

**Oracle® Communications**  
**Diameter Signaling Router**  
DSR Rack Mount Server Installation Guide  
Release 7.1.x/7.2/7.3  
**E64707 Revision 03**

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# 1.0 Introduction

## 1.1 Purpose and Scope

This document describes methods utilized and procedures executed to configure HP DL-380 Gen8/9 or Oracle Rack Mount Servers (RMS) to be used with Oracle Communication Diameter Signaling Router 7.1.x/7.2/7.3 (DSR 7.1.x/7.2/7.3). It is assumed that the hardware installation and network cabling were executed beforehand. 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. Throughout the remainder of this document, the term RMS refers to either HP DL-380 Gen8/9 or Oracle Rack Mount Servers.

**Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only:** In scenarios where the DSR installation has already been executed, and system **growth, de-growth, or re-shuffle** is necessary; refer to **Appendix R: Growth/De-Growth/Re-Shuffle** (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only).

**[FIPS integrity verification test failed]:** Throughout this procedure, an error message of *“FIPS integrity verification test failed”* will be displayed while performing various procedures on the command line (SSH, feature activations, etc.). This error message is harmless, and should be ignored.

## 1.2 References

Software Centric Customers do not receive firmware upgrades through Oracle. Instead, refer to the HP Solutions Firmware Upgrade Pack, Software Centric Release Notes on <https://docs.oracle.com> under Platform documentation. The latest version is recommended if an upgrade is performed, otherwise version 2.2.9 is the minimum.

- [1] HP Solutions Firmware Upgrade Pack, Software Centric Release Notes (Min 2.2.9)
- [2] HP Solutions Firmware Upgrade Pack, version 2.x.x (Min 2.2.9)
- [3] Oracle Firmware Upgrade Pack Release Notes, Version 3.x.x (Min 3.1.6)
- [4] Oracle Firmware Upgrade Pack Upgrade Guide, Version 3.x.x
- [5] Communication Agent User's Guide, E53464
- [6] DSR Communication Agent Configuration Guide, E58922
- [7] DSR Range Based Address Resolution (RBAR) Feature Activation, E58665
- [8] DSR MAP-Diameter IWF Feature Activation Procedure, E58666
- [9] DSR Meta Administration Feature Activation Procedure, E58661
- [10] DSR Full Address Based Resolution (FABR) Feature Activation, E58664
- [11] Gateway Location Application (GLA) Feature Activation, E58659
- [12] DSR 7.1/7.2/7.3 PCA Activation and Configuration, E63560
- [13] DSR IPv6 Migration Guide, E57517
- [14] DSR 7.1 Hardware and Software Installation Procedure 1/2, E53488
- [15] DSR DTLS Feature Activation Procedure, E67867
- [16] DSR VM Placement and CPU Socket Pinning Tool, E69626
- [17] DSR RADIUS Shared secret encryption key revocation MOP MO008572
- [18] TPD Initial Product Manufacture Software Installation Procedure, E53017-05

## 1.3 Acronyms

An alphabetized list of acronyms used in the document:

**Table 1. Acronyms**

<b>Acronym</b>	<b>Definition</b>
BIOS	Basic Input Output System
CD	Compact Disk
DSR	Diameter Signaling Router
DVD	Digital Versatile Disc
EBIPA	Enclosure Bay IP Addressing
FRU	Field Replaceable Unit
iLO	Integrated Lights Out manager
IPM	Initial Product Manufacture – the process of installing TPD on a hardware platform
MSA	Modular Smart Array
NB	NetBackup
OA	HP Onboard Administrator
OS	Operating System (e.g. TPD)
RMS	Rack Mounted Server
PMAC	Platform Management & Configuration
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
PCA	Policy and Charging Application
IDIH	Integrated Diameter Intelligence Hub
PCA	Policy and Charging Application
SDS	Subscriber Database Server



## 1.4 Terminology

Multiple server types may be involved with the procedures in this manual. Therefore, most steps in the written procedures begin with the name or type of server to which the step applies. For example:

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

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

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

<p>5 <input type="checkbox"/> <b>ServerX:</b> Connect to the console of the server</p>	<p>Establish a connection to the server using cu on the terminal server/console.</p> <pre><b>\$ cu -l /dev/ttyS7</b></pre>
--	--

**Figure 1. Example of an instruction that indicates the server to which it applies**

<b>Management Server</b>	HP ProLiant DL380 or Oracle X5-2/ Netra X5-2 deployed to run TVOE and host a virtualized PMAC application.
<b>PMAC Application</b>	PMAC is an application that provides platform-level management functionality for HP DL380, and Oracle X5-2/Netra X5-2 system, such as the capability to manage and provision platform components of the system so it can host applications.
<b>Site</b>	<p>Applicable for various applications, a Site is type of "Place". A Place is configured object that allows servers to be associated with a physical location.</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>

<p style="text-align: center;"><b>Place Association</b></p>	<p>Applicable for various applications, a “Place Association” is a configured object that allows Places to be grouped together. A Place can be a member of more than one Place Association.</p> <p>The Policy &amp; Charging DRA application defines two Place Association Types: Policy Binding Region and Policy &amp; Charging Mated Sites.</p>
<p style="text-align: center;"><b>Two Site Redundancy</b></p>	<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 &amp; 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 will ensure that there is always a functioning Active server in a Server Group even if all the servers in a single site fail.</p>
<p style="text-align: center;"><b>Policy &amp; Charging SBR Server Group Redundancy</b></p>	<p>The Policy and Charging application will use SBR Server Groups to store the application data. The SBR Server Groups will support both Two and Three Site Redundancy. The Server Group Function name is “Policy &amp; Charging SBR”.</p>
<p style="text-align: center;"><b>Server Group Primary Site</b></p>	<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 &amp; Charging DRA application, these Sites (Places) are all configured within a single “Policy and Charging Mated Sites” 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 will have a Primary Site.</p>

<p style="text-align: center;"><b>Server Group Secondary Site</b></p>	<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 &amp; Charging DRA application, these Sites (Places) are all configured within a single “Policy and Charging Mated Sites” 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>
<p style="text-align: center;"><b>Software Centric</b></p>	<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>
<p style="text-align: center;"><b>Enablement</b></p>	<p>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.</p>

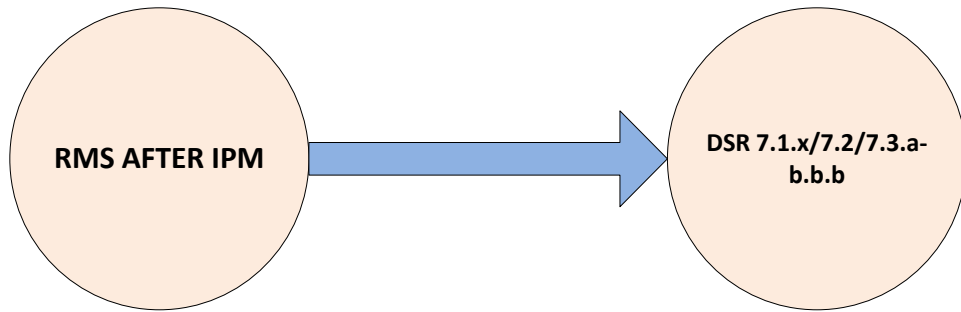
**Table 2. Terminology**

## 2.0 General Description

This document defines the steps to execute the initial installation of the Diameter Signaling Router 7.1.x/7.2/7.3 (DSR 7.1.x/7.2/7.3) application.

DSR 7.1.x/7.2/7.3 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.

This document covers initial installation of the DSR 7.1.x, 7.2 and 7.3 application on a Rack mount server system.



**Figure 2. Initial Application Installation Path-Example Shown**

## 2.1 Acquiring Firmware

Several procedures in this document pertain to the upgrading of firmware on various servers and hardware devices.

DSR 7.1.x/7.2/7.3 rack mount servers and devices requiring possible firmware updates are:

- HP Rack Mount Servers (DL380)
- Oracle Rack Mount Server
- Cisco 4948/4948E/4948E-F Rack Mount Network Switches

### 2.1.1 HP DL380

Software Centric Customers do not receive firmware upgrades through Oracle. Instead, refer to the HP Solutions Firmware Upgrade Pack, Software Centric Release Notes on <https://docs.oracle.com> under Platform documentation. The latest release is recommended if an upgrade is performed, otherwise release 2.2.9 is the minimum.

The required firmware and documentation for upgrading the firmware on HP hardware systems and related components are distributed as the HP Solutions Firmware Upgrade Pack 2.x.x. The minimum firmware release required is HP Solutions Firmware Upgrade Pack 2.2.9. However, if a firmware upgrade is needed, the current GA release of the HP Solutions Firmware Upgrade Pack 2.x.x should be used.

Each version of the HP Solutions Firmware Upgrade Pack contains multiple items including media and documentation. This document provides its own upgrade procedures for firmware.

The two pieces of required firmware media provided in the HP Solutions Firmware Upgrade Pack 2.x.x releases are:

- HP Service Pack for ProLiant (SPP) firmware ISO image

Refer to the HP Solutions Firmware Upgrade Pack Release Notes [1] of the HP FUP release to determine specific firmware versions provided.

Contact **Appendix T: My Oracle Support (MOS)** for more information on obtaining the HP Firmware Upgrade Pack.

### 2.1.2 Oracle X5-2/Netra X5-2

The Oracle Firmware Upgrade Pack (FUP) consists of documentation used to assist in the upgrading of Oracle rack mount servers. The pack consists of an upgrade guide and release notes. The current minimum supported release is 3.1.6. However, if a firmware update is required, it is recommended to use the latest available release. Firmware components can be downloaded from My Oracle Support at <https://support.oracle.com>. Refer to the appropriate FUP release notes for directions on how to acquire the firmware.

## 3.0 Install Overview

This section provides a brief overview of the recommended method for installing the Target Release software. The basic install process and approximate time required is outlined in **Section 3.2.2**.

### 3.1 Required Materials

1. One (1) target release DSR Media ISO
2. One (1) target release SDS Media ISO (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)
3. One (1) target release PMAC Media ISO
4. Three (3) target release IDIH Media ISOs
5. One (1) ISO of TPD release, or later shipping baseline as per Oracle ECO
6. One (1) ISO of TVOE release, or later shipping baseline as per Oracle ECO
7. One (1) TVOE release bootable USB, or later shipping baseline as per Oracle ECO

### 3.2 Installation Summary

This section lists the procedures required for installation with estimated times. **Section 3.2.2** contains a matrix of deployment features and the required procedures needed to install them. Section 3.2.2 lists the steps required to install a DSR system. These latter sections expand on the information from the matrix and provide a general timeline for the installation.

#### 3.2.1 Installation Matrix

**Figure 3. DSR Installation Procedure Map** illustrates the overall process that each DSR installation will involve. In summary:

- 1) An overall installation requirement is decided upon. Among the data that should be collected:
  - The Total number of Rack Mount Servers
  - The number of VMs and servers on each Rack Mount Server and their role(s)
  - Does the deployment include 4948 aggregation switches (HP DL380 Gen 8 Only)?
  - What time zone should be used across the entire collection of DSR sites?
  - Will SNMP traps be viewed at the NOAM, or will an external NMS be used? (Or both?)
  - PCI cards installed? (HP DL380 Gen 9 Only)

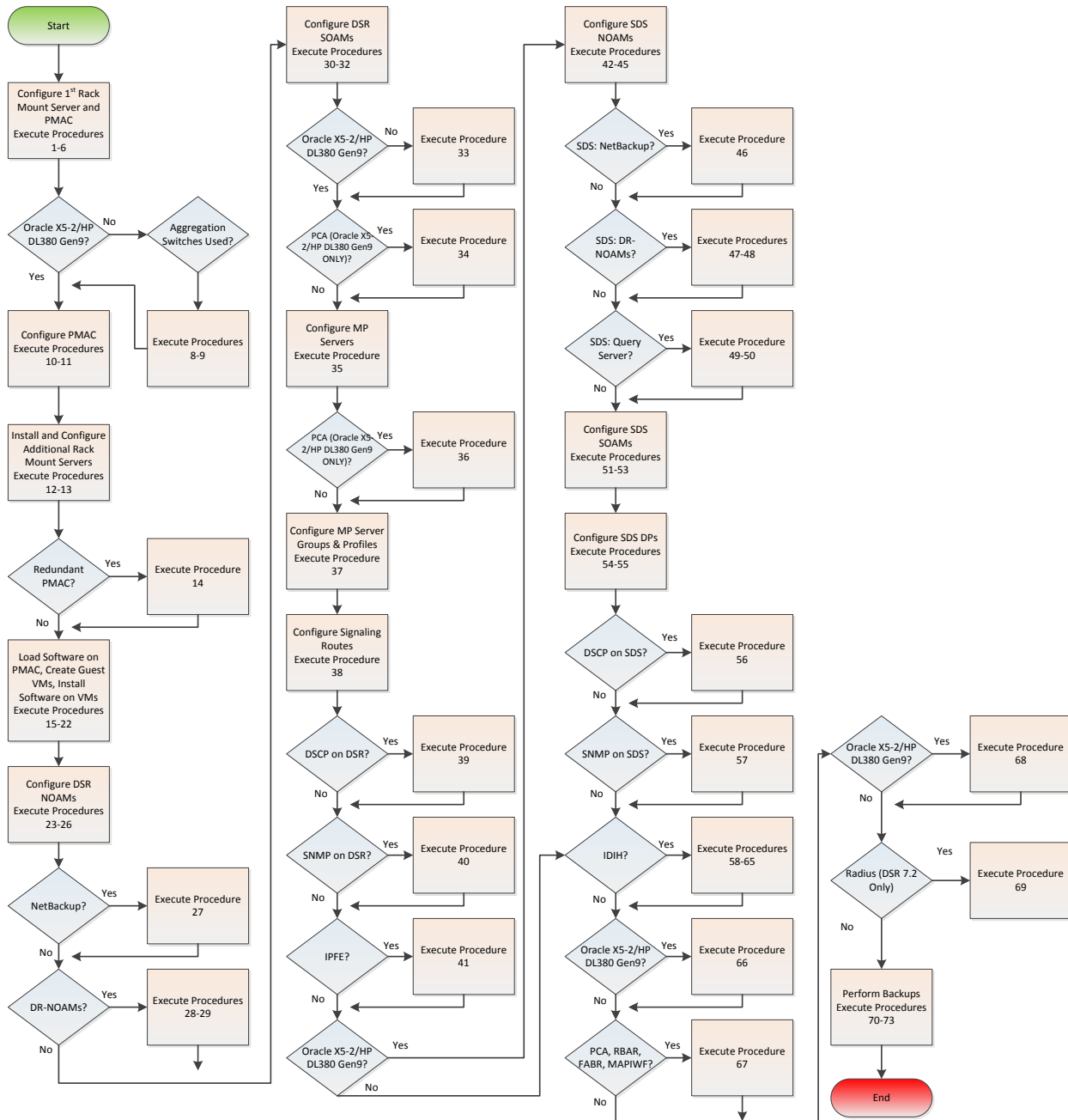


Figure 3. DSR Installation Procedure Map

### 3.2.2 Installation Procedures

The following table illustrates the progression of the installation process by procedure with estimated times. The estimated times and the phases that must be completed may vary due to differences in typing ability and system configuration. The phases outlined in are to be executed in the order they are listed.

Procedure	Elapsed Time (Minutes)	
	Step	Cum.
Procedure 1. Configure the HP/Oracle X5-2/Netra X5-2 BIOS settings	30	30
Procedure 2. Upgrade Rack Mount Server Firmware	30	60
Procedure 3. Install and Configure TVOE on First RMS (PMAC Host)	30	90
Procedure 4. Gather and Prepare Configuration files	15	105
Procedure 5. First RMS Configuration	30	135
Procedure 6. PMAC Deployment	30	165
Procedure 7. Initialize the PMAC	20	185
Procedure 8. Configure netConfig Repository (HP DL380 Servers Only)	30	215
Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)	90	305
Procedure 10. Configure the PMAC Server	20	325
Procedure 11. Add RMS to the PMAC system Inventory	30	355
Procedure 12. Install TVOE on Additional Rack Mount Servers	45	400
Procedure 13. Configure TVOE on Additional Rack Mount Servers	30	430
Procedure 14. Installing a Redundant PMAC	30	460
Procedure 15. Load DSR, SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only), and TPD ISOs to the PMAC Server	20	480
Procedure 16. Create NOAM Guest VMs	5	485
Procedure 17. Create SOAM Guest VMs	5	490
Procedure 18. Create MP/SBR/DP Guest VMs	5	495
Procedure 19. Create SDS Query Server VMs	5	500
Procedure 20. CPU Pinning (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	30	530
Procedure 21. IPM VMs	40	570
Procedure 22. Install the DSR and SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only) Application Software on the VMs	40	610
Procedure 23. Configure First NOAM NE and Server	25	635
Procedure 24. Configure the NOAM Server Group	10	645
Procedure 25. Configure the Second NOAM Server	10	655
Procedure 26. Complete NOAM Server Group Configuration	15	670
Procedure 27. Install NetBackup Client (Optional)	30	700
Procedure 28. NOAM Configuration for DR Site (Optional)	45	745
Procedure 29. Pairing for DR-NOAM Site (Optional)	10	755



Procedure	Elapsed Time (Minutes)	
	Step	Cum.
Procedure 30. Configure the SOAM NE	5	760
Procedure 31. Configure the SOAM Servers	30	790
Procedure 32. Configure the SOAM Server Group	15	805
Procedure 33. Configure RMS-Specific B-Level Resources (HP 380 Servers ONLY)	5	810
Procedure 34. Activate PCA (PCA Only)	20	830
Procedure 35. Configure the MP Servers	30	860
Procedure 36. Configure Places and Assign MP Servers to Places (PCA ONLY)	10	870
Procedure 37. Configure the MP Server Group(s) and Profile(s)	20	890
Procedure 38. Configure the Signaling Network Routes	10	900
Procedure 39. Configure DSCP Values for Outgoing Traffic (Optional)	10	910
Procedure 40. Configure SNMP Trap Receiver(s) (Optional)	10	920
Procedure 41. IP Front End (IPFE) Configuration (Optional)	20	940
Procedure 42. Configure First SDS NOAM NE and Server	30	970
Procedure 43. Configure the SDS NOAM Server Group	10	980
Procedure 44. Configure the Second SDS NOAM Server	10	990
Procedure 45. Complete SDS NOAM Server Group Configuration	20	1010
Procedure 46. Install NetBackup Client (Optional)	30	1040
Procedure 47. SDS NOAM Configuration for DR Site (Optional)	45	1085
Procedure 48. Pairing for SDS DR-NOAM Site (Optional)	20	1105
Procedure 49. Configuring SDS Query Servers	20	1125
Procedure 50. Query Server SDS NOAM Pairing	10	1135
Procedure 51. Configure the SDS DP SOAM NE	5	1140
Procedure 52. Configure the SDS DP SOAM Servers	30	1170
Procedure 53. Configure the SDS DP SOAM Server Group	20	1190
Procedure 54. Configure the SDS DP Servers	30	1220
Procedure 55. Configure the SDS DP Server Group(s) and Profile(s)	20	1240
Procedure 56. Configure DSCP Values for Outgoing Traffic (Optional)	10	1250
Procedure 57. Configure SNMP Trap Receiver(s) (Optional)	10	1260
Procedure 58. IDIH Installation (Optional)	60	1320
Procedure 59. Configure DSR Reference Data Synchronization for IDIH (Optional)	20	1340
Procedure 60. IDIH Configuration: Configuring the SSO Domain (Optional)	10	1350
Procedure 61. IDIH Configuration: Configure IDIH in the DSR (Optional)	20	1370
Procedure 62. IDIH Configuration: Configure Mail Server-Optional (Optional)	10	1380

Procedure	Elapsed Time (Minutes)	
	Step	Cum.
Procedure 63. IDIH Configuration: Configure SNMP Management Server-Optional (Optional)	10	1390
Procedure 64. IDIH Configuration: Change Network Interface-Optional (Optional)	15	1405
Procedure 65. IDIH Configuration: Backup the upgrade and Disaster Recovery FDC File-Optional (Optional)	10	1415
Procedure 66. Optimization Procedure (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	10	1425
Procedure 67. Activate Optional Features	30	1455
Procedure 68. Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	30	1485
Procedure 69: Shared secret encryption key revocation (RADIUS Only)	10	1495
Procedure 70. Backup TVOE Configuration	20	1515
Procedure 71. Backup PMAC Application	20	1535
Procedure 72. NOAM Database Backup	10	1545
Procedure 73. SOAM Database Backup	10	1555

### 3.3 Optional Features

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

Feature	Document
Diameter Mediation	DSR Meta Administration Feature Activation, E58661
Range Based Address Resolution (RBAR)	DSR RBAR Feature Activation, E58665
MAP-Diameter IWF Feature	MAP-Diameter IWF Feature Activation, E58666
Policy and Charging Application (PCA) – (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 ONLY)	DSR 7.1/7.2/7.3 PCA Activation and Configuration, E63560
Full Address Based Resolution (FABR) – (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 ONLY)	DSR FABR Feature Activation Procedure, E58664

### 3.4 Rack Mount Server Network Interface Reference

Throughout the installation procedure, configuration steps will reference Ethernet interfaces. Depending on the hardware type, these Ethernet interfaces can vary. The following table describes the Ethernet Interface to <Ethernet\_interface\_x> variables:

**Note:** For HP DL380 Gen 9 servers, two 2pt 10 Gigabit PCI cards are required while running the segregated signaling network topology (otherwise one 2pt 10 Gigabit PCI card is required).

Network Interface	HP DL380 (with 4pt Gigabit in PCI Slot 1) (Gen 8)	HP DL380 (with 2pt 10 Gigabit in PCI Slots 1 and 3) (Gen 9)	Oracle X5-2/Netra X5-2 (without 10GigE card)
<ethernet_interface_1>	eth01	eth11	eth01
<ethernet_interface_2>	eth02	eth12	eth03
<ethernet_interface_3>	eth11	eth31	eth02
<ethernet_interface_4>	eth12	eth32	eth04

## 4.0 Software Installation Procedure

As mentioned earlier, the hardware installation and network cabling should be done before executing the procedures in this document.

### SUDO

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

### IPv6

IPv6 configuration of XMI and IMI networks has been introduced in DSR 7.1. 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, it is recommended that you first configure the topology with IPv4, and then "Migrate" to IPv6. Reference [12] for instructions on how to accomplish this migration.


## 4.1 Prepare Servers for IPM

This section explains the steps needed to configure the BIOS settings and update the firmware (if needed) for the HP and Oracle rack mount servers.

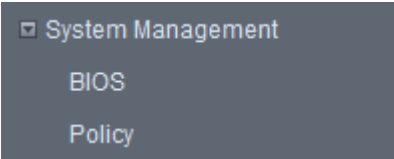
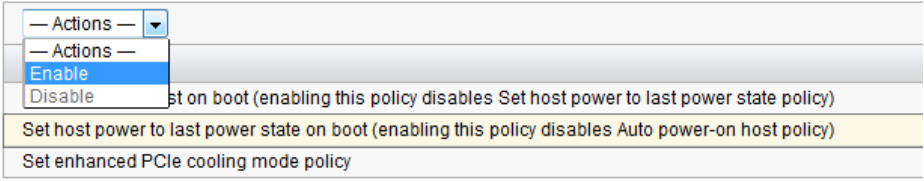
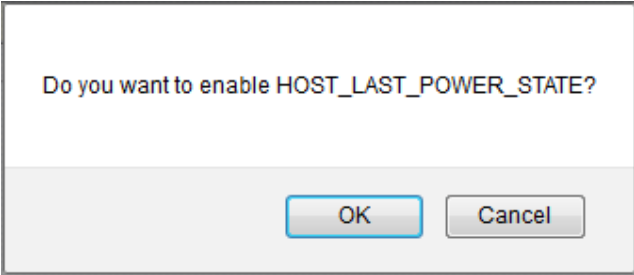
### 4.1.1 Configure the HP/Oracle X5-2/Netra X5-2 BIOS Settings

The following procedure explains the steps needed to configure the BIOS settings.

**Procedure 1. Configure the HP/Oracle X5-2/Netra X5-2 BIOS settings**

<p><b>S T E P #</b></p>	<p>This procedure explains the steps needed to configure HP DL380 and Oracle Server BIOS Settings.</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>RMS Server:</b> Configure the BIOS Settings</p>	<p>Follow the appropriate Appendix procedure for the corresponding hardware type:</p> <ul style="list-style-type: none"> <li>• HP DL 380 Gen 8 RMS: <b>Appendix A.2.1: Configure HP Gen 8 Servers</b></li> <li>• HP DL 380 Gen 9 RMS: <b>Appendix A.2.2: Configure HP Gen 9 Servers</b></li> <li>• Oracle X5-2/Netra X5-2: <b>Appendix A.2.3: Configure</b></li> </ul>
<p>2 <input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2 Server:</b> Login</p>	<p style="text-align: center;"><b>Oracle X5-2/Netra X5-2 Only, HP DL380 SKIP THIS STEP</b></p> <p>Login to the Oracle X5-2/Netra X5-2 iLOM:</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p><b>Please Log In</b></p> <p>SP Hostname: DSR10307Loc37TVOE</p> <p>User Name: <input type="text"/></p> <p>Password: <input type="password"/></p> <p style="text-align: center;"><input type="button" value="Log In"/></p> </div> <div style="text-align: right; margin-top: 20px;">  </div> <p style="font-size: small; margin-top: 10px;">Copyright © 2015, Oracle and/or its affiliates. All rights reserved. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.</p>

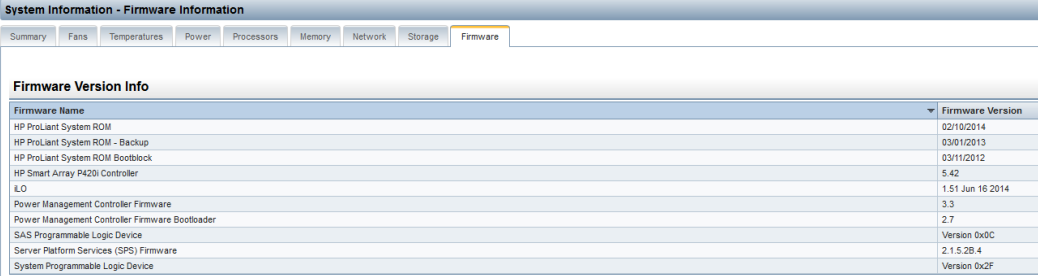
Procedure 1. Configure the HP/Oracle X5-2/Netra X5-2 BIOS settings

3 <input type="checkbox"/>	<b>Oracle X5-2/Netra X5-2 Server:</b> Update Power Settings	<p style="text-align: center;"><b>Oracle X5-2/Netra X5-2 Only, HP DL380 SKIP THIS STEP</b></p> <p>Navigate to <b>System Management -&gt; Policy</b></p>  <p>Select <i>“Set host power to last power state on boot”</i></p> <hr/> <p><b>Service Processor Policies</b></p>  <table border="1"><thead><tr><th>Actions</th><th>Description</th></tr></thead><tbody><tr><td>Enable</td><td>Set host power to last power state on boot (enabling this policy disables Set host power to last power state policy)</td></tr><tr><td>Disable</td><td>Set host power to last power state on boot (enabling this policy disables Auto power-on host policy)</td></tr><tr><td></td><td>Set enhanced PCIe cooling mode policy</td></tr></tbody></table> <p>Select <b>Enable</b> from the Actions drop down box</p> <p>Select <b>Ok</b> to confirm</p> 	Actions	Description	Enable	Set host power to last power state on boot (enabling this policy disables Set host power to last power state policy)	Disable	Set host power to last power state on boot (enabling this policy disables Auto power-on host policy)		Set enhanced PCIe cooling mode policy
Actions	Description									
Enable	Set host power to last power state on boot (enabling this policy disables Set host power to last power state policy)									
Disable	Set host power to last power state on boot (enabling this policy disables Auto power-on host policy)									
	Set enhanced PCIe cooling mode policy									

## 4.1.2 Upgrade Rack Mount Server Firmware

The following procedure explains the steps needed to upgrade the firmware of the rack mount servers (if needed).

### Procedure 2. Upgrade Rack Mount Server Firmware

<b>S T E P #</b>	<p>This procedure explains the steps needed to update the firmware if needed.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>																																															
1 <input type="checkbox"/>	<p><b>RMS Server:</b> Verify Firmware</p>	<p>Verify firmware version of the rack mount server:</p> <p><b>For Oracle X5-2/Netra X5-2:</b></p> <p>From the iLOM, login and verify firmware version under <b>System Information -&gt; Summary:</b></p> <p><b>General Information</b></p> <table border="1"> <tr><td>System Type</td><td>Rack Mount</td></tr> <tr><td>Model</td><td>SUN SERVER X4-2</td></tr> <tr><td>QPart ID</td><td>Q10540</td></tr> <tr><td>Part Number</td><td>33300320+2+1</td></tr> <tr><td>Serial Number</td><td>1507NML0TC</td></tr> <tr><td>System Identifier</td><td>-</td></tr> <tr><td><b>System Firmware Version</b></td><td>3.2.4.46</td></tr> <tr><td>Primary Operating System</td><td>Oracle Linux Server release 6.6</td></tr> <tr><td>Host Primary MAC Address</td><td>00:10:e0:70:43:54</td></tr> <tr><td>iLOM Address</td><td>10.250.50.193</td></tr> <tr><td>iLOM MAC Address</td><td>00:10:E0:70:43:58</td></tr> </table> <p><b>For HP DL380:</b></p> <p>From the iLO, login and verify firmware version under <b>Information -&gt; System Information [Firmware Tab]:</b></p>  <p><b>System Information - Firmware Information</b></p> <p>Summary   Fans   Temperatures   Power   Processors   Memory   Network   Storage   <b>Firmware</b></p> <table border="1"> <thead> <tr> <th colspan="2">Firmware Version Info</th> </tr> <tr> <th>Firmware Name</th> <th>Firmware Version</th> </tr> </thead> <tbody> <tr><td>HP ProLiant System ROM</td><td>02/10/2014</td></tr> <tr><td>HP ProLiant System ROM - Backup</td><td>03/01/2013</td></tr> <tr><td>HP ProLiant System ROM Bootblock</td><td>03/11/2012</td></tr> <tr><td>HP Smart Array P420i Controller</td><td>5.42</td></tr> <tr><td>iLO</td><td>1.51 Jun 16 2014</td></tr> <tr><td>Power Management Controller Firmware</td><td>3.3</td></tr> <tr><td>Power Management Controller Firmware Bootloader</td><td>2.7</td></tr> <tr><td>SAS Programmable Logic Device</td><td>Version 0x0C</td></tr> <tr><td>Server Platform Services (SPS) Firmware</td><td>2.1.5.2B.4</td></tr> <tr><td>System Programmable Logic Device</td><td>Version 0x2F</td></tr> </tbody> </table>	System Type	Rack Mount	Model	SUN SERVER X4-2	QPart ID	Q10540	Part Number	33300320+2+1	Serial Number	1507NML0TC	System Identifier	-	<b>System Firmware Version</b>	3.2.4.46	Primary Operating System	Oracle Linux Server release 6.6	Host Primary MAC Address	00:10:e0:70:43:54	iLOM Address	10.250.50.193	iLOM MAC Address	00:10:E0:70:43:58	Firmware Version Info		Firmware Name	Firmware Version	HP ProLiant System ROM	02/10/2014	HP ProLiant System ROM - Backup	03/01/2013	HP ProLiant System ROM Bootblock	03/11/2012	HP Smart Array P420i Controller	5.42	iLO	1.51 Jun 16 2014	Power Management Controller Firmware	3.3	Power Management Controller Firmware Bootloader	2.7	SAS Programmable Logic Device	Version 0x0C	Server Platform Services (SPS) Firmware	2.1.5.2B.4	System Programmable Logic Device	Version 0x2F
System Type	Rack Mount																																															
Model	SUN SERVER X4-2																																															
QPart ID	Q10540																																															
Part Number	33300320+2+1																																															
Serial Number	1507NML0TC																																															
System Identifier	-																																															
<b>System Firmware Version</b>	3.2.4.46																																															
Primary Operating System	Oracle Linux Server release 6.6																																															
Host Primary MAC Address	00:10:e0:70:43:54																																															
iLOM Address	10.250.50.193																																															
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Firmware Version Info																																																
Firmware Name	Firmware Version																																															
HP ProLiant System ROM	02/10/2014																																															
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Server Platform Services (SPS) Firmware	2.1.5.2B.4																																															
System Programmable Logic Device	Version 0x2F																																															
2 <input type="checkbox"/>	<p><b>RMS Server:</b> Upgrade Firmware</p>	<p>Follow the appropriate Appendix procedure for the corresponding hardware type:</p> <ul style="list-style-type: none"> <li>• HP DL 380 Gen 8/9 RMS: <b>Appendix B.1: HP DL 380 Server</b></li> <li>• Oracle Rack Mount Servers: <b>Appendix B.2:</b></li> </ul>																																														

## 4.2 Install and Configure TVOE on First RMS (PMAC Host)

This section describes the process of installing TVOE on the first rack mount server. Throughout this section, the first RMS server refers to the server that shall host the PMAC VM.

**Note: [Non-HA Lab Node Installations Only-Oracle X5-2/Netra X5-2/HP DL380 GEN 9]:** Before starting Procedure 3, follow procedure **Appendix S.1** to create vgguests logical volume with RAID10 spanning across multiple HDDs.

