac/bin/pmacadm backup</pre> <pre>PM&amp;C backup been successfully initiated as task ID 7</pre> <p><b>Note:</b> 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 <code>sudo pmaccli getBgTasks</code>. The result should eventually be <b>PMAC Backup successful</b> and the background task should indicate <b>COMPLETE</b>.</p>

Step#	Procedure	Description										
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>1. Open web browser, navigate to the PMAC GUI, and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <code>https://&lt;pmac_network_Network_IP_Address&gt;</code> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 										
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>PMAC Server GUI:</b> Monitor/Verify backup task completion</p>	<p>1. Navigate to <b>Task Monitoring</b>.</p>  <p>2. Monitor the Backup PMAC task.</p> <p><b>Main Menu: Task Monitoring</b></p> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0;"> <p>Filter* ▾</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>State</th> </tr> </thead> <tbody> <tr> <td>1458</td> <td>Backup PM&amp;C</td> <td></td> <td>PM&amp;C Backup successful</td> <td>COMPLETE</td> </tr> </tbody> </table> </div> <p><b>Note:</b> Alternatively, you can monitor the Backup task by executing the following command:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <code>\$ sudo pmaccli getBgTasks</code> </div>	ID	Task	Target	Status	State	1458	Backup PM&C		PM&C Backup successful	COMPLETE
ID	Task	Target	Status	State								
1458	Backup PM&C		PM&C Backup successful	COMPLETE								




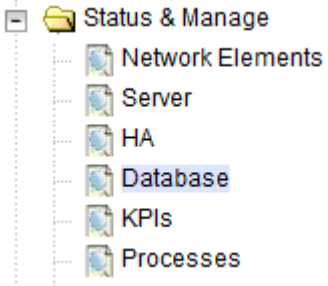
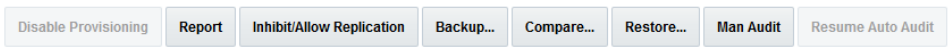
Step#	Procedure	Description
6. <input type="checkbox"/>	<b>Backup Server:</b> Transfer PMAC file to backup server	<p>1. Log into the backup server identified in step 1 and copy backup image to the customer server where it can be safely stored. If the customer system is a Linux system, please execute the following command to copy the backup image to the customer system.</p> <pre>\$ sudo scp admusr@&lt;PMAC_IP_Address&gt; : /var/TKLC/smac/backup/* /path/to/destination/</pre> <p>2. When asked, type the admusr user password and click <b>Enter</b>.</p> <p>3. If the customer system is a Windows system, refer to reference [6] using WinSCP to copy the backup image to the customer system.</p>

#### 4.7.5 Backup NOAM Database

##### Procedure 43. NOAM Database Backup


Step#	Procedure	Description
<p>This procedure backs up the NOAM database.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Identify backup server	<p>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:</p> <ul style="list-style-type: none"> <li>• TVOE</li> <li>• PMAC</li> <li>• DSR NOAM</li> <li>• DSR SOAM</li> </ul>

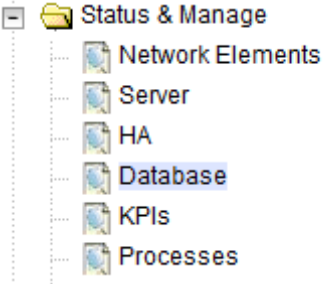
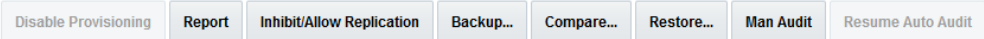
Step#	Procedure	Description
2. <input type="checkbox"/>	<b>NOAM VIP GUI: Login</b>	<p>4. Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:</p> <div data-bbox="483 323 1334 373" style="border: 1px solid black; padding: 2px;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>5. Login as the <b>guiadmin</b> user.</p> <div data-bbox="493 453 1354 1234" style="text-align: center;">  <p><b>ORACLE®</b></p> <p><b>Oracle System Login</b> <span style="float: right;">Mon Jul 11 13:59:37 2016 EDT</span></p> <div style="border: 1px solid gray; padding: 10px; width: fit-content; margin: 10px auto;"> <p><b>Log In</b></p> <p>Enter your username and password to log in</p> <p>Username: <input type="text"/></p> <p>Password: <input type="password"/></p> <p><input type="checkbox"/> Change password</p> <p><input type="button" value="Log In"/></p> </div> <p>Welcome to the Oracle System Login.</p> <p>This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <a href="#">Oracle Software Web Browser Support Policy</a> for details.</p> <p>Unauthorized access is prohibited.</p> <hr/> <p><small>Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.</small></p> <p><small>Copyright © 2010, 2016, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</small></p> </div>

Step#	Procedure	Description																		
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Perform database backup</p>	<p>1. Navigate to <b>Status &amp; Manage &gt; Database</b>.</p>  <p>2. Select the Active NOAM.</p> <p>3. Click <b>Backup</b>.</p>  <p>4. Select the desired file compression method.</p> <p><b>Database Backup</b></p> <table border="1" data-bbox="487 861 1437 1312"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td colspan="3">Server: ZombieNOAM2</td> </tr> <tr> <td>Select data for backup</td> <td><input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration</td> <td>Select the type of Backup to perform.</td> </tr> <tr> <td>Compression *</td> <td><input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none</td> <td>Select the backup archive compression algorithm The following file suffix will be applied for the sel  <ul style="list-style-type: none"> <li>• .tar.gz - gzip compression,</li> <li>• .tar.bz2 - bzip2 compression,</li> <li>• .tar - no compression.</li> </ul>                     [A value is required]                 </td> </tr> <tr> <td>Archive Name *</td> <td>Backup.dsr.ZombieNOAM2.Configuration.NETWORK_OAMP.20160810_13073</td> <td>Modify archive name if desired. Do not include th</td> </tr> <tr> <td>Comment</td> <td><input type="text"/></td> <td>May not contain the following characters: ' ' \$</td> </tr> </tbody> </table> <p>5. Set the archive file name, if needed.</p> <p>6. Click <b>OK</b>.</p>	Field	Value	Description	Server: ZombieNOAM2			Select data for backup	<input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration	Select the type of Backup to perform.	Compression *	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none	Select the backup archive compression algorithm The following file suffix will be applied for the sel <ul style="list-style-type: none"> <li>• .tar.gz - gzip compression,</li> <li>• .tar.bz2 - bzip2 compression,</li> <li>• .tar - no compression.</li> </ul> [A value is required]	Archive Name *	Backup.dsr.ZombieNOAM2.Configuration.NETWORK_OAMP.20160810_13073	Modify archive name if desired. Do not include th	Comment	<input type="text"/>	May not contain the following characters: ' ' \$
Field	Value	Description																		
Server: ZombieNOAM2																				
Select data for backup	<input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration	Select the type of Backup to perform.																		
Compression *	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none	Select the backup archive compression algorithm The following file suffix will be applied for the sel <ul style="list-style-type: none"> <li>• .tar.gz - gzip compression,</li> <li>• .tar.bz2 - bzip2 compression,</li> <li>• .tar - no compression.</li> </ul> [A value is required]																		
Archive Name *	Backup.dsr.ZombieNOAM2.Configuration.NETWORK_OAMP.20160810_13073	Modify archive name if desired. Do not include th																		
Comment	<input type="text"/>	May not contain the following characters: ' ' \$																		
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>Backup Server:</b> Transfer file to backup server</p>	<p>1. 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.</p> <pre data-bbox="479 1627 1437 1711">\$ sudo scp admusr@&lt;NOAM VIP&gt;:/var/TKLC/db/filemgmt/backup/* /path/to/destination/</pre> <p>2. When asked, type the admusr user password and press <b>Enter</b>.</p> <p>3. If the customer system is a Windows system, refer to reference [6] using WinSCP to copy the backup image to the customer system.</p>																		

## 4.7.6 Backup SOAM Database

### Procedure 44. SOAM Database Backup



Step#	Procedure	Description
<p>This procedure backs up the SOAM database.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Identify backup server	<p>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:</p> <ul style="list-style-type: none"> <li>• TVOE</li> <li>• PMAC</li> <li>• DSR NOAM</li> <li>• DSR SOAM</li> </ul>
2. <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Login	<p>1. 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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;Primary_SOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div style="text-align: center;">  </div>

Step#	Procedure	Description																		
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Perform database backup</p>	<p>1. Navigate to <b>Status &amp; Manage &gt; Database.</b></p>  <p>2. Select the Active SOAM.</p> <p>3. Click <b>Backup.</b></p>  <p>4. Select the desired file compression method.</p> <p><b>Database Backup</b></p> <table border="1" data-bbox="472 879 1446 1507"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Descrip</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Server: ZombieSOAM1</b></td> </tr> <tr> <td>Select data for backup</td> <td> <input type="checkbox"/> Provisioning  <input checked="" type="checkbox"/> Configuration                 </td> <td>Select th</td> </tr> <tr> <td>Compression *</td> <td> <input type="radio"/> gzip  <input checked="" type="radio"/> bzip2  <input type="radio"/> none                 </td> <td>Select th The follo • .t • .t • .t [A value</td> </tr> <tr> <td>Archive Name *</td> <td>Backup.dsr.ZombieSOAM1.Configuration.SYSTEM_OAM.20160810_130916.M</td> <td>Modify a</td> </tr> <tr> <td>Comment</td> <td><input type="text"/></td> <td>May not</td> </tr> </tbody> </table> <p>5. Set the archive file name, if needed.</p> <p>6. Click <b>OK.</b></p>	Field	Value	Descrip	<b>Server: ZombieSOAM1</b>			Select data for backup	<input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration	Select th	Compression *	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none	Select th The follo • .t • .t • .t [A value	Archive Name *	Backup.dsr.ZombieSOAM1.Configuration.SYSTEM_OAM.20160810_130916.M	Modify a	Comment	<input type="text"/>	May not
Field	Value	Descrip																		
<b>Server: ZombieSOAM1</b>																				
Select data for backup	<input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration	Select th																		
Compression *	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none	Select th The follo • .t • .t • .t [A value																		
Archive Name *	Backup.dsr.ZombieSOAM1.Configuration.SYSTEM_OAM.20160810_130916.M	Modify a																		
Comment	<input type="text"/>	May not																		

Step#	Procedure	Description
4. <input type="checkbox"/>	<b>Backup Server:</b> Transfer SOAM file to backup server	<p>1. 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.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo scp admusr@&lt;SOAM VIP&gt;:/var/TKLC/db/filemgmt/backup/* /path/to/destination/</pre> <p>2. When asked, enter the admusr user password and press <b>Enter</b>.</p> <p>3. If the Customer System is a Windows system, refer to [6] using WinSCP to copy the backup image to the customer system.</p>
5. <input type="checkbox"/>	Repeat for additional TVOE servers	<b>Repeat</b> 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
 <b>Important</b> 		
<p>This procedure prepares clients before configuring SCTP diameter connections. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Enable/Disable DTLS (SCTP diameter connections only)	<p>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.</p> <p><a href="https://access.redhat.com/security/cve/CVE-2015-1421">https://access.redhat.com/security/cve/CVE-2015-1421</a></p> <p><a href="https://access.redhat.com/security/cve/CVE-2014-5077">https://access.redhat.com/security/cve/CVE-2014-5077</a></p> <p>Execute procedures in [1] DSR DTLS Feature Activation Procedure to disable/enable the DTLS feature.</p>

## 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>
      <gateway>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**