### Procedure 3. Install and Configure TVOE on First RMS (PMAC Host)

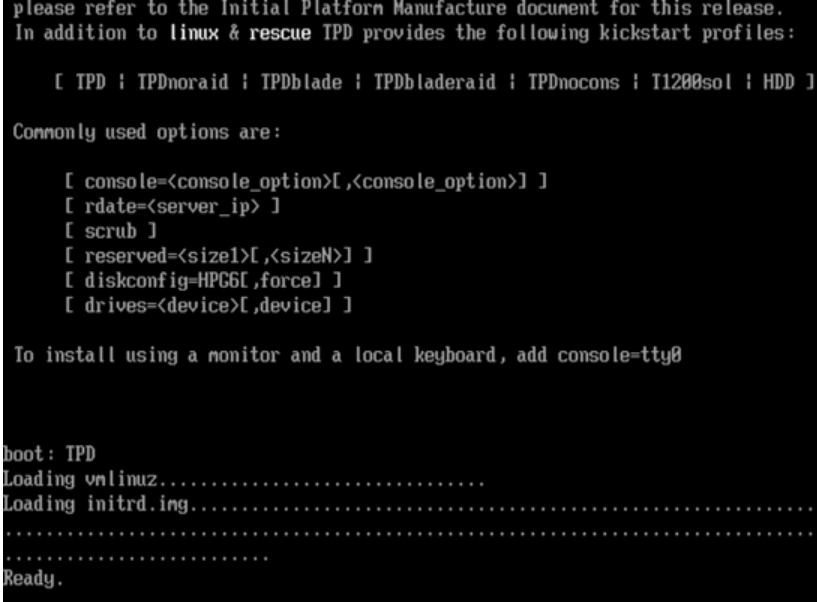
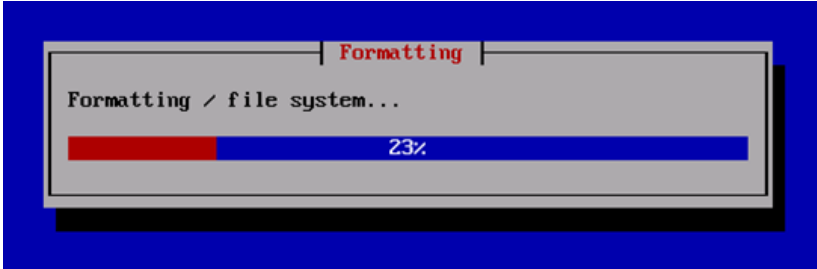
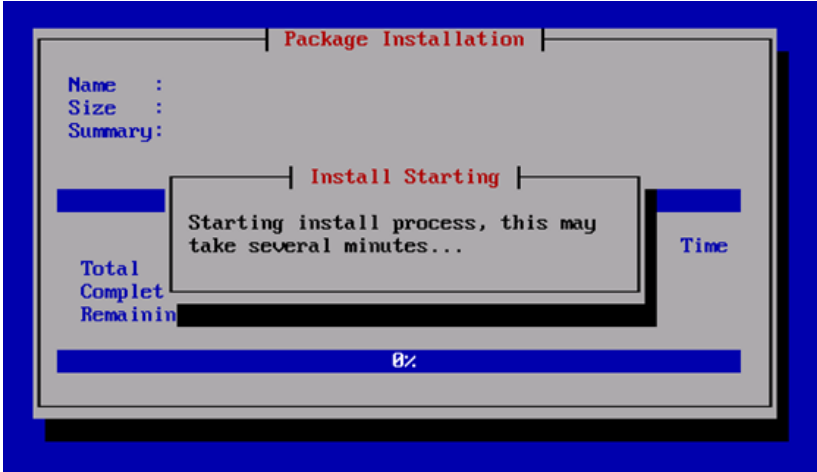
<b>S T E P #</b>	<p>This procedure explains the steps needed to install TVOE on the first RMS Server.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Connect to the First RMS Server</b>	<p>Connect to the Server using a VGA Display and USB Keyboard, or via the iLO interface using IE.</p> <p><b>Note: Appendix D:</b> TVOE iLO/iLOM GUI Access and <b>Appendix E:</b> Changing the TVOE iLO/iLOM Address explains how to access the rack mount server iLO and change the address if necessary.</p>
2 <input type="checkbox"/>	<b>RMS Server :</b> Insert TVOE Media into Server	<p>Insert the OS IPM media (CD/DVD or USB) into the CD/DVD tray/USB slot of the rack mount server. Refer to <b>Appendix P:</b> Creating a Bootable USB Drive on Linux for creating a bootable USB</p> <p>Alternatively ISO can be mounted using Virtual media as well. Refer to <b>Appendix F:</b> Attaching an ISO Image to a Server using the iLO or iLOM.</p>
3 <input type="checkbox"/>	<b>Power Cycle Server</b>	<p>Power cycle the server:</p> <ul style="list-style-type: none"> <li>• For HP rack mount servers, hold the power button in until the button turns amber, then release. Wait 5 seconds, then press the power button and release it again to power on the system.</li> <li>• For Oracle rack mount servers, hold the power button in until the “OK” LED turns off, and starts a slow blink. Wait 5 seconds and press the power button and release it again to power on the system. In a second or 2 the “OK” LED will start to blink faster as the system powers up.</li> </ul>
4 <input type="checkbox"/>	<b>Select Boot Method</b>	<p>For some servers you must select a boot method so that the server does not boot directly from the hard drive.</p> <ul style="list-style-type: none"> <li>• For HP rack mount servers, hit <b>F11</b> when prompted to bring up the boot menu and select the appropriate boot method.</li> <li>• For Oracle rack mount servers, hit <b>F8</b> when prompted to bring up the Boot Pop Up Menu then select the appropriate boot method</li> </ul>

Procedure 3. Install and Configure TVOE on First RMS (PMAC Host)

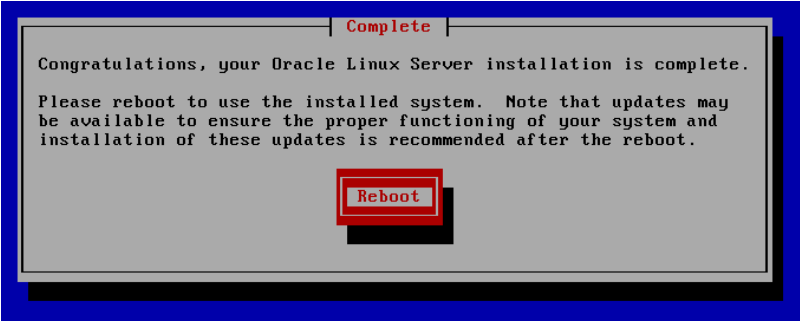
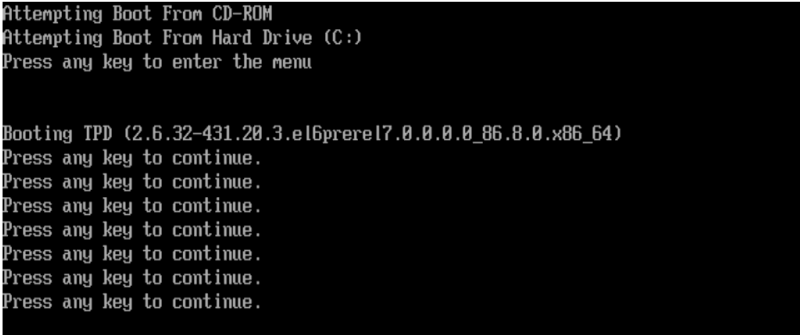
5 <input type="checkbox"/>	<b>RMS Server :</b> Begin IPM Process	<p>Once the Server reboots, it will reboot from the TVOE media and a boot prompt shall be displayed:</p> <pre>Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.  Welcome to Tekelec Platform Distribution! Release: 7.0.0.0_86.11.0 Arch: x86_64  For a detailed description of all the supported commands and their options, please refer to the Initial Platform Manufacture document for this release. In addition to linux &amp; rescue TPD provides the following kickstart profiles:  [ TPD ; TPDnoraaid ; TPDblade ; TPDcompact ; HDD ]  Commonly used options are:  [ console=&lt;console_option&gt;[,&lt;console_option&gt;] ] [ primaryConsole=&lt;console_option&gt; ] [ rdate=&lt;server_ip&gt; ] [ scrub ] [ reserved=&lt;size1&gt;[,&lt;sizeN&gt;] ] [ diskconfig=HWRAID[,&lt;force&gt;] ] [ drives=&lt;device&gt;[,&lt;device1&gt;] ] [ guestArchive ]  To install using a monitor and a local keyboard, add console=tty0  boot: _</pre> <p>IPM the server using the following command:</p> <pre>TPDnoraaid diskconfig=HWRAID,force console=tty0</pre> <p>For Non-HA Lab node (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only), execute the following command:</p> <pre>TPDnoraaid drives=&lt;Volume ID recorded in procedure S.1/S.2&gt; console=tty0</pre>
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Procedure 3. Install and Configure TVOE on First RMS (PMAC Host)

<p>6</p> <p><input type="checkbox"/></p>	<p><b>RMS Server :</b> Monitor the IPM Installation</p>	<p>The IPM process takes about <b>30 minutes</b>, you will see several messages and screens in the process.</p> <p>The following screens will be displayed:</p>  <pre> please refer to the Initial Platform Manufacture document for this release. In addition to linux &amp; rescue TPD provides the following kickstart profiles:    [ TPD ; TPDnoraidd ; TPDblade ; TPDbladeraidd ; TPDnocons ; I1200sol ; HDD ]  Commonly used options are:    [ console=&lt;console_option&gt;[,&lt;console_option&gt;] ]   [ rdate=&lt;server_ip&gt; ]   [ scrub ]   [ reserved=&lt;size1&gt;[,&lt;sizeN&gt;] ]   [ diskconfig=HPC6[,force] ]   [ drives=&lt;device&gt;[,&lt;device&gt;] ]  To install using a monitor and a local keyboard, add console=tty0  boot: TPD Loading vmlinuz..... Loading initrd.img..... ..... Ready. </pre>  
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Procedure 3. Install and Configure TVOE on First RMS (PMAC Host)

<p>7</p> <p><input type="checkbox"/></p>	<p><b>RMS Server :</b> Install Complete- Reboot</p>	<p>Once the IPM is complete, you will be prompted to press Enter as shown below. Remove the disk from the drive or unmount the TPD image from the iLO and press <b>Enter</b> to reboot the server.</p>  <p>After a few minutes and multiple reboots, the the server boot sequence will start and eventually display that it is booting the new IPM load.</p>  <p><b>Note:</b> A successful IPM platform installation process results in a user login prompt.</p>
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**Procedure 4. Gather and Prepare Configuration files**

<p><b>S T E P #</b></p>	<p>This procedure explains the steps needed to gather and prepare the configuration files required to proceed with the DSR 7.1.x/7.2/7.3 installation from the DSR ISO.</p> <p><b>Required Materials:</b></p> <p>USB containing DSR 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>RMS Server:</b> Insert USB</p>	<p>Insert the USB containing the DSR ISO into an available USB slot on the TVOE Host server and execute the following command to determine its location and the ISO to be mounted:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /bin/ls /media/*/*.iso</pre> <p>Example output: /media/sdd1/872-2507-111-7.1.x_41.16.2-DSR-x86_64.iso</p> <p><b>Note:</b> The DSR application USB device is immediately added to the list of media devices once it is inserted into a USB slot on the TVOE Host server.</p> <p><b>Note:</b> Note the device directory name under the media directory. This could be sdb1, sdc1, sdd1, or sde1, depending on the USB slot into which the media was inserted.</p>
<p>2</p> <p><input type="checkbox"/></p>	<p><b>RMS Server:</b> Mount ISO</p>	<p>Using the device directory discovered in step 1, loop mount the ISO to the standard TVOE host mount point (if it is not already in use):</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /bin/mount -o loop /media/&lt;device directory&gt;/&lt;ISO Name&gt;.iso /mnt/upgrade</pre>

Procedure 4. Gather and Prepare Configuration files

<p>3</p> <p><input type="checkbox"/></p>	<p><b>RMS Server:</b> Copy Configuration Files</p>	<p>Execute the following commands to copy the required files from the TVOE host mount point:</p> <pre>\$ sudo cp /mnt/upgrade/upgrade/overlay/RMS/* /var/TKLC/upgrade/</pre> <pre>\$ sudo cp /mnt/upgrade/upgrade/overlay/*.xml /var/TKLC/upgrade/</pre> <pre>\$ sudo cp /mnt/upgrade/Packages/tuned-0.2.19- 15.el6.noarch.rpm /var/TKLC/upgrade/</pre> <pre>\$ sudo cp /mnt/upgrade/Packages/irqbalance-1.0.7- 5.0.1.el6.x86_64.rpm /var/TKLC/upgrade/</pre> <p>If configuring Cisco 4948E-F Aggregation Switches (HP DL380 Gen 8 Servers Only):</p> <pre>\$ sudo cp /mnt/upgrade/upgrade/overlay/DSR_NetConfig_Templates.zip /var/TKLC/upgrade/</pre>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>RMS Server:</b> Change Permissions</p>	<p>Change the permissions of the configuration files by executing the following command:</p> <pre>\$ sudo chmod 777 /var/TKLC/upgrade/*</pre>

**Procedure 5. First RMS Configuration**

<b>S T E P #</b>	This procedure will configure the First TVOE/Management 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 <b>Appendix T: My Oracle Support (MOS)</b> , and ask for assistance.
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Procedure 5. First RMS Configuration

1 <input type="checkbox"/>	<p><b>Determine Bridge Names and Interfaces</b></p>	<p>Determine the bridge interfaces to be used on the TVOE server and fill in the appropriate values in the table below. If NetBackup is to be used, determine the bridge interface to be used for the NetBackup network and fill in the &lt;TVOE_NetBackup_Bridge_Interface&gt; value.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Guest Interface Alias</th> <th style="text-align: center;">TVOE Bridge Name</th> <th style="text-align: center;">TVOE Bridge Interface</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">control</td> <td style="text-align: center;">control</td> <td>                     Fill in the appropriate value (default is bond0):  <input style="width: 50px; height: 15px;" type="text"/>                      &lt;TVOE_Control_Bridge_Interface&gt;                 </td> </tr> <tr> <td style="text-align: center;">management</td> <td style="text-align: center;">management</td> <td>                     Fill in the appropriate value:  <input style="width: 100px; height: 15px;" type="text"/>                      &lt;TVOE_Management_Bridge_Interface&gt;                 </td> </tr> <tr> <td style="text-align: center;">xmi</td> <td style="text-align: center;">xmi</td> <td>                     Fill in the appropriate value:  <input style="width: 100px; height: 15px;" type="text"/>                      &lt;TVOE_XMI_Bridge_Interface&gt;                 </td> </tr> <tr> <td style="text-align: center;">imi</td> <td style="text-align: center;">Imi</td> <td>                     Fill in the appropriate value:  <input style="width: 100px; height: 15px;" type="text"/>                      &lt;TVOE_IMI_Bridge_Interface&gt;                 </td> </tr> <tr> <td style="text-align: center;">Int (iDIH Only)</td> <td style="text-align: center;">Int</td> <td>                     Fill in the appropriate value:  <input style="width: 100px; height: 15px;" type="text"/>                      &lt;TVOE_INT_Bridge_Interface&gt;                 </td> </tr> <tr> <td style="text-align: center;">xsi1</td> <td style="text-align: center;">xsi1</td> <td>                     Fill in the appropriate value:  <input style="width: 100px; height: 15px;" type="text"/>                      &lt;TVOE_XS11_Bridge_Interface&gt;                 </td> </tr> <tr> <td style="text-align: center;">xsi2</td> <td style="text-align: center;">xsi2</td> <td>                     Fill in the appropriate value:  <input style="width: 100px; height: 15px;" type="text"/>                      &lt;TVOE_XSI2_Bridge_Interface&gt;                 </td> </tr> <tr> <td style="text-align: center;">replication</td> <td style="text-align: center;">replication</td> <td>                     Fill in the appropriate value:  <input style="width: 100px; height: 15px;" type="text"/>                      &lt;TVOE_REPLICATION_Bridge_Interface&gt;                 </td> </tr> <tr> <td style="text-align: center;">NetBackup (if applicable)</td> <td style="text-align: center;">NetBackup</td> <td>                     Fill in the appropriate value:  <input style="width: 100px; height: 15px;" type="text"/>                      &lt;TVOE_NetBackup_Bridge_Interface&gt;                 </td> </tr> </tbody> </table>	Guest Interface Alias	TVOE Bridge Name	TVOE Bridge Interface	control	control	Fill in the appropriate value (default is bond0): <input style="width: 50px; height: 15px;" type="text"/> <TVOE_Control_Bridge_Interface>	management	management	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_Management_Bridge_Interface>	xmi	xmi	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_XMI_Bridge_Interface>	imi	Imi	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_IMI_Bridge_Interface>	Int (iDIH Only)	Int	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_INT_Bridge_Interface>	xsi1	xsi1	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_XS11_Bridge_Interface>	xsi2	xsi2	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_XSI2_Bridge_Interface>	replication	replication	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_REPLICATION_Bridge_Interface>	NetBackup (if applicable)	NetBackup	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_NetBackup_Bridge_Interface>
Guest Interface Alias	TVOE Bridge Name	TVOE Bridge Interface																														
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xmi	xmi	Fill in the appropriate value: <input style="width: 100px; height: 15px;" type="text"/> <TVOE_XMI_Bridge_Interface>																														
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Procedure 5. First RMS Configuration

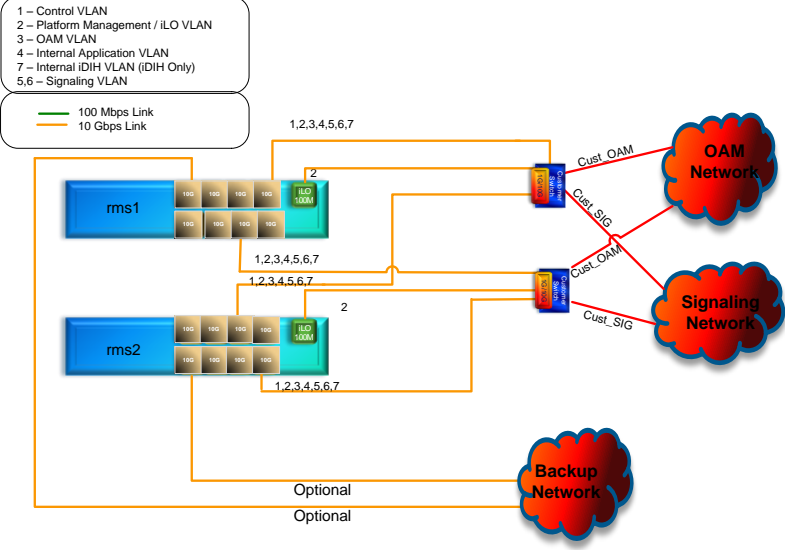
<p>2</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Login and Launch the Integrated Remote Console</p>	<p>Log in to iLO/iLOM, follow <b>Appendix D: TVOE iLO/iLOM GUI Access</b> for instructions on how to access the iLO/iLOM GUI.</p> <pre>https://&lt;management_server_iLO_ip&gt;</pre>
<p>3</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Set Bond0 interfaces (HP DL380 Gen 9 Only)</p>	<p style="text-align: center;"><b>HP DL380 Gen 9 Servers Only</b></p> <p>HP DL380 Gen 9 servers with the required PCIE 10Gbps cards. This step removes the onboard NICs from bond0, and replaces them with the PCIE NIC interfaces. The PCIE cards should be placed in slots 1 and 3.</p> <p>Execute the following steps to set Bond0 with the correct NIC interfaces:</p> <p><b>Note:</b> The below output warning and error messages can safely be ignored.</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm set --device=bond0 --delBondInt=eth01  eth01 was successfully removed from bond0 eth01 successfully removed from bond0  \$ sudo /usr/TKLC/plat/bin/netAdm set --device=bond0 --delBondInt=eth02  eth01 was successfully removed from bond0 WARNING: bond0 has an invalid MAC address ERROR: Could not add bridge interface bond0 to bridge control! CMD: /user/sbin/brctl addif control bond0 ERROR: Failed to restart after updating mac address ERROR: Failed to update mac address ERROR: Failed to update mac address deps  \$ sudo /usr/TKLC/plat/bin/netAdm set --device=eth11 --type=Ethernet --master=bond0 --slave=yes --onboot=yes  bonding: unable to remove non-existent slave eth11 for bond bond0 Interface eth11 updated  \$ sudo /usr/TKLC/plat/bin/netAdm set --device=eth12 --type=Ethernet --master=bond0 --slave=yes --onboot=yes  bonding: unable to remove non-existent slave eth12 for bond bond0 Interface eth12 updated</pre>

Procedure 5. First RMS Configuration

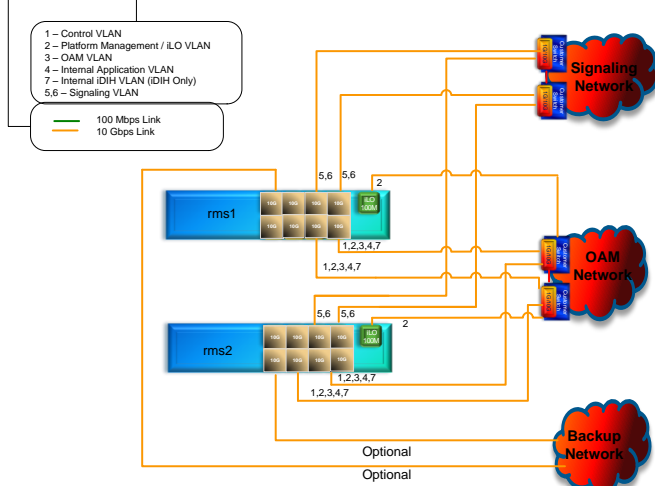
<p>4</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Create the Management Network</p>	<p>Create the Management network, execute the following command:</p> <p><b>Note:</b> The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add --device=&lt;TVOE_Management_Bridge_Interface&gt; --onboot=yes  Interface bond0.2 added</pre> <pre style="border: 1px solid black; padding: 5px;">\$sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=management --bootproto=none --onboot=yes --address=&lt;Management_Server_TVOE_IP&gt; --netmask=&lt;Management_Server_TVOE_Netmask/prefix&gt; --bridgeInterfaces=&lt;TVOE_Management_Bridge_Interface&gt;</pre>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Configure Default Route</p>	<p>Configure the default route by executing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add --route=default --device=management --gateway=&lt;Management_Gateway_IP_Address&gt;</pre>



Procedure 5. First RMS Configuration

<p>6</p> <p>1<sup>st</sup> RMS iLO/iLOM: TVOE Bridge Configuration (Non-Segregated Signaling)</p>	<p>If your rack mount solution is designed where the signaling traffic shares the same physical NIC interfaces as the OAM related DSR traffic:</p>  <ul style="list-style-type: none"> <li>• Execute the TVOE network config script with the 'segg=no' parameter.</li> <li>• Configuration of up to 4 signaling interfaces are supported but not necessary.</li> <li>• Configuration of the 'intvlan' parameter is to be used when iDIH is being deployed.</li> <li>• Configuration of the 'replicationvlan' parameter is to be used if a dedicated SBR replication network will be defined -PCA Only</li> <li>• Configuration of at least 'xmivlan' and 'imivlan' parameters is required.</li> </ul> <p>Example of TVOE script <b>WITHOUT</b> segregated signaling (For illustrative purposes only):</p> <pre> \$ cd /var/TKLC/upgrade  \$ sudo ./TVOEcfg_RMS.sh --xmivlan=&lt;xmi_vlan_ID&gt; --imivlan=&lt;imi_vlan_ID&gt; --xsilvlan=&lt;xsil_vlan_ID&gt; --xsi2vlan=&lt;xsi2_vlan_ID&gt; --intvlan=&lt;int_vlan_ID&gt; --replicationvlan=&lt;replication_vlan_ID&gt; --segg=no </pre> <p><b>Note:</b> The same VLANs/Bridges configured with this script should be consistent across all rack mount servers being deployed.</p> <p><b>Note:</b> If for any reason, you entered an incorrect value during the execution of the TVOEcfg_RMS.sh command, you can execute the following command to reset the networking configuration so you can repeat the TVOEcfg_RMS step:</p> <pre> \$ cd /var/TKLC/upgrade  \$ sudo ./TVOEclean_RMS.sh </pre>
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Procedure 5. First RMS Configuration

<p>7</p> <p>□</p>	<p><b>1<sup>st</sup> RMS iLO/iLOM: TVOE Bridge Configuration (Segregated Signaling)</b></p>	<p>If your rack mount solution is designed where the signaling traffic is segregated from the rest of the DSR OAM related networks and located on separate NICs:</p>  <ul style="list-style-type: none"> <li>• Execute the TVOE network config script with the 'segg=yes' parameter.</li> <li>• Configuration of up to 4 signaling interfaces are supported but not necessary.</li> <li>• Configuration of the 'intvlan' parameter is to be used when iDIH is being deployed.</li> <li>• Configuration of the 'replicationvlan' parameter is to be used if a dedicated SBR replication network will be defined -PCA Only</li> <li>• Configuration of at least 'xmivlan' and 'imivlan' parameters is required.</li> </ul> <p><b>Important:</b> For HP DL380 RMS, modify the following items using 'vi' in the TVOEcfg_RMS.sh file to reflect the NIC interfaces being used for the segregated signaling bond:</p> <pre>SEGIFC1="&lt;ethernet_interface_3&gt;" SEGIFC2="&lt;ethernet_interface_4&gt;"</pre> <p>Example of TVOE script <b>WITH</b> segregated signaling (For illustrative purposes only):</p> <pre>\$ cd /var/TKLC/upgrade  \$ sudo ./TVOEcfg_RMS.sh --xmivlan=&lt;xmi_vlan_ID&gt; --imivlan=&lt;imi_vlan_ID&gt; --xsilvlan=&lt;xsi1_vlan_ID&gt; --xsi2vlan=&lt;xsi2_vlan_ID&gt; --intvlan=&lt;int_vlan_ID&gt; --replicationvlan=&lt;replication_vlan_ID&gt; --segg=yes</pre> <p><b>Note:</b> If for any reason, you entered an incorrect value during the execution of the TVOEcfg_RMS.sh command, you can execute the following command to reset the networking configuration so you can repeat the TVOEcfg step:</p> <pre>\$ cd /var/TKLC/upgrade  \$ sudo ./TVOEclean_RMS.sh</pre>
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Procedure 5. First RMS Configuration

8 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Set Ethernet Interface Ring Buffer Sizes (Oracle X5-2/Netra X5-2/ HP DL380 Gen9 Only)	<p style="text-align: center;"><b>FOR ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 Gen 8 SKIP THIS STEP</b></p> <p>The following commands will increase the ring buffer sizes on Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Ethernet Interfaces:</p> <p><b>Note:</b> Refer to <b>Section 3.4</b> for network interface server reference table</p> <pre style="border: 1px solid black; padding: 10px;">\$ sudo netAdm set --device=&lt;ethernet_interface_1&gt; --ringBufferRx=4096 --ringBufferTx=4096  \$ sudo netAdm set --device=&lt;ethernet_interface_2&gt; --ringBufferRx=4096 --ringBufferTx=4096  If step 7 was executed, execute the following commands:  \$ sudo netAdm set --device=&lt;ethernet_interface_3&gt; --ringBufferRx=4096 --ringBufferTx=4096  \$ sudo netAdm set --device=&lt;ethernet_interface_4&gt; --ringBufferRx=4096 --ringBufferTx=4096</pre>
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Procedure 5. First RMS Configuration

9 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	<p style="text-align: center;"><b>FOR ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Install tuned RPM by executing the following commands:</p> <pre>7.1.x: \$ sudo rpm -ivh /var/TKLC/upgrade/tuned-0.2.19-13.el6_6.1.noarch.rpm  7.2/7.3: \$ sudo rpm -ivh /var/TKLC/upgrade/tuned-0.2.19-15.el6.noarch.rpm  \$ sudo sh -c "echo 'tuned' &gt; /usr/TKLC/plat/etc/upgrade/pkgKeep.conf"</pre> <pre>\$ sudo cp /var/TKLC/upgrade/tuned_tvoe.tar /etc/tune-profiles/;cd /etc/tune-profiles/  \$ sudo tar -xvf tuned_tvoe.tar</pre> <p>Activate the tuned profile for TVOE:</p> <pre>\$ sudo tuned-adm profile tvoe_profile  \$ sudo service_conf add tuned rc runlevels=345  \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre>\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: tvoe_profile Service tuned: enabled, running Service ktune: enabled, running</pre>
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Procedure 5. First RMS Configuration

10 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Install and configure IRQ Balance (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	<b>FOR ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b>  1) Stop the irqbalance service: <pre>\$ sudo service irqbalance stop</pre> 2) Erase the existing irqbalance RPM: <pre>\$ sudo rpm -qa   grep irqbalance</pre> <pre>\$ sudo rpm --erase --nodeps &lt;RPM name from above output&gt;</pre> 3) Install irqbalance v1.0.7 RPM: <pre>\$ sudo rpm -ivh /var/TKLC/upgrade/irqbalance-1.0.7-5.0.1.el6.x86_64.rpm</pre> 4) Modify irqbalance: <pre>\$ cd /var/TKLC/upgrade</pre> <pre>\$ sudo ./irqtune.sh</pre>
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Procedure 5. First RMS Configuration

11 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Configure IRQ Balance (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	<p style="text-align: center;"><b>DSR 7.1.x ONLY, DSR 7.2/7.3 SKIP THIS STEP</b></p> <p><b>Oracle X5-2/Netra X5-2:</b></p> <pre>\$ IRQBALANCE_FILE="/etc/sysconfig/irqbalance"  \$ sudo sed -i "/^\s*IRQBALANCE_BANNED_CPUS/d" \$IRQBALANCE_FILE  \$ sudo sh -c "echo 'IRQBALANCE_BANNED_CPUS=000000ff,ffffffcf,fffffffc' &gt;&gt;\$IRQBALANCE_FILE"  \$ sudo service irqbalance restart</pre> <p><b>HP DL380 GEN 9:</b></p> <pre>\$ IRQBALANCE_FILE="/etc/sysconfig/irqbalance"  \$ sudo sed -i "/^\s*IRQBALANCE_BANNED_CPUS/d" \$IRQBALANCE_FILE  \$ sudo sh -c "echo 'IRQBALANCE_BANNED_CPUS=0000ffff,fcffffffc' &gt;&gt;\$IRQBALANCE_FILE"  \$ sudo service irqbalance restart</pre>
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Procedure 5. First RMS Configuration

<p>12</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Add the NetBackup Network-Option 1 (Optional)</p>	<p>If <b>NetBackup</b> is to be used, execute this step, otherwise skip to <b>Step 16</b>.</p> <p><b>Select only this step or the options listed in steps 8-9.</b></p> <p>NetBackup is a tool that allows the customer to take remote backups of the system.</p> <p><b>Note:</b> The output below is for illustrative purposes only. The example output below shows the control bridge configured.</p> <p><b>Note:</b> The example below illustrates a TVOE Management Server configuration with the NetBackup feature enabled. The NetBackup network is configured with a non-default MTU size.</p> <p><b>Note:</b> The MTU size must be consistent between a network bridge, device, or bond, and associated VLANs.</p> <p>Create NetBackup bridge using a bond containing an untagged interface</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add --device=&lt;TVOE_NetBackup_Bridge_Interface&gt; --onboot=yes --type=Bonding --mode=active-backup -- miimon=100 --MTU=&lt;NetBackup_MTU_size&gt; Interface &lt;TVOE_NetBackup_Bridge_Interface&gt; added  \$ sudo /usr/TKLC/plat/bin/netAdm set --device=&lt;ethernet_interface_4&gt; --type=Ethernet --master=&lt;TVOE_NetBackup_Bridge_Interface&gt; --slave=yes --onboot=yes Interface &lt;ethernet_interface_4&gt; updated  \$ sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=&lt;TVOE_NetBackup_Bridge&gt; --onboot=yes --bootproto=none --MTU=&lt;NetBackup_MTU_size&gt; --bridgeInterfaces=&lt;TVOE_NetBackup_Bridge_Interface&gt; --address=&lt;TVOE_NetBackup_IP&gt; --netmask=&lt;TVOE_NetBackup_Netmask/Prefix&gt;</pre>
<p>13</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Add the NetBackup Network-Option 2 (Optional)</p>	<p>If <b>NetBackup</b> is to be used, <b>Select only this step or options in Steps 12 or 14</b></p> <p>Create NetBackup bridge using an untagged native interface:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=&lt;TVOE_NetBackup_Bridge&gt; --onboot=yes --bootproto=none --MTU=&lt;NetBackup_MTU_size&gt; --bridgeInterfaces=&lt;Ethernet_Interface_4&gt; --address=&lt;TVOE_NetBackup_IP&gt; --netmask=&lt;TVOE_NetBackup_Netmask/Prefix&gt;</pre>

Procedure 5. First RMS Configuration

<p>14</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Add the NetBackup Network-Option 3 (Optional)</p>	<p>If <b>NetBackup</b> is to be used, <b>Select only this step or options in 12-13</b></p> <p>Create NetBackup bridge using a tagged device:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add --device=&lt;TVOE_NetBackup_Bridge_Interface&gt; --onboot=yes  Interface &lt;TVOE_NetBackup_Bridge_Interface&gt; added  \$sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=&lt;TVOE_NetBackup_Bridge&gt; --onboot=yes --MTU=&lt;NetBackup_MTU_size&gt; --bridgeInterfaces=&lt;TVOE_NetBackup_Bridge_Interface&gt; --address=&lt;TVOE_NetBackup_IP&gt; --netmask=&lt;TVOE_NetBackup_Netmask/Prefix&gt;</pre>
<p>15</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Configure Networking for NetBackup Interface (Optional)</p>	<p><b>Note:</b> If you have configured NetBackup in the previous steps, execute this step; otherwise <b>skip this step.</b></p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=NetBackup --address=&lt;TVOE_NetBackup_Network_ID&gt; --netmask=&lt;TVOE_NetBackup_NetMask/Prefix&gt; --gateway=&lt;TVOE_NetBackup_Gateway_IP_Address&gt;</pre>
<p>16</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Restart the network interfaces</p>	<p>Restart the network interfaces, execute the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo service network restart</pre>



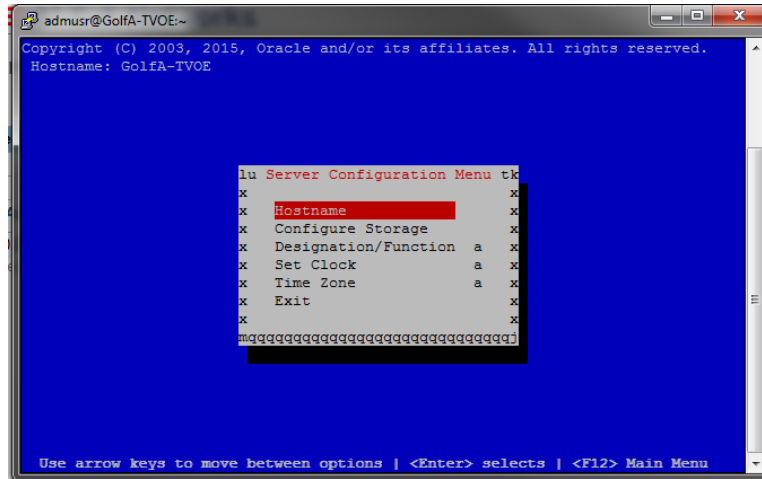
Procedure 5. First RMS Configuration

17 1<sup>st</sup> RMS  
iLO/iLOM:  
Set  
Hostname

Set the server hostname by running the following:

```
$ sudo su - platcfg
```

Navigate to **Server Configuration -> Hostname ->Edit.**

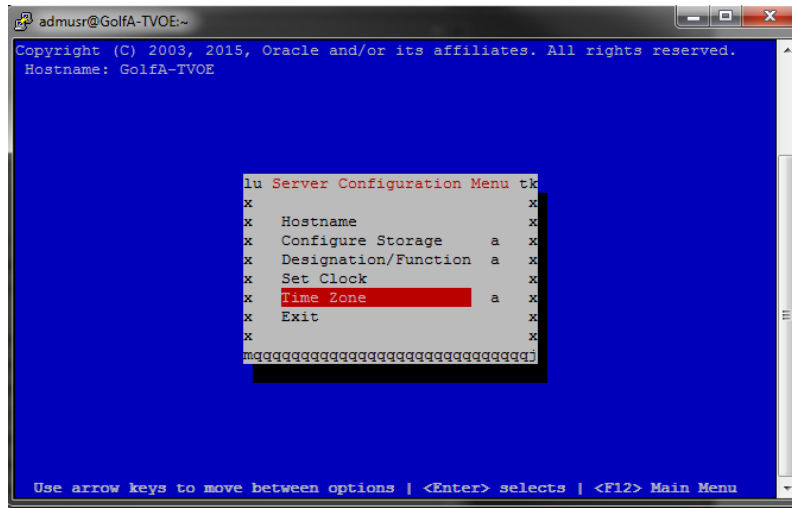


Set TVOE Management Server hostname  
Press **OK**.  
Navigate out of Hostname

Procedure 5. First RMS Configuration

18 1<sup>st</sup> RMS iLO/iLOM: Set the Time Zone and/or Hardware Clock

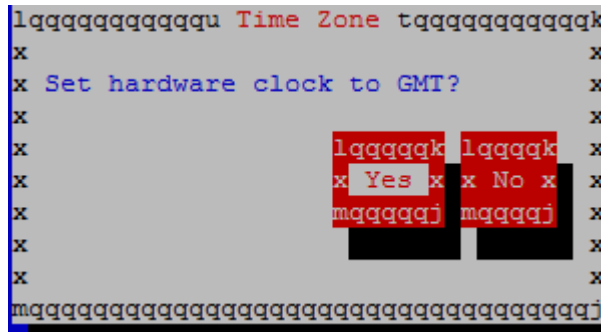
Navigate to **Server Configuration** -> **Time Zone**.



Select **Edit**.

Set the time zone and/or hardware clock to **“GMT”** (or appropriate time zone value)

Select **Yes** to accept.



Navigate out of **Server Configuration**



Procedure 5. First RMS Configuration

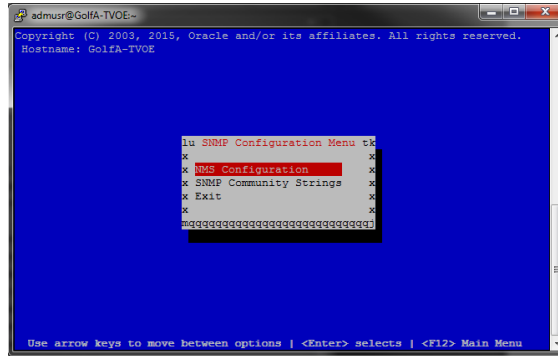
20 **1<sup>st</sup> RMS iLO/iLOM: Set SNMP**

Set SNMP by running the following:

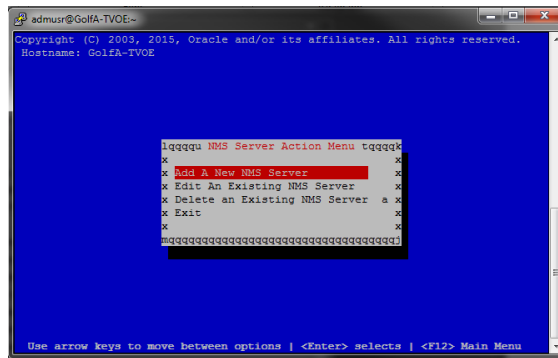
```
$ sudo su - platcfg
```

**Note:** Refer **Appendix H: SNMP Configuration** to understand the preferred SNMP configuration

Navigate to **Network Configuration -> SNMP Configuration -> NMS Configuration.**

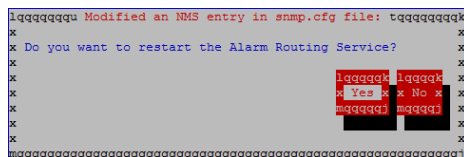


Select **Edit** and then choose **Add a New NMS Server**. The **Add an NMS Server** page will be displayed.



Complete the form by entering NMS server IP, Port (*default port is 162*) and community string provided by the customer about the SNMP trap destination.

Select **OK** to finalize the configuration. The **NMS Server Action Menu** will now be displayed. Select **Exit**. The following dialogue will then be presented.



Select **Yes** and then wait a few seconds while the Alarm Routing Service is restarted. At that time the **SNMP Configuration** menu will be presented.

Exit platcfg.

Procedure 5. First RMS Configuration

21 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Restart	Execute the following command to restart the server: <pre>\$ sudo init 6</pre>
22 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Verify Ring Buffer Settings	Verify the ring buffer sizes have been configured correctly (from Step 8) by executing the following command for each Ethernet interface configured above: <pre>\$ ethtool -g &lt;eth interfaces configured above&gt;</pre> <p>Example shown below:</p> <pre>[admsr@FJ-TVOE-2 ~]\$ ethtool -g eth01 Ring parameters for eth01: Pre-set maximums: RX:                4096 RX Mini:           0 RX Jumbo:          0 TX:                4096 Current hardware settings: RX:                4096 RX Mini:           0 RX Jumbo:          0 TX:                4096</pre>

## Procedure 5. First RMS Configuration

23 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Configure NetBackup-Part 1 (Optional)	<p>Execute this step if the <b>NetBackup</b> feature is enabled for this system, otherwise <b>skip to step 25</b>. Configure the appropriate NetBackup client on the PMAC TVOE host.</p> <p>Open firewall ports for NetBackup using the following commands:</p> <pre>\$ sudo ln -s /usr/TKLC/plat/share/NetBackup/60NetBackup.ipt /usr/TKLC/plat/etc/iptables/  \$ sudo /usr/TKLC/plat/bin/iptablesAdm reconfig</pre> <p>Enable platcfg to show the NetBackup Menu Items by executing the following commands:</p> <pre>\$ sudo platcfgadm --show NBConfig; \$ sudo platcfgadm --show NBInit; \$ sudo platcfgadm --show NBDeInit; \$ sudo platcfgadm --show NBInstall; \$ sudo platcfgadm --show NBVerifyEnv; \$ sudo platcfgadm --show NBVerify;</pre> <p>Create LV and file system for NetBackup client software on the vgguests volume group:</p> <pre>\$sudo /usr/TKLC/plat/sbin/storageMgr /tmp/nb.lvm</pre> <p>This will create the LV, format it with a filesystem, and mount it under /usr/opencv/.</p> <p>Example output is shown below:</p> <pre>Called with options: /tmp/nb.lvm VG vgguests already exists. Creating lv NetBackup_lv. Volume NetBackup_lv will be created. Success: Volume NetBackup_lv was created. Creating filesystem, this may take a while. Updating fstab for lv NetBackup_lv. Configuring existing lv NetBackup_lv. The LV for NetBackup has been created!</pre>
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Procedure 5. First RMS Configuration

<p>24</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Configure NetBackup-Part 2 (Optional)</p>	<p>Install the NetBackup client software:</p> <p>Refer to <b>Appendix I: Application NetBackup Client Installation Procedures</b> for instructions how to install the NetBackup client.</p> <p><b>Note:</b> Skip any steps relating to copying NetBackup "notify" scripts to /usr/opencv/NetBackup/bin. The TVOE NetBackup notify scripts are taken care of in the next step.</p> <p>Create soft links for TVOE specific NetBackup notify scripts.</p> <pre style="border: 1px solid black; padding: 5px;">\$sudo ln -s /usr/TKLC/plat/sbin/bpstart_notify /usr/opencv/NetBackup/bin/bpstart_notify  \$sudo ln -s /usr/TKLC/plat/sbin/bpend_notify /usr/opencv/NetBackup/bin/bpend_notify</pre> <p><b>Note:</b> Once the NetBackup Client is installed on TVOE, the NetBackup Master should be configured to back up the following files from the TVOE host:</p> <ul style="list-style-type: none"> <li>• /var/TKLC/bkp/*.iso</li> </ul>
<p>25</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Setup syscheck</p>	<p>'syscheck' must be configured to monitor bonded interfaces.</p> <p>Replace "bondedInterfaces" with "bond0" or "bond0,bond1" if segregated networks are used:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond --set --var=DEVICES --val=&lt;bondedInterfaces&gt;  \$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond --enable</pre>
<p>26</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Verify syscheck</p>	<p>Verify syscheck:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/syscheck net ipbond -v</pre> <p>Expected output should look similar to below:</p> <pre style="border: 1px solid black; padding: 5px;">Running modules in class net...   ipbond: Bonded interface bond0 is OK           OK  LOG LOCATION: /var/TKLC/log/syscheck/fail log</pre>

Procedure 5. First RMS Configuration

27 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Verify Server Health	Execute the following: <pre>\$ alarmMgr --alarmStatus</pre> <p>This command should return no output on a healthy system. If any alarms are reported, contact <b>Appendix T: My Oracle Support (MOS)</b></p>
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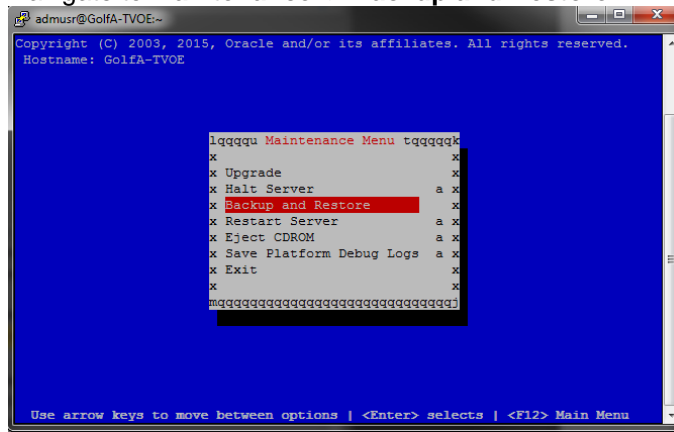
Procedure 5. First RMS Configuration

28 **1<sup>st</sup> RMS iLO/iLOM:**  
Perform a TVOE backup using TPD platcfg utility

Execute the following:

```
$ sudo su - platcfg
```

Navigate to **Maintenance -> Backup and Restore**

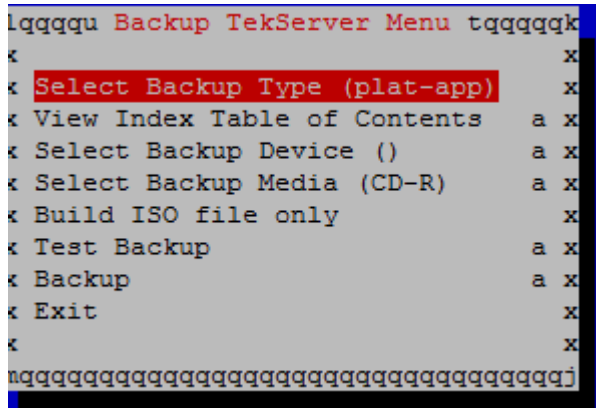


Select **Backup Platform (CD/DVD)**

**Note:** If no cdrom device is found by TPD, you will receive an error dialog with the message: "No disk device available. This is normal on systems without a cdrom device." Press **Enter** to continue.

Select **Build ISO file only**, and press **Enter** to continue.

Exit from TPD platcfg utility.



The TVOE backup can be found in the "/var/TKLC/bkp/" directory, and is prefixed by the server hostname. An example of a TVOE backup ISO follows:  
/var/TKLC/bkp/RMS503u14-plat-app-201210301505.iso

Move the TVOE backup to a customer provided backup server for safe keeping.

### 4.3 Install PMAC

**Note: [Non-HA Lab Node Installations Only-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 only]:** Follow procedure **Appendix S.3** instead of procedure 6 for PMAC deployment.

#### Procedure 6. PMAC Deployment

<b>S T E P #</b>	<p>This procedure will deploy PMAC on the TVOE Host</p> <p><b>Prerequisite:</b> First RMS Network Configuration (PMAC Host) has been completed.</p> <p><b>Needed material:</b></p> <ul style="list-style-type: none"> <li>- PMAC Media on USB Drive or ISO</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>PMAC's TVOE iLO/iLOM:</b> Login and Launch the Integrated Remote Console</p>	<p>Log in to iLO/iLOM; follow <b>Appendix D: TVOE iLO/iLOM GUI Access</b> for instructions on how to access the iLO/iLOM GUI.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> <code>https://&lt;management_server_iLO_ip&gt;</code> </div>

## Procedure 6. PMAC Deployment

2 <input type="checkbox"/>	<b>PMAC's TVOE iLO/iLOM:</b> Mount the PMAC Media to the TVOE Server	<p>Use one of the following 2 options to mount the PMAC Media:</p> <p><u>Option 1:</u></p> <p>If using a USB media, insert the PMAC USB into a USB port and execute the following to mount the ISO:</p> <pre>\$ ls /media/*/*.iso /media/sddl/872-2586-101-5.7.0_57.3.0-PM&amp;C-x86_64.iso</pre> <p>Use the output of the previous command to populate the next command</p> <pre>\$ sudo mount -o loop /media/sdb1/872-2586-101-5.7.0_57.3.0-PM&amp;C-x86_64.iso /mnt/upgrade</pre> <p><u>Option 2:</u></p> <p>If using an ISO image, run the following to mount it:</p> <pre>\$ sudo mount -o loop ISO_FILENAME.iso /mnt/upgrade</pre> <p>Next Validate the PMAC media by executing the following commands:</p> <pre>\$ cd /mnt/upgrade/upgrade \$ .validate/validate_cd</pre> <pre>Validating cdrom... UMVT Validate Utility v2.2.2, (c)Tekelec, June 2012 Validating &lt;device or ISO&gt; Date&amp;Time: 2012-10-25 10:07:01 Volume ID: tklc_872-2441-106_Rev_A_50.11.0 Part Number: 872-2441-106_Rev_A Version: 50.11.0 Disc Label: PM&amp;C Disc description: PM&amp;C The media validation is complete, the result is: PASS CDROM is Valid</pre> <p><b>Note:</b> If the media validation fails, the media is not valid and should not be used.</p>
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Procedure 6. PMAC Deployment

<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC's TVOE iLO/iLOM:</b> Deploy PMAC</p>	<p>Using the pmac-deploy script, deploy the PMAC instance using the configuration captured during the site survey.</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /mnt/upgrade/upgrade</pre> <p>If deploying PMAC without NetBackup feature, run the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo ./pmac-deploy --guest=&lt;PMAC_Name&gt; --hostname=&lt;PMAC_Name&gt; --controlBridge=&lt;TVOE_Control_Bridge&gt; --controlIP=&lt;PMAC_Control_ip_address&gt; --controlNM=&lt;PMAC_Control_netmask&gt; --managementBridge=&lt;PMAC_Management_Bridge&gt; --managementIP=&lt;PMAC_Management_ip_address&gt; --managementNM=&lt;PMAC_Management_netmask/prefix&gt; --routeGW=&lt;PMAC_Management_gateway_address&gt; --ntpserver=&lt;TVOE_Management_server_ip_address&gt; --isoimagesVolSizeGB=20</pre> <p>If deploying PMAC with NetBackup feature, run the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo ./pmac-deploy --guest=&lt;PMAC_Name&gt; --hostname=&lt;PMAC_Name&gt; --controlBridge=&lt;TVOE_Control_Bridge&gt; --controlIP=&lt;PMAC_Control_ip_address&gt; --controlNM=&lt;PMAC_Control_netmask&gt; --managementBridge=&lt;PMAC_Management_Bridge&gt; --managementIP=&lt;PMAC_Management_ip_address&gt; --managementNM=&lt;PMAC_Management_netmask/prefix&gt; --routeGW=&lt;PMAC_Management_gateway_address&gt; --ntpserver=&lt;TVOE_Management_server_ip_address&gt; --NetBackupVol --bridge=&lt;TVOE_NetBackup_Bridge&gt; --nic=NetBackup --isoimagesVolSizeGB=20</pre> <p>The PMAC will deploy and boot. The management and control network will come up based on the settings that were provided to the pmac-deploy script.</p> <p><b>Note:</b> This step takes between <b>5 and 10 minutes</b>.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC's TVOE iLO/iLOM:</b> Unmount the Media</p>	<p>The media should auto-unmount, if it does not, unmount the media using the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd / \$ sudo /bin/umount /mnt/upgrade</pre> <p>Remove the media from the drive.</p>

Procedure 6. PMAC Deployment

<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC's TVOE iLO/iLOM:</b> SSH into the Management Server</p>	<p>Using an SSH client such as putty, ssh to the TVOE host as <b>admusr</b>.</p> <p>Login using <b>virsh</b>, and wait until you see the login prompt :</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/virsh list  Id Name State ----- 2 PM&amp;C running</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/virsh console &lt;PM&amp;C&gt;  [Output Removed]  Starting ntdMgr: [ OK ] Starting atd: [ OK ] 'TPD Up' notification(s) already sent: [ OK ] upstart: Starting tpdProvd... upstart: tpdProvd started. CentOS release 6.2 (Final) Kernel 2.6.32-220.17.1.el6prere16.0.0_80.14.0.x86_64 on an x86_64 PM&amp;Cdev7 login:</pre>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Verify the PMAC is configured correctly on first boot</p>	<p>Establish an SSH session to the PMAC, login as <b>admusr</b>.</p> <p>Run the following command (there should be no output):</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /bin/ls /usr/TKLC/plat/etc/deployment.d/</pre>
<p>7</p> <p><input type="checkbox"/></p>	<p><b>PMAC's TVOE iLO/iLOM:</b> Error doing verification, if error is outputted</p>	<p>If an error was made use the following command to delete the PMAC Guest and then re-deploy the guest again:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo guestMgr --remove &lt;PMAC_Name&gt;</pre>

## Procedure 6. PMAC Deployment

8 <input type="checkbox"/>	<b>Virtual PMAC:</b> Set the PMAC time zone	<p>Determine the Time Zone to be used for the PMAC</p> <p><b>Note:</b> Valid time zones can be found in <b>Appendix J: List of Frequently used Time Zones</b></p> <p>Run</p> <pre>\$ sudo set_pmac_tz.pl &lt;time zone&gt;</pre> <p>Example:</p> <pre>\$ sudo set_pmac_tz.pl America/New_York</pre> <p>Verify that the time zone has been updated:</p> <pre>\$ sudo date</pre>
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Procedure 6. PMAC Deployment

9 <input type="checkbox"/>	<b>Virtual PMAC:</b> Set SNMP	<p>Set SNMP by running the following:</p> <pre>\$ sudo su - platcfg</pre> <p>Navigate to <b>Network Configuration -&gt; SNMP Configuration -&gt; NMS Configuration.</b></p>  <p>Select <b>Edit</b> and then choose <b>Add a New NMS Server</b>. The <b>'Add an NMS Server'</b> page will be displayed.</p> <p>Complete the form by entering in all information about the SNMP trap destination. Select <b>OK</b> to finalize the configuration. The <b>'NMS Server Action Menu'</b> will now be displayed. Select <b>Exit</b>. The following dialogue will then be presented.</p> <p>Select <b>Yes</b> and then wait a few seconds while the Alarm Routing Service is restarted. At that time the SNMP Configuration Menu will be presented.</p> <p>Exit platcfg.</p>
10 <input type="checkbox"/>	<b>Virtual PMAC:</b> Reboot the server	<p>Reboot the server by running:</p> <pre>\$ sudo init 6</pre>

## 4.4 Initialize the PMAC Application

### Procedure 7. Initialize the PMAC

<b>S T E P #</b>	<p>Use this procedure to gather and prepare configuration files that are required to proceed with the DSR installation.</p> <p><b>Needed material:</b></p> <ul style="list-style-type: none"> <li>- DSR USB or ISO</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1</p> <input type="checkbox"/>	<p><b>PMAC's TVOE iLO/iLOM:</b> SSH into the Management Server</p> <p>Using an SSH client such as putty, ssh to the TVOE host as <b>admusr</b>.</p> <p>Login using <b>virsh</b>, and wait until you see the login prompt :</p> <pre>\$ sudo /usr/bin/virsh list</pre> <pre>Id Name State ----- 1 PM&amp;C running</pre> <pre>\$ sudo /usr/bin/virsh console &lt;PM&amp;C&gt;</pre> <p>[Output Removed]</p> <pre>Starting ntdMgr: [ OK ] Starting atd: [ OK ] 'TPD Up' notification(s) already sent: [ OK ] upstart: Starting tpdProvd... upstart: tpdProvd started. CentOS release 6.2 (Final) Kernel 2.6.32-220.17.1.el6prere16.0.0_80.14.0.x86_64 on an x86_64 PM&amp;Cdev7 login:</pre>
<p>2</p> <input type="checkbox"/>	<p><b>Virtual PMAC:</b> Get support files from the TVOE Host</p> <p><b>Execute</b> the following commands to copy the required files</p> <pre>\$ sudo /usr/bin/scp -r admusr@&lt;TVOE_management_ip_address&gt;: /var/TKLC/upgrade/* /var/TKLC/upgrade/</pre>
<p>3</p> <input type="checkbox"/>	<p><b>Virtual PMAC:</b> Change Permissions</p> <p>Change the permissions of the configuration files by executing the following command:</p> <pre>\$ sudo chmod 777 /var/TKLC/upgrade/*</pre>



Procedure 7. Initialize the PMAC

4 <input type="checkbox"/>	<b>Virtual PMAC:</b> Initialize the PMAC Application	<p>Initialize the PMAC Application; run the following commands:</p> <pre>\$ sudo /usr/TKLC/smac/bin/pmacadm applyProfile -- fileName=TVOE  Profile successfully applied.</pre> <pre>\$ sudo /usr/TKLC/smac/bin/pmacadm getPmacFeatureState  PMAC Feature State = InProgress</pre> <p>IPv4:</p> <pre>\$ sudo /usr/TKLC/smac/bin/pmacadm addRoute --gateway=&lt;mgmt_gateway_address&gt; --ip=0.0.0.0 --mask=0.0.0.0 --device=management  Successful add of Admin Route</pre> <p>IPv6:</p> <pre>\$ sudo /usr/TKLC/smac/bin/pmacadm addRoute --gateway=&lt;IPv6mgmt_gateway_address&gt; --ip::: --mask=0 --device=management  Successful add of Admin Route</pre> <pre>\$ sudo /usr/TKLC/smac/bin/pmacadm finishProfileConfig  Initialization has been started as a background task</pre>
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Procedure 7. Initialize the PMAC

<p>5</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Initialize the PMAC Application</p>	<p>Wait for the background task to successfully complete.</p> <p>The command will show "IN_PROGRESS" for a short time.</p> <p>Run the following command until a "COMPLETE" or "FAILED" response is seen similar to the following:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks  1: Initialize PMAC COMPLETE - PMAC initialized Step 2: of 2 Started: 2012-07-13 08:23:55 running: 29 sinceUpdate: 47 taskRecordNum: 2 Server Identity: Physical Blade Location: Blade Enclosure: Blade Enclosure Bay: Guest VM Location: Host IP: Guest Name: TPD IP: Rack Mount Server: IP: Name:</pre> <p><b>Note:</b> Some expected networking alarms may be present</p>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Initialize the PMAC Application</p>	<p>Perform a system health check on the PMAC</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/alarmMgr --alarmStatus</pre> <p>This command should return no output on a healthy system.</p> <p><b>Note:</b> An NTP alarm will be detected if the system switches are not configured</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/sentry status  All Processes should be running, displaying output similar to the following:  PM&amp;C Sentry Status ----- sentryd started: Mon Jul 23 17:50:49 2012 Current activity mode: ACTIVE Process PID Status StartTS NumR ----- ----- smacTalk 9039 running Tue Jul 24 12:50:29 2012 2 smacMon 9094 running Tue Jul 24 12:50:29 2012 2 hpiPortAudit 9137 running Tue Jul 24 12:50:29 2012 2 snmpEventHandler 9176 running Tue Jul 24 12:50:29 2012 2 Fri Aug 3 13:16:35 2012 Command Complete.</pre>

## Procedure 7. Initialize the PMAC

7 <input type="checkbox"/>	<b>Virtual PMAC:</b> Verify the PMAC application release	Verify the PMAC application release  Verify that the PMAC application Product Release is as expected.  <b>Note:</b> If the PMAC application Product Release is not as expected, STOP and contact <b>Appendix T: My Oracle Support (MOS)</b>  <pre>\$ sudo /usr/TKLC/plat/bin/appRev</pre> <pre>Install Time: Fri Sep 28 15:54:04 2012 Product Name: PM&amp;C Product Release: 5.0.0_50.10.0 Part Number ISO: 872-2441-905 Part Number USB: 872-2441-105 Base Distro Product: TPD Base Distro Release: 6.0.0_80.22.0 Base Distro ISO: TPD.install-</pre>
8 <input type="checkbox"/>	<b>Virtual PMAC:</b> Logout of the PMAC	Logout of the virsh console  Hold <b>ctrl ]</b> to logout of the PMAC
9 <input type="checkbox"/>	<b>Note</b>	If configuring a system with <b>Aggregation switches (HP DL380 Gen 8 Only)</b> , continue to <b>procedure 8</b> . If configuring a system without aggregation switches ( <i>Oracle X5-2/Netra X5-2/HP DL380 Gen 9</i> ), <b>skip to procedure 10</b> .

## 4.5 Configure Cisco 4948E-F Aggregation Switches (HP DL380 Gen 8 Servers Only)

### 4.5.1 Configure netConfig Repository (HP DL380 Gen 8 Servers Only)

This procedure will configure the netConfig repository for all required services and for each switch to be configured. At any time, you can view the contents of the netConfig repository by using one of the following commands:

For switches, use the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo listDevices
```

For services, use the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo listServices
```

Users returning to this procedure after initial installation should run the above commands and note any devices and/or services that have already been configured. Duplicate entries cannot be added; if changes to a device repository entry are required, use the editDevice command. If changes to a services repository entry are necessary, you must delete the original entry first and then add the service again.

## IPv4 and IPv6

Configuration support using IPv4 or IPv6 addresses through netConfig. Wherever IP addresses are required for networking procedures in **Section 3.1**, IPv4 or IPv6 may be used. Commands such as ping or ssh may also be used in these procedures, where for IPv6 cases may need to be "ping6" or "ssh -6" as needed.

## Terminology

The term 'netConfig server' refers to the entity where netConfig is executed. This may be a virtualized or physical environment. 'Management server' may also accurately describe this location but has been historically used to describe the physical environment while 'Virtual PMAC' was used to describe the virtualized netConfig server. Use of the term 'netConfig server' to describe dual scenarios of physical and virtualized environments will allow for future simplification of network configuration procedures.

## Procedure Reference Tables

Steps within this procedure and subsequent procedures that require this procedure may refer to variable data indicated by text within "<>". Fill these worksheets out based on NAPD, and then refer back to these tables for the proper value to insert depending on your system type.

Variable	Value
<management_server_iLO_ip>	
<management_server_mgmt_ip_address>	
<netConfig_server_mgmt_ip_address>	
<switch_backup_user>	admusr
<switch_backup_user_password>	
<serial console type>	u=USB, c=PCIe

For the first aggregation switch (4948, 4948E, or 4948E-F): Fill in the appropriate value for this site.

Variable	Value
<switch_hostname>	
<device_model>	
<console_name>	
<switch_console_password>	
<switch_platform_username>	
<switch_platform_password>	
<switch_enable_password>	
<switch_mgmt_ip_address>	
<switch_mgmt_netmask>	
<mgmt_vlanID>	
<control_vlanID>	
<IOS_filename>	
<ip_version>	

For the second aggregation switch (4948, 4948E, or 4948E-F): Fill in the appropriate value for this site.

Variable	Value
<switch_hostname>	
<device_model>	
<console_name>	
<switch_console_password>	
<switch_platform_username>	
<switch_platform_password>	
<switch_enable_password>	
<switch_mgmt_ip_address>	
<switch_mgmt_netmask>	
<mgmt_vlanID>	
<control_vlanID>	
<IOS_filename>	
<ip_version>	

**Procedure 8. Configure netConfig Repository (HP DL380 Gen 8 Servers Only)**

<p><b>S T E P #</b></p>	<p>This procedure will configure 4948E-4948E-F switches with an appropriate IOS and configuration specified by Platform Engineering and Application requirements.</p> <p><b>Prerequisite:</b> This procedure assumes a recently IPM'ed TVOE server with a VM hosting the PMAC application.</p> <p><b>Needed material:</b></p> <ul style="list-style-type: none"> <li>- HP Misc. Firmware USB</li> <li>- HP Solutions Firmware Upgrade Pack, Software Centric Release Notes (Min 2.2.9) [1]</li> <li>- DSR USB or ISO</li> </ul> <p><b>Note:</b> Uplinks must be disconnected from the customer network prior to executing this procedure. One of the steps in this procedure will instruct when to reconnect these uplink cables.</p> <p><b>Note:</b> The generic XML configuration file referenced in this procedure needs to be updated to match the customer's network.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Login and Launch the Integrated Remote Console</p>	<p>Log in to iLO/iLOM; follow <b>Appendix D: TVOE iLO/iLOM GUI Access</b> for instructions on how to access the iLO/iLOM GUI.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px 0;"> <p><code>https://&lt;management_server_iLO_ip&gt;</code></p> </div> <p>Login as <b>admusr</b>.</p>

Procedure 8. Configure netConfig Repository (HP DL380 Gen 8 Servers Only)

2 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Mount Firmware Image	<p>Insert the Misc. Firmware USB media into the USB drive.</p> <p>For this step, be sure to use the correct IOS version specified by the HP Solutions Firmware Upgrade Pack, Software Centric Release Notes (Min 2.2.9) [1]</p> <p>Copy each ISO image called out by the release notes.</p> <p>SSH to the TVOE Host server as <b>admusr</b> using the vsp/Host Console on the TVOE Management Server iLO/iLOM. Make the upgrade media available to the server.</p> <p>Execute the following commands to copy the required files. <b>Note:</b> The <b>&lt;PMAC Management_IP Address&gt;</b> is the one used to deploy PMAC in <b>procedure 5, step 3</b>.</p> <p>Mount the media on the TVOE Host using one of the following commands:</p> <p>If using a USB Drive, run the following to mount it:</p> <pre>\$ sudo /bin/ls /media/*/*.iso</pre> <p>Use the output of the previous command to populate the next command</p> <pre>\$ sudo /bin/mount -o loop /media/sdb1/ &lt;MISC file name&gt; /mnt/upgrade</pre> <p>If the DSR in on an ISO, mount it using the following commands</p> <pre>\$ sudo /bin/mount -o loop &lt;path to DSR ISO&gt; /mnt/upgrade</pre>
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Procedure 8. Configure netConfig Repository (HP DL380 Gen 8 Servers Only)

<p>3</p> <p><input type="checkbox"/></p>	<p><b>TVOE iLO/iLO:</b> SSH into the Management Server</p>	<p>Using an SSH client such as putty, ssh to the TVOE host as <b>admusr</b>.</p> <p>Login using <b>virsh</b>, and wait until you see the login prompt :</p> <pre>\$ sudo /usr/bin/virsh list</pre> <pre>Id Name State ----- 1 PM&amp;C running</pre> <pre>\$ sudo /usr/bin/virsh console &lt;PM&amp;C&gt;</pre> <p>[Output Removed]</p> <pre>Starting ntdMgr: [ OK ] Starting atd: [ OK ] 'TPD Up' notification(s) already sent: [ OK ] upstart: Starting tpdProvd... upstart: tpdProvd started. CentOS release 6.2 (Final) Kernel 2.6.32-220.17.1.el6prerel6.0.0_80.14.0.x86_64 on an x86_64 PM&amp;Cdev7 login:</pre>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Copy ISO images into place (this will copy both the 4948E IOS images into place).</p>	<pre>\$ sudo /usr/bin/scp -r admusr@&lt;TVOE_management_ip_address&gt;:/mnt/upgrade/&lt;4948E_ISO_image_filename&gt; /var/TKLC/smac/image/</pre> <p>Logout of PMAC and Re-login to TVOE Host and unmount the ISO</p> <p>Hold <b>ctrl ]</b> to logout of the PMAC</p> <pre>\$ sudo umount /mnt/upgrade</pre> <p>Remove the Misc. Firmware media from the drive</p>



Procedure 8. Configure netConfig Repository (HP DL380 Gen 8 Servers Only)

<p>5</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Setup netConfig Repository</p>	<p>Use netConfig to create a repository entry that will use the ssh service. This command will provide the user with several prompts. The prompts shown with &lt;variables&gt; as the answers are site specific that the user MUST modify. Other prompts that don't have a &lt;variable&gt; shown as the answer must be entered EXACTLY as they are shown here:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netConfig --repo addService name=ssh_service Service type? (tftp, ssh, conserver, oa) ssh Service host? &lt;netConfig_server_mgmt_ip_address&gt; Enter an option name &lt;q to cancel&gt;: user Enter the value for user: &lt;switch_backup_user&gt; Enter an option name &lt;q to cancel&gt;: password Enter the value for password: &lt;switch_backup_user_password&gt; Verify Password: &lt;switch_backup_user_password&gt; Enter an option name &lt;q to cancel&gt;: q Add service for ssh_service successful</pre> <p>To ensure that you entered the information correctly, use the following command and inspect the output, which will be similar to the one shown below.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netConfig --repo showService name=ssh_service  Service Name: ssh_service Type: ssh Host: 10.250.8.4 Options: password: C20F7D639AE7E7 user: admusr</pre>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Configure TFTP service</p>	<p>Use netConfig to create a repository entry that will use the TFTP service. This command will give the user several prompts. The prompts with &lt;variables&gt; as the answers are site specific that the user MUST modify. Other prompts that don't have a &lt;variable&gt; as an answer must be entered EXACTLY as they are shown here.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netConfig --repo addService name=tftp_service  Service type? (tftp, ssh, conserver, oa) tftp Service host? &lt;netConfig_server_mgmt_ip_address&gt; Enter an option name (q to cancel): dir Enter a value for user dir: /var/TKLC/smac/image/ Enter an option name(q to cancel): q  Add service for tftp_service successful</pre>

Procedure 8. Configure netConfig Repository (HP DL380 Gen 8 Servers Only)

<p>7</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Run conserver Setup</p>	<p>Execute the following command to run the conserverSetup:</p> <pre>\$ sudo /usr/TKLC/plat/bin/conserverSetup -&lt;serial console type&gt; -s &lt;management_server_mgmt_ip_address&gt;</pre> <p>You will be prompted for the platcfg credentials. An example:</p> <pre>[admusr@vm-pmac1A]\$ sudo /usr/TKLC/plat/bin/conserverSetup -u -s &lt;management_server_mgmt_ip_address&gt;</pre> <p>Enter your platcfg username, followed by [ENTER]:<b>platcfg</b> Enter your platcfg password, followed by [ENTER]:<b>&lt;platcfg_password&gt;</b> Checking Platform Revision for local TPD installation... The local machine is running: Product Name: PMAC Base Distro Release: 7.0.0.0.0_86.1.0 Checking Platform Revision for remote TPD installation... The remote machine is running: Product Name: TVOE Base Distro Release: 7.0.0.0.0_86.2.0 Configuring switch 'switch1A_console' console server...Configured. Configuring switch 'switchBA_console' console server...Configured. Configuring iptables for port(s) 782...Configured. Configuring iptables for port(s) 1024:65535...Configured. Configuring console repository service... Repo entry for "console_service" already exists; deleting entry for: Service Name: console_service Type: conserver Host: &lt;management_server_mgmt_ip_address&gt; ...Configured. Slave interfaces for bond0: bond0 interface: eth01 bond0 interface: eth02 </p>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Copy the Cisco Firmware to the TFTP Directory</p>	<p>Copy the FW identified by &lt;FW_image&gt; in the aggregation switch variable table</p> <pre>\$ sudo /bin/cp /mnt/upgrade/files/&lt;FW_image&gt; /var/TKLC/smac/image</pre> <pre>\$ sudo /bin/chmod 644 /var/TKLC/smac/image/&lt;FW_image&gt;</pre>

Procedure 8. Configure netConfig Repository (HP DL380 Gen 8 Servers Only)

<p>9</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Setup the netConfig Repository with Aggregation Switch Information</p>	<p>Use netConfig to create a repository entry for each switch. The initial command will prompt the user multiple times. The prompts with &lt;variables&gt; as the answers are site specific that the user MUST modify. Other prompts that don't have a &lt;variable&gt; as an answer must be entered EXACTLY as they are shown here.</p> <p><b>Note:</b> The &lt;device_model&gt; can be 4948, 4948E, or 4948E-F depending on the model of the device. If you do not know, stop now and contact <b>Appendix T: My Oracle Support (MOS)</b></p> <pre> sudo /usr/TKLC/plat/bin/netConfig --repo addDevice name=&lt;switch_hostname&gt; --reuseCredentials  Device Vendor? Cisco Device Model? &lt;device_model&gt; What is the IPv4 (CIDR notation) or IPv6 (address/prefix notation) address for management?: &lt;switch_mgmt_ip_address&gt;&lt;mask&gt; Is the management interface a port or a vlan? [vlan]: [Enter] What is the VLAN ID of the management VLAN? [2]: [mgmt_vlanID] What is the name of the management VLAN? [management]: [Enter] What switchport connects to the management server? [GE40]: [Enter] What is the switchport mode (access trunk) for the management server port? [trunk]: [Enter] What are the allowed vlans for the management server port? [1,2]: &lt;control_vlanID&gt;, &lt;mgmt_vlanID&gt; Enter the name of the firmware file [cat4500e-entservicesk9-mz.122- 54.XO.bin]: &lt;IOS_filename&gt; Firmware file to be used in upgrade: &lt;IOS_filename&gt; Enter the name of the upgrade file transfer service: tftp_service File transfer service to be used in upgrade: tftp_service Should the init oob adapter be added (y/n)? y Adding consoleInit protocol for &lt;switch_hostname&gt; using oob... What is the name of the service used for OOB access? console_service What is the name of the console for OOB access? &lt;console_name&gt; What is the platform access username? &lt;switch_platform_username&gt; What is the device console password? &lt;switch_console_password&gt; UG006482 Revision B, April 2015 70 Software Installation Procedures Verify password: &lt;switch_console_password&gt; What is the platform user password? &lt;switch_platform_password&gt; Verify password: &lt;switch_platform_password&gt; What is the device privileged mode password? &lt;switch_enable_password&gt; Verify password: &lt;switch_enable_password&gt; Should the live network adapter be added (y/n)? y Adding cli protocol for &lt;switch_hostname&gt; using network... Network device access already set: &lt;switch_mgmt_ip_address&gt; Should the live oob adapter be added (y/n)? y Adding cli protocol for &lt;switch_hostname&gt; using oob... OOB device access already set: console_service  Device named &lt;switch_hostname&gt; successfully added. </pre>
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**Procedure 8. Configure netConfig Repository (HP DL380 Gen 8 Servers Only)**

<p>10</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Verification</p>	<p>To check that you entered the information correctly, use the following command:</p> <pre>\$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=&lt;switch_hostname&gt;</pre> <p>The output should be similar to the one shown:</p> <pre>\$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=&lt;switch_hostname&gt; Device: &lt;switch_hostname&gt; Vendor: Cisco Model: &lt;device_model&gt; FW Ver: 0 FW Filename: &lt;IOS_image&gt; FW Service: tftp_service Initialization Management Options mgmtIP: &lt;switch_mgmt_ip_address&gt; mgmtInt: vlan mgmtVlan: &lt;mgmt_vlanID&gt; mgmtVlanName: management interface: GE40 mode: trunk allowedVlans: &lt;control_vlanID&gt;, &lt;mgmt_vlanID&gt; Access: Network: &lt;switch_mgmt_ip_address&gt; Access: OOB: Service: console_service Console: &lt;console_name&gt; Init Protocol Configured Live Protocol Configured</pre>
<p>11</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Repeat For Second 4948.</p>	<p>Repeat Steps 9-10 for the second Cisco 4948.</p>

## 4.5.2 Configure Cisco 4948E-F Aggregation Switches (HP DL380 Gen 8 Servers Only)

This procedure will configure the 4948E-F switches with the appropriate IOS and configuration from a single management server and virtual PMAC.