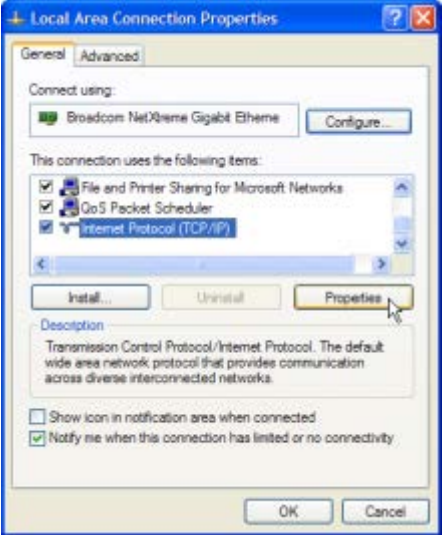
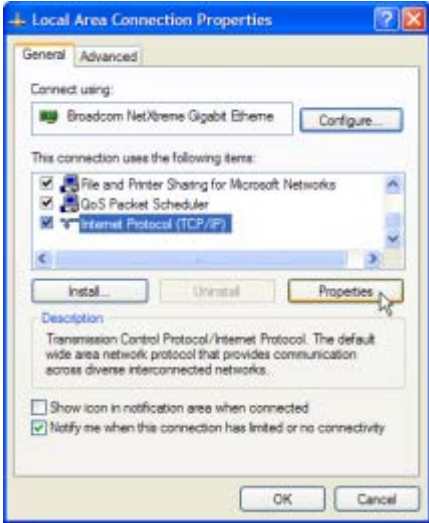