### Procedure Reference Tables:

Steps within this procedure may refer to variable data indicated by text within "<>". Refer to this table for the proper value to insert depending on your system type.

Variable	Value
<switch_platform_username>	
<switch_platform_password>	
<switch_console_password>	
<switch_enable_password>	
<management_server_mgmt_ip_address>	
<pmac_mgmt_ip_address>	
<switch_mgmtVLAN_id>	
<switch1A_mgmtVLAN_ip_address>	
<switch_mgmt_netmask>	
<mgmt_Vlan_subnet_id>	
<netmask>	
<switch1B_mgmtVLAN_ip_address>	
<switch_Internal_VLANS_list>	
<management_server_mgmtInterface>	
<management_server_iLO_ip>	
<customer_supplied_ntp_server_address>	

Variable	Value
<platcfg_password>	Initial password as provided by Oracle
<management_server_mgmtInterface>	Value gathered from NAPD
<switch_backup_user>	admusr
<switch_backup_user_password>	

**Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)**

<p><b>S T E P #</b></p>	<p>This procedure will configure the 4948E-F switches with the appropriate IOS and configuration from a single management server and virtual PMAC.</p> <p><b>Needed material:</b></p> <ul style="list-style-type: none"> <li>- HP Misc. Firmware USB</li> <li>- HP Solutions Firmware Upgrade Pack, Software Centric Release Notes (Min 2.2.9) [1]</li> <li>- Template XML files from the DSR media</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Verify IOS image is on the system</p>	<p>Verify the IOS image is on the system. If the appropriate image does not exist, copy the image to the PMAC.</p> <pre style="border: 1px solid black; padding: 5px;">\$ /bin/ls -i /var/TKLC/smac/image/&lt;IOS_image_file&gt;</pre>
<p>2 <input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Modify PMAC Feature to allow TFTP</p>	<p>Enable the DEVICE.NETWORK.NETBOOT feature with the management role to allow TFTP traffic:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/pmacadm editFeature --featureName=DEVICE.NETWORK.NETBOOT --enable=1  \$ sudo /usr/TKLC/smac/bin/pmacadm resetFeatures</pre> <p><b>Note:</b> Ignore the sentry restart instructions</p> <p><b>Note:</b> This may take up to 60 seconds to complete.</p>
<p>3 <input type="checkbox"/></p>	<p><b>Virtual PMAC TVOE HOST:</b> Manipulate host server physical interfaces.</p>	<p>Exit from the virtual PMAC console, by entering <b>&lt; ctrl-] &gt;</b> and you will be returned to the server prompt. Ensure that the interface of the server connected to switch1A is the only interface up and obtain the IP address of the management server management interface by performing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /sbin/ifup &lt;ethernet_interface_1&gt; \$ sudo /sbin/ifdown &lt;ethernet_interface_2&gt; \$ sudo /sbin/ip addr show &lt;management_server_mgmtInterface&gt;   grep inet</pre> <p><b>Note:</b> The command output should contain the IP address of variable &lt;management_server_Mgmt_ip_address&gt;</p>

Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)

4 <input type="checkbox"/>	<b>Virtual PMAC:</b> Determine if switch1A PROM upgrade is required	<p>Determine if switch1A PROM upgrade is required.</p> <p><b>Note:</b> ROM &amp; PROM are intended to have the same meaning for this procedure</p> <p>Connect serially to switch1A by issuing the following command.</p> <pre>\$ sudo /usr/bin/console -M &lt;management_server_mgmt_ip_address&gt; -l platcfg switch1A_console Enter platcfg@pmac5000101's password: &lt;platcfg_password&gt; [Enter '^Ec?' for help] Press Enter Switch&gt; show version   include ROM ROM: 12.2(31r)SGA1 System returned to ROM by reload</pre> <p><b>Note:</b> If the console command fails, contact <b>Appendix T:</b> My Oracle Support (MOS)</p> <p>Note the IOS image &amp; ROM version for comparison in a following step. Exit from the console by entering <b>&lt;ctrl-e&gt;&lt;c&gt;&lt;. &gt;</b> and you will be returned to the server prompt.</p> <p>Check the version from the previous command against the version from the release notes referenced. If the versions are different, perform the procedure in <b>Appendix K:</b> Upgrade Cisco 4948 PROM to upgrade the PROM for switch1A.</p>
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Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)

5 <input type="checkbox"/>	<b>Virtual PMAC:</b> Modify configure xml file with information needed to initialize the switch.	<p>Extract the configuration files from the zip file copied in <b>procedure 6</b></p> <pre>\$ cd /usr/TKLC/smac/etc \$ sudo unzip DSR_NetConfig_Templates.zip</pre> <p><b>Note:</b> This will create a directory called “<b>DSR_NetConfig_Templates</b>” which contains all the necessary configuration files. Copy the following files using the following commands</p> <pre>\$ sudo chmod 644 DSR_NetConfig_Templates/  \$ sudo cp -a DSR_NetConfig_Templates/init/Aggregation/*.xml /usr/TKLC/smac/etc  \$ sudo cp -a DSR_NetConfig_Templates /config/DSR_RMS_Productization/4948E-F_L3_configure.xml /usr/TKLC/smac/etc</pre> <p><b>Note:</b> Update the 4948E init and configure xml files to match your network parameters. Values to be modified by the user will be notated in this step by a preceding dollar sign. So a value that has <b>&lt;some_variable_name&gt;</b> will need to be modified, removing the dollar sign and the less than, greater than sign.</p> <pre>\$ sudo vi /usr/TKLC/smac/etc/switch1A_4948_E_E- F_cClass_template_init.xml  \$ sudo vi /usr/TKLC/smac/etc/switch1B_4948_E_E- F_cClass_template_init.xml  \$ sudo vi /usr/TKLC/smac/etc/4948E-F_L3_configure.xml</pre>
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Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)

<p>6</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Initialize Switch1A</p>	<p><b>Initialize</b> switch1A by issuing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netConfig -- file=/usr/TKLC/smac/etc/switch1A_4948_4948E_init.xml  Processing file: /usr/TKLC/smac/etc/switch1A_4948_4948E_init.xml</pre> <p><b>Note:</b> This step takes about 5-10 minutes to complete. Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact <b>Appendix T: My Oracle Support (MOS)</b>. A successful completion of netConfig will return the user to the prompt.</p> <p>Use netConfig to get the hostname of the switch, to verify that the switch was initialized properly, and to verify that netConfig can connect to the switch.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netConfig --device=switch1A getHostname  Hostname: switch1A \$</pre> <p><b>Note:</b> If this command fails, stop this procedure and contact <b>Appendix T: My Oracle Support (MOS)</b></p> <p>Exit the PMAC with the escape character is <b>&lt;ctrl-]&gt;</b></p>
<p>7</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC TVOE HOST:</b> Manipulate host server physical interfaces.</p>	<p>Exit from the virtual PMAC console, by entering <b>&lt; ctrl-] &gt;</b> and you will be returned to the server prompt. Ensure that the interface of the server connected to switch1B is the only interface up and obtain the IP address of the management server management interface by performing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /sbin/ifup &lt;ethernet_interface_2&gt; \$ sudo /sbin/ifdown &lt;ethernet_interface_1&gt;</pre>

Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)

<p>8</p> <p><input type="checkbox"/></p>	<p><b>TVOE iLO/iLO:</b> SSH into the Management Server</p>	<p>Log back into the PMAC.</p> <p>Login using <b>virsh</b>, and wait until you see the login prompt :</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/virsh list  Id Name State ----- 1 myTPD running 2 PM&amp;C running</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/virsh console &lt;PM&amp;C&gt;  [Output Removed]  Starting ntdMgr: [ OK ] Starting atd: [ OK ] 'TPD Up' notification(s) already sent: [ OK ] upstart: Starting tpdProvd... upstart: tpdProvd started. CentOS release 6.2 (Final) Kernel 2.6.32-220.17.1.el6prere16.0.0_80.14.0.x86_64 on an x86_64 PM&amp;Cdev7 login:</pre>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Initialize switch1B</p>	<p>Initialize switch1B by issuing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netConfig -- file=/usr/TKLC/smac/etc/switch1B_4948_4948E_init.xml  Processing file: /usr/TKLC/smac/etc/switch1B_4948_4948E_init.xml \$</pre> <p><b>Note:</b> This step takes about 5-10 minutes to complete. Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact <b>Appendix T: My Oracle Support (MOS)</b>. A successful completion of netConfig will return the user to the prompt.</p> <p>Use netConfig to get the hostname of the switch, to verify that the switch was initialized properly, and to verify that netConfig can connect to the switch.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netConfig -- device=switch1B getHostname  Hostname: switch1B \$</pre> <p><b>Note:</b> If this command fails, stop this procedure and contact <b>Appendix T: My Oracle Support (MOS)</b></p>

Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)

<p>10</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Modify PMAC Feature to disable TFTP</p>	<p>Disable the DEVICE.NETWORK.NETBOOT feature.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/PM&amp;Cadm editFeature --featureName=DEVICE.NETWORK.NETBOOT --enable=0</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/PM&amp;Cadm resetFeatures</pre> <p><b>Note:</b> Ignore the sentry restart instructions</p> <p><b>Note:</b> This may take up to 60 seconds to complete.</p>
<p>11</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Configure the switches</p>	<p>Configure both switches by issuing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netConfig --file=/usr/TKLC/smac/etc/4948_4948E_configure.xml</pre> <pre style="border: 1px solid black; padding: 5px;">Processing file: /usr/TKLC/smac/etc/4948_4948E_configure.xml</pre> <p><b>Note:</b> This step takes about <b>2-3 minutes</b> to complete.</p> <p>Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact <b>Appendix T: My Oracle Support (MOS)</b>.</p>
<p>12</p> <p><input type="checkbox"/></p>	<p><b>TVOE Management Server:</b> Enable Interfaces on TVOE Host</p>	<p>Exit from the virtual PMAC console, by entering <b>&lt;ctrl-]&gt;</b> and you will be returned to the server prompt.</p> <p>Ensure that the interfaces of the server connected to switch1A and switch1B are up by performing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /sbin/ifup &lt;ethernet_interface_1&gt;</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /sbin/ifup &lt;ethernet_interface_2&gt;</pre>

Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)


<p>13</p> <p><input type="checkbox"/></p>	<p><b>TVOE iLO/iLO:</b> SSH into the Management Server</p>	<p>Log back into the PMAC.</p> <p>Login using <b>virsh</b>, and wait until you see the login prompt :</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/virsh list  Id Name State ----- 1 myTPD running 2 PM&amp;C running</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/virsh console &lt;PM&amp;C&gt;  [Output Removed]  Starting ntdMgr: [ OK ] Starting atd: [ OK ] 'TPD Up' notification(s) already sent: [ OK ] upstart: Starting tpdProvd... upstart: tpdProvd started. CentOS release 6.2 (Final) Kernel 2.6.32-220.17.1.el6prere16.0.0_80.14.0.x86_64 on an x86_64 PM&amp;Cdev7 login:</pre>
<p>14</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Verify switch configuration</p>	<p>Ping each of the interfaces to verify switch configuration</p> <pre style="border: 1px solid black; padding: 5px;">\$ /bin/ping &lt;switch1A_mgmtVLANIP&gt; \$ /bin/ping &lt;switch1B_mgmtVLANIP&gt;</pre>
<p>15</p> <p><input type="checkbox"/></p>	<p><b>Cabinet:</b> Connect Uplinks of Switch1A</p>	<p>Attach switch1A customer uplink cables. Refer to the NAPD for which ports are uplink ports.</p> <p><b>Note:</b> If the customer is using standard 802.1D spanning-tree, the links may take up to 50 seconds to become active.</p>
<p>16</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Verify access to customer network</p>	<p>Verify connectivity to the customer network by issuing the following command</p> <pre style="border: 1px solid black; padding: 5px;">\$ /bin/ping &lt;customer_supplied_ntp_server_address&gt;</pre>
<p>17</p> <p><input type="checkbox"/></p>	<p><b>Cabinet:</b> Connect Uplinks of Switch1B</p>	<p>Attach switch1B customer uplink cables and detach switch1A customer uplink cables. Refer to the NAPD for which ports are uplink ports.</p> <p><b>Note:</b> If the customer is using standard 802.1D spanning-tree, the links may take up to 50 seconds to become active.</p>

**Procedure 9. Configure Cisco 4948E-F Aggregation Switches-netConfig (HP DL 380 Servers Only)**

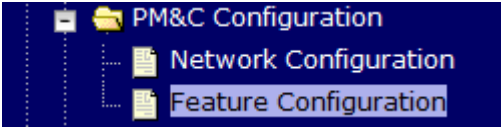
<p>18</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Verify access to customer network</p>	<p>Verify connectivity to the customer network by issuing the following command</p> <pre style="border: 1px solid black; padding: 2px;">\$ /bin/ping &lt;customer_supplied_ntp_server_address&gt;</pre>
<p>19</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Re-attach uplinks of switch1A</p>	<p>Re-attach switch1A customer uplink cables. Refer to the NAPD for which ports are uplink ports.</p> <p><b>Note:</b> If the customer is using standard 802.1D spanning-tree, the links may take up to 50 seconds to become active</p>
<p>20</p> <p><input type="checkbox"/></p>	<p><b>TVOE Management Server:</b> Restore the TVOE host back to its original state</p>	<p>Exit from the virtual PMAC console, by entering <b>&lt;ctrl-]&gt;</b> and you will be returned to the server prompt.</p> <p>Restore the server networking back to original state:</p> <pre style="border: 1px solid black; padding: 2px;">\$ sudo /sbin/service network restart</pre>

## 4.6 Configure PMAC Server

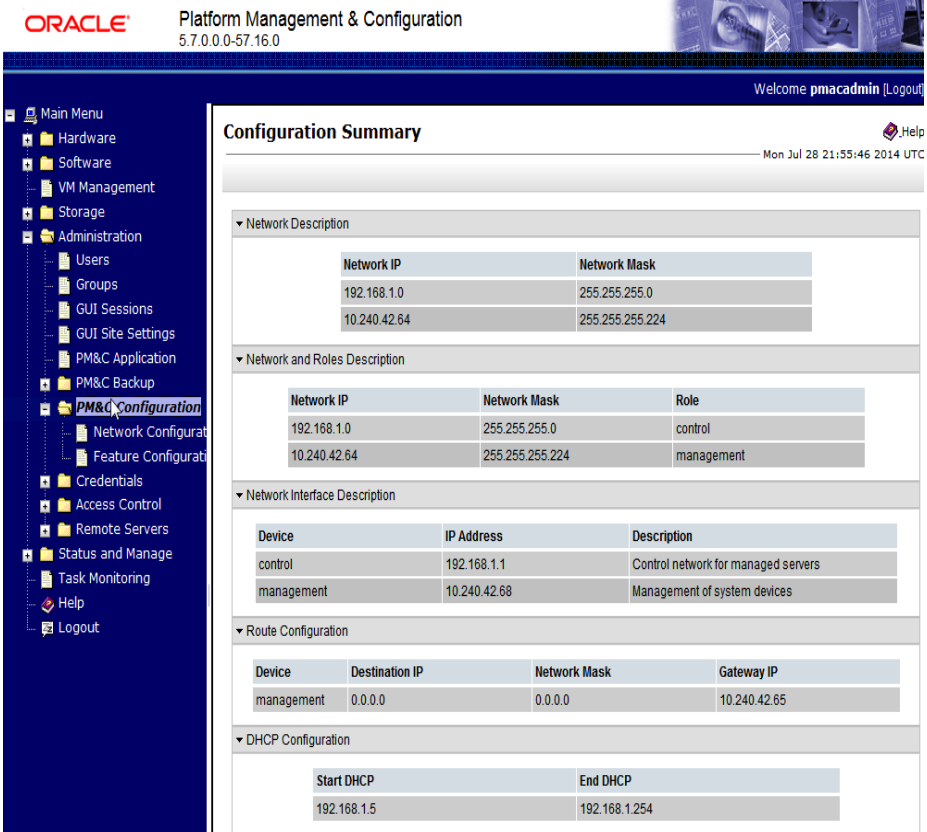
### Procedure 10. Configure the PMAC Server

<b>S</b> <b>T</b> <b>E</b> <b>P</b> <b>#</b>	<p>This procedure will provide PMAC configuration using the web interface.</p> <p><b>Note:</b> The installer must be knowledgeable of the network. If you make a mistake, click Cancel and try again. The finish step may take longer time because it reconfigures the network and attempts to connect may fail.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
1 <input type="checkbox"/>	<p><b>PMAC GUI:</b> Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user:</p> <p>Login</p> <p><input type="text" value="https://&lt;pmac_network_ip&gt;"/></p> 

Procedure 10. Configure the PMAC Server

2	<p><b>PMAC GUI:</b> Configure Optional Features</p>	<p>Navigate to <b>Main Menu -&gt; Administration -&gt; PM&amp;C Configuration -&gt; Feature Configuration</b></p>  <p>If <b>NetBackup</b> is to be used, enable the NetBackup feature. Otherwise use the selected features as is. The following image is for reference only:</p> <p><b>Features</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Feature</th> <th style="text-align: left;">Description</th> <th style="text-align: left;">Role</th> <th style="text-align: left;">Enabled</th> </tr> </thead> <tbody> <tr> <td>DEVICE.NETWORK.NETBOOT</td> <td>Network device PXE initialization</td> <td>management</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>DEVICE.NTP</td> <td>PM&amp;C as a time server</td> <td>management</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>PMAC.MANAGED</td> <td>Remote management of PM&amp;C server</td> <td>management</td> <td><input type="checkbox"/></td> </tr> <tr> <td>PMAC.REMOTE.BACKUP</td> <td>Remote server for backup</td> <td>management</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>PMAC.NETBACKUP</td> <td>NetBackup client</td> <td>management</td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <p style="text-align: center;"><input type="button" value="Add Role"/></p> <p>Make sure that the roles for all the features are set to <b>management</b>.</p> <p>Also make sure that the enabled checkbox is checked for the following:</p> <ul style="list-style-type: none"> <li>• DEVICE.NETWORK.NETBOOT</li> <li>• DEVICE.NTP</li> <li>• PM&amp;C.REMOTE.BACKUP</li> <li>• PM&amp;C.NETBACK (only if NetBackup is used)</li> </ul> <p>And click on <b>Apply</b>. This foreground task will take a few moments, and then refresh the view with an Info or Error notice to verify the action. To discard changes, just navigate away from the view</p>	Feature	Description	Role	Enabled	DEVICE.NETWORK.NETBOOT	Network device PXE initialization	management	<input checked="" type="checkbox"/>	DEVICE.NTP	PM&C as a time server	management	<input checked="" type="checkbox"/>	PMAC.MANAGED	Remote management of PM&C server	management	<input type="checkbox"/>	PMAC.REMOTE.BACKUP	Remote server for backup	management	<input checked="" type="checkbox"/>	PMAC.NETBACKUP	NetBackup client	management	<input type="checkbox"/>
Feature	Description	Role	Enabled																							
DEVICE.NETWORK.NETBOOT	Network device PXE initialization	management	<input checked="" type="checkbox"/>																							
DEVICE.NTP	PM&C as a time server	management	<input checked="" type="checkbox"/>																							
PMAC.MANAGED	Remote management of PM&C server	management	<input type="checkbox"/>																							
PMAC.REMOTE.BACKUP	Remote server for backup	management	<input checked="" type="checkbox"/>																							
PMAC.NETBACKUP	NetBackup client	management	<input type="checkbox"/>																							

**Procedure 10. Configure the PMAC Server**

3	<p><b>PMAC GUI:</b> Settings summary</p>	<p>Go to In the <b>Main Menu -&gt; Administration -&gt; PM&amp;C Configuration</b></p> <p>The following summary screen will be displayed. This will provide a summary of PMAC configuration</p> <p>IPv4 Example Shown:</p>  <p>The screenshot shows the Oracle Platform Management &amp; Configuration interface. The top header includes the Oracle logo, the product name 'Platform Management &amp; Configuration', and the version '5.7.0.0.0-57.16.0'. A user is logged in as 'pmacadmin'. The left navigation menu is expanded to 'PM&amp;C Configuration'. The main content area displays the 'Configuration Summary' page, which is divided into several sections:</p> <ul style="list-style-type: none"> <li><b>Network Description:</b> A table with columns 'Network IP' and 'Network Mask'.             <table border="1"> <thead> <tr> <th>Network IP</th> <th>Network Mask</th> </tr> </thead> <tbody> <tr> <td>192.168.1.0</td> <td>255.255.255.0</td> </tr> <tr> <td>10.240.42.64</td> <td>255.255.255.224</td> </tr> </tbody> </table> </li> <li><b>Network and Roles Description:</b> A table with columns 'Network IP', 'Network Mask', and 'Role'.             <table border="1"> <thead> <tr> <th>Network IP</th> <th>Network Mask</th> <th>Role</th> </tr> </thead> <tbody> <tr> <td>192.168.1.0</td> <td>255.255.255.0</td> <td>control</td> </tr> <tr> <td>10.240.42.64</td> <td>255.255.255.224</td> <td>management</td> </tr> </tbody> </table> </li> <li><b>Network Interface Description:</b> A table with columns 'Device', 'IP Address', and 'Description'.             <table border="1"> <thead> <tr> <th>Device</th> <th>IP Address</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>control</td> <td>192.168.1.1</td> <td>Control network for managed servers</td> </tr> <tr> <td>management</td> <td>10.240.42.68</td> <td>Management of system devices</td> </tr> </tbody> </table> </li> <li><b>Route Configuration:</b> A table with columns 'Device', 'Destination IP', 'Network Mask', and 'Gateway IP'.             <table border="1"> <thead> <tr> <th>Device</th> <th>Destination IP</th> <th>Network Mask</th> <th>Gateway IP</th> </tr> </thead> <tbody> <tr> <td>management</td> <td>0.0.0.0</td> <td>0.0.0.0</td> <td>10.240.42.65</td> </tr> </tbody> </table> </li> <li><b>DHCP Configuration:</b> A table with columns 'Start DHCP' and 'End DHCP'.             <table border="1"> <thead> <tr> <th>Start DHCP</th> <th>End DHCP</th> </tr> </thead> <tbody> <tr> <td>192.168.1.5</td> <td>192.168.1.254</td> </tr> </tbody> </table> </li> </ul>	Network IP	Network Mask	192.168.1.0	255.255.255.0	10.240.42.64	255.255.255.224	Network IP	Network Mask	Role	192.168.1.0	255.255.255.0	control	10.240.42.64	255.255.255.224	management	Device	IP Address	Description	control	192.168.1.1	Control network for managed servers	management	10.240.42.68	Management of system devices	Device	Destination IP	Network Mask	Gateway IP	management	0.0.0.0	0.0.0.0	10.240.42.65	Start DHCP	End DHCP	192.168.1.5	192.168.1.254
Network IP	Network Mask																																					
192.168.1.0	255.255.255.0																																					
10.240.42.64	255.255.255.224																																					
Network IP	Network Mask	Role																																				
192.168.1.0	255.255.255.0	control																																				
10.240.42.64	255.255.255.224	management																																				
Device	IP Address	Description																																				
control	192.168.1.1	Control network for managed servers																																				
management	10.240.42.68	Management of system devices																																				
Device	Destination IP	Network Mask	Gateway IP																																			
management	0.0.0.0	0.0.0.0	10.240.42.65																																			
Start DHCP	End DHCP																																					
192.168.1.5	192.168.1.254																																					



Procedure 10. Configure the PMAC Server


<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC Command Line:</b> Perform a system healthcheck</p>	<p>Execute the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ alarmMgr --alarmStatus</pre> <p>This command should return no output on a healthy system.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo sentry status</pre> <p>All Processes should be running, displaying output similar to the following:</p> <pre style="border: 1px solid black; padding: 5px;">PM&amp;C Sentry Status ----- sentryd started: Mon Jul 23 17:50:49 2012 Current activity mode: ACTIVE Process          PID  Status          StartTS          NumR ----- smacTalk         9039 running Tue Jul 24 12:50:29 2012 2 smacMon          9094 running Tue Jul 24 12:50:29 2012 2 hpiPortAudit    9137 running Tue Jul 24 12:50:29 2012 2 snmpEventHandler 9176 running Tue Jul 24 12:50:29 2012 2 eclipseHelp     9196 running Tue Jul 24 12:50:30 2012 2  Fri Aug 3 13:16:35 2012 Command Complete.</pre>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC Command Line:</b> Install NetBackup (Optional)</p>	<p>1. If the NetBackup client installation will rely on the TPD “nbAutoInstall” process to configure the PMAC NetBackup client perform the following at the PMAC Command Line, otherwise continue to <b>sub bullet 2</b> below.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo mkdir -p /usr/opensv/NetBackup/bin/  \$ sudo ln -s /usr/TKLC/smac/sbin/bpstart_notify /usr/opensv/NetBackup/bin/  \$ sudo ln -s /usr/TKLC/smac/sbin/bpend_notify /usr/opensv/NetBackup/bin/</pre> <p>Use TPD platcfg utility to add the NetBackup Server’s alias and IP to the “/etc/hosts” file.</p> <p>2. Refer to [14], procedure “<b>PM&amp;C NetBackup Client Installation and Configuration</b>” for instructions on installing the NetBackup client on the TVOE Management Server.</p>

Procedure 10. Configure the PMAC Server

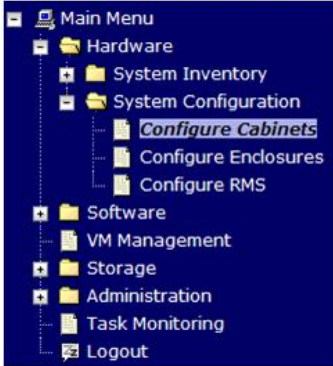
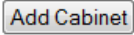

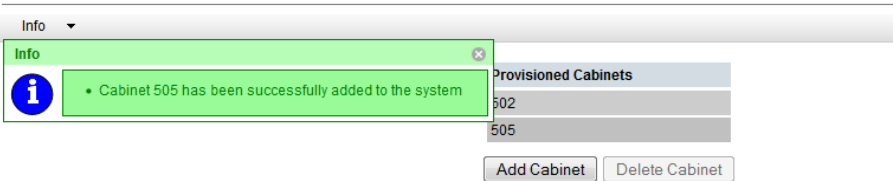
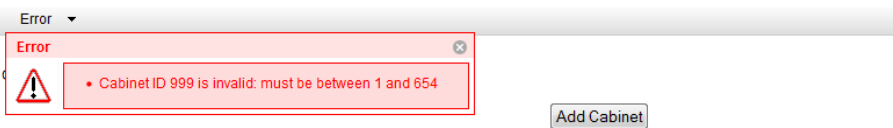
6 <input type="checkbox"/>	<b>PMAC Command Line:</b> Perform a backup	<p>Perform PMAC application backup using the following command:</p> <pre>\$ sudo pmacadm backup</pre> <pre>PM&amp;C backup been successfully initiated as task ID 7 [usradm@pmacDev3 ~]\$</pre> <p><b>Note:</b> The "pmacadm backup" command uses a naming convention which includes a date/time stamp in the file name (Example file name: backupPmac_20111025_100251.pef). In the example provided, the backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time.</p> <p>Next Verify that the backup was successful using the following command:</p> <pre>\$ sudo pmaccli getBgTasks</pre> <pre>2: Backup PMAC COMPLETE - PMAC Backup successful Step 2: of 2 Started: 2012-07-05 16:53:10 running: 4 sinceUpdate: 2 taskRecordNum:</pre> <p>Once the backup has been verified that it was successful, copy the backup file to a remote location. The backup file is located under <b>/var/TKLC/smac/backup</b>.</p>
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## 4.7 Add Rack Mount Server to PMAC

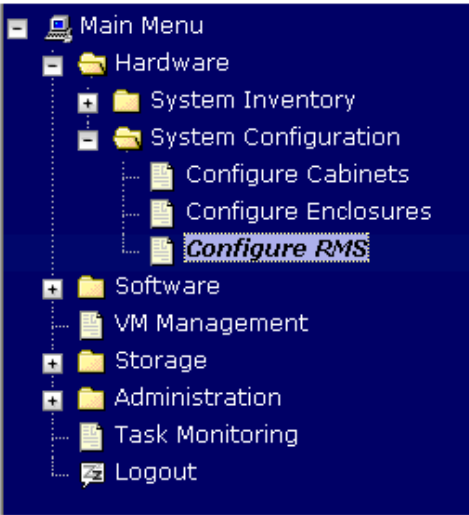
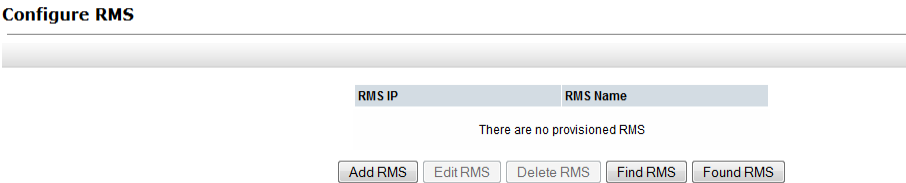
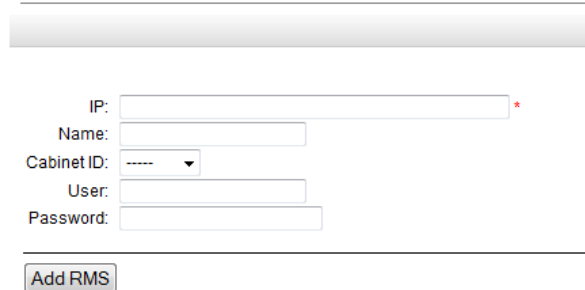
### Procedure 11. Add RMS to the PMAC system Inventory

<b>S T E P #</b>	<p>This procedure will provide PMAC configuration using the web interface.</p> <p><b>Note:</b> If you make a mistake, click Cancel and try again. The finish step may take longer time because it reconfigures the network and attempts to connect may fail.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
1 <input type="checkbox"/>	<p><b>PMAC GUI: Login</b></p> <p>Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user:</p> <p><input type="text" value="https://&lt;pmac_network_ip&gt;"/></p> 

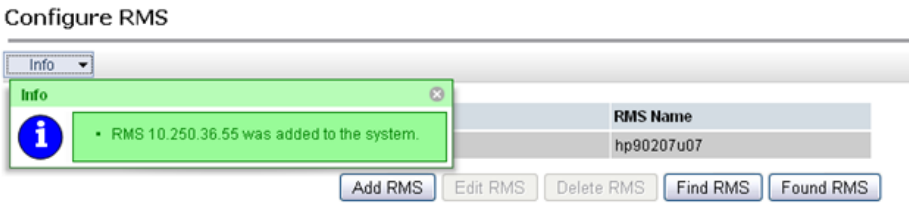
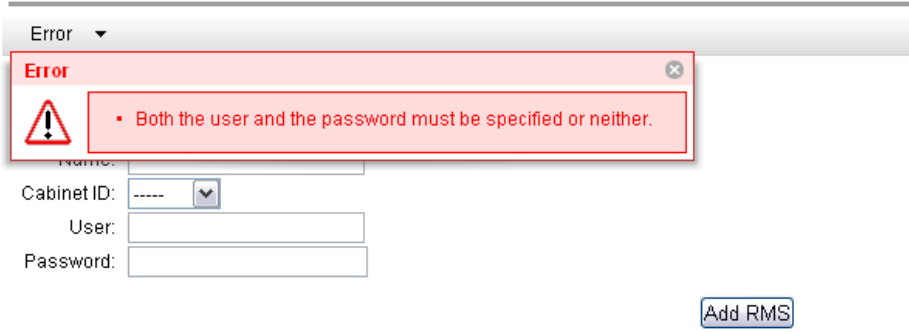
Procedure 11. Add RMS to the PMAC system Inventory