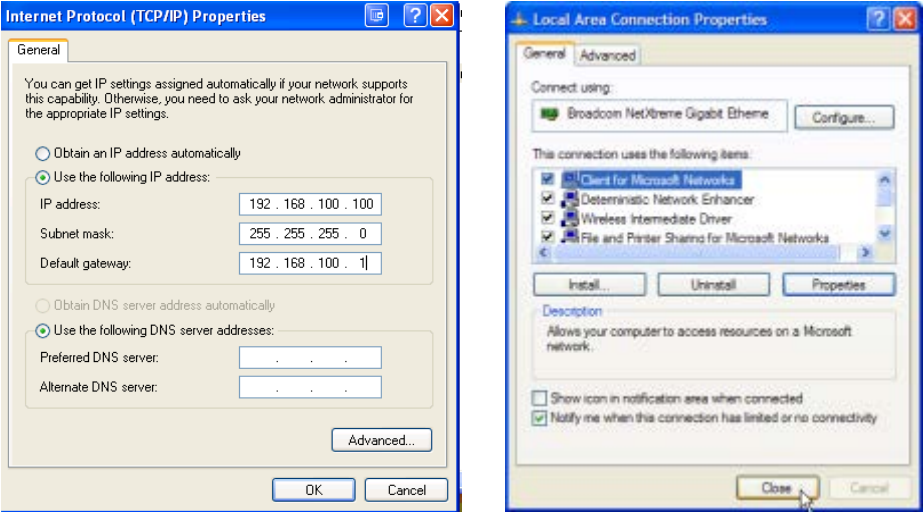
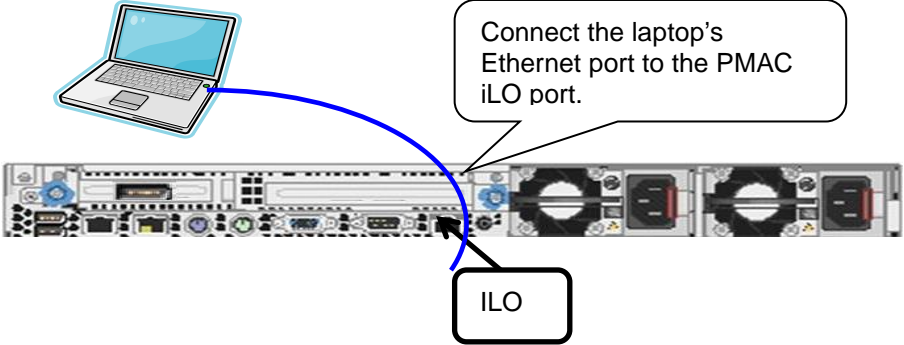
```
<profile>
<serverType>TVOE Guest</serverType>
<available>
<device>Management</device>
<device>Control</device>
<device>xmi</device>
<device>imi</device>
<device>xsi</device>
</available>
<devices>
<device>
<name>management</name>
<type>ETHERNET</type>
</device>
<device>
<name>control</name>
<type>ETHERNET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

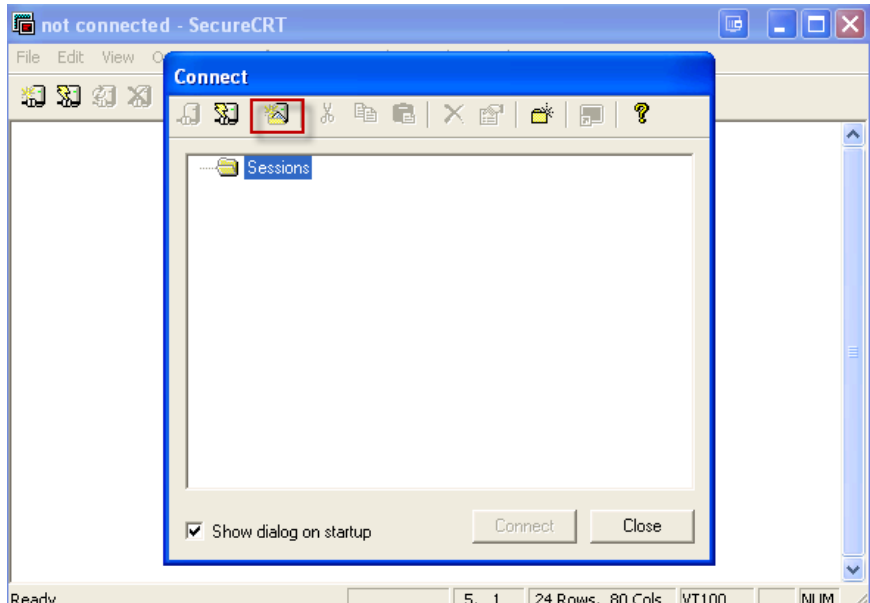
### Procedure 46. Connect to the TVOE iLO

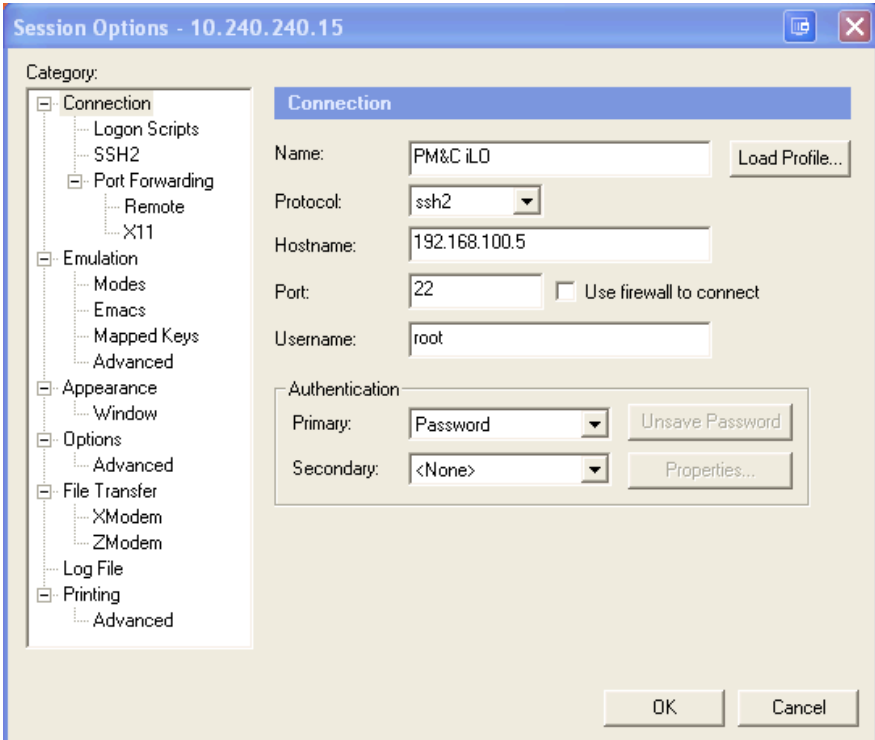
Step#	Procedure	Description	
<p>This procedure connects a laptop to the TVOE iLO via a directly cabled ethernet connection. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>			
<p>1. <input type="checkbox"/></p>	<p>Access the laptop network interface cards TCP/IP <b>Properties</b> screen. <b>Note:</b> For this step, follow the instructions specific to the laptop's OS (Windows XP or Windows 7)</p>	<p style="text-align: center;"><b>Windows XP</b></p> <ol style="list-style-type: none"> <li>Go to Control Panel.</li> <li>Double-click on <b>Network Connections</b>.</li> <li>Right-click the wired <b>Ethernet Interface</b> icon and select <b>Properties</b>.</li> <li>Click <b>Internet Protocol (TCP/IP)</b>.</li> <li>Click <b>Properties</b>.</li> </ol> 	<p style="text-align: center;"><b>Windows 7</b></p> <ol style="list-style-type: none"> <li>Go to Control Panel.</li> <li>Double-click on <b>Network and Sharing Center</b>.</li> <li>Click <b>Change Adapter Settings</b> (left menu).</li> <li>Right-click the <b>Local Area Connection</b> icon and click <b>Properties</b>.</li> <li>Click <b>Internet Protocol Version 4 (TCP/IPv4)</b>.</li> </ol> 

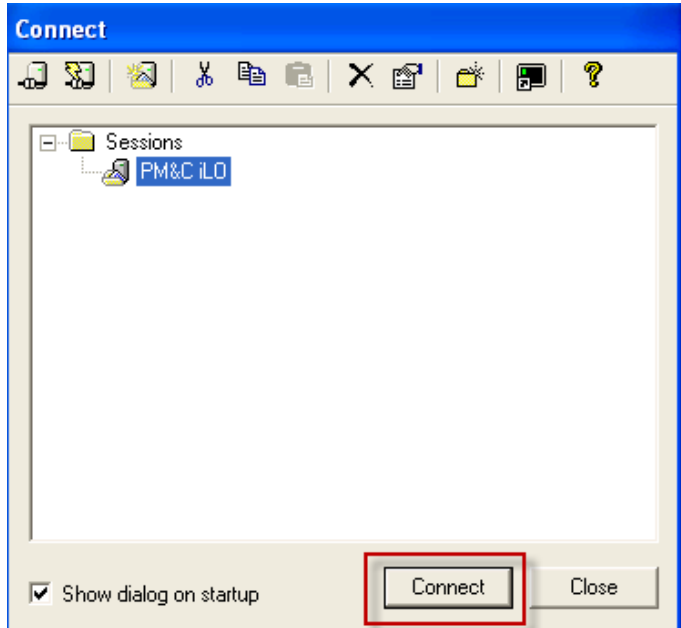
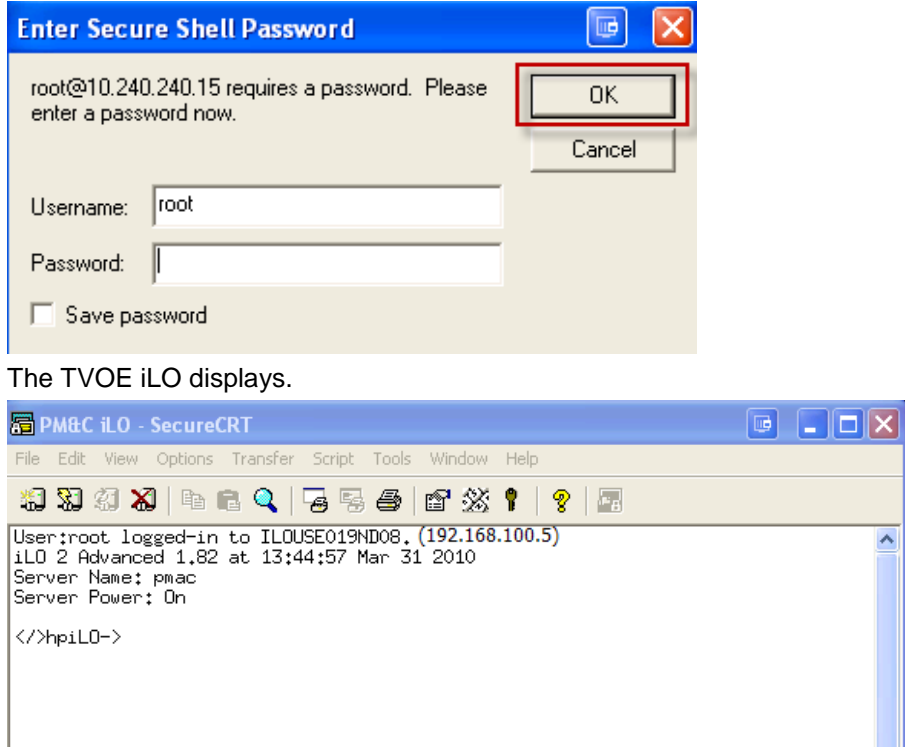
Step#	Procedure	Description
<p>2.</p> <p>☐</p>	<p>Configure IP address</p>	<ol style="list-style-type: none"> <li>1. Click Use the following IP address.</li> <li>2. Set the <b>IP address</b> to 192.168.100.100.</li> <li>3. Set the <b>Subnet mask</b> to 255.255.255.0.</li> <li>4. Set the <b>Default gateway</b> to 192.168.100.1.</li> <li>5. Select <b>OK</b>.</li> <li>6. Click <b>Close</b> from the network interface card's main Properties screen.</li> </ol> 
<p>3.</p> <p>☐</p>	<p>Connect ports</p>	<p>Connect the laptop's Ethernet port directly to the TVOE iLO port using a standard Cat-5 cross-over cable.</p> 

## Appendix C. TVOE iLO Access

### Procedure 47. Access the TVOE iLO

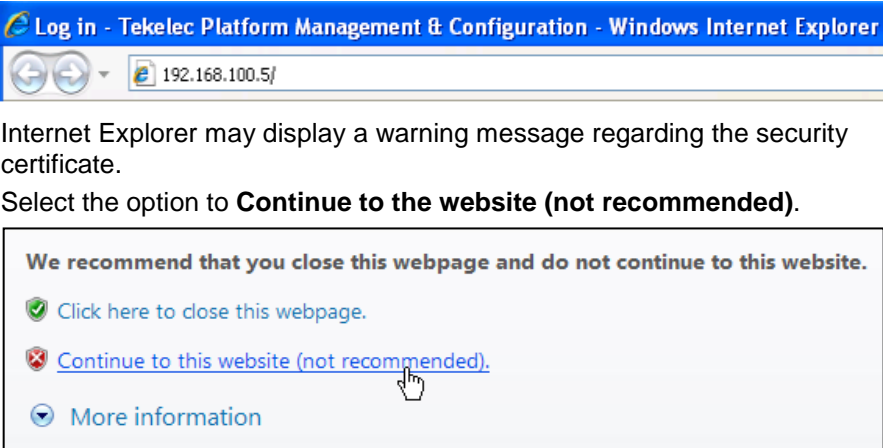


Step#	Procedure	Description
<p>This procedure contains the steps to access the TVOE iLO.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1.</p> <p><input type="checkbox"/></p>	<p>Launch terminal emulator</p>	<ol style="list-style-type: none"> <li>1. Open a terminal emulator, for example, Putty, Secure CRT.</li> <li>2. Navigate to <b>File &gt; Connect</b>.</li> <li>3. Click the <b>New Session</b> icon.</li> </ol> <p><b>Note:</b> This example demonstrates Secure CRT.</p>  <p>The screenshot shows the SecureCRT application window titled 'not connected - SecureCRT'. A 'Connect' dialog box is open, displaying a toolbar with various icons. The 'New Session' icon, which depicts a computer monitor, is highlighted with a red rectangular box. Below the toolbar, there is a 'Sessions' folder icon. At the bottom of the dialog, there is a checked checkbox labeled 'Show dialog on startup', and two buttons: 'Connect' and 'Close'. The background window shows a menu bar with 'File', 'Edit', and 'View' options, and a status bar at the bottom indicating 'Ready', '5, 1', '24 Rows, 80 Cols', 'VT100', and 'NUM'.</p>


Step#	Procedure	Description
2. <input type="checkbox"/>	Configure TVO ILO	<p> <b>Name:</b> Type TVOE iLO  <b>Hostname:</b> 192.168.100.5 (Manufacturing default) or customer IP set during installation  <b>Username:</b> Type <b>admusr</b>                      Click <b>OK</b>.                 </p> <p> <b>Note:</b> See Configure for TVOE iLO Access to configure your system network to access the TVOE iLO.                 </p> 

Step#	Procedure	Description
<p>3.</p> <p><input type="checkbox"/></p>	<p>Connect to TVO iLOE</p>	<p>1. Navigate <b>File &gt; Connect</b> to open the Connect window.</p> <p>2. Highlight the session you created and click <b>Connect</b>.</p> 
<p>4.</p> <p><input type="checkbox"/></p>	<p>Log into TVO iLOE</p>	<p>Log into the TVOE iLO using the appropriate password.</p>  <p>The TVOE iLO displays.</p> <pre> PM&amp;C iLO - SecureCRT File Edit View Options Transfer Script Tools Window Help User:root logged-in to ILOUSE019ND08, (192.168.100.5) iLO 2 Advanced 1.82 at 13:44:57 Mar 31 2010 Server Name: pmac Server Power: On &lt;/&gt;hpiLO-&gt;                     </pre>

## Appendix D. TVOE iLO4 GUI Access


### Procedure 48. TVOE iLO4 GUI Access

Step#	Procedure	Description
<p>This procedure accesses the TVOE iLO4 GUI.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1.</p> <p><input type="checkbox"/></p>	<p>Launch Internet Explorer</p>	<p>Navigate to 192.168.100.5 (manufacturing default) or customer IP set during installation.</p>  <p>Internet Explorer may display a warning message regarding the security certificate.</p> <p>Select the option to <b>Continue to the website (not recommended)</b>.</p>
<p>2.</p> <p><input type="checkbox"/></p>	<p>Log into the iLO4</p>	<p>Log into the iLO4.</p>  <p>The iLO4 Home page displays.</p> 

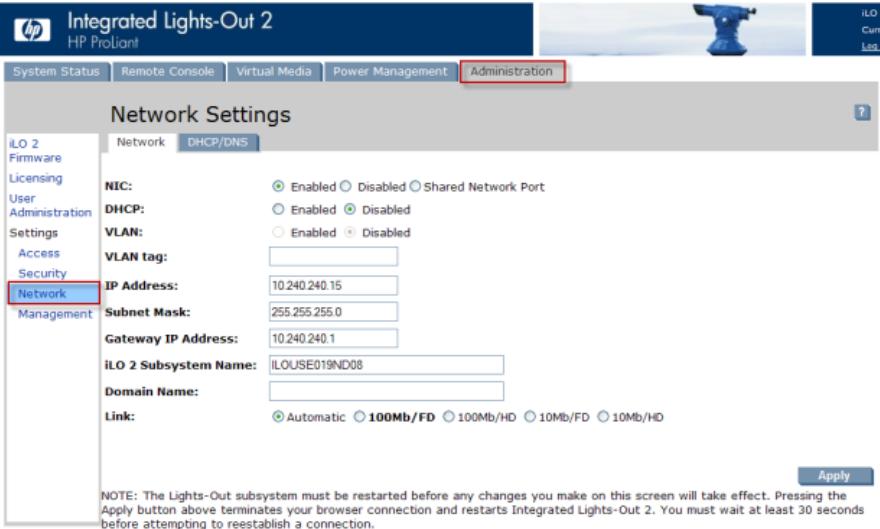
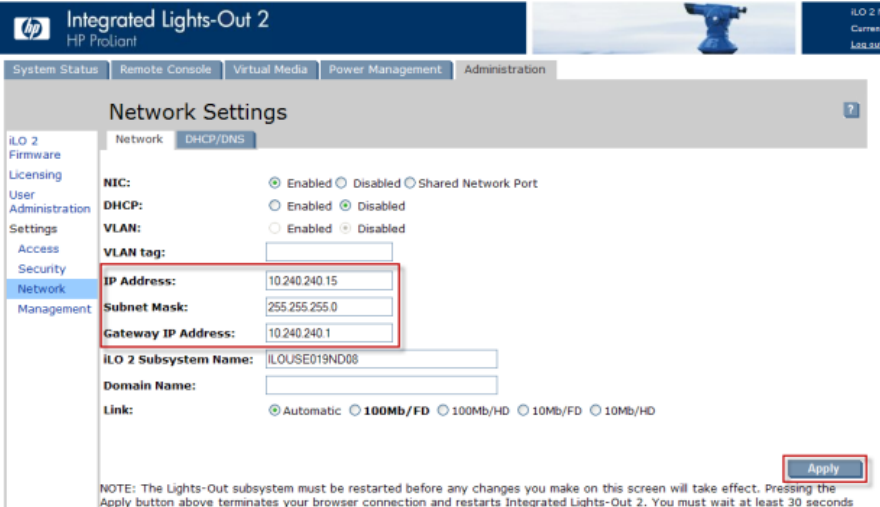
Step#	Procedure	Description
3. <input type="checkbox"/>	Launch the PMAC iLO4 CLI	Click <b>Launch</b> to start the PMAC iLO4 CLI. 

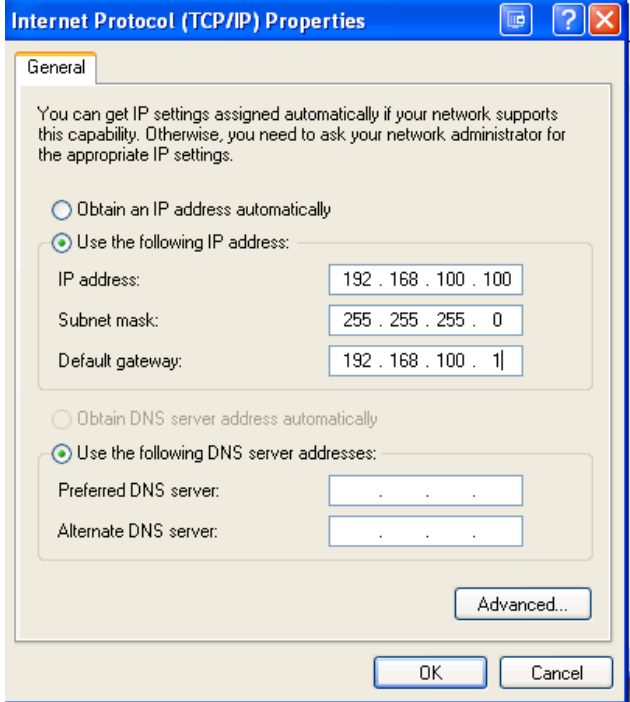

## Appendix E. Change the TVOE iLO Address

### Procedure 49. Change the TVOE iLO Address

Step#	Procedure	Description
<p>This procedure sets the IP address of the TVOE iLO to the customer's network so it can be accessed by Oracle support.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Connect to the TVOE iLO GUI	Using the instructions in TVOE iLO4 GUI Access, connect to TVOE iLO GUI. 

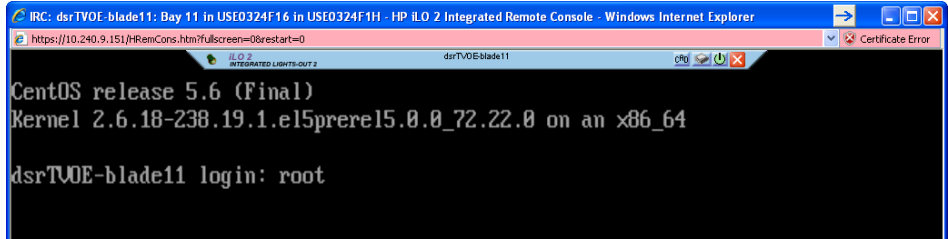
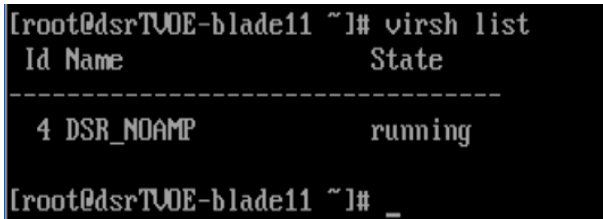
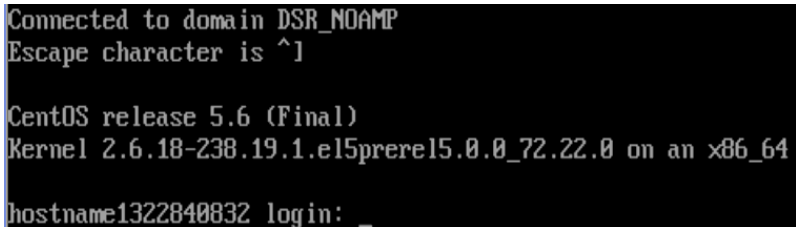


Step#	Procedure	Description
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>ILO GUI:</b> Navigate to the network menu</p>	<p>1. Click the Administration tab. 2. Under Settings in the left column, click <b>Network</b>.</p> 
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>ILO GUI:</b> Configure TVOE iLOE <b>Note:</b> You lose access after you click <b>Apply</b>.</p>	<p>1. Change the <b>IP Address</b>, <b>Subnet Mask</b>, and <b>Gateway IP Address</b> to the values supplied in the IP site survey for the TVOE iLO. 2. Click <b>Apply</b>.</p> 

Step#	Procedure	Description
<p>4.</p> <p><input type="checkbox"/></p>	<p><b>Local Machine:</b> Reset PC's network connection</p>	<p>Reset the PC's network connection replacing the <b>Subnet Mask</b> and <b>Gateway</b> with those just used for the TVOE iLO. Use an appropriate <b>IP address</b> for this subnet.</p> 
<p>5.</p> <p><input type="checkbox"/></p>	<p><b>Local Machine:</b> Connect to the TVOE iLO GUI</p>	<p>Connect to the TVOE iLO GUI using the instructions in TVOE iLO4 GUI Access.</p> <p><b>Note:</b> Use the IP address entered in step 3.</p> 

## Appendix F. PMAC/NOAM/SOAM Console iLO Access

### Procedure 50. PMAC/NOAM/SOAM Console iLO Access

Step#	Procedure	Description
		<p>This procedure logs into the PMAC/NOAM/SOAM console from ILO.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>
1. <input type="checkbox"/>	Log into TVOE	<p>Login as <b>admusr</b> on the TVOE server hosting the NOAM using either ILO or SSH to the TVOE server's XMI or Mgmt. address.</p> 
2. <input type="checkbox"/>	Locate VM	<p>1. On the TVOE host, execute the following command:</p> <pre>\$sudo virsh list</pre> <p>This produces a list of currently running virtual machines.</p>  <pre>[root@dsrTVOE-blade11 ~]# virsh list  Id Name          State -----  4 DSR_NOAMP      running  [root@dsrTVOE-blade11 ~]# _</pre> <p>2. Find the VM name for your DSR NOAM and note its ID number in the first column.</p> <p><b>Note:</b> If the VM state is not listed as <b>running</b> or you do not find a VM you configured for your NOAM at all, then halt this procedure and contact Oracle Customer Support.</p>
3. <input type="checkbox"/>	Connect to console of the VM using the VM number obtained in step 2.	<p>1. On the TVOE host, execute:</p> <pre>\$sudo virsh console &lt;DSRNOAM-VMID&gt;</pre> <p>2. Where <b>DSRNOAM-VMID</b> is the VM ID you obtained in step 2.</p>  <pre>Connected to domain DSR_NOAMP Escape character is ^] CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64 hostname1322840832 login: _</pre> <p>You are now connected to the DSR NOAMs console.</p> <p>3. If you wish to return to the TVOE host, you can exit the session by pressing <b>CTRL + ]</b>.</p>

## 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`.

**Table 3. List of Selected Time Zone Values**

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

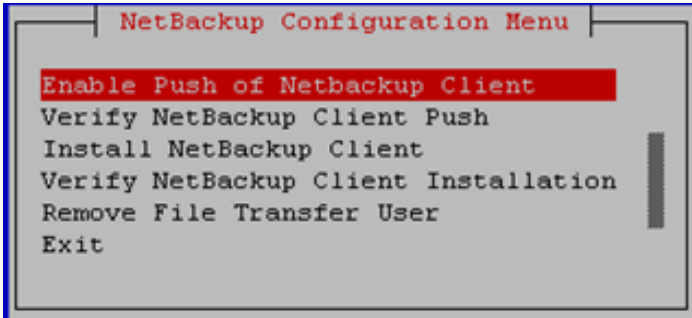
<b>Time Zone Value</b>	<b>Description</b>	<b>Universal Time Code (UTC) Offset</b>
Europe/Brussels		UTC+01
Australia/Perth	Western Australia — most locations	UTC+08
Australia/Sydney	New South Wales — most locations	UTC+10
Asia/Seoul		UTC+09
Africa/Lagos		UTC+01
Europe/Warsaw		UTC+01
America/Puerto Rico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

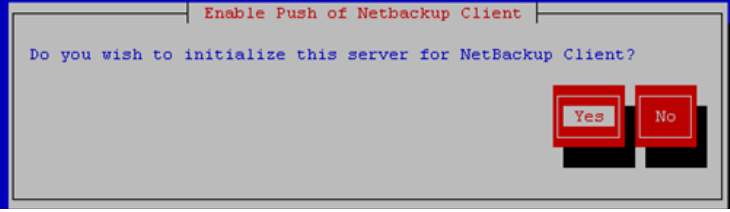
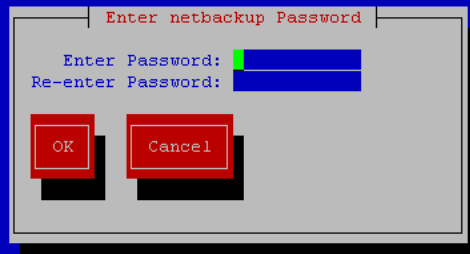
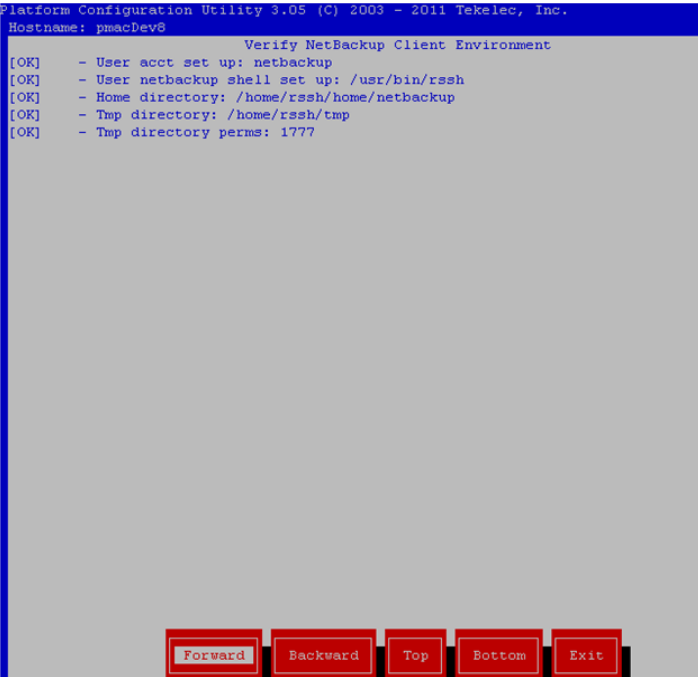
## Appendix H. Application NetBackup Client Installation Procedures

NetBackup is a utility that allows for management of backups and recovery of remote systems. The NetBackup suite 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

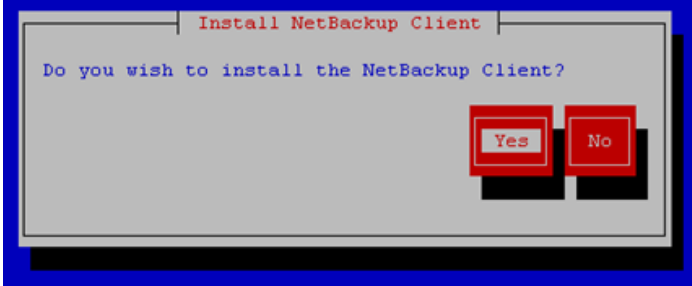
#### Procedure 51. Application NetBackup Client Installation (Using Platcfg)

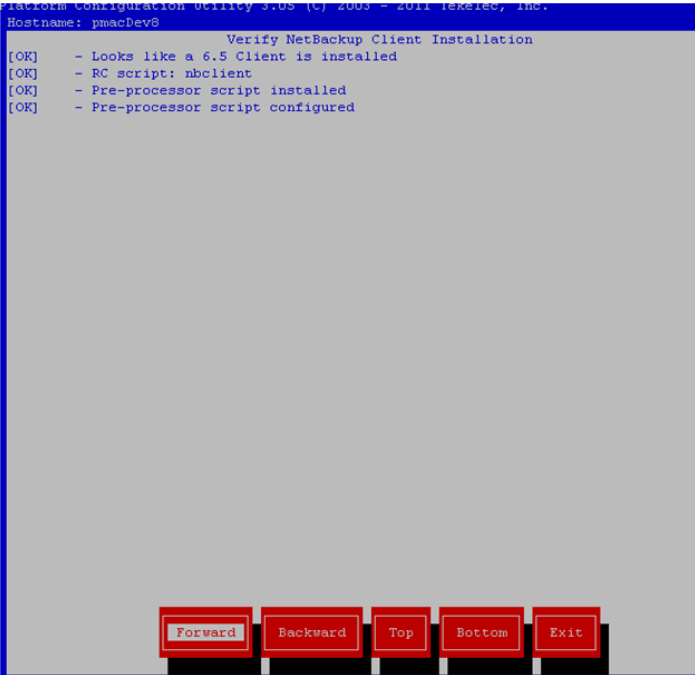
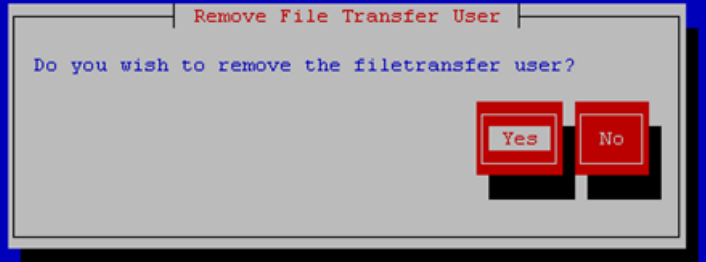
Step#	Procedure	Description
<p>This procedure explains the NetBackup installation using platcfg.</p> <p><b>Prerequisites:</b></p> <ul style="list-style-type: none"> <li>Application server platform installation has been completed.</li> <li>Site survey has been performed to determine the network requirements for the application server, and interfaces have been configured.</li> <li>NetBackup server is available to copy, sftp, the appropriate NetBackup Client software to the application server.</li> <li>Execute Appendix A.3 of [1]</li> </ul> <p><b>Note:</b> Execute the following procedure to switch/migrate to having NetBackup installed via platcfg instead of using NBAutoInstall (<b>Push Configuration</b>)</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Application Server iLO: Login	<ol style="list-style-type: none"> <li>Login and launch the integrated remote console.</li> <li>ssh to the application server (PMAC or NOAM) as <b>admusr</b> using the management network for the PMAC or XMI network for the NOAM.</li> </ol>
2. <input type="checkbox"/>	Application Server iLO: Navigate to NetBackup configuration	<ol style="list-style-type: none"> <li>Configure NetBackup Client on application server.           <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>\$ sudo su - platcfg</pre> </div> </li> <li>Navigate to NetBackup &gt; Configuration.           <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">  </div> </li> </ol>

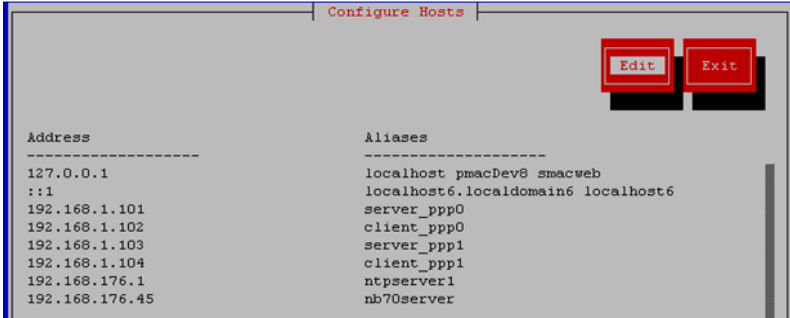

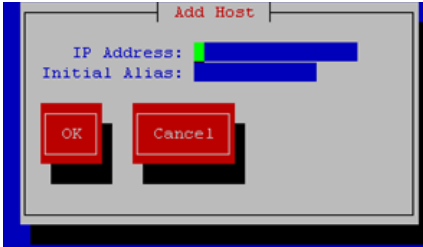
Step#	Procedure	Description
<p>3. <input type="checkbox"/></p>	<p><b>Application Server iLO:</b> Enable push of NetBackup client</p>	<p>Navigate to <b>NetBackup Configuration &gt; Enable Push of NetBackup Client.</b></p> 
<p>4. <input type="checkbox"/></p>	<p><b>Application Server iLO:</b> Enter NetBackup password</p>	<p>1. Enter the NetBackup password.</p>  <p>2. Click <b>OK</b>.</p> <p><b>Note:</b> 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.</p>
<p>5. <input type="checkbox"/></p>	<p><b>Application Server iLO:</b> Verify NetBackup client software push is enabled</p>	<p>1. Navigate to <b>NetBackup Configuration &gt; Verify NetBackup Client Push.</b></p>  <p>2. Verify list entries indicate <b>OK</b> for NetBackup client software environment.</p> <p>3. Click <b>Exit</b> to return to NetBackup Configuration menu.</p>

Step#	Procedure	Description
6. <input type="checkbox"/>	<b>NetBackup Server:</b> Push appropriate NetBackup client software to application server	<p><b>Note:</b> 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.</p> <p><b>Note:</b> 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.</p> <ol style="list-style-type: none"> <li>Log into the NetBackup server using password provided by customer.</li> <li>Navigate to the appropriate NetBackup Client software path:</li> </ol> <p><b>Note:</b> 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)</p> <pre>\$ cd /usr/opensv/NetBackup/client/Linux/7.5</pre> <ol style="list-style-type: none"> <li>Execute the sftp_to client NetBackup utility using the application IP address and application NetBackup user:</li> </ol> <pre>\$ ./sftp_to_client &lt;application IP&gt; NetBackup Connecting to 192.168.176.31 NetBackup@192.168.176.31's password:</pre> <ol style="list-style-type: none"> <li>Enter application server NetBackup user password; the following NetBackup software output is expected, observe the sftp completed successfully:</li> </ol> <pre>File "/usr/opensv/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/opensv/NB-Java.tar.Z" not found. ./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected</pre>



Step#	Procedure	Description
		<pre data-bbox="513 243 1409 548">./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected ./sftp_to_client: line 793: [: : integer expression expected sftp completed successfully.</pre> <p data-bbox="500 562 1390 590">5. The user on 192.168.176.31 must now execute the following command:</p> <pre data-bbox="513 611 1273 653">\$ sh /tmp/bp.6211/client_config [-L].</pre> <p data-bbox="500 674 1414 762"><b>Note:</b> Although the command executed above instructs you to execute the client_config command, <b>DO NOT</b> execute that command as it shall be executed by platcfg in the next step.</p> <p data-bbox="500 783 1406 842"><b>Note:</b> The optional argument, -L is used to avoid modification of the client's current bp.conf file.</p>
<p data-bbox="224 867 253 926">7. <input type="checkbox"/></p>	<p data-bbox="305 867 451 1104"><b>Application Server iLO:</b> Install NetBackup client software on application server</p>	<p data-bbox="500 867 821 894">1. Execute the command:</p> <pre data-bbox="513 915 1390 957">\$ sudo chmod 555 /var/TKLC/home/rssh/tmp/client_config</pre> <p data-bbox="500 968 1382 1056"><b>NETBACKUP_BIN</b> is the temporary directory where the NetBackup client install programs were copied in step 5. The directory should look similar to <b>/tmp/bp.XXXX/</b>.</p> <p data-bbox="500 1066 1349 1094">2. Navigate to <b>NetBackup Configuration &gt; Install NetBackup Client</b>.</p>  <p data-bbox="500 1409 1382 1436">3. Verify list entries indicate <b>OK</b> for NetBackup client software installation.</p> <p data-bbox="500 1457 1179 1484">4. Click <b>Exit</b> to return to NetBackup Configuration menu.</p>

Step#	Procedure	Description
<p>8.</p> <p><input type="checkbox"/></p>	<p><b>Application Server iLO:</b> Verify NetBackup client software installation on the application server</p>	<p>1. Navigate to <b>NetBackup Configuration &gt; Verify NetBackup Client Installation.</b></p>  <p>2. Verify list entries indicate <b>OK</b> for NetBackup Client software installation.</p> <p>3. Click <b>Exit</b> to return to NetBackup Configuration menu.</p>
<p>9.</p> <p><input type="checkbox"/></p>	<p><b>Application Server iLO:</b> Disable NetBackup client software transfer to the application server</p>	<p>1. Navigate to <b>NetBackup Configuration &gt; Remove File Transfer User.</b></p>  <p>2. Click <b>Yes</b> to remove the NetBackup file transfer user from the application server.</p>
<p>10.</p> <p><input type="checkbox"/></p>	<p><b>Application Server iLO:</b> Exit platform configuration utility (platcfg)</p>	<p><b>Exit</b> platform configuration utility (platcfg).</p>
<p>11.</p> <p><input type="checkbox"/></p>	<p><b>Application Server iLO:</b> Verify server bp.conf file</p>	<p>Verify the server has been added to the <b>/usr/openv/NetBackup/bp.conf</b> file. Issue the following command:</p> <pre data-bbox="505 1770 1419 1885">\$ sudo cat /usr/openv/NetBackup/bp.conf CLIENT_NAME = 10.240.34.10 SERVER = NB71server</pre>

Step#	Procedure	Description
12. <input type="checkbox"/>	<p><b>Application Server iLO:</b> Use platform configuration utility (platcfg) to modify hosts file with NetBackup server alias</p>	<p><b>Note:</b> After the successful transfer and installation of the NetBackup client software the NetBackup servers hostname can be found in the NetBackup <code>/usr/opensv/NetBackup/bp.conf</code> file, identified by the <b>Server</b> configuration parameter.</p> <ol style="list-style-type: none"> <li>The NetBackup server hostname and IP address must be added to the application server's host's file. List NetBackup servers hostname:           <div data-bbox="500 470 1187 594" style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>\$ sudo cat /usr/opensv/NetBackup/bp.conf SERVER = nb70server CLIENT_NAME = pmacDev8</pre> </div> </li> <li>Use platform configuration utility (platcfg) to update application hosts file with NetBackup Server alias.           <div data-bbox="500 678 1187 726" style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>\$ sudo su - platcfg</pre> </div> </li> <li>Navigate to Network Configuration &gt; Modify Hosts File.</li> <li>Click <b>Edit</b>.           <div data-bbox="500 831 1284 1146" style="border: 1px solid gray; padding: 5px; margin: 5px 0;">  </div> </li> <li>Click <b>Add Host</b> and enter the appropriate data.           <div data-bbox="500 1203 815 1461" style="border: 1px solid gray; padding: 5px; margin: 5px 0;">  </div> </li> <li>Click <b>OK</b>.           <div data-bbox="500 1514 919 1759" style="border: 1px solid gray; padding: 5px; margin: 5px 0;">  </div> </li> <li>Confirm the host alias added and exit Platform Configuration Utility.</li> </ol>

Step#	Procedure	Description
13. <input type="checkbox"/>	<b>Application server iLO:</b> Create links to NetBackup client notify scripts on application server where NetBackup expects to find them.	Copy the notify scripts from appropriate path on application server for given application: <pre>\$ sudo ln -s &lt;path&gt;/bpstart_notify /usr/opensv/NetBackup/bin/bpstart_notify \$ sudo ln -s &lt;path&gt;/bpend_notify /usr/opensv/NetBackup/bin/bpend_notify An example of &lt;path&gt; is "/usr/TKLC/appworks/sbin"</pre>

## 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
<p>This procedure installs NetBackup with NBAutoInstall.</p> <p><b>Prerequisites:</b></p> <ul style="list-style-type: none"> <li>• Application server platform installation has been completed.</li> <li>• Site survey has been performed to determine the network requirements for the application server, and interfaces have been configured.</li> <li>• NetBackup server is available to copy, sftp, the appropriate NetBackup Client software to the application server.</li> </ul> <p><b>Note:</b> If the customer does not have a way to push and install NetBackup Client, then use NetBackup Client Install/Upgrade with platcfg.</p> <p><b>Note:</b> It is required that this procedure is executed before the customer does the NetBackup Client install.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>Application Server iLO:</b> Login	<ol style="list-style-type: none"> <li>1. Login and launch the integrated remote console.</li> <li>2. ssh to the application server (PMAC or NOAM) as admusr using the management network for the PMAC or XMI network for the NOAM.</li> </ol>
2. <input type="checkbox"/>	<b>Application Server iLO:</b> Enable nbAutoInstall	Execute the following command: <pre>\$ sudo /usr/TKLC/plat/bin/nbAutoInstall --enable</pre>

Step#	Procedure	Description
3. <input type="checkbox"/>	<b>Application Server iLO:</b> Create links to NetBackup client notify scripts on application server where NetBackup expects to find them	Execute the following commands: <pre data-bbox="496 289 1409 527"> \$ sudo mkdir -p /usr/opensv/NetBackup/bin/ \$ sudo ln -s &lt;path&gt;/bpstart_notify /usr/opensv/NetBackup/bin/bpstart_notify \$ sudo ln -s &lt;path&gt;/bpend_notify /usr/opensv/NetBackup/bin/bpend_notify </pre> <p><b>Note:</b> An example of &lt;path&gt; is “/usr/TKLC/plat/sbin”</p>
4. <input type="checkbox"/>	<b>Application Server iLO:</b> Verify NetBackup configuration file	<ol style="list-style-type: none"> <li data-bbox="496 600 1409 667">1. Open <b>/usr/opensv/NetBackup/bp.conf</b> and make sure it points to the NetBackup Server using the following command:           <pre data-bbox="496 678 1409 835"> \$ sudo vi /usr/opensv/NetBackup/bp.conf SERVER = nb75server CLIENT_NAME = 10.240.10.185 CONNECT_OPTIONS = localhost 1 0 2 </pre> <p><b>Note:</b> 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.</p> </li> <li data-bbox="496 961 1409 1024">2. Edit <b>/etc/hosts</b> using the following command and add the NetBackup server:           <pre data-bbox="496 1045 1187 1125"> \$ sudo vi /etc/hosts e.g.: 192.168.176.45 nb75server </pre> <p><b>Note:</b> The server periodically checks to see if a new version of NetBackup Client has been installed and performs necessary TPD configuration accordingly.</p> </li> <li data-bbox="496 1255 1409 1310">3. At any time, the customer may push and install a new version of NetBackup client.</li> </ol>

## Appendix H.3 Create NetBackup Client Configuration File

### Procedure 53. Create NetBackup Client Configuration File

Step#	Procedure	Description
<p>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.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>Application Server iLO:</b> Create NetBackup configuration file	<p>Create the NetBackup Client config file on the server using the contents that were previously determined. The config file should be placed in the <b>/usr/TKLC/plat/etc/NetBackup/profiles</b> directory and should follow the following naming conventions:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"><code>NB\$ver.conf</code></div> <p>Where <b>\$ver</b> is the client version number with the periods removed. For the 7.5 client, the value of <b>\$ver</b> would be 75 and the full path to the file would be:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"><code>/usr/TKLC/plat/etc/NetBackup/profiles/NB75.conf</code></div> <p><b>Note:</b> The config files must start with <b>NB</b> and must have a suffix of <b>.conf</b>.</p> <p>The server is now capable of installing the corresponding NetBackup Client.</p>
2. <input type="checkbox"/>	<b>Application Server iLO:</b> Create NetBackup configuration script	<p>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 <b>/usr/TKLC/plat/etc/NetBackup/scripts</b> directory. The name of the NetBackup Client config script file should be determined from the contents of the NetBackup Client config file.</p> <p>As an example for the NetBackup 7.5 client, the following is applicable:</p> <p>NetBackup Client config:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"><code>/usr/TKLC/plat/etc/NetBackup/profiles/NB75.conf</code></div> <p>NetBackup Client config script:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"><code>/usr/TKLC/plat/etc/NetBackup/scripts/NB75</code></div>

## Appendix H.4 Open Ports for NetBackup Client Software

### Procedure 54. Open Ports for NetBackup Client Software

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

5. <input type="checkbox"/>	<b>Standby SOAM:</b> Open ports for NetBackup client software	<b>Repeat</b> steps 1-2 for the standby SOAM to open ports for NetBackup client software.
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## 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.
Type	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 Mediation,tpd Application,tpd	IPM server
iDIH Mediation ISO	Mgmtsrvrtvoe,configExt	Transfer file
iDIH Oracle ISO iDIH Mediation ISO iDIH Application ISO	Oracle,ora Mediation,med Application,app	Upgrade server

**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:

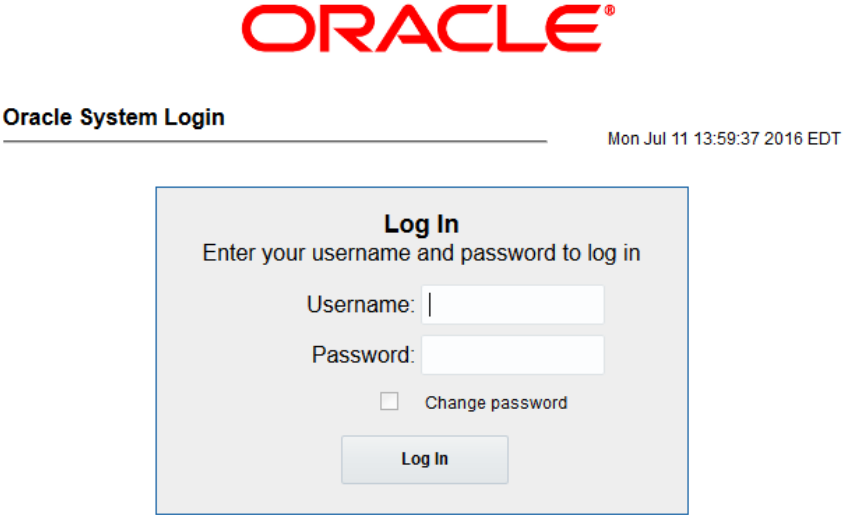
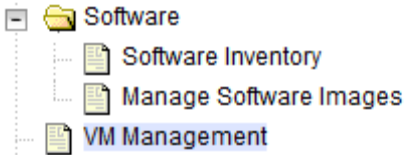
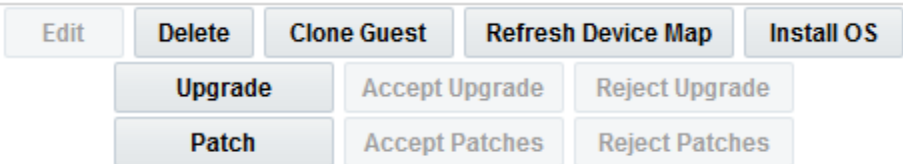
```
# Software Images
TvoeIso="TVOE-3.0.1.0.0_86.20.0-x86_64"
TpdIso="TPD.install-7.5.0.0.0_88.41.0-OracleLinux6.9-x86_64"
OraIso="oracleGuest-8.2.0.0.0_82.23.0-x86_64"
MedIso="mediation-8.2.0.0.0_82.23.0-x86_64"
AppIso="apps-8.2.1.0.0_82.23.0-x86_64"
# Tvoe Blade OA IP and Bay uncomment if this server is blade #EncId="1401"
#Oa1="10.250.51.197"
#Oa2="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"
```

```
# 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"
# Oracle Guest Config
OraName="thunderbolt-ora"
OraIp="10.250.51.6"
OraMask=$Mask
OraGw=$Gateway
OraIp6="2607:f0d0:1002:51::5/64"
OraIp6Gw="$TvoeIp6Gw"
# Mediation Guest Config
MedName="thunderbolt-med"
MedIp="10.250.51.10"
MedMask=$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"
# Application Guest Config
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
<p>This procedure destroys all of the data in the Oracle database.</p> <p>Warning: Do not perform this procedure on an IDIH system unless you intent to do a fresh TVOE installation.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>1. Open web browser and enter:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;PMAC_Mgmt_Network_IP&gt;">https://&lt;PMAC_Mgmt_Network_IP&gt;</a></p> </div> <p>2. Login as <b>guiadmin</b> user:</p>  <p>The screenshot shows the Oracle System Login interface. At the top is the Oracle logo. Below it, the text 'Oracle System Login' is on the left and 'Mon Jul 11 13:59:37 2016 EDT' is on the right. A central box titled 'Log In' contains the instruction 'Enter your username and password to log in'. There are input fields for 'Username:' and 'Password:'. Below these is a checkbox labeled 'Change password' and a 'Log In' button.</p>
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Delete VMs, if needed</p>	<p>Before a re-installation can be performed, the IDIH VMs must be removed first.</p> <p>1. Navigate to <b>VM Management</b>.</p>  <p>The screenshot shows a navigation tree with 'Software' expanded to show 'Software Inventory', 'Manage Software Images', and 'VM Management'. 'VM Management' is highlighted with a blue background.</p> <p>2. Select each of the IDIH VMs and click <b>Delete</b>.</p>  <p>The screenshot shows a set of action buttons for a selected VM. The buttons are: Edit, Delete, Clone Guest, Refresh Device Map, Install OS, Upgrade, Accept Upgrade, Reject Upgrade, Patch, Accept Patches, and Reject Patches.</p>