<p>2</p> <p>☐</p>	<p><b>PMAC GUI:</b> Configure Cabinets</p>	<p>Navigate to <b>Main Menu -&gt; Hardware -&gt; System Configuration -&gt; Configure Cabinets.</b></p>  <p>Press the <b>Add Cabinet</b> Button</p>  <p>Enter the Cabinet ID, and press the <b>Add Cabinet</b> button:</p> <p><b>Add Cabinet</b></p> <input type="text"/> <p>Cabinet ID: <input type="text"/> Cabinet ID must be from 1 to 654.</p> 
<p>3</p> <p>☐</p>	<p><b>PMAC GUI:</b> Check Errors</p>	<p>If no error is reported to the user you will see the following:</p> <p><b>Configure Cabinets</b></p> <p>Info ▾</p>  <p>Or you will see an error message:</p> <p><b>Add Cabinet</b></p> <p>Error ▾</p> 

Procedure 11. Add RMS to the PMAC system Inventory

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Configure RMS</p>	<p>Navigate to <b>Main Menu -&gt; Hardware -&gt; System Configuration -&gt; Configure RMS</b></p> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Add RMS</p>	<p>On the Configure RMS panel, click the <b>Add RMS</b> button.</p> 
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Enter information</p>	<p>Enter the IP Address of the rack mount server management port (iLO/iLOM) and username/password of the iLO/iLOM. All the other fields are optional.</p> <p>Then click on the <b>Add RMS</b> button.</p> <p><b>Add RMS</b></p>  <p><b>Note:</b> The PMAC contains default credentials for the rack mount server management port (not to be confused with OS or Application credentials), however if you know the default credentials will not work then enter the valid credentials for the rack mount server management port.</p>

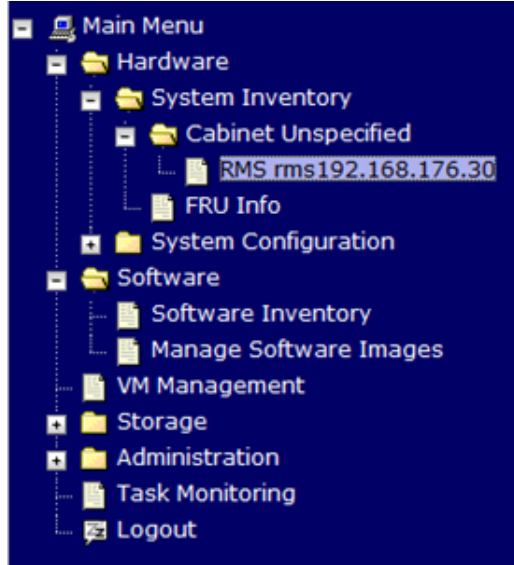
Procedure 11. Add RMS to the PMAC system Inventory

<p>7</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Check errors</p>	<p>If no error is reported to the user you will see the following</p>  <p>Or you will see an error message:</p> <p><b>Add RMS</b></p> 
<p>8</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for Additional Rack Mount Servers</p>	<p>Repeat <b>Steps 5-7</b> for additional Rack Mount Servers.</p>

Procedure 11. Add RMS to the PMAC system Inventory

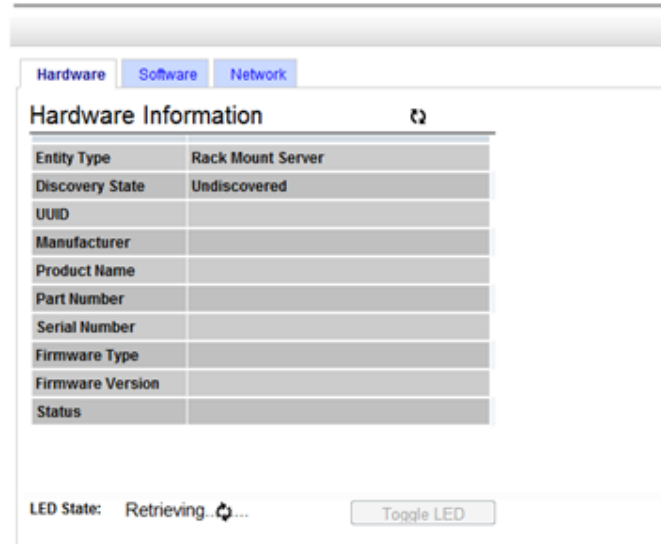
9 **PMAC**  
 **GUI:** Verify RMS discovered

Navigate to **Main Menu -> Hardware -> System Inventory -> Cabinet xxx -> RMS yyy**. Where **xxx** is the cabinet id selected when adding RMS (or "unspecified") and **yyy** is the name of the RMS.



The RMS inventory page is displayed.

**RMS rms192.168.176.30 with IP 192.168.176.30**

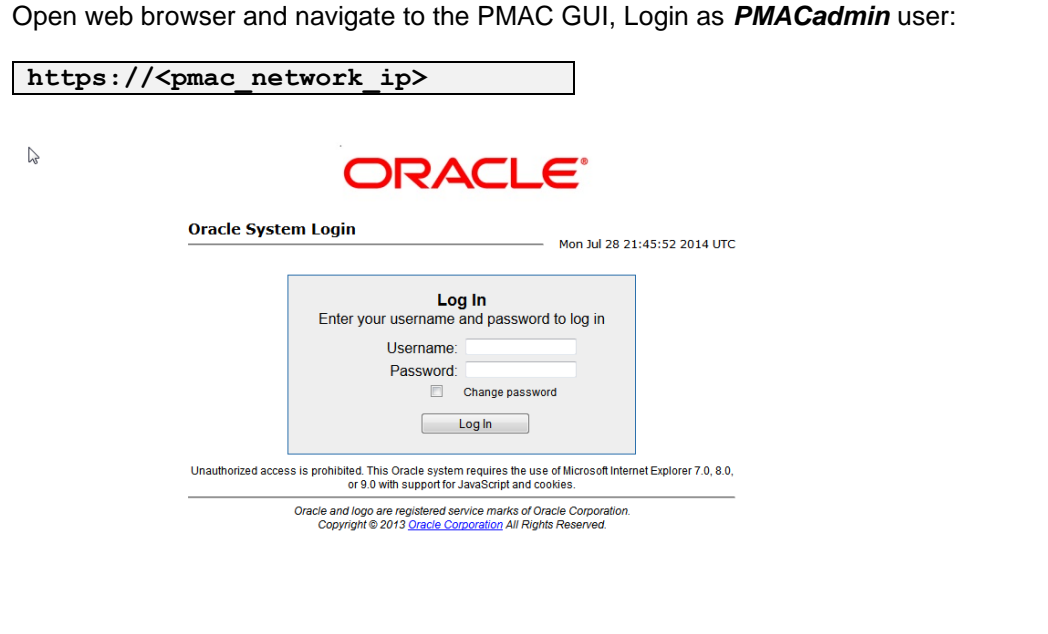


Periodically refresh the hardware information using the double arrow to the right of the title "**Hardware Information**" until the "**Discovery state**" changes from "**Undiscovered**" to "**Discovered**".

**Note:** If "**Status**" displays an error, contact **Appendix T: My Oracle Support (MOS)**

## 4.8 Install TVOE on Additional Rack Mount Servers

### Procedure 12. Install TVOE on Additional Rack Mount Servers

<b>S T E P #</b>	<p>This procedure will install the TVOE operating system on additional Mounted Servers.</p> <p><b>Prerequisite:</b> PMAC (virtualized) has been installed on the First RMS Server.</p> <p><b>Important:</b> For HP DL380 Gen9 servers follow <b>procedure 3</b> (Skip this procedure). Once procedure 4 has been executed on all additional rack mount servers, continue to procedure 13.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
1 <input type="checkbox"/>	<p><b>PMAC GUI: Login</b></p> <p>Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user:</p> <p><code>https://&lt;pmac_network_ip&gt;</code></p> 

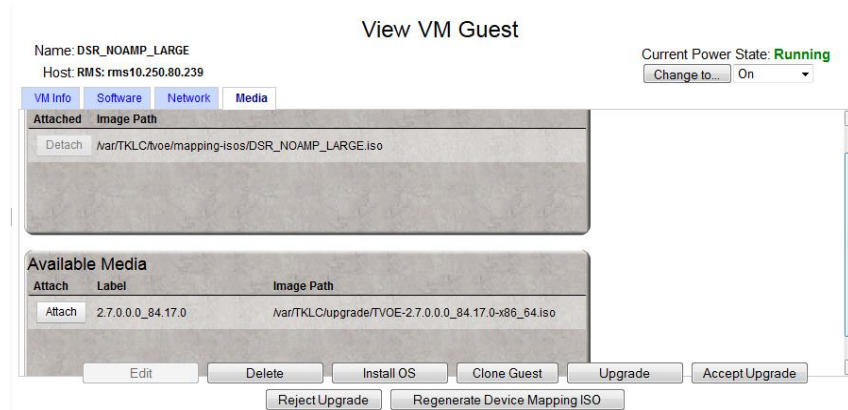


Procedure 12. Install TVOE on Additional Rack Mount Servers

2 **PMAC's TVOE :**  
Load TVOE ISO

Add the TVOE ISO image to the PMAC, this can be done in one of two ways:

1. Attach the USB device containing the ISO image to a USB port.
  - Login to the PMAC GUI if not already done so (Step 1)
  - In the "**VM Management**" list, select the PMAC guest. On the resulting "**View VM Guest**" page, select the **Media** tab.
  - Under the **Media** tab, find the ISO image in the "**Available Media**" list, and click its **Attach** button. After a pause, the image will appear in the "**Attached Media**" list.



2. Using a TVOE **64 bit** ISO file

Use sftp to transfer the ISO image to the PMAC server in the **/var/TKLC/smac/image/isoimages/home/smacftpsr/** directory as **Pmacftpsr** user:

# cd into the directory where your ISO image is located on the **TVOE Host** (not on the PMAC server)

# Using sftp, connect to the PMAC management server

```
> sftp pmacftpsr@<PM&C_management_network_ip>  
> put <image>.iso
```

# After the image transfer is 100% complete, close the connection

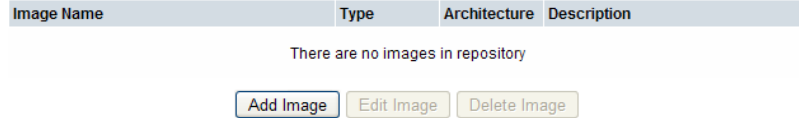
```
> quit
```

Procedure 12. Install TVOE on Additional Rack Mount Servers

3 **PMAC GUI:**  
Add TVOE image

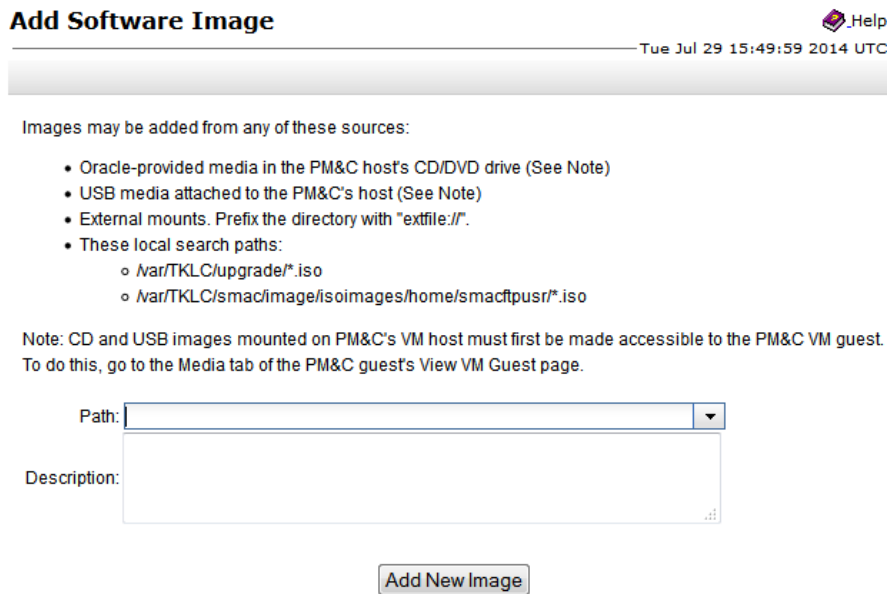
Navigate to **Main Menu -> Software -> Manage Software Images**

Press **Add Image** button. Use the drop down to select the image.



If the image was supplied on a CD or a USB drive, it will appear as a virtual device ("**device://...**"). These devices are assigned in numerical order as CD and USB images become available on the TVOE Management Server. The first virtual device is reserved for internal use by TVOE and PMAC; therefore, the ISO image of interest is normally present on the second device, "**device://dev/sr1**". If one or more CD or USB-based images were already present on the TVOE Management Server before you started this procedure, choose a correspondingly higher device number.

If in **Step 2** the image was transferred to PMAC via sftp it will appear in the list as a local file "**/var/TKLC/...**".

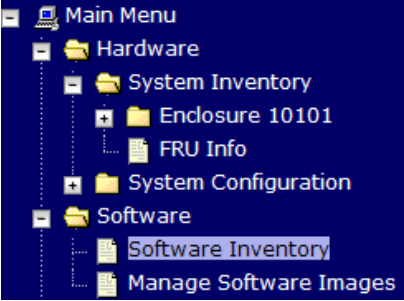

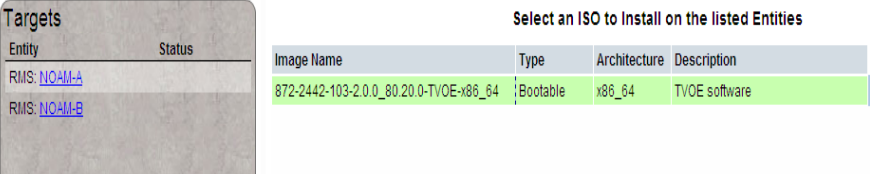
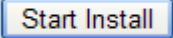


Select the appropriate path and Press **Add New Image** button.

You may check the progress using the Task Monitoring link. Observe the green bar indicating success.

Once the green bar is displayed, remove the TVOE Media from the optical drive of the TVOE Management Server.

Procedure 12. Install TVOE on Additional Rack Mount Servers

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Select RMS Servers for TVOE OS install</p>	<p>Navigate to <b>Software -&gt; Software Inventory.</b></p>  <p>Select the RMS servers 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 will be highlighted in green.</p> <table border="1" data-bbox="407 730 1430 793"> <thead> <tr> <th>Ident</th> <th>IP Address</th> <th>Hostname</th> <th>Plat Name</th> <th>Plat Version</th> <th>App Name</th> <th>App Version</th> <th>Desig</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>RMS: 50207 Lower Blade13</td> <td>192.168.3.3</td> <td>50207-Blade13</td> <td>TPD (x86_64)</td> <td>7.0.1.0.0-86.20.0</td> <td>TVOE</td> <td>3.0.1.0.0_86.20.0</td> <td></td> <td></td> </tr> </tbody> </table> <p>Click on <b>Install OS</b></p> 	Ident	IP Address	Hostname	Plat Name	Plat Version	App Name	App Version	Desig	Function	RMS: 50207 Lower Blade13	192.168.3.3	50207-Blade13	TPD (x86_64)	7.0.1.0.0-86.20.0	TVOE	3.0.1.0.0_86.20.0		
Ident	IP Address	Hostname	Plat Name	Plat Version	App Name	App Version	Desig	Function												
RMS: 50207 Lower Blade13	192.168.3.3	50207-Blade13	TPD (x86_64)	7.0.1.0.0-86.20.0	TVOE	3.0.1.0.0_86.20.0														
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Initiate OS Install on RMS Server(s)</p>	<p>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>  <p>Click on <b>Start Install</b>, a confirmation window will pop up, click on <b>Ok</b> to proceed with the install.</p> 																		

**Procedure 12. Install TVOE on Additional Rack Mount Servers**

6	<b>PMAC GUI:</b> Monitor OS Install	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the TVOE Installation background task. A separate task will appear for each server affected.</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>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>14</td> <td>Install OS</td> <td>Enc:<a href="#">10101</a> Bay:<a href="#">15F</a></td> <td>Boot install image</td> <td>0:00:01</td> <td>2011-09-20 11:12:02</td> <td>50%</td> </tr> <tr> <td>13</td> <td>Install OS</td> <td>Enc:<a href="#">10101</a> Bay:<a href="#">8E</a></td> <td>Boot install image</td> <td>0:00:01</td> <td>2011-09-20 11:12:02</td> <td>50%</td> </tr> <tr> <td>12</td> <td>Install OS</td> <td>Enc:<a href="#">10101</a> Bay:<a href="#">7E</a></td> <td>Boot install image</td> <td>0:00:01</td> <td>2011-09-20 11:12:02</td> <td>50%</td> </tr> <tr> <td>11</td> <td>Install OS</td> <td>Enc:<a href="#">10101</a> Bay:<a href="#">2E</a></td> <td>Boot install image</td> <td>0:00:01</td> <td>2011-09-20 11:12:02</td> <td>50%</td> </tr> <tr> <td>10</td> <td>Install OS</td> <td>Enc:<a href="#">10101</a> Bay:<a href="#">1E</a></td> <td>Boot install image</td> <td>0:00:02</td> <td>2011-09-20 11:12:01</td> <td>50%</td> </tr> <tr> <td>9</td> <td>Add Image</td> <td></td> <td>Done: TPD.install-5.0.0_72.20.0-CentOS5.6-x86_64</td> <td>0:00:09</td> <td>2011-09-20 11:01:50</td> <td>100%</td> </tr> </tbody> </table> <p>When the installation is complete, the task will change to green and the Progress bar will indicate "100%".</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"> <tbody> <tr> <td>4</td> <td>Install OS</td> <td>RMS: <a href="#">NOAM-B</a></td> <td>Done: 872-2442-103-2.0.0_80.20.0-TVOE-x86_64</td> <td>0:25:59</td> <td>2012-08-29 11:48:29</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	14	Install OS	Enc: <a href="#">10101</a> Bay: <a href="#">15F</a>	Boot install image	0:00:01	2011-09-20 11:12:02	50%	13	Install OS	Enc: <a href="#">10101</a> Bay: <a href="#">8E</a>	Boot install image	0:00:01	2011-09-20 11:12:02	50%	12	Install OS	Enc: <a href="#">10101</a> Bay: <a href="#">7E</a>	Boot install image	0:00:01	2011-09-20 11:12:02	50%	11	Install OS	Enc: <a href="#">10101</a> Bay: <a href="#">2E</a>	Boot install image	0:00:01	2011-09-20 11:12:02	50%	10	Install OS	Enc: <a href="#">10101</a> Bay: <a href="#">1E</a>	Boot install image	0:00:02	2011-09-20 11:12:01	50%	9	Add Image		Done: TPD.install-5.0.0_72.20.0-CentOS5.6-x86_64	0:00:09	2011-09-20 11:01:50	100%	4	Install OS	RMS: <a href="#">NOAM-B</a>	Done: 872-2442-103-2.0.0_80.20.0-TVOE-x86_64	0:25:59	2012-08-29 11:48:29	100%
ID	Task	Target	Status	Running Time	Start Time	Progress																																																				
14	Install OS	Enc: <a href="#">10101</a> Bay: <a href="#">15F</a>	Boot install image	0:00:01	2011-09-20 11:12:02	50%																																																				
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11	Install OS	Enc: <a href="#">10101</a> Bay: <a href="#">2E</a>	Boot install image	0:00:01	2011-09-20 11:12:02	50%																																																				
10	Install OS	Enc: <a href="#">10101</a> Bay: <a href="#">1E</a>	Boot install image	0:00:02	2011-09-20 11:12:01	50%																																																				
9	Add Image		Done: TPD.install-5.0.0_72.20.0-CentOS5.6-x86_64	0:00:09	2011-09-20 11:01:50	100%																																																				
4	Install OS	RMS: <a href="#">NOAM-B</a>	Done: 872-2442-103-2.0.0_80.20.0-TVOE-x86_64	0:25:59	2012-08-29 11:48:29	100%																																																				

## 4.9 Configure TVOE on Additional Rack Mount Servers

### Procedure 13. Configure TVOE on Additional Rack Mount Servers

<b>S T E P #</b>	<p>This procedure will configure TVOE on all remaining RMS Servers.</p> <p><b>Prerequisite:</b> RMS Server has been IPM'ed with TVOE OS</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>Determine Bridge Names and Interfaces</b></p>	<p>Determine the network bridge names by referring to <b>procedure 4, step 1</b>. The entries in this table should match the table that was filled out for the first rack mount server.</p>
2 <input type="checkbox"/>	<p><b>RMS iLO/iLOM:</b> Login and Launch the Integrated Remote Console</p>	<p>Log in to iLO/iLOM; follow <b>Appendix D: TVOE iLO/iLOM GUI Access</b> for instructions on how to access the iLO/iLOM GUI.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> <p><a href="https://&lt;management_server_iLO_ip&gt;">https://&lt;management_server_iLO_ip&gt;</a></p> </div>

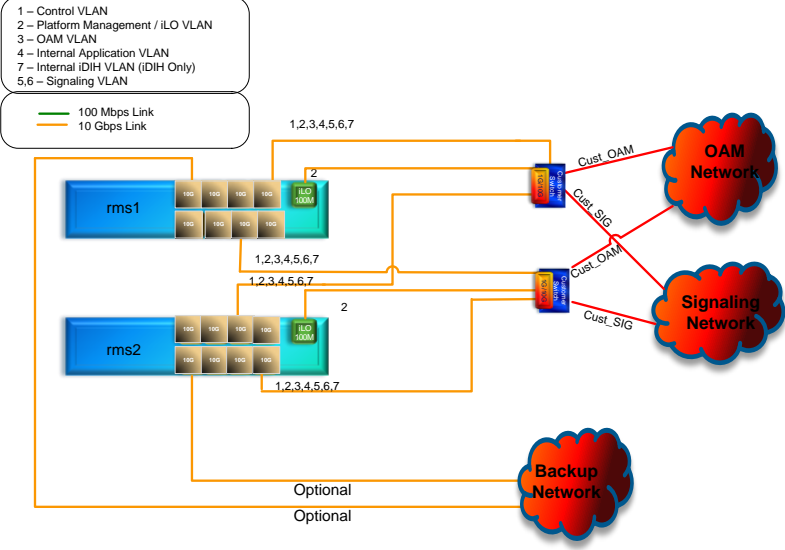
Procedure 13. Configure TVOE on Additional Rack Mount Servers

<p>3 □</p>	<p><b>RMS</b> <b>iLO/iLOM:</b> Set Bond0 interfaces (HP DL380 Gen 9 Only)</p>	<p style="text-align: center;"><b>HP DL380 Gen 9 Servers Only</b></p> <p>HP DL380 Gen 9 servers with the required PCIE 10Gbps cards. This step removes the onboard NICs from bond0, and replaces them with the PCIE NIC interfaces. The PCIE cards should be placed in slots 1 and 3.</p> <p>Execute the following steps to set Bond0 with the correct NIC interfaces:</p> <p><b>Note:</b> The below output warning and error messages can safely be ignored.</p> <pre style="border: 1px solid black; padding: 10px;"> \$ sudo /usr/TKLC/plat/bin/netAdm set --device=bond0 --delBondInt=eth01  eth01 was successfully removed from bond0 eth01 successfully removed from bond0  \$ sudo /usr/TKLC/plat/bin/netAdm set --device=bond0 --delBondInt=eth02  eth01 was successfully removed from bond0 WARNING: bond0 has an invalid MAC address ERROR: Could not add bridge interface bond0 to bridge control! CMD: /user/sbin/brctl addif control bond0 ERROR: Failed to restart after updating mac address ERROR: Failed to update mac address ERROR: Failed to update mac address deps  \$ sudo /usr/TKLC/plat/bin/netAdm set --device=eth11 --type=Ethernet --master=bond0 --slave=yes --onboot=yes  bonding: unable to remove non-existent slave eth11 for bond bond0 Interface eth11 updated  \$ sudo /usr/TKLC/plat/bin/netAdm set --device=eth12 --type=Ethernet --master=bond0 --slave=yes --onboot=yes  bonding: unable to remove non-existent slave eth12 for bond bond0 Interface eth12 updated </pre>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

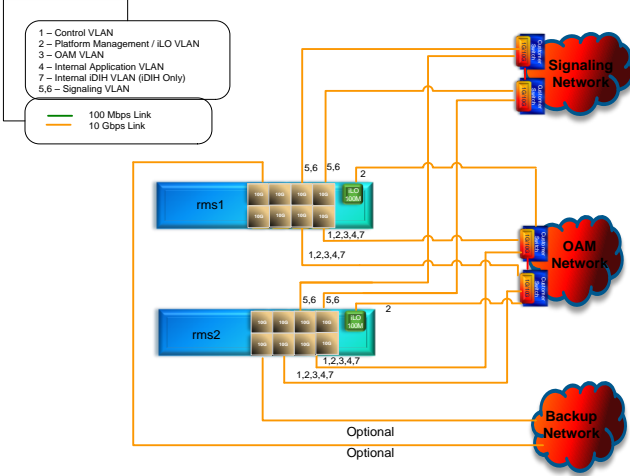
<p>4</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Create the Management Network</p>	<p>Create the Management network, execute the following command:</p> <p><b>Note:</b> The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure.</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add --device=&lt;TVOE_Management_Bridge_Interface&gt; --onboot=yes  Interface bond0.2 added</pre> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=management --bootproto=none --onboot=yes --address=&lt;Management_Server_TVOE_IP&gt; --netmask=&lt;Management_Server_TVOE_Netmask&gt; --bridgeInterfaces=&lt;TVOE_Management_Bridge_Interface&gt;</pre>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Create the Management Network Route</p>	<pre>\$ sudo /usr/TKLC/plat/bin/netAdm add --route=default --device=management -- gateway=&lt;Management_Gateway_IP_Address&gt;</pre>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Get support files from the PMAC</p>	<p><b>Execute</b> the following commands to copy the required files</p> <pre>\$ sudo /usr/bin/scp -r admusr@&lt;Virtual PMAC&gt;:/var/TKLC/upgrade/* /var/TKLC/upgrade/</pre>

Procedure 13. Configure TVOE on Additional Rack Mount Servers

<p>7</p> <p>□</p> <p><b>RMS</b> <b>iLO/iLOM:</b> TVOE Bridge Configuration (Non-Segregated Signaling)</p>	<p>If your rack mount solution is designed where the signaling traffic shares the same physical NIC interfaces as the OAM related DSR traffic:</p>  <ul style="list-style-type: none"> <li>• Execute the TVOE network config script with the 'segg=no' parameter.</li> <li>• Configuration of up to 4 signaling interfaces are supported but not necessary.</li> <li>• Configuration of the 'intvlan' parameter is to be used when iDIH is being deployed.</li> <li>• Configuration of the 'replicationvlan' parameter is to be used if a dedicated SBR replication network will be defined (Procedure 35 Step 5)- PCA Only</li> <li>• Configuration of at least 'xmivlan' and 'imivlan' parameters is required.</li> </ul> <p>Example of TVOE script <b>WITHOUT</b> segregated signaling (For illustrative purposes only):</p> <pre> \$ cd /var/TKLC/upgrade  \$ sudo ./TVOEcfg_RMS.sh --xmivlan=&lt;xmi_vlan_ID&gt; --imivlan=&lt;imi_vlan_ID&gt; --xsilvlan=&lt;xsil_vlan_ID&gt; --xsi2vlan=&lt;xsi2_vlan_ID&gt; --intvlan=&lt;int_vlan_ID&gt; --replicationvlan=&lt;replication_vlan_ID&gt; --segg=no </pre> <p><b>Note:</b> The same VLANs/Bridges configured with this script should be consistent across all rack mount servers being deployed.</p> <p><b>Note:</b> If for any reason, you entered an incorrect value during the execution of the TVOEcfg_RMS.sh command, you can execute the following command to reset the networking configuration so you can repeat the TVOEcfg_RMS step:</p> <pre> \$ cd /var/TKLC/upgrade  \$ sudo ./TVOEclean_RMS.sh </pre>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

<p>8</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM: TVOE Bridge Configuration (Segregated Signaling)</b></p>	<p>If your rack mount solution is designed where the signaling traffic is segregated from the rest of the DSR OAM related networks and located on separate NICs:</p>  <ul style="list-style-type: none"> <li>Execute the TVOE network config script with the 'segg=yes' parameter.</li> <li>Configuration of up to 4 signaling interfaces are supported but not necessary.</li> <li>Configuration of the 'intvlan' parameter is to be used when iDIH is being deployed.</li> <li>Configuration of the 'replicationvlan' parameter is to be used if a dedicated SBR replication network will be defined (Procedure 35 Step 5)- PCA Only</li> <li>Configuration of at least 'xmivlan' and 'imivlan' parameters is required.</li> </ul> <p><b>Important:</b> For HPDL380 RMS, modify the following items using 'vi' in the TVOEcfg_RMS.sh file to reflect the NIC interfaces being used for the segregated signaling bond:</p> <pre>SEGIFC1="&lt;ethernet_interface_3&gt;" SEGIFC2="&lt;ethernet_interface_4&gt;"</pre> <p>Example of TVOE script <b>WITH</b> segregated signaling (For illustrative purposes only):</p> <pre>\$ cd /var/TKLC/upgrade \$ sudo ./TVOEcfg_RMS.sh --xmivlan=&lt;xmi_vlan_ID&gt; --imivlan=&lt;imi_vlan_ID&gt; --xsilvlan=&lt;xsi1_vlan_ID&gt; --xsi2vlan=&lt;xsi2_vlan_ID&gt; --intvlan=&lt;int_vlan_ID&gt; --replicationvlan=&lt;replication_vlan_ID&gt; --segg=yes</pre> <p><b>Note:</b> If for any reason, you entered an incorrect value during the execution of the TVOEcfg_RMS.sh command, you can execute the following command to reset the networking configuration so you can repeat the TVOEcfg_RMS step:</p> <pre>\$ cd /var/TKLC/upgrade \$ sudo ./TVOEclean_RMS.sh</pre>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

9 <input type="checkbox"/>	<b>RMS iLO/iLOM:</b> Set Ethernet Interface Ring Buffer Sizes (X5-2 Only)	<p style="text-align: center;"><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>The following commands will increase the ring buffer sizes on Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Ethernet Interfaces:</p> <p><b>Note:</b> Refer to <b>Section 3.4</b> for network interface server reference table</p> <div style="border: 1px solid black; padding: 10px;"><pre>\$ sudo netAdm set --device=&lt;ethernet_interface_1&gt; --ringBufferRx=4096 --ringBufferTx=4096  \$ sudo netAdm set --device=&lt;ethernet_interface_2&gt; --ringBufferRx=4096 --ringBufferTx=4096  If step 7 was executed, execute the following commands:  \$ sudo netAdm set --device=&lt;ethernet_interface_3&gt; --ringBufferRx=4096 --ringBufferTx=4096  \$ sudo netAdm set --device=&lt;ethernet_interface_4&gt; --ringBufferRx=4096 --ringBufferTx=4096</pre></div>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

10 <input type="checkbox"/>	<b>RMS iLO/iLOM:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	<p style="text-align: center;"><b>FOR ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Install tuned RPM by executing the following commands:</p> <pre>\$ sudo rpm -ivh /var/TKLC/upgrade/tuned-0.2.19-13.el6_6.1.noarch.rpm</pre> <pre>\$ sudo sh -c "echo 'tuned' &gt; /usr/TKLC/plat/etc/upgrade/pkgKeep.conf"</pre> <pre>\$ sudo cp /var/TKLC/upgrade/tuned_tvoe.tar /etc/tune-profiles/;cd /etc/tune-profiles/</pre> <pre>\$ sudo tar -xvf tuned_tvoe.tar</pre> <p>Activate the tuned profile for TVOE:</p> <pre>\$ sudo tuned-adm profile tvoe_profile</pre> <pre>\$ sudo service_conf add tuned rc runlevels=345</pre> <pre>\$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre>\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: tvoe_profile Service tuned: enabled, running Service ktune: enabled, running</pre>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

<p>11</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Install and configure IRQ Balance (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <ol style="list-style-type: none"> <li>1. Stop the irqbalance service:           <pre style="border: 1px solid black; padding: 5px;">\$ sudo service irqbalance stop</pre> </li> <li>2. Erase the existing irqbalance RPM:           <pre style="border: 1px solid black; padding: 5px;">\$ sudo rpm -qa   grep irqbalance  \$ sudo rpm --erase --nodeps &lt;RPM name from above output&gt;</pre> </li> <li>3. Install irqbalance v1.0.7 RPM:           <pre style="border: 1px solid black; padding: 5px;">\$ sudo rpm -ivh /var/TKLC/upgrade/ irqbalance-1.0.7-5.0.1.el6.x86_64.rpm</pre> </li> <li>4. Modify irqbalance:           <pre style="border: 1px solid black; padding: 5px;">\$ cd /var/TKLC/upgrade  \$ sudo ./irqtune.sh</pre> </li> </ol>
<p>12</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Configure IRQ Balance (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>DSR 7.1.x ONLY, DSR 7.2/7.3 SKIP THIS STEP</b></p> <p><b>Oracle X5-2/Netra X5-2:</b></p> <pre style="border: 1px solid black; padding: 5px;">\$ IRQBALANCE_FILE="/etc/sysconfig/irqbalance"  \$ sudo sed -I "\/^s*IRQBALANCE_BANNED_CPUS/d" \$IRQBALANCE_FILE  \$ sudo sh -c "echo `IRQBALANCE_BANNED_CPUS=000000ff,ffffffcf,fffffffc' &gt;&gt;\$IRQBALANCE_FILE"  \$ sudo service irqbalance restart</pre> <p><b>HP DL380 GEN 9:</b></p> <pre style="border: 1px solid black; padding: 5px;">\$ IRQBALANCE_FILE="/etc/sysconfig/irqbalance"  \$ sudo sed -I "\/^s*IRQBALANCE_BANNED_CPUS/d" \$IRQBALANCE_FILE  \$ sudo sh -c "echo `IRQBALANCE_BANNED_CPUS=0000ffff,fcffffffc' &gt;&gt;\$IRQBALANCE_FILE"  \$ sudo service irqbalance restart</pre>