Step#	Procedure	Description
3. <input type="checkbox"/>	<b>IDIH</b> <b>TVOE</b> Host: Login	Establish an ssh session to the TVOE host and login as admusr.
4. <input type="checkbox"/>	<b>IDIH</b> <b>TVOE</b> <b>Host:</b> Verify external drive exists for <b>HP BL460</b> <b>Blade</b>	Execute the following command to verify the external drive exists for <b>HP BL460 Blade</b> : <pre>\$ sudo hpssacli ctrl slot=3 ld all show</pre> The following information displays: <pre>Smart Array P410i in Slot 3 array A logicaldrive 1 (3.3 TB, RAID 1+0, OK)</pre>
5. <input type="checkbox"/>	<b>IDIH</b> <b>TVOE</b> <b>Host:</b> Verify external drive exists for <b>HP DL380</b> <b>Gen8</b> <b>RMS</b>	Execute the following command to verify the external drive exists for <b>HP DL380 Gen8 RMS</b> : <pre>\$ sudo hpssacli ctrl slot=2 ld all show</pre> The following information displays: <pre>Smart Array P420 in Slot 2 array A logicaldrive 1 (1.1 TB, RAID 1+0, OK)</pre>
6. <input type="checkbox"/>	<b>IDIH</b> <b>TVOE</b> <b>Host:</b> Verify external drive exists for <b>Netra X3</b>	Execute the following command to verify the external drive exists for <b>Netra X3</b> : <pre>\$ sudo storcli -ldinfo -l1 -a0   head</pre> The following information displays: <pre>Adapter 0 -- Virtual Drive Information: Virtual Drive: 1 (Target Id: 1) Name: RAID Level: Primary-1, Secondary-0, RAID Level Qualifier-0 Size: 1.633 TB Mirror Data: 1.633 TB State: Optimal Strip Size: 64 KB</pre>
7. <input type="checkbox"/>	<b>IDIH</b> <b>TVOE</b> <b>Host:</b> Verify external drive exists for <b>HP DL380</b> <b>Gen9</b> <b>RMS</b>	Execute the following command to verify the external drive exists for <b>HP DL380 Gen9 RMS</b> : <pre>\$ sudo hpssacli ctrl slot=0 ld all show</pre> The following information displays: <pre>Smart Array P440ar in Slot 0 (Embedded) array A logicaldrive 1 (838.3 GB, RAID 1, OK) array B logicaldrive 2 (838.3 GB, RAID 1, OK) array C logicaldrive 3 (838.3 GB, RAID 1, OK)</pre>