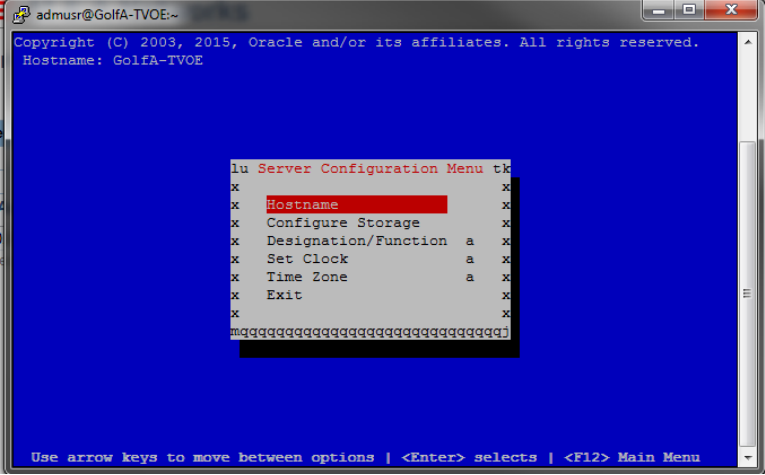
Procedure 13. Configure TVOE on Additional Rack Mount Servers

<p>13</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Add the NetBackup Network-Option 1 (Optional)</p>	<p>If <b>NetBackup</b> is to be used, execute this step, otherwise skip to <b>Step 16</b>.</p> <p><b>Select only this option or the following options listed in steps 14-15.</b></p> <p><b>Before selecting the configuration option, first read the description in each step to determine which configuration is applicable to your installation and network.</b></p> <p>NetBackup is a tool that allows the customer to take remote backups of the system.</p> <p><b>Note:</b> The output below is for illustrative purposes only. The example output below shows the control bridge configured.</p> <p><b>Note:</b> The example below illustrates a TVOE Management Server configuration with the NetBackup feature enabled. The NetBackup network is configured with a non-default MTU size.</p> <p><b>Note:</b> The MTU size must be consistent between a network bridge, device, or bond, and associated VLANs.</p> <p><u>Create NetBackup bridge using a bond containing an untagged interface</u></p> <pre> \$ sudo /usr/TKLC/plat/bin/netAdm add --device=&lt;TVOE_NetBackup_Bridge_Interface&gt; --onboot=yes -type=Bonding -mode=active-backup -miimon=100 --MTU=&lt;NetBackup_MTU_size&gt; Interface &lt;TVOE_NetBackup_Bridge_Interface&gt; added  \$ sudo /usr/TKLC/plat/bin/netAdm set --device=&lt;ethernet_interface_4&gt; --type=Ethernet --master=&lt;TVOE_NetBackup_Bridge_Interface&gt; --slave=yes --onboot=yes Interface &lt;ethernet_interface_4&gt; updated  \$ sudo /usr/TKLC/plat/bin/netAdm add -type=Bridge --name=&lt;TVOE_NetBackup_Bridge&gt; --onboot=yes - bootproto=none --MTU=&lt;NetBackup_MTU_size&gt; --bridgeInterfaces=&lt;TVOE_NetBackup_Bridge_Interface&gt; --address=&lt;TVOE_NetBackup_IP&gt; --netmask=&lt;TVOE_NetBackup_Netmask&gt; </pre>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

<p>14</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Add the NetBackup Network-Option 2 (Optional)</p>	<p><b>Select only this option or options in Steps 13 or 15</b></p> <p><u>Create NetBackup bridge using an untagged native interface:</u></p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add -type=Bridge --name=&lt;TVOE_NetBackup_Bridge&gt; --onboot=yes - bootproto=none -MTU=&lt;NetBackup_MTU_size&gt; --bridgeInterfaces=&lt;Ethernet_Interface_4&gt; --address=&lt;TVOE_NetBackup_IP&gt; --netmask=&lt;TVOE_NetBackup_Netmask&gt;</pre>
<p>15</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Add the NetBackup Network-Option 3 (Optional)</p>	<p><b>Select only this option or options in 13-14</b></p> <p><u>Create NetBackup bridge using a tagged device:</u></p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add --device=&lt;TVOE_NetBackup_Bridge_Interface&gt; --onboot=yes  Interface &lt;TVOE_NetBackup_Bridge_Interface&gt; added  \$ sudo /usr/TKLC/plat/bin/netAdm add -type=Bridge --name=&lt;TVOE_NetBackup_Bridge&gt; --onboot=yes --MTU=&lt;NetBackup_MTU_size&gt; --bridgeInterfaces=&lt;TVOE_NetBackup_Bridge_Interface&gt; --address=&lt;TVOE_NetBackup_IP&gt; --netmask=&lt;TVOE_NetBackup_Netmask&gt;</pre>
<p>16</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Restart the network interfaces</p>	<p>Restart the network interfaces, execute the following command:</p> <pre>\$ sudo service network restart</pre>

Procedure 13. Configure TVOE on Additional Rack Mount Servers

17 <input type="checkbox"/>	<b>RMS iLO/iLOM:</b> Set Hostname	<p>Set the server hostname by running the following:</p> <pre>\$ sudo su - platcfg</pre> <p>Navigate to <b>Server Configuration -&gt; Hostname -&gt;Edit.</b></p>  <p>Set TVOE Management Server hostname Press <b>OK</b>. Navigate out of Hostname</p>
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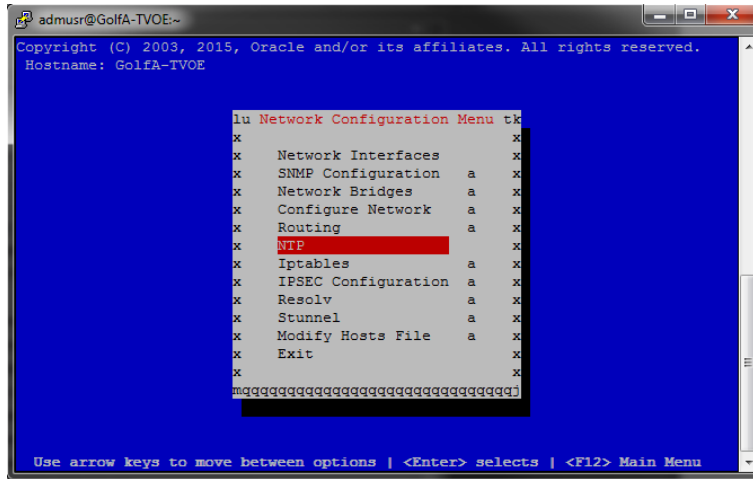


Procedure 13. Configure TVOE on Additional Rack Mount Servers

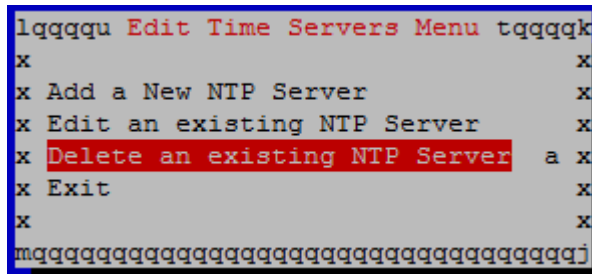
19

**RMS**  
**iLO/iLOM:**  
 Delete PMAC  
 VM as NTP  
 Source on  
 RMS

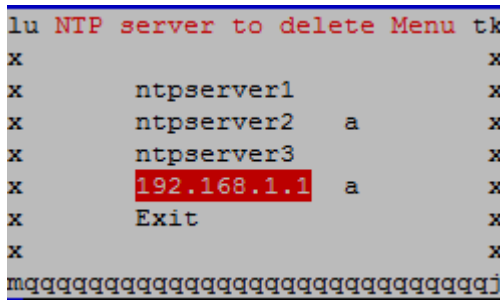
Navigate to **Network Configuration ->NTP.**



Select **Delete an existing NTP Server**

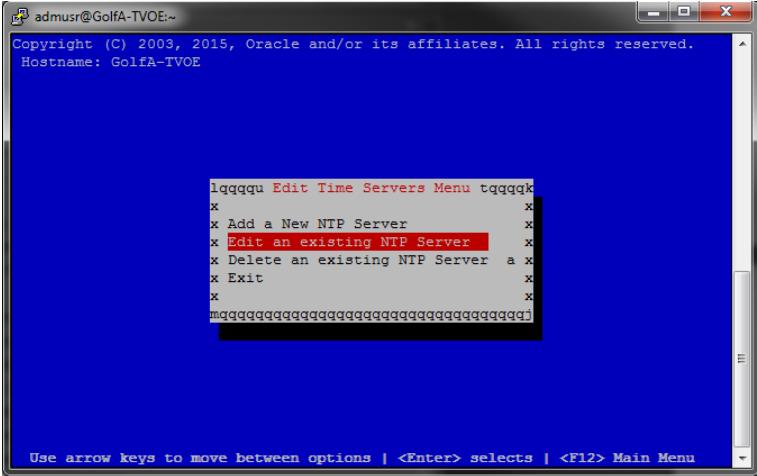


Select the PMAC VM Control IP, Click **[Enter]**



You will be returned to the **NTP Menu**

Procedure 13. Configure TVOE on Additional Rack Mount Servers

20 <input type="checkbox"/>	<b>RMS iLO/iLOM:</b> Set NTP	<p>From the <b>Network Configuration -&gt;NTP</b> menu</p> <p>Update NTP Information, select <b>Edit</b>. The <b>Edit Time Servers</b> menu is displayed</p>  <p>Select the appropriate <b>Edit Time Servers</b> menu option. You can add new or edit any existing NTP server entry</p> <p>Set NTP server IP address to point to the customer provided NTP server (Remember that 3 distinct NTP sources are required)</p> <p>Press <b>OK</b>.</p> <p>Exit platcfg.</p> <p>Ensure that the time is set correctly by executing the following commands:</p> <pre>\$ sudo service ntpd stop \$ sudo ntpdate ntpserver1 \$ sudo service ntpd start</pre>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

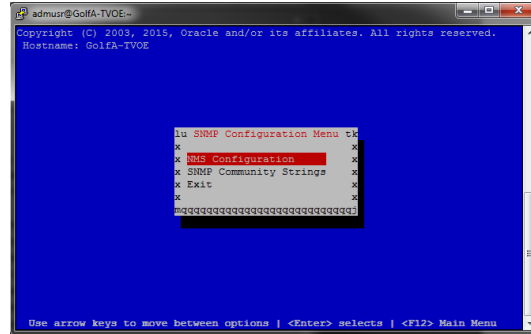
21 **RMS**  
**iLO/iLOM:**  
 Set SNMP

Set SNMP by running the following:

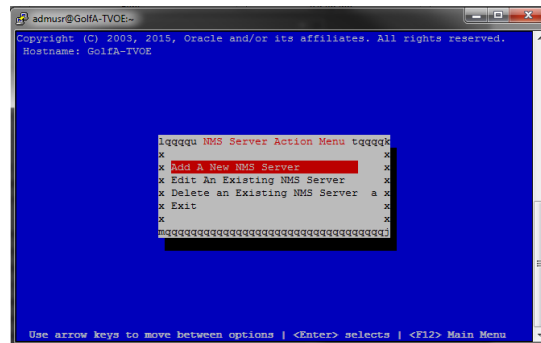
```
$ sudo su - platcfg
```

**Note:** Refer to **Appendix H: SNMP Configuration** to understand the preferred SNMP configuration

Navigate to **Network Configuration -> SNMP Configuration -> NMS Configuration**.

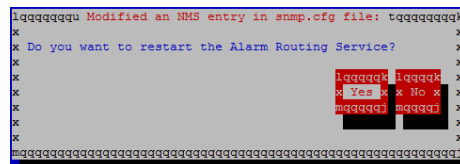


Select **Edit** and then choose **Add a New NMS Server**. The **Add an NMS Server** page will be displayed.



Complete the form by entering NMS server IP, Port (*default port is 162*) and community string provided by the customer about the SNMP trap destination.

Select **OK** to finalize the configuration. The **NMS Server Action Menu** will now be displayed. Select **Exit**. The following dialogue will then be presented.



Select **Yes** and then wait a few seconds while the Alarm Routing Service is restarted. At that time the **SNMP Configuration** menu will be presented.

Exit platcfg.

Procedure 13. Configure TVOE on Additional Rack Mount Servers

22 <input type="checkbox"/>	<b>RMS iLO/iLOM:</b> Restart Server	Execute the following command to restart the server:  <pre>\$ sudo init 6</pre>
23 <input type="checkbox"/>	<b>1<sup>st</sup> RMS iLO/iLOM:</b> Verify Ring Buffer Settings	Verify the ring buffer sizes have been configured correctly (from Step 10) by executing the following command for each Ethernet interface configured above:  <pre>\$ ethtool -g &lt;eth interfaces configured above&gt;</pre> Example shown below:  <pre>[admusr@FJ-TVOE-2 ~]\$ ethtool -g eth01 Ring parameters for eth01: Pre-set maximums: RX:                4096 RX Mini:           0 RX Jumbo:          0 TX:                4096 Current hardware settings: RX:                4096 RX Mini:           0 RX Jumbo:          0 TX:                4096</pre>

Procedure 13. Configure TVOE on Additional Rack Mount Servers

24 <input type="checkbox"/>	<b>RMS iLO/iLOM:</b> Configure NetBackup-Part 1 (Optional)	<p>Execute this step if the <b>NetBackup</b> feature is enabled for this system, otherwise <b>skip to step 26</b>. Configure the appropriate NetBackup client on the PMAC TVOE host.</p> <p>Open firewall ports for NetBackup using the following commands:</p> <pre>\$ sudo ln -s /usr/TKLC/plat/share/NetBackup/60NetBackup.ipt /usr/TKLC/plat/etc/iptables/</pre> <pre>\$ sudo /usr/TKLC/plat/bin/iptablesAdm reconfig</pre> <p>Enable platcfg to show the NetBackup Menu Items by executing the following commands:</p> <pre>\$ sudo platcfgadm -show NBConfig; \$ sudo platcfgadm -show NBInit; \$ sudo platcfgadm -show NBDeInit; \$ sudo platcfgadm -show NBInstall; \$ sudo platcfgadm -show NBVerifyEnv; \$ sudo platcfgadm -show NBVerify;</pre> <p>Create LV and file system for NetBackup client software on the vgguests volume group:</p> <pre>\$sudo /usr/TKLC/plat/sbin/storageMgr /tmp/nb.lvm</pre> <p>This will create the LV, format it with a filesystem, and mount it under /usr/openv/.</p> <p>Example output is shown below:</p> <pre>Called with options: /tmp/nb.lvm VG vgguests already exists. Creating lv NetBackup_lv. Volume NetBackup_lv will be created. Success: Volume NetBackup_lv was created. Creating filesystem, this may take a while. Updating fstab for lv NetBackup_lv. Configuring existing lv NetBackup_lv. The LV for NetBackup has been created!</pre>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

<p>25</p> <p><input type="checkbox"/></p>	<p><b>RMS</b> <b>iLO/iLOM:</b> Configure NetBackup-Part 2 (Optional)</p>	<p>Install the NetBackup client software:</p> <p>Refer to Appendix I: Application NetBackup Client Installation Procedures on instructions how to install the NetBackup client.</p> <p><b>Note:</b> Skip any steps relating to copying NetBackup “notify” scripts to /usr/opensv/NetBackup/bin. The TVOE NetBackup notify scripts are taken care of in the next step.</p> <p>Create softlinks for TVOE specific NetBackup notify scripts.</p> <pre style="border: 1px solid black; padding: 5px;">\$sudo ln -s /usr/TKLC/plat/sbin/bpstart_notify /usr/opensv/NetBackup/bin/bpstart_notify  \$sudo ln -s /usr/TKLC/plat/sbin/bpend_notify /usr/opensv/NetBackup/bin/bpend_notify</pre> <p><b>Note:</b> Once the NetBackup Client is installed on TVOE, the NetBackup Master should be configured to back up the following files from the TVOE host:</p> <ul style="list-style-type: none"> <li>• /var/TKLC/bkp/*.iso</li> </ul>
<p>26</p> <p><input type="checkbox"/></p>	<p><b>RMS</b> <b>iLO/iLOM:</b> Setup syscheck</p>	<p>Syscheck must be configured to monitor bonded interfaces.</p> <p>Replace “bondedInterfaces” with “bond0” or “bond0,bond1” if segregated networks are used:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond -set --var=DEVICES -val=&lt;bondedInterfaces&gt;  \$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond -enable</pre>
<p>27</p> <p><input type="checkbox"/></p>	<p><b>RMS</b> <b>iLO/iLOM:</b> Verify syscheck</p>	<p>Verify syscheck:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/syscheck net ipbond -v</pre> <p>Expected output should look similar to below:</p> <pre style="border: 1px solid black; padding: 5px;">Running modules in class net...   ipbond: Bonded interface bond0 is OK                 OK  LOG LOCATION: /var/TKLC/log/syscheck/fail log</pre>

Procedure 13. Configure TVOE on Additional Rack Mount Servers

28 <input type="checkbox"/>	<b>RMS iLO/iLOM:</b> Verify Server Health	Execute the following: <pre>\$ alarmMgr -alarmStatus</pre> <p>This command should return no output on a healthy system. If any alarms are reported, contact <b>Appendix T: My Oracle Support (MOS)</b></p>
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Procedure 13. Configure TVOE on Additional Rack Mount Servers

<p>29</p> <p><input type="checkbox"/></p>	<p><b>RMS iLO/iLOM:</b> Perform a TVOE backup using TPD platcfg utility</p>	<p>Execute the following:</p> <pre>\$ sudo su - platcfg</pre> <p>Navigate to <b>Maintenance -&gt; Backup and Restore</b></p>  <p>Select <b>Backup Platform (CD/DVD)</b></p> <p><b>Note:</b> If no cdrom device is found by TPD, you will receive an error dialog with the message: "No disk device available. This is normal on systems without a cdrom device." Press <b>Enter</b> to continue.</p> <p>Select <b>Build ISO file only</b>, and press <b>Enter</b> to continue. Exit from TPD platcfg utility.</p>  <p>The TVOE backup can be found in the "/var/TKLC/bkp/" directory, and is prefixed by the server hostname. An example of a TVOE backup ISO follows: /var/TKLC/bkp/RMS503u14-plat-app-201210301505.iso</p> <p>Move the TVOE backup to a customer provided backup server for safe keeping.</p>
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**Procedure 13. Configure TVOE on Additional Rack Mount Servers**

30 <input type="checkbox"/>	<b>Additional RMS:</b> Repeat	Repeat this procedure for additional Rack Mount Servers.
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#### 4.10 Determine VM Placement and Socket Pinning (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

In order to maximize performance efficiency, customers who are deploying DSR on Oracle X5-2/Netra X5-2/HP DL380 Gen 9 servers may obtain the DSR VM placement and CPU pinning information document. This recommended document can be obtained from an Oracle representative for implementation. If the DSR VM placement and CPU pinning information is NOT available, the customer may use [16] (VM Placement and CPU Socket Pinning Tool)

**Note:** VM placement and CPU pinning will need to be determined for all components of the DSR installation (PMAC, IDIH, DSR, and SDS)

**Note:** [Non-HA Lab Node Installations of Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only]: Skip this Section

#### 4.11 Deploy Redundant PMAC (Optional)

This procedure is optional and required only if the redundant PMAC Server feature is to be deployed. This procedure will provide the instructions for deploying a redundant PMAC, as well as creating the first backup from the primary PMAC.

**Note:** [Non-HA Lab Node Installations of Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only]: Skip this Section

##### Procedure 14. Installing a Redundant PMAC

<b>S T E P #</b>	This procedure is optional and required only if the redundant PMAC Server feature is to be deployed. This procedure will provide steps for deploying a redundant PMAC, as well as creating the first backup from the primary PMAC.	
	Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.	
	If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b> , and ask for assistance.	
1  <input type="checkbox"/>	<b>Primary PMAC:</b> Establish SSH Session	Establish an SSH session to the primary PMAC, login as <b>admusr</b> .

Procedure 14. Installing a Redundant PMAC

<p>2</p> <p><input type="checkbox"/></p>	<p><b>Primary PMAC:</b> Exchange SSH keys between the Primary PMAC and the Redundant PMAC's TVOE Host</p>	<p>Use the PMAC GUI to determine the Control Network IP address of the redundant PMAC's TVOE host server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory.</b></p> <table border="1" data-bbox="430 359 1373 405"> <thead> <tr> <th>Ident</th> <th>IP Address</th> <th>Hostname</th> <th>Plat Name</th> <th>Plat Version</th> <th>App Name</th> <th>App Version</th> </tr> </thead> <tbody> <tr> <td>RMS: Oahu-1</td> <td>192.168.1.2</td> <td>Oahu-TVOE-1</td> <td>TPD (x86_64)</td> <td>7.0.2.0.0-86.25.0</td> <td>TVOE</td> <td>3.0.2.0.0_86.25.0</td> </tr> </tbody> </table> <p>Note the IP address for the redundant PMAC's TVOE Host server.</p> <p>Login to the PMAC terminal as the <i>admusr</i>.</p> <p>From a terminal window connection on the PMAC as the <i>admusr</i> user, exchange SSH keys for <i>admusr</i> between the primary PMAC and the redundant PMAC's TVOE Host server using the keyexchange utility, using the Control network IP address for the redundant PMAC's TVOE Host server. When prompted for the password, enter the password for the <i>admusr</i> user of the redundant PMAC's TVOE Host server.</p> <pre data-bbox="430 684 1383 753">\$ keyexchange admusr@&lt;redundant PMAC's TVOE Host server control IP&gt;</pre>	Ident	IP Address	Hostname	Plat Name	Plat Version	App Name	App Version	RMS: Oahu-1	192.168.1.2	Oahu-TVOE-1	TPD (x86_64)	7.0.2.0.0-86.25.0	TVOE	3.0.2.0.0_86.25.0
Ident	IP Address	Hostname	Plat Name	Plat Version	App Name	App Version										
RMS: Oahu-1	192.168.1.2	Oahu-TVOE-1	TPD (x86_64)	7.0.2.0.0-86.25.0	TVOE	3.0.2.0.0_86.25.0										
<p>3</p> <p><input type="checkbox"/></p>	<p><b>Primary PMAC:</b> Export the PMAC ISO image to the Redundant PMAC's TVOE Host</p>	<p>Execute the following command to export the PMAC ISO image to the redundant PMAC's TVOE host Server:</p> <pre data-bbox="430 877 1383 947">\$ sudo /usr/sbin/exportfs &lt;redundant PMAC TVOE Host Control IP&gt;:/usr/TKLC/smac/html/TPD/&lt;PMAC_Image_Name&gt;</pre>														
<p>4</p> <p><input type="checkbox"/></p>	<p><b>Primary PMAC:</b> SSH to the Redundant PMAC's TVOE Host</p>	<p>Establish an SSH session to the redundant PMAC's TVOE host server, login as <i>admusr</i>.</p> <pre data-bbox="430 1125 1383 1194">\$ sudo ssh admusr@&lt;redundant PMAC's TVOE Host server control IP&gt;</pre>														
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Redundant PMAC's TVOE Host:</b> Mount the PMAC media</p>	<p>Mount the PMAC upgrade media from the primary PMAC server:</p> <pre data-bbox="430 1314 1383 1404">\$ sudo /bin/mount &lt;primary_pmac_control_IP&gt;:/usr/TKLC/smac/html/TPD/&lt;PMAC_Image_Name&gt; /mnt/upgrade</pre>														

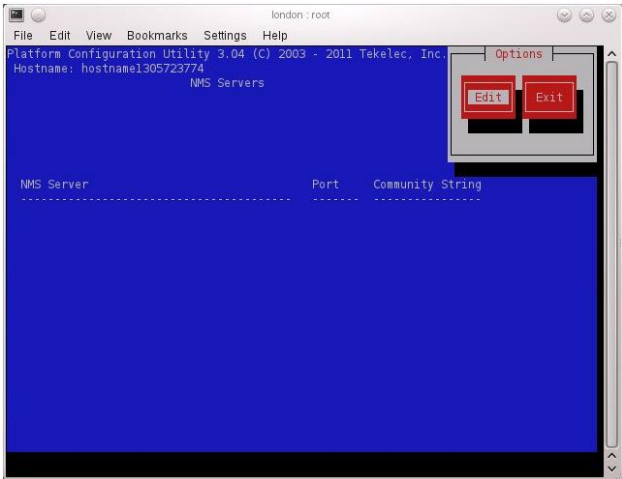
Procedure 14. Installing a Redundant PMAC

<p>6</p> <p><input type="checkbox"/></p>	<p><b>Redundant PMAC's TVOE Host:</b> Deploy PMAC</p>	<p>Using the pmac-deploy script; deploy the PMAC instance using the configuration detailed by the completed NAPD. All configuration options (<i>NetBackup or isoimagesVolSizeGB</i>) should match the configuration of the primary PMAC.</p> <p>Reference <b>Procedure</b> (step 3)</p> <p>For this example, deploy a PMAC without NetBackup feature:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /mnt/upgrade/upgrade  \$ sudo ./pmac-deploy -guest=&lt;Redundant_PMAC_Name&gt; --hostname=&lt;Redundant_PMAC_Name&gt; --controlBridge=&lt;TVOE_Control_Bridge&gt; --controlIP=&lt;Redundant_PMAC_Control_ip_address&gt; --controlNM=&lt;PMAC_Control_netmask&gt; --managementBridge=&lt;PMAC_Management_Bridge&gt; --managementIP=&lt;Redundant_PMAC_Management_ip_address&gt; --managementNM=&lt;PMAC_Management_netmask_or_prefix&gt; --routeGW=&lt;PMAC_Management_gateway_address&gt; --ntpserver=&lt;Redundant_TVOE_Management_server_ip_address&gt;</pre> <p>The PMAC will deploy and boot. The management and control network will come up based on the settings that were provided to the pmac-deploy script.</p>
<p>7</p> <p><input type="checkbox"/></p>	<p><b>Redundant PMAC's TVOE Host:</b> Unmount Media</p>	<p>Unmount the media by executing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /  \$ sudo /bin/umount /mnt/upgrade</pre>


Procedure 14. Installing a Redundant PMAC

<p>8</p> <p><input type="checkbox"/></p>	<p><b>Redundant PMAC's TVOE Host:</b> SSH into the Redundant PMAC Server</p>	<p>Using an SSH client such as putty, ssh to the TVOE host as <b>admusr</b>.</p> <p>Login using <b>virsh</b>, and wait until you see the login prompt :</p> <pre>\$ sudo /usr/bin/virsh list</pre> <pre>Id Name State 1 myTPD running 2 PM&amp;C running 3 Redundant PM&amp;C running</pre> <pre>\$ sudo /usr/bin/virsh console &lt;Redundant PM&amp;C&gt;</pre> <p>[Output Removed]</p> <pre>Starting ntdMgr: [ OK ] Starting atd: [ OK ] 'TPD Up' notification(s) already sent: [ OK ] upstart: Starting tpdProvd... upstart: tpdProvd started. CentOS release 6.2 (Final) Kernel 2.6.32-220.17.1.el6prere16.0.0_80.14.0.x86_64 on an x86_64 PM&amp;Cdev7 login:</pre>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>Redundant PMAC:</b> Verify the Redundant PMAC is configured correctly on first boot</p>	<p>Establish an SSH session to the redundant PMAC, login as <b>admusr</b>.</p> <p>Run the following command (there should be no output):</p> <pre>\$ sudo /bin/ls /usr/TKLC/plat/etc/deployment.d/</pre>
<p>10</p> <p><input type="checkbox"/></p>	<p><b>Redundant PMAC's TVOE Host:</b> Error doing verification, if error is outputted</p>	<p>If an error was made use the following command to delete the redundant PMAC Guest and then re-deploy the guest again:</p> <pre>\$ sudo guestMgr -remove &lt; Redundant PMAC_Name&gt;</pre>

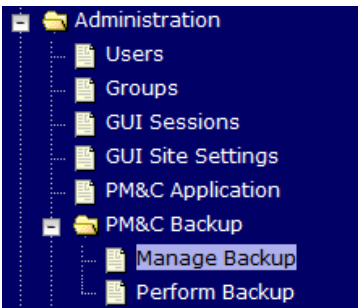
Procedure 14. Installing a Redundant PMAC

11 <input type="checkbox"/>	<b>Redundant PMAC:</b> Set the PMAC time zone	<p>Determine the Time Zone to be used for the redundant PMAC</p> <p><b>Note:</b> Valid time zones can be found in <b>Appendix J: List of Frequently used Time Zones</b></p> <p>Run</p> <pre>\$ sudo set_pmac_tz.pl &lt;time zone&gt;</pre> <p>Example:</p> <pre>\$ sudo set_pmac_tz.pl America/New_York</pre> <p>Verify that the time zone has been updated:</p> <pre>\$ sudo date</pre>
12 <input type="checkbox"/>	<b>Redundant PMAC:</b> Set SNMP	<p>Set SNMP by running the following:</p> <pre>\$ sudo su - platcfg</pre> <p>Navigate to <b>Network Configuration -&gt; SNMP Configuration -&gt; NMS Configuration.</b></p>  <p>Select <b>Edit</b> and then choose <b>Add a New NMS Server</b>. The <b>'Add an NMS Server'</b> page will be displayed.</p> <p>Complete the form by entering in all information about the SNMP trap destination. Select <b>OK</b> to finalize the configuration. The <b>'NMS Server Action Menu'</b> will now be displayed. Select <b>Exit</b>. The following dialogue will then be presented.</p> <p>Select <b>Yes</b> and then wait a few seconds while the Alarm Routing Service is restarted. At that time the SNMP Configuration Menu will be presented.</p> <p>Exit platcfg.</p>

Procedure 14. Installing a Redundant PMAC

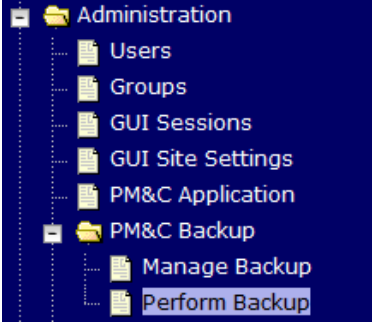
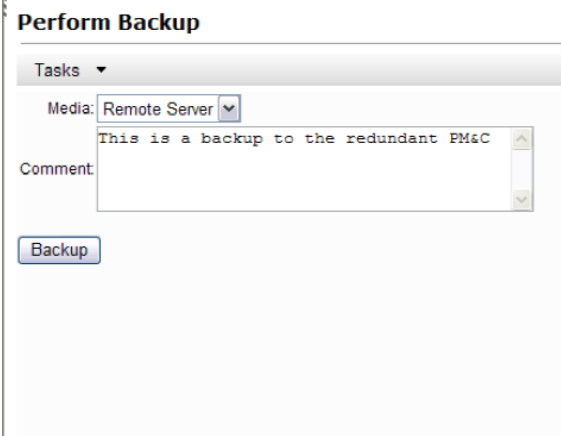
13 <input type="checkbox"/>	<b>Redundant PMAC:</b> Reboot the server	Reboot the server by running: <pre>\$ sudo init 6</pre>
14 <input type="checkbox"/>	<b>PMAC GUI:</b> Login	Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user: <pre>https://&lt;pmac_network_ip&gt;</pre> 

Procedure 14. Installing a Redundant PMAC

15	<b>PMAC GUI:</b> Configure Backups	<p>Navigate to <b>Main Menu -&gt; Administration -&gt; PM&amp;C Backup -&gt; Manage Backup</b></p>  <p>Configure the primary PMAC to send backups to the redundant PMAC:</p> <p>On the Remote IP Address field, enter the management IP of the redundant PMAC server.</p> <p><b>Manage Backup</b></p> <p>Tasks ▾</p> <p><b>Backup Settings</b></p> <p>Backup Frequency: Daily ▾ Backup Time: 05:00 ▾</p> <p><b>Remote Backup Settings</b></p> <p>Remote IP Address: 10.240.5.214</p> <p>Update Settings</p>
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Procedure 14. Installing a Redundant PMAC

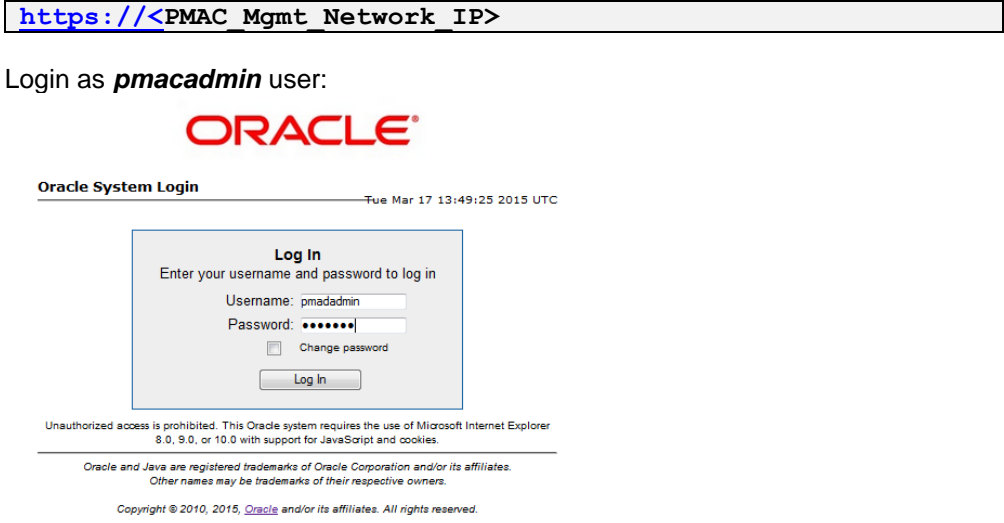
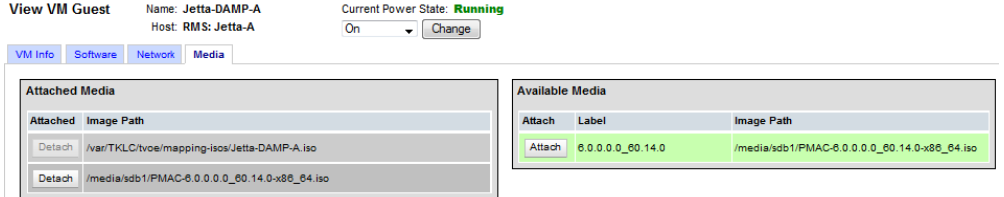
<p>16</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Perform Initial Backup</p>	<p>Navigate to <b>Main Menu -&gt; Administration -&gt; PM&amp;C Backup -&gt; Perform Backup</b></p>  <p>Select the <i>Remote Server</i> from the drop down Media Box, enter any desired comment and click <b>Backup</b></p>  <p>Verify the Backup was successful by clicking on the Task Monitoring Link to monitor the Backup PMAC status.</p> <p><b>Note:</b> This backup function copies existing PMAC backup files and all of the images added to the PMAC image repository from the primary PMAC server to the redundant PMAC Server.</p>
<p>17</p> <p><input type="checkbox"/></p>	<p><b>Primary PMAC:</b> Un-Export the PMAC ISO image</p>	<p>Execute the following command to Un-export the PMAC ISO image to the redundant PMAC's TVOE host Server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/sbin/exportfs -u &lt;redundant PMAC TVOE Host Control IP&gt;:/usr/TKLC/smac/html/TPD/&lt;PMAC_Image_Name&gt;</pre>

## 4.12 Create Virtual Machines for Applications

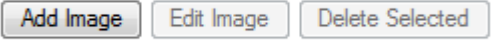
### Procedure 15. Load DSR, SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only), and TPD ISOs to the PMAC Server

<b>S T E P #</b>	<p>This procedure will load the DSR, SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only), and TPD ISOs into the PMAC Server.</p> <p><b>Note:</b> If deploying IDIH, the IDIH ISOs can also be loaded here as well.</p> <p><b>Needed material:</b></p> <ul style="list-style-type: none"> <li>- Application Media</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <input type="checkbox"/>	<p><b>PMAC's TVOE:</b> Load Application ISO</p>	<p>Add the TPD 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 CD containing the TPD image 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</b> (not on the PMAC server)</p> <p>Using sftp, connect to the PMAC server</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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 style="border: 1px solid black; padding: 5px;">\$ quit</pre>

Procedure 15. Load DSR, SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only), and TPD ISOs to the PMAC Server

<p>2</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI: Login</b></p>	<p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;PMAC Mgmt Network IP&gt;">https://&lt;PMAC Mgmt Network IP&gt;</a></p> </div> <p>Login as <i>pmacadmin</i> user:</p> 
<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b></p> <p>Attach the software Image to the PMAC Guest</p>	<p>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 <b>step 4</b>. If the image is on a CD or USB device, continue with this step.</p> <p>In the PMAC GUI, navigate to <b>Main Menu -&gt; VM Management</b>. In the “<i>VM Entities</i>” list, select the PMAC guest. On the resulting “<i>View VM Guest</i>” page, select the <b>Media</b> tab.</p> <p>Under the <b>Media</b> tab, find the ISO image in the “<i>Available Media</i>” list, and click its <b>Attach</b> button. After a pause, the image will appear in the “<i>Attached Media</i>” list.</p> 

Procedure 15. Load DSR, SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only), and TPD ISOs to the PMAC Server


<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI :</b> Add TPD Image</p>	<p>Navigate to <b>Main Menu -&gt; Software -&gt; Manage Software Images</b></p> <p>Press <b>Add Image</b> button. Use the drop down to select the image.</p> <div style="text-align: center;">  </div> <p>If the image was supplied on a CD or a USB drive, it will appear 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 will appear in the list as a local file "<b>/var/TKLC/...</b>".</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Add Software 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 \</p> <p>Path: <input type="text" value="/var/TKLC/upgrade/DSR-7.1.0.0.0_71.11.0-x86_64.iso"/></p> <p>Description: <input type="text"/></p> <hr/> <p style="text-align: center;"><input type="button" value="Add New Image"/></p> </div> <p>Select the appropriate path and Press <b>Add New Image</b> button.</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 TPD Media from the optical drive of the management server.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Load DSR ISO</p>	<p>If the DSR ISO hasn't been loaded onto the PMAC already, repeat <b>steps 1 through 4</b> to load it using the DSR media or ISO.</p>

**Procedure 15. Load DSR, SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only), and TPD ISOs to the PMAC Server**

6	<input type="checkbox"/> <b>PMAC GUI:</b> Load SDS ISO (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	If the SDS ISO hasn't been loaded onto the PMAC already, repeat <b>steps 1 through 4</b> to load it using the SDS media or ISO.
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**Note: [Non-HA Lab Node Installations of Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only]:** Follow procedure **Appendix S.4** instead of procedure 16 for NOAM Guest VM creation.

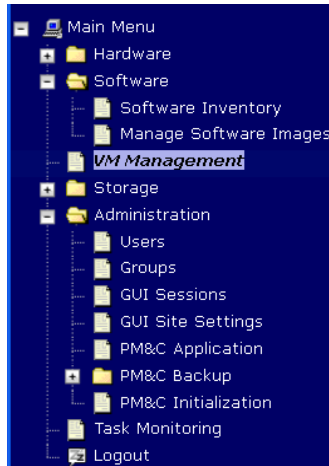
**Procedure 16. Create NOAM Guest VMs**

<b>S T E P #</b>		<p>This procedure will provide the steps needed to create a DSR/SDS NOAM virtual machine (referred to as a "guest") on a TVOE RMS. It must be repeated for every DSR and SDS NOAM server you wish to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS</p> <p><b>Note:</b> Refer to <b>Section 4.10</b> for VM placement</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
1 <input type="checkbox"/>	<b>PMAC GUI:</b> Login	<p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <a href="https://&lt;PMAC Mgmt Network IP&gt;">https://&lt;PMAC Mgmt Network IP&gt;</a> </div> <p>Login as <i>pmacadmin</i> user:</p> 

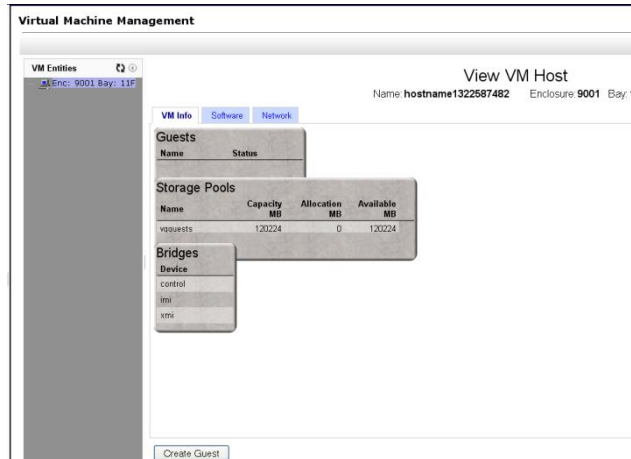
Procedure 16. Create NOAM Guest VMs

2 **PMAC GUI:**  
Navigate to VM Management of the Target Server

Navigate to **Main Menu -> VM Management**



Select the TVOE rack mounted server from the **VM Entities** listing on the left side of the screen. The selected server's guest machine configuration will then be displayed in the remaining area of the window.



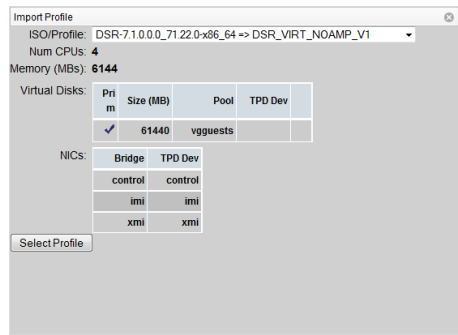
Click **Create Guest**



Procedure 16. Create NOAM Guest VMs

3 **PMAC GUI:**  
 Configure VM Guest Parameters (Part 1)

Select **Import Profile**



From the **“ISO/Profile”** drop-down box, select the entry that matches depending on the hardware that your NOAM VM TVOE server is running:

DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Choose Profile (<Application ISO NAME>➔)
DSR	HP DL380 Gen 8 RMS	<b>DSR_NOAMP_RMS</b>
DSR	Oracle X5-2/Netra X5-2/HP DL380 Gen 9	<b>DSR_VIRT_NOAMP_V1</b>
SDS	Oracle X5-2/Netra X5-2/HP DL380 Gen 9	<b>SDS_VIRT_NOAM_V1</b>

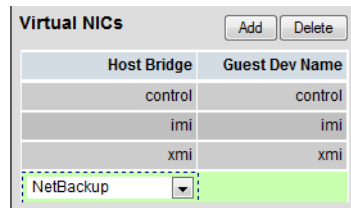
**Note:** Application\_ISO\_NAME is the name of the DSR Application ISO to be installed on this NOAM

Press **Select Profile**.

The Guest Name (Required) field may be edited (this will not become the ultimate hostname, rather an internal tag for the VM host manager:

Guest Name (Required):

For **NetBackup**, Add the virtual NIC by clicking **Add** on the following screen:

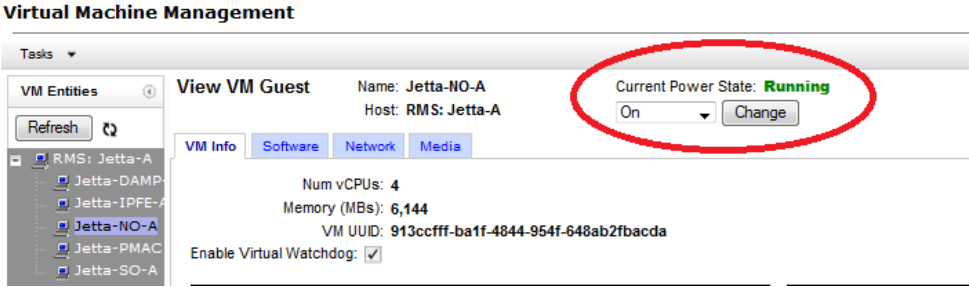


Click the column (Guest Dev Name) beside the *NetBackup* Host Bridge:

Enter *NetBackup*

Press **Create**

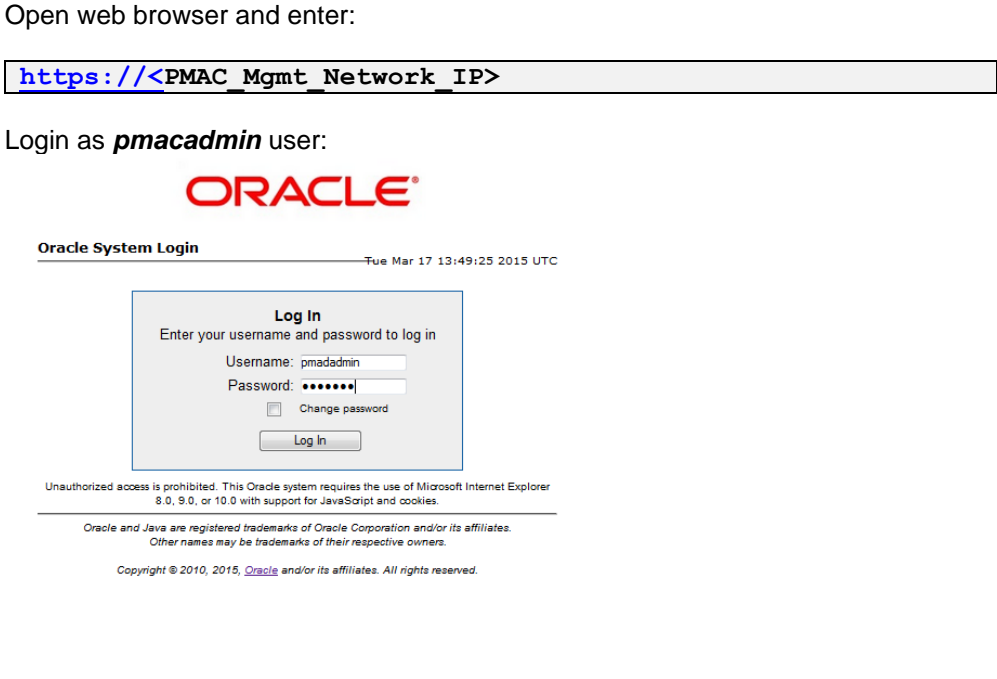
**Procedure 16. Create NOAM Guest VMs**

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for Guest Creation to Complete</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the guest creation task. A separate task will appear for each guest creation that you have launched.</p> <p>Wait or refresh the screen until you see that the guest creation task has completed successfully.</p> <table border="1" data-bbox="451 508 1341 592"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1739</td> <td>VirtAction: Create</td> <td>Enc:9001 Bay:11F Guest: DSR_NOAMP</td> <td>Guest creation completed (DSR_NOAMP)</td> <td>0:00:04</td> <td>2011-11-29 20:36:11</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%
ID	Task	Target	Status	Running Time	Start Time	Progress										
1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%										
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Guest Machine is Running</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p> <p>Select the TVOE server on which the guest machine was just created.</p> <p>Look at the list of guests present on the and verify that you see a guest that matches the name you configured and that its status is <b>“Running”</b>.</p>  <p>VM Creation for this guest is complete.</p>														
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for remaining NOAM VMs</p>	<p>Repeat from <b>Steps 2-3</b> for any remaining NOAM VMs for DSR and SDS-if equipped (for instance, the standby NOAM, and DR-NOAMs) that must be created.</p>														

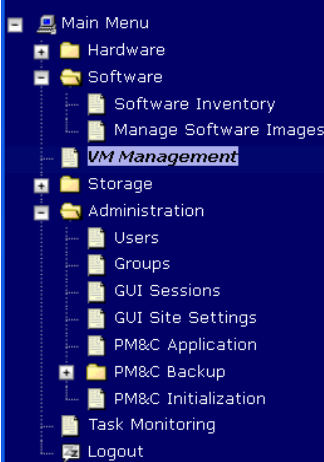
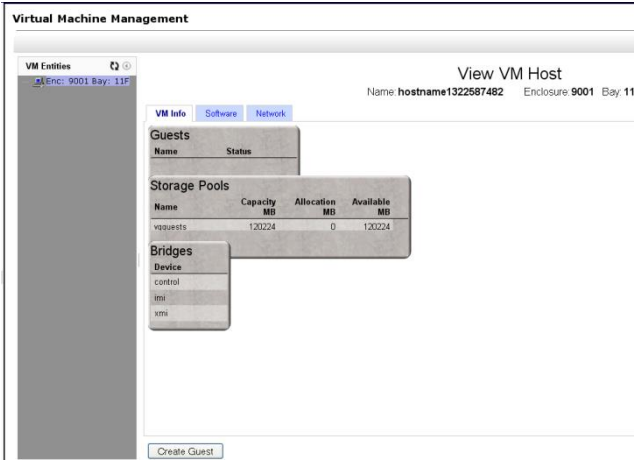


**Note: [Non-HA Lab Node Installations of Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only]:** Follow procedure **Appendix S.4** instead of procedure 17 for SOAM Guest VM creation.

**Procedure 17. Create SOAM Guest VMs**

<b>S T E P #</b>	<p>This procedure will provide the steps needed to create a DSR SOAM virtual machine (referred to as a “guest”) on a TVOE RMS. It must be repeated for every SOAM server you wish to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS</p> <p><b>Note:</b> Refer to <b>Section 4.10</b> for VM placement</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<b>1</b>  <input type="checkbox"/>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <a href="https://&lt;PMAC_Mgmt_Network_IP&gt;">https://&lt;PMAC_Mgmt_Network_IP&gt;</a> </div> <p>Login as <i>pmacadmin</i> user:</p> 

**Procedure 17. Create SOAM Guest VMs**

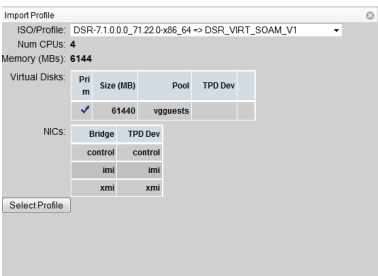
<p>2</p> <p>☐</p>	<p><b>PMAC GUI:</b>          Navigate to VM Management of the Target Server</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p>  <p>Select the TVOE rack mounted server from the <b>VM Entities</b> listing on the left side of the screen. The selected server's guest machine configuration will then be displayed in the remaining area of the window.</p>  <p>Click <b>Create Guest</b></p>
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Procedure 17. Create SOAM Guest VMs

3

**PMAC GUI:**  
Configure VM Guest Parameters (Part 1)

**Select Import Profile**



From the **“ISO/Profile”** drop-down box, select the entry that matches depending on the hardware that your NOAM VM TVOE server is running:

DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Choose Profile (<Application ISO NAME>→)
DSR	HP DL380 Gen 8 RMS	<b>DSR_SOAM_RMS</b>
DSR	Oracle X5-2/Netra X5-2/HP DL380 Gen 9	<b>DSR_VIRT_SOAM_V1</b>
SDS	Oracle X5-2/Netra X5-2/HP DL380 Gen 9	<b>SDS_VIRT_DP-SOAM_V1</b>

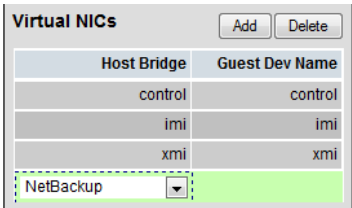
**Note:** Application\_ISO\_NAME is the name of the DSR/SDS Application ISO to be installed on this NOAM

Press **Select Profile**.

The Guest Name (Required) field may be edited (this will not become the ultimate hostname, rather an internal tag for the VM host manager):

Guest Name (Required):

For **NetBackup**(*DSR ONLY*), Add the virtual NIC by clicking **Add** on the following screen:

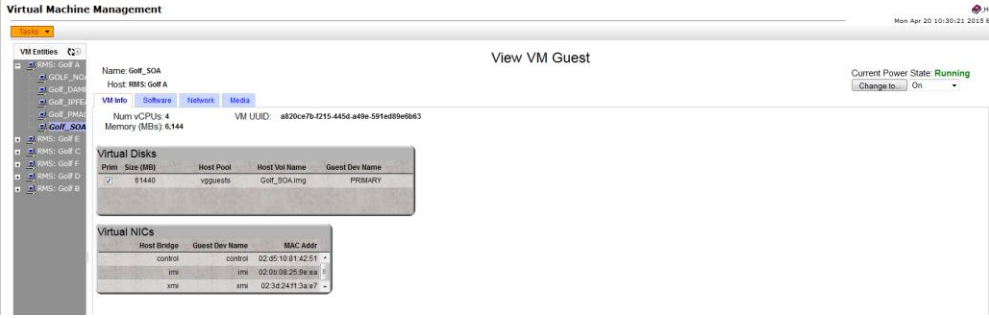


Click the column (Guest Dev Name) beside the *NetBackup* Host Bridge:

Enter *NetBackup*

Press **Create**

**Procedure 17. Create SOAM Guest VMs**

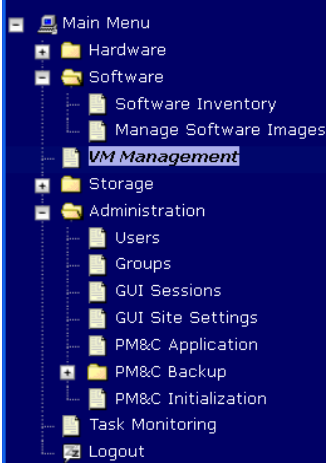
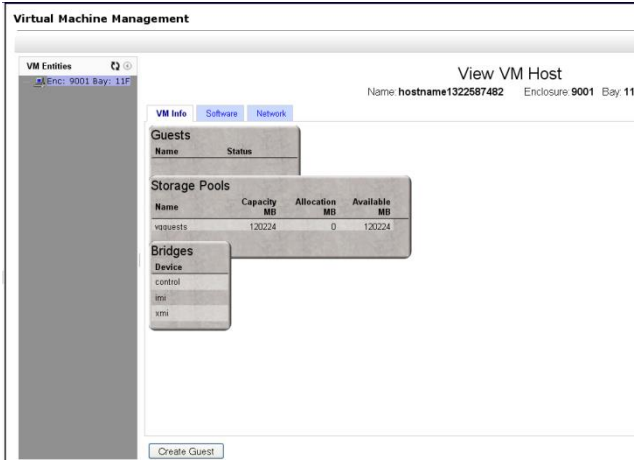
<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for Guest Creation to Complete</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the guest creation task. A separate task will appear for each guest creation that you have launched.</p> <p>Wait or refresh the screen until you see that the guest creation task has completed successfully.</p> <table border="1" data-bbox="451 464 1339 548"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1739</td> <td>VirtAction: Create</td> <td>Enc:9001 Bay:11F Guest: DSR_NOAMP</td> <td>Guest creation completed (DSR_NOAMP)</td> <td>0:00:04</td> <td>2011-11-29 20:36:11</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%
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1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%										
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Guest Machine is Running</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p> <p>Select the TVOE server on which the guest machine was just created.</p> <p>Look at the list of guests present on the rack mount server and verify that you see a guest that matches the name you configured and that its status is <b>“Running”</b>.</p>  <p>VM Creation for this guest is complete.</p>														
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for remaining SOAM VMs</p>	<p>Repeat from <b>Steps 2-3</b> for any remaining DSR or SDS DP SOAM VMs (for instance, the standby SOAM-DSR Only) that must be created.</p>														

**Note: [Non-HA Lab Node Installations of Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only]:** Follow procedure **Appendix S.4** instead of procedure 18 for MP/SBR/DP Guest VM creation.

**Procedure 18. Create MP/SBR/DP Guest VMs**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps needed to create a DA-MP, SS7-MP, SBR, or SDS DP virtual machine (referred to as a “guest”) on a TVOE server. It must be repeated for every server you wish to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS.</p> <p><b>Note:</b> Refer to <b>Section 4.10</b> for VM placement</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p> <p>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>Login as <i>pmacadmin</i> user:</p> 

**Procedure 18. Create MP/SBR/DP Guest VMs**

<p>2</p> <p>☐</p>	<p><b>PMAC GUI:</b>          Navigate to VM Management of the Target Rack Mount Server</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p>  <p>Select the rack mount server from the <b>VM Entities</b> listing on the left side of the screen. The selected server's guest machine configuration will then be displayed in the remaining area of the window.</p>  <p>Click <b>Create Guest</b></p>
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Procedure 18. Create MP/SBR/DP Guest VMs

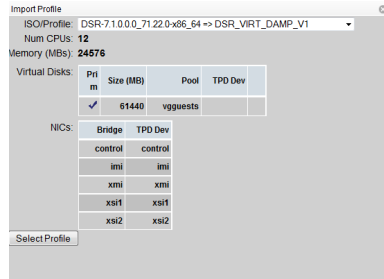
<p>3 □</p>	<p><b>PMAC GUI:</b> Configure VM Guest Parameters (Part 1)</p>	<p>For the next step, the DSR/SDS VM profile will need to be configured, use the table below to determine the VM profile based on application, hardware type, and server type.</p> <p>From the <b>“ISO/Profile”</b> drop-down box, select the entry that matches depending on the hardware and function that your MP/ DP VM TVOE server is running</p> <table border="1" data-bbox="446 472 1429 1396"> <thead> <tr> <th>DSR or SDS?</th> <th>NOAM VM TVOE Hardware Type(s)</th> <th>Function</th> <th>Choose Profile (&lt;Application ISO NAME&gt;→)</th> </tr> </thead> <tbody> <tr> <td>DSR</td> <td>HP DL380 Gen 8</td> <td><b>SS7-MP DA-MP</b></td> <td><b>DSR_MP_RMS</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>DA-MP</b></td> <td><b>DSR_VIRT_DAMP_V1</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>SS7-MP</b></td> <td><b>DSR_VIRT_SS7MP_V1</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>IPFE</b></td> <td><b>DSR_VIRT_IPFE_V1</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>Session SBR (PCA Only)</b></td> <td><b>DSR_VIRT_SBR_SESSSION_V1</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>Binding SBR (PCA Only)</b></td> <td><b>DSR_VIRT_SBR_BINDING_V1</b></td> </tr> <tr> <td>SDS</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>DP</b></td> <td><b>SDS_VIRT_DP_V1</b></td> </tr> </tbody> </table> <p><b>Note:</b> Application_ISO_NAME is the name of the DSR or SDS Application ISO to be installed on this MP, DP, or SBR</p>	DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Function	Choose Profile (<Application ISO NAME>→)	DSR	HP DL380 Gen 8	<b>SS7-MP DA-MP</b>	<b>DSR_MP_RMS</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DA-MP</b>	<b>DSR_VIRT_DAMP_V1</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>SS7-MP</b>	<b>DSR_VIRT_SS7MP_V1</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>IPFE</b>	<b>DSR_VIRT_IPFE_V1</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Session SBR (PCA Only)</b>	<b>DSR_VIRT_SBR_SESSSION_V1</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Binding SBR (PCA Only)</b>	<b>DSR_VIRT_SBR_BINDING_V1</b>	SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DP</b>	<b>SDS_VIRT_DP_V1</b>
DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Function	Choose Profile (<Application ISO NAME>→)																															
DSR	HP DL380 Gen 8	<b>SS7-MP DA-MP</b>	<b>DSR_MP_RMS</b>																															
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DA-MP</b>	<b>DSR_VIRT_DAMP_V1</b>																															
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DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Binding SBR (PCA Only)</b>	<b>DSR_VIRT_SBR_BINDING_V1</b>																															
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DP</b>	<b>SDS_VIRT_DP_V1</b>																															

**Procedure 18. Create MP/SBR/DP Guest VMs**

**4**  
 **PMAC GUI:**  
 Configure VM Guest Parameters (Part 2)

Select **Import Profile**

Chose the profile based on the information from **Step 3**



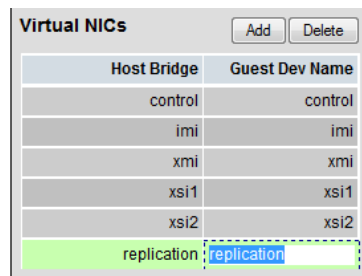
Press **Select Profile**.

The Guest Name (Required) field may be edited (this will not become the ultimate hostname, rather an internal tag for the VM host manager):

Guest Name (Required):

If an SBR replication interface (DSR ONLY), or additional XSI (xsi3 and/or xsi4) interfaces have been configured, add the virtual NIC by clicking **Add** on the following screen:

**Note:** If an SBR replication network has been defined, and if there are SS7-MPs present, SS7-MPs will also need to be configured with this replication network for ComAgent replication.

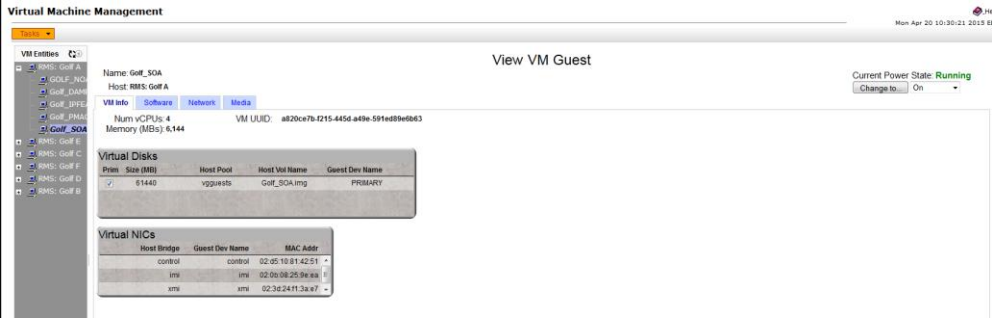


You can edit the name, if you wish. For instance: **“DSR\_MP\_A,” or DSR\_MP\_B”**. (This will not become the ultimate hostname. It is just an internal tag for the VM host manager.)

Press **Create**

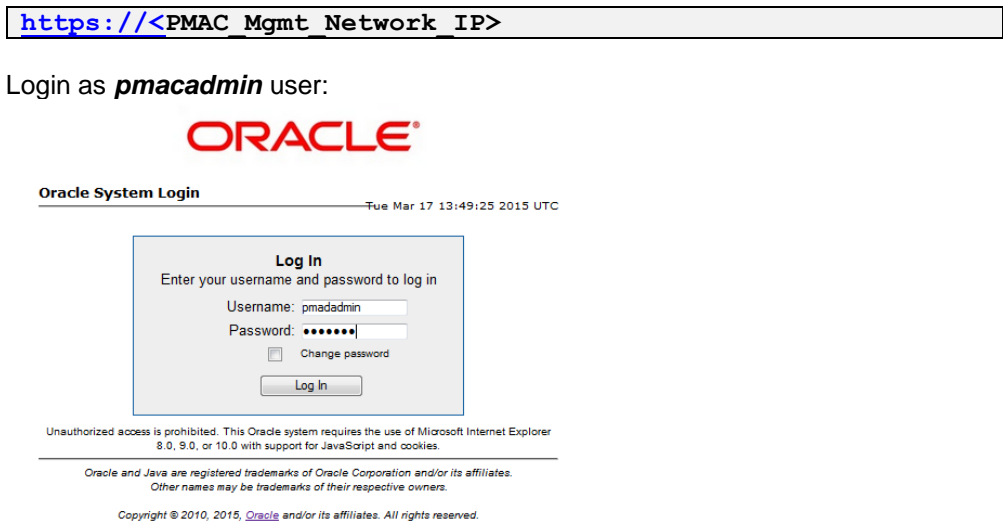


**Procedure 18. Create MP/SBR/DP Guest VMs**

<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for Guest Creation to Complete</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the guest creation task. A separate task will appear for each guest creation that you have launched.</p> <p>Wait or refresh the screen until you see that the guest creation task has completed successfully.</p> <table border="1" data-bbox="451 510 1336 590"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1739</td> <td>VirtAction: Create</td> <td>Enc:9001 Bay:11E Guest: DSR_NOAMP</td> <td>Guest creation completed (DSR_NOAMP)</td> <td>0:00:04</td> <td>2011-11-29 20:36:11</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	1739	VirtAction: Create	Enc:9001 Bay:11E Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%
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<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Guest Machine is Running</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p> <p>Select the TVOE server on which the guest machine was just created.</p> <p>Look at the list of guests present on the rack mount server and verify that you see a guest that matches the name you configured and that its status is <b>“Running”</b>.</p>  <p>VM Creation for this guest is complete.</p>														
<p>7</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for remaining MP VMs</p>	<p>Repeat from <b>Step 2-6</b> for any remaining MP VMs that must be created.</p>														

**Note: [Non-HA Lab Node Installations of Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only]:** Follow procedure **Appendix S.4** instead of procedure 19 for SDS Query Server Guest VM creation.

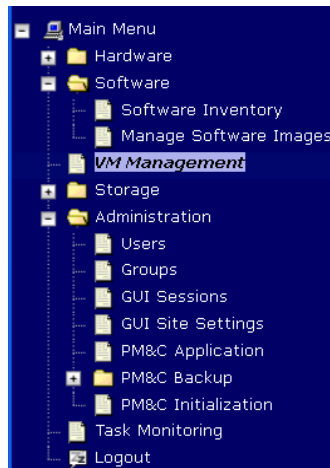
**Procedure 19. Create SDS Query Server VMs**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps needed to create an SDS Query Server virtual machine (referred to as a “guest”) on a TVOE server. It must be repeated for every server you wish to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS.</p> <p><b>Note:</b> Refer to <b>Section 4.10</b> for VM placement</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI: Login</b></p> <p>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>Login as <b>pmacadmin</b> user:</p>  <p>Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</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, 2015, Oracle and/or its affiliates. All rights reserved.</small></p>

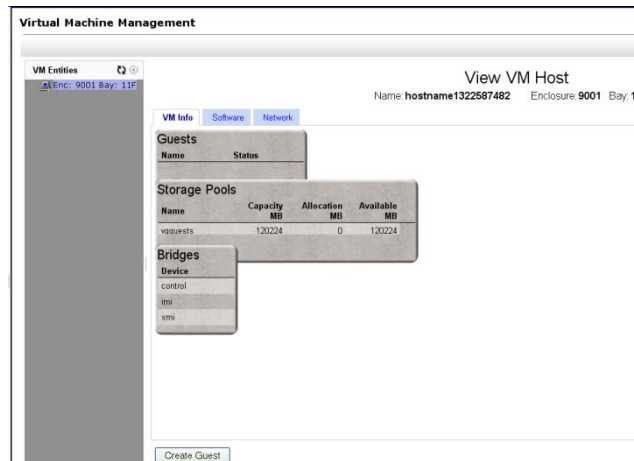
Procedure 19. Create SDS Query Server VMs

2 **PMAC GUI:**  
Navigate to VM Management of the Target Rack Mount Server

Navigate to **Main Menu -> VM Management**



Select the rack mount server from the **VM Entities** listing on the left side of the screen. The selected server's guest machine configuration will then be displayed in the remaining area of the window.



Click **Create Guest**

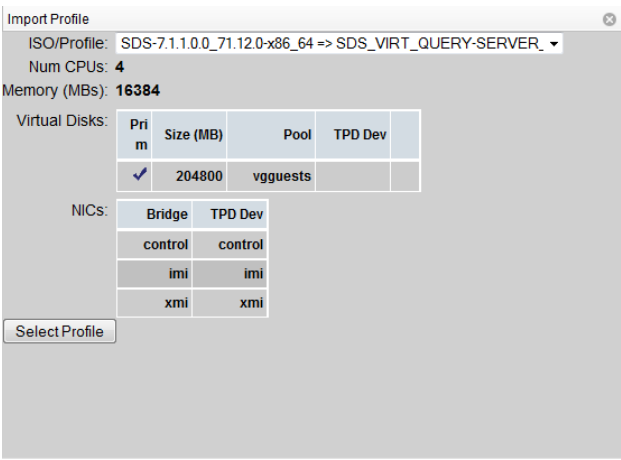


Procedure 19. Create SDS Query Server VMs

3

PMAC GUI:  
Configure  
VM Guest  
Parameters

### Select Import Profile



From the **“ISO/Profile”** drop-down box, select the entry that matches depending on the hardware and function that your MP/ DP VM TVOE server is running

DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Function	Choose Profile (<Application ISO NAME>→)
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	Query Server	SDS_VIRT_QUERY-SERVER_V1

**Note:** Application\_ISO\_NAME is the name of the SDS Application ISO to be installed on this Query Server

Press **Select Profile**.

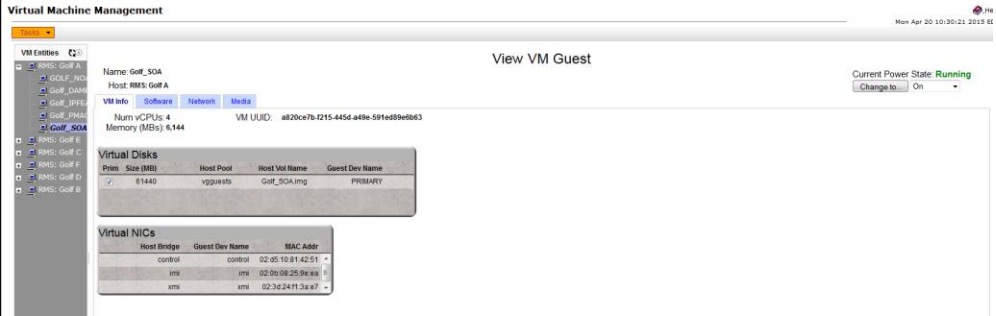
The Guest Name (Required) field may be edited (this will not become the ultimate hostname, rather an internal tag for the VM host manager:

Guest Name (Required):

You can edit the name, if you wish. For instance: **“Query\_Server\_A,” or Query\_Server\_B”**. (This will not become the ultimate hostname. It is just an internal tag for the VM host manager.)

Press **Create**

**Procedure 19. Create SDS Query Server VMs**

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for Guest Creation to Complete</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the guest creation task. A separate task will appear for each guest creation that you have launched.</p> <p>Wait or refresh the screen until you see that the guest creation task has completed successfully.</p> <table border="1" data-bbox="446 510 1333 590"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1739</td> <td>VirtAction: Create</td> <td>Enc:3001 Bay:11F Guest: DSR_NOAMP</td> <td>Guest creation completed (DSR_NOAMP)</td> <td>0:00:04</td> <td>2011-11-29 20:36:11</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	1739	VirtAction: Create	Enc:3001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%
ID	Task	Target	Status	Running Time	Start Time	Progress										
1739	VirtAction: Create	Enc:3001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%										
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Guest Machine is Running</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p> <p>Select the TVOE server on which the guest machine was just created.</p> <p>Look at the list of guests present on the rack mount server and verify that you see a guest that matches the name you configured and that its status is <b>“Running”</b>.</p>  <p>VM Creation for this guest is complete.</p>														
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for remaining MP VMs</p>	<p>Repeat from <b>Step 2</b> for any remaining Query Server VMs that must be created.</p>														

## 4.13 CPU Pinning (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

**Note:** [Non-HA Lab Node Installations of Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only]: Skip this Section

### Procedure 20. CPU Pinning (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

<b>S T E P #</b>	This procedure describes steps needed to configure VM CPU socket pinning on each TVOE host to optimize performance.  <b>Prerequisite:</b> VM Guests creation has been completed.  Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.  If this procedure fails, contact <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.	
1 <input type="checkbox"/>	<b>Obtain CPU Socket Pinning Information</b>	Obtain CPU socket pinning information by referring to the data gathered in <b>Section 4.10</b>
2 <input type="checkbox"/>	<b>TVOE Host:</b> Login	Establish an SSH session to the TVOE host, login as <i>admusr</i> .