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

Step#	Procedure	Description
11. <input type="checkbox"/>	<b>IDIH TVOE HOST:</b> Remove the external drive and volume group for Netra X3 with three external disks	<p>Execute the following command to remove the external drive and volume group for <b>Netra X3 with three external disks</b>:</p> <pre>\$ sudo vgs VG          #PV #LV #SN Attr   VSize   VFree external1  1  1  0 wz--n- 557.86g 24.86g external2  1  1  0 wz--n- 557.86g 24.86g external3  1  1  0 wz--n- 557.86g 24.86g vgguests   1  6  0 wz--n- 538.56g 138.56g vgroot     1  6  0 wz--n-  19.00g  4.25g</pre> <pre>\$ sudo /usr/TKLC/plat/sbin/storageClean pool \ --poolName=external3 --level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ --poolName=external2 --level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ --poolName=external1 --level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ --vgName=external3 --level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ --vgName=external2 --level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ --vgName=external1 --level=scrub [root@hellcat ~]# sudo storcli -c fglldel -l3 -a0 [root@hellcat ~]# sudo storcli -c fglldel -l2 -a0 [root@hellcat ~]# sudo storcli -c fglldel -l1 -a0</pre>
12. <input type="checkbox"/>	<b>IDIH TVOE HOST:</b> Remove the External Drive and Volume Group for <b>HP DL380 Gen9 RMS</b>	<p>Execute the following command to remove the external drive and volume group for <b>HP DL380 Gen9 RMS</b>:</p> <pre>\$ sudo /usr/TKLC/plat/sbin/storageClean pool -- \ poolName=external2 --level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean pool -- \ poolName=external1 --level=pv \$ sudo /usr/TKLC/plat/sbin/storageClean lvm -- \ vgName=external2 --level=scrub \$ sudo /usr/TKLC/plat/sbin/storageClean lvm -- \ vgName=external1 --level=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 Deployment Only)	This value will be the blade number of the first NOAM server.  <b>Note:</b> ‘F’ MUST append the bay number (example: 8F)	_____
Bay number of the Second NOAM TVOE Host (NOAM Blade Deployment Only)	This value will be the blade number of the second NOAM server.  <b>Note:</b> ‘F’ MUST append the bay number (example: 16F).	_____
iLO/iLOM IP address of the First Rack Mount Server (NOAM Rack Mount Server Deployments Only)	This value will be the iLO/iLOM IP address of the First rack mount server.  <b>Note:</b> 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 Rack Mount Server Deployments Only)	This value will be the iLO/iLOM username of the first rack mount server.  <b>Note:</b> 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. <b>Note:</b> 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 <b>VM Management</b> on the PMAC).	_____
PMAC VM Name of the Second NOAM	This value will be the VM name (visible from <b>VM Management</b> 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. <b>Note:</b> this value will be used to access the NOAM GUI for configuration.	_____
Customer Provided NTP Server #1 Customer Provided NTP Server #2 Customer Provided NTP Server #3	Customer provided NTP source. Refer to Figure 2 of [1].	NTP Server #1: _____ NTP Server #2: _____ 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 Deployments Only)	This value will be the Management bond interface. Example: bond0.2  <b>Note:</b> 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 Deployments Only)	This value will be the Management VLAN ID. Example: 2.  <b>Note:</b> 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:

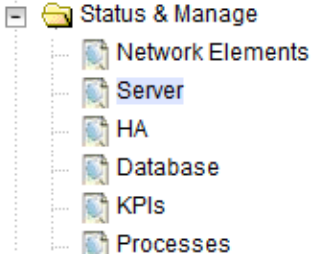
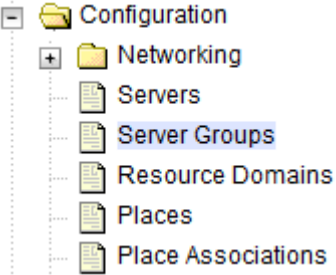
Step	Procedure(s)
Perform backups	Procedure 56. Perform Backups
Perform system health check	Procedure 57. Perform Health Check
Identify servers which are affected by the growth: <ul style="list-style-type: none"> <li>• DR-NOAM</li> <li>• SOAM Spares</li> <li>• MP (SBR, IPFE)</li> </ul>	
Add new servers 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

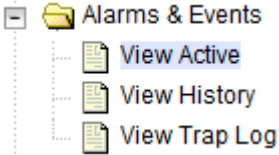


#### Procedure 56. Perform Backups

Step#	Procedure	Description
<p>This procedure backs up all necessary items before a growth scenario.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Backup TVOE	Back up all TVOE host configurations by executing Procedure 41. Back Up TVOE Configuration.
2. <input type="checkbox"/>	Backup PMAC	Backup the PMAC application by executing Procedure 42. Back Up PMAC Application.
3. <input type="checkbox"/>	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#	Procedure	Description
<p>This procedure verifies system status and log all alarms.                      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.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>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:</p> <div data-bbox="488 520 1341 562" style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div data-bbox="516 646 1360 1423" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> </div>

Step#	Procedure	Description																									
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Verify server status</p>	<p>1. Navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Verify all Server Status is Normal (Norm) for:  Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="488 646 1422 800"> <thead> <tr> <th>AppI State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>Enabled</td> <td><u>Norm</u></td> <td>Norm</td> <td>Norm</td> <td><u>Norm</u></td> </tr> <tr> <td>Enabled</td> <td><u>Norm</u></td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td><u>Norm</u></td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td><u>Norm</u></td> </tr> </tbody> </table> <p>Do not proceed 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.</p> <p>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.</p>	AppI State	Alm	DB	Reporting Status	Proc	Enabled	<u>Norm</u>	Norm	Norm	<u>Norm</u>	Enabled	<u>Norm</u>	Norm	Norm	Norm	Enabled	Norm	<u>Norm</u>	Norm	Norm	Enabled	Norm	Norm	Norm	<u>Norm</u>
AppI State	Alm	DB	Reporting Status	Proc																							
Enabled	<u>Norm</u>	Norm	Norm	<u>Norm</u>																							
Enabled	<u>Norm</u>	Norm	Norm	Norm																							
Enabled	Norm	<u>Norm</u>	Norm	Norm																							
Enabled	Norm	Norm	Norm	<u>Norm</u>																							
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Verify server configuration</p>	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Verify the configuration data is correct for your network.</p>																									

Step#	Procedure	Description
4. <input type="checkbox"/>	<b>NOAM VIP</b> GUI: Log current alarms	<p>1. Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p>  <p>2. Click <b>Report</b>.</p>  <p>3. <b>Save</b> or <b>Print</b> this report, keep copies for future reference.</p> 
5. <input type="checkbox"/>	<b>SOAM VIP</b> GUI: Repeat for SOAM	<b>Repeat</b> steps 1-4 for the SOAM.

**Procedure 58. Add a New Server/VMs**

Step#	Procedure	Description
<p>This procedure adds a new rack mount server.</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Add/Configure additional servers	<p>Follow the sections below to install and configure additional servers:</p> <p><b>DR-NOAMs:</b> Section 4.2.1 Execute DSR Fast Deployment for DR-NOAMs</p> <p><b>Spare SOAMs:</b> Procedure 11. Configure SOAM TVOE Server Blades</p> <p><b>MPs:</b> Insert blade in desired location.</p>
2. <input type="checkbox"/>	Add/Configure new VMs	<p>1. Create new virtual Machines for the Spare SOAMs by following Procedure 12. Create SOAM Guest VMs.</p> <p>2. Install TPD and DSR Software by following Procedure 13. IPM Blades and VMs.</p>

**Procedure 59. Growth: DR-NOAM**

Step#	Procedure	Description
<p>This procedure configures a DR-NOAM on the new virtual machine for VM growth scenarios.</p> <p>Prerequisites:</p> <ul style="list-style-type: none"> <li>NEW Virtual Machine Created</li> <li>TPD/DSR software installed</li> </ul> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Configure the DR-NOAM	Configure the DR-NOAM by executing the steps referenced in the following procedures: <b>DSR DR-NOAM:</b> Section 4.2.2 Pair DR-NOAMs (Section 4.2.3 Install NetBackup Client (Optional).
2. <input type="checkbox"/>	<b>DR-NOAM:</b> 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)**


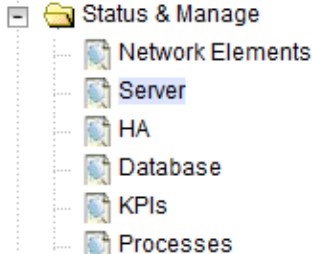
Step#	Procedure	Description
<p>This procedure configures an SOAM spare on the new virtual machine for VM growth scenarios.</p> <p>Prerequisites:</p> <ul style="list-style-type: none"> <li>NEW Virtual Machine Created</li> <li>TPD/DSR software installed</li> </ul> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Configure the SOAM spare	Configure the SOAM spare by executing the following procedures: <ul style="list-style-type: none"> <li>Procedure 15. Configure SOAM NE</li> <li>Procedure 16. Configure the SOAM Servers</li> <li>Procedure 17. Configure the SOAM Server Group (steps 1, 4, 6, and 9)</li> </ul>
2. <input type="checkbox"/>	<b>NOAM GUI:</b> 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**

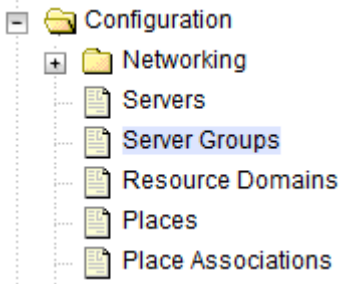
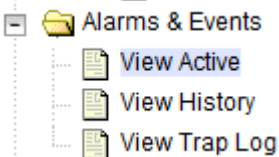

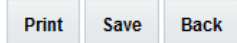
Step#	Procedure	Description
<p>This procedure configures an MP on the new virtual machine for growth scenarios.  <b>Prerequisite:</b> TPD/DSR software installed                      Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.         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

**Procedure 62. Post Growth Health Check**

Step#	Procedure	Description
<p>This procedure 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 procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		

Step#	Procedure	Description																									
<p>1.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 																									
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Verify server status</b></p>	<p>1. Navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Verify all server status is Normal (Norm) for Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="487 1659 1412 1806"> <thead> <tr> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table>	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
Appl State	Alm	DB	Reporting Status	Proc																							
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Enabled	Norm	Norm	Norm	Norm																							



Step#	Procedure	Description
3. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Verify server configuration	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Verify the configuration data is correct for your network.</p>
4. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Log current alarms	<p>1. Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p>  <p>2. Click <b>Report</b>.</p>  <p>3. <b>Save</b> or <b>Print</b> this report and keep copies for future reference.</p>  <p>4. Compare this alarm report with those gathered in Procedure 57. Perform Health Check.</p>
5. <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Repeat	<b>Repeat</b> steps 1-3 for the SOAM.

**Procedure 63. Post Growth Backups**

Step#	Procedure	Description
<p>This procedure backs up all necessary items after 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.</p>		
1. <input type="checkbox"/>	Backup TVOE	Backup all TVOE host configurations by executing Procedure 41. Back Up TVOE Configuration.
2. <input type="checkbox"/>	Backup PMAC	Backup the PMAC application by executing Procedure 42. Back Up PMAC Application.
3. <input type="checkbox"/>	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:

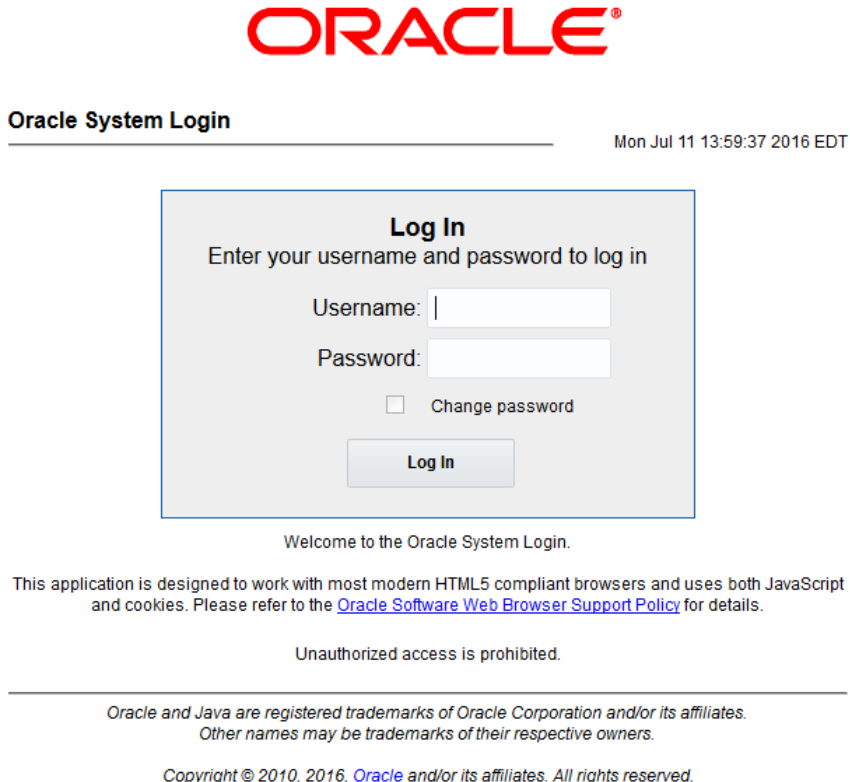
Step	Procedure(s)
Perform backups	Procedure 64. Perform Backups
Perform system health check	Procedure 65. Perform Health Check
Identify servers affected by the de-growth: DSR MP (SBR, IPFE)	
Remove identified servers from server group	Procedure 66. Remove Server from Server Group
Shutdown and remove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

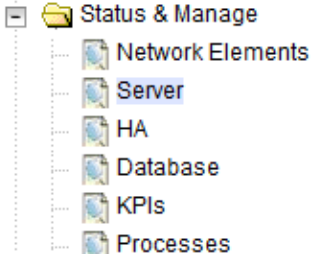
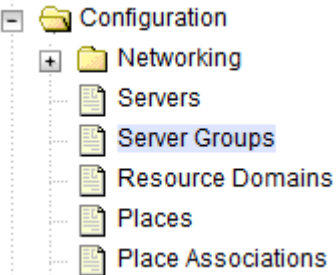
### Procedure 64. Perform Backups

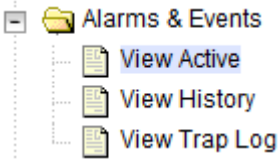
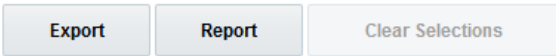

Step#	Procedure	Description
<p>This procedure backs up all necessary items before a growth scenario.            Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.            If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Backup TVOE	Backup all TVOE host configurations by executing Procedure 41. Back Up TVOE Configuration.
2. <input type="checkbox"/>	Backup PMAC	Backup the PMAC application by executing Procedure 42. Back Up PMAC Application.
3. <input type="checkbox"/>	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
<p>This procedure verifies system status and logs all alarms.            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.</p>		

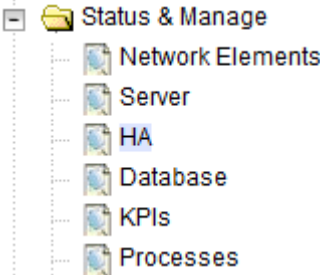
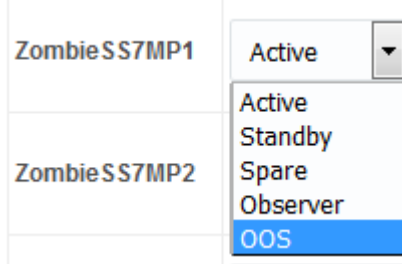
Step#	Procedure	Description
1. <input type="checkbox"/>	<b>NOAM VIP GUI: Login</b>	<p>1. Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 

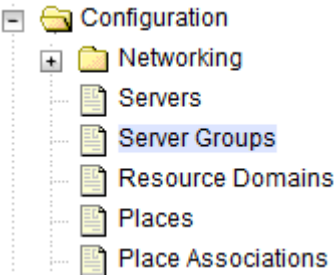

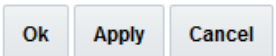
Step#	Procedure	Description																									
<p>2.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify server status</p>	<p>1. Navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Verify all server status is Normal (Norm) for Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="488 638 1422 789"> <thead> <tr> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table> <p>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.</p> <p>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</p>	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
Appl State	Alm	DB	Reporting Status	Proc																							
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Enabled	Norm	Norm	Norm	Norm																							
Enabled	Norm	Norm	Norm	Norm																							
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify server configuration</p>	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Verify the configuration data is correct for your network.</p>																									

Step#	Procedure	Description
4. <input type="checkbox"/>	<b>NOAM VIP</b> GUI: Log current alarms	1. Navigate to <b>Alarms &amp; Events &gt; View Active</b> .  2. Click <b>Report</b> .  3. Save or Print this report and keep copies for future reference. 
5. <input type="checkbox"/>	<b>SOAM VIP</b> GUI: Repeat for SOAM	<b>Repeat</b> steps 1-4 for the SOAM.

**Procedure 66. Remove Server from Server Group**


Step#	Procedure	Description
<p>Once the server's that will be deleted have been identified, the server first needs to be removed from its server group.</p> <p>The following procedure removes a server from a server group.</p> <p><b>Warning:</b> It is recommended that no more than one server from each server group be removed from a server group at a time.</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>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:</p> <div data-bbox="479 653 1333 703" style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> <div data-bbox="479 766 1356 1564" style="text-align: center;">  </div>

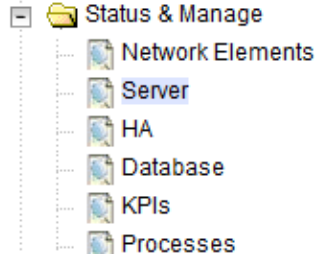
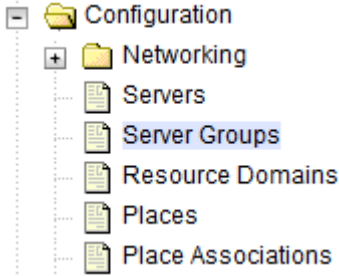
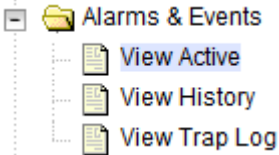


Step#	Procedure	Description
2. <input type="checkbox"/>	<b>NOAM VIP GUI: Set server to OOS</b>	<ol style="list-style-type: none"> <li>Navigate to <b>Status &amp; Manage &gt; HA</b>.   </li> <li>Click <b>Edit</b>.</li> <li>Set the server's Max Allowed HA Role to <b>OOS</b>.   </li> <li>Click <b>OK</b>.</li> </ol>

Step#	Procedure	Description																								
<p>3.</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Remove server from server group</p>	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Select the server group for which the server from step 2 that was placed OOS.</p> <p>3. Click <b>Edit</b>.</p>  <p>Uncheck the server from step 2 from the SG Inclusion column:</p> <table border="1" data-bbox="500 848 1435 1602"> <tr> <td>Server Group Name *</td> <td>ZombieSS7SG1</td> <td>Unique identifier used to label with a digit.] [A value is require</td> </tr> <tr> <td>Level *</td> <td>C</td> <td>Select one of the Levels supp</td> </tr> <tr> <td>Parent *</td> <td>ZombieSOAM</td> <td>Select an existing Server Gro</td> </tr> <tr> <td>Function *</td> <td>SS7-IWF</td> <td>Select one of the Functions st</td> </tr> <tr> <td>WAN Replication Connection Count</td> <td>1</td> <td>Specify the number of TCP co</td> </tr> <tr> <td colspan="3">ZombieSOAM <input type="checkbox"/> Prefer Network Element as spare</td> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> <tr> <td>ZombieSS7MP1</td> <td><input type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Prefer server as spare</td> </tr> </table> <p>VIP Assianment</p> <p>4. Click <b>OK</b>.</p> 	Server Group Name *	ZombieSS7SG1	Unique identifier used to label with a digit.] [A value is require	Level *	C	Select one of the Levels supp	Parent *	ZombieSOAM	Select an existing Server Gro	Function *	SS7-IWF	Select one of the Functions st	WAN Replication Connection Count	1	Specify the number of TCP co	ZombieSOAM <input type="checkbox"/> Prefer Network Element as spare			Server	SG Inclusion	Preferred HA Role	ZombieSS7MP1	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare
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Server	SG Inclusion	Preferred HA Role																								
ZombieSS7MP1	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Prefer server as spare																								



**Procedure 67. Post Growth Health Check**

Step#	Procedure	Description
<p>This procedure 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 procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>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:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>2. Login as the <b>guiadmin</b> user.</p> 

Step#	Procedure	Description																									
2. <input type="checkbox"/>	<b>NOAM VIP</b> GUI: Verify server status	<p>1. Navigate to <b>Status &amp; Manage &gt; Server</b>.</p>  <p>2. Verify all server status is Normal (Norm) for Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="483 638 1422 793"> <thead> <tr> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table>	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
Appl State	Alm	DB	Reporting Status	Proc																							
Enabled	Norm	Norm	Norm	Norm																							
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Enabled	Norm	Norm	Norm	Norm																							
Enabled	Norm	Norm	Norm	Norm																							
3. <input type="checkbox"/>	<b>NOAM VIP</b> GUI: Verify server configuration	<p>1. Navigate to <b>Configuration &gt; Server Groups</b>.</p>  <p>2. Verify the configuration data is correct for your network.</p>																									
4. <input type="checkbox"/>	<b>NOAM VIP</b> GUI: Log current alarms	<p>1. Navigate to <b>Alarms &amp; Events &gt; View Active</b>.</p>  <p>2. Click <b>Report</b>.</p>  <p>3. <b>Save</b> or <b>Print</b> this report, keep copies for future reference.</p>  <p>4. Compare this alarm report with those gathered in Procedure 57. Perform Health Check.</p>																									
5. <input type="checkbox"/>	<b>SOAM VIP</b> GUI: Repeat	<b>Repeat</b> steps 1-3 for the SOAM.																									

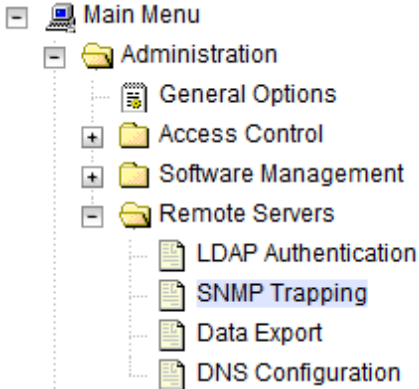
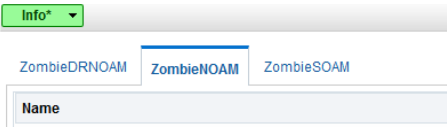


**Procedure 68. Post Growth Backups**

Step#	Procedure	Description
<p>This procedure backs up all necessary items after a growth scenario.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
1. <input type="checkbox"/>	Backup TVOE	Backup all TVOE host configurations by executing Procedure 41. Back Up TVOE Configuration.
2. <input type="checkbox"/>	Backup PMAC	Backup the PMAC application by executing Procedure 42. Back Up PMAC Application.
3. <input type="checkbox"/>	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
<p>This procedure restores SNMP configuration to SNMPv3 for forwarding of SNMP traps from each individual server.</p> <p><b>Note:</b> If SNMP is configured with SNMPv2c and SNMPv3 as enabled versions as a workaround step (section 4.5, steps 6-9) and the SNMPv3 is required to be configured..</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact My Oracle Support (MOS) and ask for assistance.</p>		
<p>1. <input type="checkbox"/></p>	<p>(Workaround) <b>Primary NOAM VIP GUI:</b> Login</p>	<p><b>Note:</b> 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.</p> <ol style="list-style-type: none"> <li>Establish a GUI session on the NOAM server by using the XMI VIP IP address. Open the web browser and enter a URL of: <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"><code>https://&lt;NOAM_XMI_VIP_IP_Address&gt;</code></div></li> <li>Login as the <b>guiadmin</b> user.</li> </ol> 

Step#	Procedure	Description
2. <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Configure system-wide SNMP Trap receiver(s)	<p>1. Navigate to <b>Administration &gt; Remote Servers &gt; SNMP Trapping</b>.</p>  <p>2. Select the Server Group tab for SNMP trap configuration. The server group that is configured for SNMPv2c &amp; SNMPv3 as a workaround:</p> <p><b>Main Menu: Administration -&gt; Remote Servers</b></p>  <p>3. Click <b>Edit</b>.</p>  <p>4. Update the Enabled Versions as <b>SNMPv3</b>:</p>  <p>5. Click <b>OK</b>.</p>

## Appendix N. My Oracle Support (MOS)

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

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

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

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

## 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.