Procedure 20. CPU Pinning (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

<p>3</p> <p>□</p>	<p><b>TVOE Host:</b> Execute the CPU Pinning Script</p>	<p>Execute the following commands to allocate CPU sets for <b>EACH</b> (including the PMAC(s)) VM configured:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /var/TKLC/upgrade</pre> <p>Print the current CPU pinning allocations:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo ./cpuset.py --show</pre> <p>Expected output:</p> <pre style="border: 1px solid black; padding: 5px;">[admsr@Discovery-TVOE-4 ~]\$ sudo ./cpuset.py --show VM Domain Name  vcpus  cpuset  numa  state ----- Discovery-IPFEA2  4      None   None  running Discovery-DAMP9  12     None   None  running Discovery-DAMP8  12     None   None  running Discovery-DAMP12 12     None   None  running Discovery-DAMP11 12     None   None  running  NUMA node 0 Free CPUs: count = 32 [2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53] NUMA node 1 Free CPUs: count = 36 [18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71]</pre> <p>Execute the following to allocate CPU pinning on EACH VM:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo ./cpuset.py --set=&lt;VM Name&gt; --numa=&lt;0/1&gt;</pre> <p>Example:</p> <pre style="border: 1px solid black; padding: 5px;">[admsr@Discovery-TVOE-4 ~]\$ sudo ./cpuset.py -set=Discovery-IPFEA2 -numa=0 Successful. Domain Discovery-IPFEA2 must be restarted for changes to take affect  [admsr@Discovery-TVOE-4 ~]\$ sudo ./cpuset.py --show VM Domain Name  vcpus  cpuset  numa  state ----- Discovery-IPFEA2  4      2-3,38-39  0     running Discovery-DAMP9  12     None     None  running Discovery-DAMP8  12     None     None  running Discovery-DAMP12 12     None     None  running Discovery-DAMP11 12     None     None  running  NUMA node 0 Free CPUs: count = 28 [4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53] NUMA node 1 Free CPUs: count = 36 [18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71]</pre> <p><b>Note:</b> If deploying IDIH, make note of the CPU pinning allocations, as the CPU pinning will be done as part of IDIH configuration (<b>Section 4.17</b>)</p> <p><b>Note:</b> To clear CPU pinning, execute the following guest on EACH VM as necessary:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo ./cpuset.py --clear=&lt;VM NAME&gt;</pre> <p>Example:</p> <pre style="border: 1px solid black; padding: 5px;">[admsr@Sterling-TVOE-4 admsr]# sudo ./cpuset.py -clear=Sterling2So-DA-MP4</pre>
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Procedure 20. CPU Pinning (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

<p>4</p> <p><input type="checkbox"/></p>	<p><b>TVOE Host:</b> Restart</p>	<p>Restart the TVOE host by executing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>TVOE Host:</b> Verify CPU Pinning</p>	<p>Once the TVOE host is restarted, establish an SSH session to the TVOE Host, login as <b>admusr</b>.</p> <p>Verify the CPU pinning is allocated by executing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /var/TKLC/upgrade</pre> <p>Print the current CPU pinning allocations:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo ./cpuset.py -show</pre> <p>Expected output:</p> <pre>[admusr@Discovery-TVOE-4 ~]\$ sudo ./cpuset.py -set=Discovery-DAMP8 -cpuset=4-9,40-45 Successful. Domain Discovery-DAMP8 must be restarted for changes to take affect  [admusr@Discovery-TVOE-4 ~]\$ sudo ./cpuset.py --show VM Domain Name      vcpus  cpuset      numa  state ----- Discovery-IPFEA2    4      2-3,38-39   0     running Discovery-DAMP9     12     18-23,54-59 1     running Discovery-DAMP8     12     4-9,40-45   0     running Discovery-DAMP12    12     None        None  running Discovery-DAMP11    12     None        None  running  NUMA node 0 Free CPUs: count = 16 [10, 11, 12, 13, 14, 15, 16, 17, 46, 47, 48, 49, 50, 51, 52, 53] NUMA node 1 Free CPUs: count = 24 [24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71]</pre>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>Repeat for Each TVOE HOST</b></p>	<p>Repeat this procedure for each TVOE host.</p>

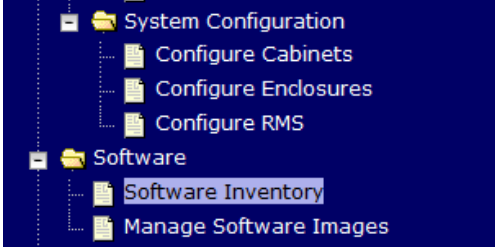

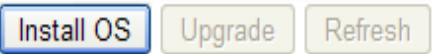
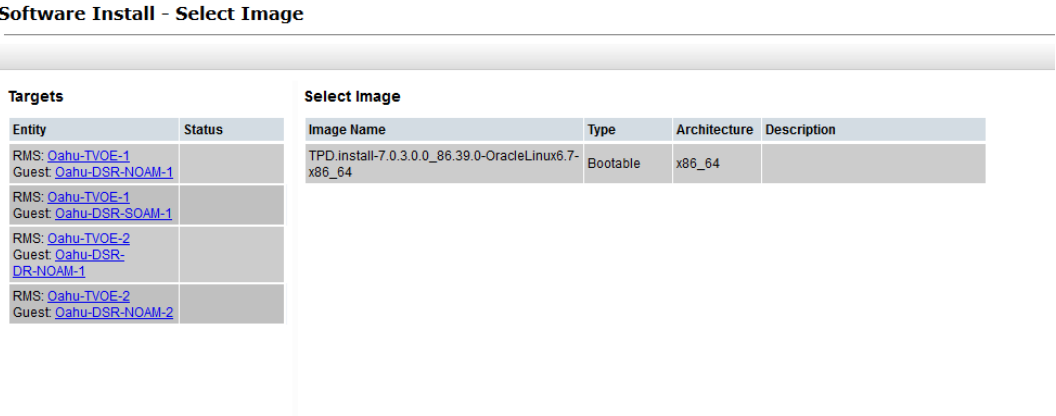
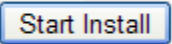


## 4.14 Install Software on Virtual Machines













### Procedure 21. IPM VMs

<b>S T E P #</b>	<p>This procedure will provide the steps to install TPD on rack mount server guest VMs.</p> <p><b>Prerequisite:</b> VM Guests creation has 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
1 <input type="checkbox"/>	<p><b>PMAC GUI: Login</b></p> <p>Open web browser and enter:</p> <div data-bbox="371 638 1365 674" style="border: 1px solid black; padding: 2px;"><a href="https://&lt;PMAC_Mgmt_Network_IP&gt;">https://&lt;PMAC_Mgmt_Network_IP&gt;</a></div> <p>Login as <i>pmacadmin</i> user:</p> <div data-bbox="371 701 1365 1163" style="border: 1px solid black; padding: 10px;"><p style="text-align: center;"><b>ORACLE®</b></p><p><b>Oracle System Login</b> <span style="float: right;">Tue Mar 17 13:49:25 2015 UTC</span></p><div data-bbox="500 867 829 1045" style="border: 1px solid gray; padding: 5px; margin: 10px auto; width: fit-content;"><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" value="pmacadmin"/></p><p>Password: <input type="password" value="••••••"/></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="font-size: small;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p><hr/><p style="font-size: x-small; text-align: center;">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="font-size: x-small; text-align: center;">Copyright © 2010, 2015, <a href="#">Oracle</a> and/or its affiliates. All rights reserved.</p></div>


Procedure 21. IPM VMs

<p>2</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Select Servers for OS install</p>	<p>Navigate to <b>Software -&gt; Software Inventory.</b></p>  <p>Select the VM servers (<i>DSR/SDS NOAMs, SOAMs, SBRS, IPFEs, MPs, Etc.</i>) 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 will be highlighted in green.</p> <p><b>Note:</b> VM's will have the text "<b>Guest: &lt;VM_GUEST_NAME&gt;</b>" underneath the physical RMS that hosts them.</p>  <p>Click on <b>Install OS</b></p> 
<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Initiate OS Install</p>	<p>The left side of this screen shows the servers to be affected by this TPD 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> <p><b>Software Install - Select Image</b></p>  <p>Click on <b>Start Install</b>, a confirmation window will pop up, click on <b>Ok</b> to proceed with the install.</p> 

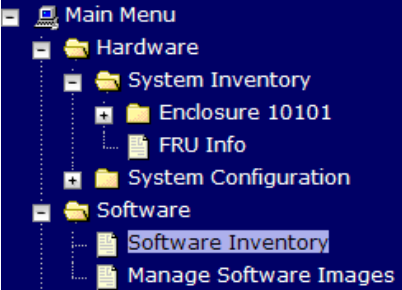
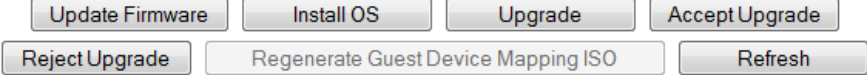
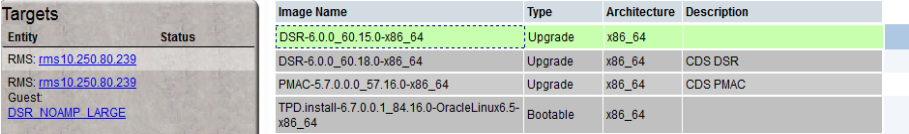
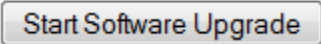
Procedure 21. IPM VMs

4	<p><b>PMAC GUI:</b> Monitor OS Install</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the OS Installation background task. A separate task will appear for each VM affected.</p> <table border="1"> <tr> <td> 364</td> <td>Install OS</td> <td>RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-1</a></td> <td>Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64</td> <td>COMPLETE</td> <td>0:12:27</td> <td>2016-02-02 08:49:58</td> <td>100%</td> </tr> <tr> <td> 363</td> <td>Install OS</td> <td>RMS: <a href="#">Oahu-TVOE-3</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-2</a></td> <td>Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64</td> <td>COMPLETE</td> <td>0:12:27</td> <td>2016-02-02 08:49:58</td> <td>100%</td> </tr> <tr> <td> 362</td> <td>Install OS</td> <td>RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-1</a></td> <td>Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64</td> <td>COMPLETE</td> <td>0:12:46</td> <td>2016-02-02 07:57:35</td> <td>100%</td> </tr> <tr> <td> 361</td> <td>Install OS</td> <td>RMS: <a href="#">Oahu-TVOE-3</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-2</a></td> <td>Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64</td> <td>COMPLETE</td> <td>0:12:47</td> <td>2016-02-02 07:57:35</td> <td>100%</td> </tr> </table> <p>When the installation is complete, the task will change to green and the Progress bar will indicate "100%".</p>	 364	Install OS	RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-1</a>	Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64	COMPLETE	0:12:27	2016-02-02 08:49:58	100%	 363	Install OS	RMS: <a href="#">Oahu-TVOE-3</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-2</a>	Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64	COMPLETE	0:12:27	2016-02-02 08:49:58	100%	 362	Install OS	RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-1</a>	Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64	COMPLETE	0:12:46	2016-02-02 07:57:35	100%	 361	Install OS	RMS: <a href="#">Oahu-TVOE-3</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-2</a>	Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64	COMPLETE	0:12:47	2016-02-02 07:57:35	100%
 364	Install OS	RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-1</a>	Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64	COMPLETE	0:12:27	2016-02-02 08:49:58	100%																											
 363	Install OS	RMS: <a href="#">Oahu-TVOE-3</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-2</a>	Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64	COMPLETE	0:12:27	2016-02-02 08:49:58	100%																											
 362	Install OS	RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-1</a>	Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64	COMPLETE	0:12:46	2016-02-02 07:57:35	100%																											
 361	Install OS	RMS: <a href="#">Oahu-TVOE-3</a> Guest: <a href="#">Oahu-DSR-DR.NOAM-2</a>	Done: TPD.install-7.0.3.0.0_86.39.0-OracleLinux6.7-x86_64	COMPLETE	0:12:47	2016-02-02 07:57:35	100%																											


**Procedure 22. Install the DSR and SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only) Application Software on the VMs**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to install DSR and SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only) on rack mount server guest VMs.</p> <p><b>Prerequisite:</b> Servers have been IPM'ed with 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1 <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p> <p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;PMAC_Mgmt_Network_IP&gt;">https://&lt;PMAC_Mgmt_Network_IP&gt;</a></p> </div> <p>Login as <i>pmacadmin</i> user:</p>  <p>Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</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, 2015, Oracle and/or its affiliates. All rights reserved.</small></p>

**Procedure 22. Install the DSR and SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only) Application Software on the VMs**

<p>2</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Select Servers for DSR/SDS Application Install</p>	<p>Navigate to <b>Software -&gt; Software Inventory</b>.</p>  <p>Select the VM servers (<i>DSR/SDS NOAMs, SOAMs, SBRS, IPFEs, MPs, Etc.</i>) you want to install with DSR and SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only). If you want to install the same DSR/SDS image to more than one server, you may select multiple servers by clicking multiple rows individually. Selected rows will be highlighted in green.</p> <p><b>Note:</b> VM's will have the text <b>"Guest: &lt;VM_GUEST_NAME&gt;"</b> underneath the RMS that hosts them.</p> <table border="1" data-bbox="451 940 1349 1115"> <thead> <tr> <th>Ident</th> <th>IP Address</th> <th>Hostname</th> <th>Plat Name</th> <th>Plat Version</th> <th>App Name</th> <th>App Version</th> <th>Desig</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>RMS: rms10.250.80.239</td> <td>192.168.1.4</td> <td>rmsTVOE-Kauai-B</td> <td>TPD (x86_64)</td> <td>6.7.0.0.1-84.17.0</td> <td>TVOE</td> <td>Pending Acc/Rej</td> <td></td> <td></td> </tr> <tr> <td>RMS: rms10.250.80.239 Guest: DSR_NOAMP_LARGE</td> <td>192.168.1.8</td> <td>dsrNO-Kauai-b</td> <td>TPD (x86_64)</td> <td>6.7.0.0.1-84.17.0</td> <td>DSR</td> <td>Pending Acc/Rej</td> <td></td> <td></td> </tr> <tr> <td>Host: rmsTVOE-Kauai-A Guest: DSR_NOAMP_LARGE-A</td> <td>192.168.1.6</td> <td>dsrNO-Kauai-a</td> <td>TPD (x86_64)</td> <td>6.7.0.0.1-84.17.0</td> <td>DSR</td> <td>Pending Acc/Rej</td> <td></td> <td></td> </tr> <tr> <td>Host: rmsTVOE-Kauai-A Guest: pmac-Kauai-1</td> <td>192.168.1.1</td> <td>pmac-Kauai-1</td> <td>TPD (x86_64)</td> <td>6.7.0.0.1-84.15.0</td> <td>PMAC</td> <td>Pending Acc/Rej</td> <td></td> <td></td> </tr> </tbody> </table> <p>Click on <b>Upgrade</b></p> 	Ident	IP Address	Hostname	Plat Name	Plat Version	App Name	App Version	Desig	Function	RMS: rms10.250.80.239	192.168.1.4	rmsTVOE-Kauai-B	TPD (x86_64)	6.7.0.0.1-84.17.0	TVOE	Pending Acc/Rej			RMS: rms10.250.80.239 Guest: DSR_NOAMP_LARGE	192.168.1.8	dsrNO-Kauai-b	TPD (x86_64)	6.7.0.0.1-84.17.0	DSR	Pending Acc/Rej			Host: rmsTVOE-Kauai-A Guest: DSR_NOAMP_LARGE-A	192.168.1.6	dsrNO-Kauai-a	TPD (x86_64)	6.7.0.0.1-84.17.0	DSR	Pending Acc/Rej			Host: rmsTVOE-Kauai-A Guest: pmac-Kauai-1	192.168.1.1	pmac-Kauai-1	TPD (x86_64)	6.7.0.0.1-84.15.0	PMAC	Pending Acc/Rej		
Ident	IP Address	Hostname	Plat Name	Plat Version	App Name	App Version	Desig	Function																																							
RMS: rms10.250.80.239	192.168.1.4	rmsTVOE-Kauai-B	TPD (x86_64)	6.7.0.0.1-84.17.0	TVOE	Pending Acc/Rej																																									
RMS: rms10.250.80.239 Guest: DSR_NOAMP_LARGE	192.168.1.8	dsrNO-Kauai-b	TPD (x86_64)	6.7.0.0.1-84.17.0	DSR	Pending Acc/Rej																																									
Host: rmsTVOE-Kauai-A Guest: DSR_NOAMP_LARGE-A	192.168.1.6	dsrNO-Kauai-a	TPD (x86_64)	6.7.0.0.1-84.17.0	DSR	Pending Acc/Rej																																									
Host: rmsTVOE-Kauai-A Guest: pmac-Kauai-1	192.168.1.1	pmac-Kauai-1	TPD (x86_64)	6.7.0.0.1-84.15.0	PMAC	Pending Acc/Rej																																									
<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Initiate DSR/SDS Application Install</p>	<p>The left side of this screen shows the servers to be affected by this DSR/SDS application installation. Select the DSR/SDS image to install to all of the selected servers.</p>  <p>Click on <b>Start Software Upgrade</b>, a confirmation window will pop up, click on <b>Ok</b> to proceed with the install.</p> 																																													

**Procedure 22. Install the DSR and SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only) Application Software on the VMs**

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Monitor DSR/SDS Application Install</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the OS Installation background task. A separate task will appear for each VM affected.</p> <table border="1" data-bbox="451 342 1417 407"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>State</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>65</td> <td>Upgrade</td> <td>RMS: RMS-36 Guest: CM01-NOAM-2</td> <td>Task ID assigned</td> <td>IN_PROGRESS</td> <td>0:00:00</td> <td>2015-09-23 10:52:09</td> <td>40%</td> </tr> </tbody> </table> <p>When the installation is complete, the task will change to green and the Progress bar will indicate "100%".</p>	ID	Task	Target	Status	State	Running Time	Start Time	Progress	65	Upgrade	RMS: RMS-36 Guest: CM01-NOAM-2	Task ID assigned	IN_PROGRESS	0:00:00	2015-09-23 10:52:09	40%		
ID	Task	Target	Status	State	Running Time	Start Time	Progress													
65	Upgrade	RMS: RMS-36 Guest: CM01-NOAM-2	Task ID assigned	IN_PROGRESS	0:00:00	2015-09-23 10:52:09	40%													
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Accept/Reject Upgrade</p>	<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 on <b>Accept Upgrade</b> as shown below.</p> <table border="1" data-bbox="451 640 1406 699"> <tbody> <tr> <td>RMS: Oahu-TVOE-2 Guest: Oahu-IPFE-1</td> <td>169.254.5.110</td> <td>hostname68423d5912a4</td> <td>TPD (x86_64)</td> <td>7.0.3.0.0-86.39.0</td> <td>DSR</td> <td>Pending Acc/Rej</td> <td></td> <td></td> </tr> <tr> <td>RMS: Oahu-TVOE-3</td> <td>169.254.5.4</td> <td>Oahu-TVOE-3</td> <td>TPD (x86_64)</td> <td>7.0.3.0.0-86.39.0</td> <td>TVOE</td> <td>3.0.3.0.0_86.39.0</td> <td></td> <td></td> </tr> </tbody> </table> <p><b>Note:</b> To accept upgrade on multiple servers at once, hold the Ctrl button while selecting the servers.</p>  <p><b>Note:</b> On some Rack mount servers, the GUI may not provide the option to <b>accept</b> upgrade. So first verify in <b>"task monitoring"</b> that the upgrade is not in progress, then manually accept or reject the upgrade by ssh'ing into the server and execute:</p> <ul style="list-style-type: none"> <li>To accept:</li> </ul> <pre>\$ sudo /var/TKLC/backout/accept</pre> <p><b>Note:</b> To accept upgrade on multiple servers at once, hold the Ctrl button while selecting the servers.</p> <p><b>Note:</b> Once the upgrade has been accepted, the App version will change from <b>"Pending Acc/Rej"</b> to the version number of the application.</p>	RMS: Oahu-TVOE-2 Guest: Oahu-IPFE-1	169.254.5.110	hostname68423d5912a4	TPD (x86_64)	7.0.3.0.0-86.39.0	DSR	Pending Acc/Rej			RMS: Oahu-TVOE-3	169.254.5.4	Oahu-TVOE-3	TPD (x86_64)	7.0.3.0.0-86.39.0	TVOE	3.0.3.0.0_86.39.0		
RMS: Oahu-TVOE-2 Guest: Oahu-IPFE-1	169.254.5.110	hostname68423d5912a4	TPD (x86_64)	7.0.3.0.0-86.39.0	DSR	Pending Acc/Rej														
RMS: Oahu-TVOE-3	169.254.5.4	Oahu-TVOE-3	TPD (x86_64)	7.0.3.0.0-86.39.0	TVOE	3.0.3.0.0_86.39.0														
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat</p>	<p>If steps 2-5 were used to install DSR, repeat these steps for SDS.</p>																		


## 4.15 Application Configuration: DSR

### 4.15.5 DSR Configuration: NOAMs

#### Procedure 23. Configure First NOAM NE and Server

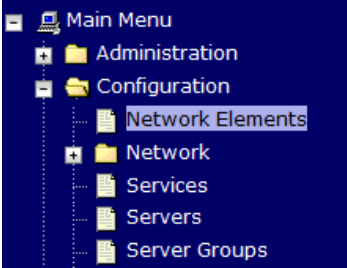
<b>S T E P #</b>	<p>This procedure will provide the steps to configure the First NOAM server.</p> <p><b>Note:</b> SDS NOAM configuration only applicable on Oracle X5-2/Netra X5-2/HP DL380 Gen 9</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>																			
1 <input type="checkbox"/>	<b>Save the NOAM Network Data to an XML file</b>	<p>Using a text editor, create a NOAM Network Element file that describes the networking of the target install environment of your first NOAM server.</p> <p>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_Nename_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> <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <pre>/usr/TKLC/smac/etc/SAMPLE-NetworkElement.xml</pre> </div> <p>A sample XML file can also be found in <b>Appendix L: Sample Network Element</b>.</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>																		
2 <input type="checkbox"/>	<b>Exchange SSH keys between PMAC and first NOAM server</b>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the first NOAM server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">RMS: <a href="#">Jetta-A</a></td> <td style="font-size: small;">192.168.1.17</td> <td style="font-size: small;">Jetta-NO-1</td> <td style="font-size: small;">TPD (x86_64)</td> <td style="font-size: small;">7.0.0.0.0-88.14.0</td> <td style="font-size: small;">DSR</td> <td style="font-size: small;">7.1.0.0.0-71.11.0</td> <td></td> <td></td> </tr> <tr> <td style="font-size: x-small;">Guest: <a href="#">Jetta-NO-A</a></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Note the IP address for the first NOAM server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the 1<sup>st</sup> NOAM server using the keyexchange utility, using the Control network IP address for the NOAM server. When prompted for the password, enter the password for the <b>admusr</b> user of the NOAM server.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <pre>\$ keyexchange admusr@&lt;NO1_Control_IP Address&gt;</pre> </div>	RMS: <a href="#">Jetta-A</a>	192.168.1.17	Jetta-NO-1	TPD (x86_64)	7.0.0.0.0-88.14.0	DSR	7.1.0.0.0-71.11.0			Guest: <a href="#">Jetta-NO-A</a>								
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<p>3</p> <p><input type="checkbox"/></p>	<p><b>Connect a Web Browser to the NOAM GUI</b></p>	<p>Plug a laptop Ethernet cable onto an unused, un-configured port on the 4948 switch (<i>if available in your installation</i>) or use SSH Tunneling through the PMAC to connect the laptop to the NOAM server.</p> <p>If you are using tunneling, then you can skip the rest of this step and instead complete the instructions in <b>Appendix M: Accessing the NOAM GUI using SSH Tunneling with Putty</b> (for using Putty) <b>Appendix N: Accessing the NOAM GUI using SSH Tunneling with OpenSSH for Windows</b> (for OpenSSH). OpenSSH is recommended if you are using a Windows 7 PC.</p> <p>From the PMAC, enable the switch port that the laptop is plugged into.</p> <p>Enable that laptop Ethernet port to acquire a DHCP address and then access the NOAM-“A” GUI via its control IP address.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI: Login</b></p>	<p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p>  <p>Welcome to the Oracle System Login.</p> <p>Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 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>



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<p>5</p> <p>□</p>	<p><b>Create the NOAM Network Element using the XML File</b></p>	<p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Network Elements</b></p>  <p>Select the <b>Browse</b> button, and enter the pathname of the NOAM network XML file.</p> <p>Select the <b>Upload File</b> button to upload the XML file and configure the NOAM Network Element.</p> <p>To create a new Network Element, upload a valid configuration file:</p> <p><input type="button" value="Browse..."/> No file selected. <input type="button" value="Upload File"/></p> <p><input type="button" value="Insert"/> <input type="button" value="Delete"/> <input type="button" value="Export"/> <input type="button" value="Report"/></p> <p>Once the data has been uploaded, you should see a folder appear with the name of your network element. Click on this folder and you will get a drop-down which describes the individual networks that are now configured:</p> <table border="1" data-bbox="464 1062 1115 1249"> <thead> <tr> <th colspan="5">Network Element</th> </tr> <tr> <td colspan="5">NO_9006005</td> </tr> <tr> <th>Network Name</th> <th>Network Address</th> <th>Netmask</th> <th>VLAN ID</th> <th>Gateway IP Address</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI</td> <td>10.240.10.32</td> <td>255.255.255.224</td> <td>3</td> <td>10.240.10.35</td> </tr> <tr> <td>INTERNALIMI</td> <td>10.240.10.0</td> <td>255.255.255.224</td> <td>4</td> <td>10.240.10.3</td> </tr> </tbody> </table>	Network Element					NO_9006005					Network Name	Network Address	Netmask	VLAN ID	Gateway IP Address	INTERNALXMI	10.240.10.32	255.255.255.224	3	10.240.10.35	INTERNALIMI	10.240.10.0	255.255.255.224	4	10.240.10.3
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6	<b>Map Services to Networks</b>	<p>Navigate to <b>Main Menu -&gt;Configuration-&gt; Services</b>.</p> <p>Select the <b>Edit</b> button and set the Services as shown in the table below:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 30%;">Name</th> <th style="width: 35%;">Intra-NE Network</th> <th style="width: 35%;">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> <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> </tbody> </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 should config should look like the following:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 30%;">Name</th> <th style="width: 35%;">Intra-NE Network</th> <th style="width: 35%;">Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>IMI ▾</td> <td>XMI ▾</td> </tr> <tr> <td>Replication</td> <td>IMI ▾</td> <td>XMI ▾</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>IMI ▾</td> <td>Unspecified ▾</td> </tr> <tr> <td>ComAgent</td> <td>IMI ▾</td> <td>Unspecified ▾</td> </tr> </tbody> </table> <p>Select the <b>Ok</b> button to apply the Service-to-Network selections.</p>	Name	Intra-NE Network	Inter-NE Network	OAM	<IMI Network>	<XMI Network>	Replication	<IMI Network>	<XMI Network>	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	IMI ▾	XMI ▾	Replication	IMI ▾	XMI ▾	Signaling	Unspecified ▾	Unspecified ▾	HA_Secondary	Unspecified ▾	Unspecified ▾	HA_MP_Secondary	Unspecified ▾	Unspecified ▾	Replication_MP	IMI ▾	Unspecified ▾	ComAgent	IMI ▾	Unspecified ▾
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<p>7</p> <p><input type="checkbox"/></p>	<p><b>Insert the 1<sup>st</sup> NOAM server</b></p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>Select the <b>Insert</b> button to insert the new NOAM server into servers table.</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>NO-Server1 *</td> <td>Unique name for the server. [Default string. Valid characters are alpha with an alphanumeric and end with a period.]</td> </tr> <tr> <td>Role</td> <td>NETWORK OAM&amp;P *</td> <td>Select the function of the server</td> </tr> <tr> <td>System ID</td> <td>NO-Server1</td> <td>System ID for the NOAMP or SOA. 64-character string. Valid value is alphanumeric.</td> </tr> <tr> <td>Hardware Profile</td> <td>DSR TVOE Guest</td> <td>Hardware profile of the server</td> </tr> <tr> <td>Network Element Name</td> <td>NOAMMEMORYTEST *</td> <td>Select the network element</td> </tr> <tr> <td>Location</td> <td></td> <td>Location description [Default = "", value is any text string.]</td> </tr> </tbody> </table> <p>Fill in the fields as follows:</p> <p><b>Hostname:</b> &lt;Hostname&gt;</p> <p><b>Role:</b> NETWORK OAM&amp;P</p> <p><b>System ID:</b> &lt;Site System ID&gt;</p> <p><b>Hardware Profile:</b> DSR TVOE Guest</p> <p><b>Network Element Name:</b> [Choose NE from Drop Down Box]</p> <p>The network interface fields will now become available with selection choices based on the chosen hardware profile and network element</p> <table border="1"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI (10.240.84.128/25)</td> <td>10.240.84.155</td> <td>xmi <input type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>INTERNALIMI (10.240.85.0/26)</td> <td>10.240.85.10</td> <td>imi <input type="checkbox"/> VLAN (4)</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p> <p>Fill in the server IP addresses for the XMI network. Select <b>xmi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Fill in the server IP addresses for the IMI network. Select <b>imi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Next, add the following NTP servers:</p> <table border="1"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;1st-NOAM-TVOE-IP-Address&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>Select the <b>Ok</b> button when you have completed entering all the server data.</p>	Attribute	Value	Description	Hostname	NO-Server1 *	Unique name for the server. [Default string. Valid characters are alpha with an alphanumeric and end with a period.]	Role	NETWORK OAM&P *	Select the function of the server	System ID	NO-Server1	System ID for the NOAMP or SOA. 64-character string. Valid value is alphanumeric.	Hardware Profile	DSR TVOE Guest	Hardware profile of the server	Network Element Name	NOAMMEMORYTEST *	Select the network element	Location		Location description [Default = "", value is any text string.]	Interfaces:			Network	IP Address	Interface	INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)	INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)	NTP Server	Preferred?	<1st-NOAM-TVOE-IP-Address>	Yes
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<p>8</p> <p><input type="checkbox"/></p>	<p><b>Export the Initial Configuration</b></p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>From the GUI screen, select the NOAM server and then select <b>Export</b> to generate the initial configuration data for that server.</p> <p>Insert Edit Delete Export Report</p>																																					


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<p>9</p> <p><input type="checkbox"/></p>	<p><b>NOAM iLO:</b> Copy Configuration File to 1<sup>st</sup> NOAM Server</p>	<p>Obtain a terminal window to the 1<sup>st</sup> NOAM server, logging in as the <b>admusr</b> user. (See <b>Appendix D: TVOE iLO/iLOM GUI Access</b> for instructions on how to access the NOAM from iLO)</p> <p>Copy the configuration file created in the previous step from the <code>/var/TKLC/db/filemgmt</code> directory on the 1<sup>st</sup> NOAM to the <code>/var/tmp</code> directory.</p> <p>The configuration file will have a filename like <code>TKLCConfigData.&lt;hostname&gt;.sh</code>. The following is an example:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cp /var/TKLC/db/filemgmt/TKLCConfigData.&lt;RMS01&gt;.sh /var/tmp/TKLCConfigData.sh</pre> <p><b>Note:</b> The file in <code>/var/tmp/</code> directory <b>MUST</b> be <code>TKLCConfigData.sh</code></p>
<p>10</p> <p><input type="checkbox"/></p>	<p><b>NOAM iLO:</b> Wait for Configuration to Complete</p>	<p>The automatic configuration daemon will look for the file named <b>“TKLCConfigData.sh”</b> in the <code>/var/tmp</code> directory, implement the configuration in the file, and then prompt 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 will be 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>
<p>11</p> <p><input type="checkbox"/></p>	<p><b>NOAM iLO:</b> Set the Time zone and Reboot the Server</p>	<p>From the command line prompt, execute <b>set_ini_tz.pl</b>. This will set the system time zone. The following command example uses the <code>America/New_York</code> time zone.</p> <p>Replace as appropriate with the time zone you have selected for this installation. For a full list of valid time zones, see <b>Appendix J: List of Frequently used Time Zones</b>.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/appworks/bin/set_ini_tz.pl "America/New_York" &gt;/dev/null 2&gt;&amp;1</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre>

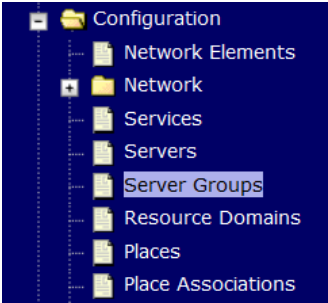
Procedure 23. Configure First NOAM NE and Server

<p>12</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> NOAM:</b> Configure Networking for Dedicated NetBackup Interface (Optional)</p>	<p><b>Note:</b> You will 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, logging in as the <i>admusr</i> 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;</pre> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add -route=net --device=NetBackup -address=&lt;NO1_NetBackup_Network_ID&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; --gateway=&lt;NO1_NetBackup_Gateway_IP_Address&gt;</pre>
<p>13</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> NOAM Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre>\$ sudo tuned-adm profile virtual-guest \$ sudo service_conf add tuned rc runlevels=345 \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre>\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>
<p>14</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> NOAM Server:</b> Verify Server Health</p>	<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</pre> <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</pre>

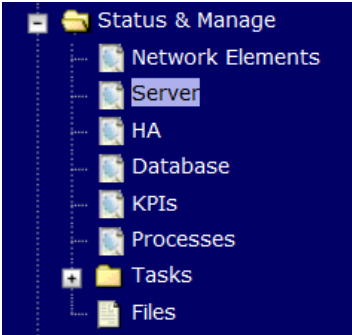
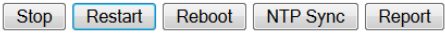
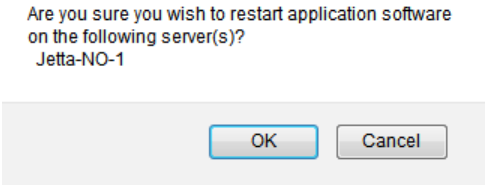
**Procedure 24. Configure the NOAM Server Group**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure the NOAM server group.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Login</p>	<p>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="456 583 1312 625" style="border: 1px solid black; padding: 2px;"> <p><a href="https://&lt;NO1_XMI_IP_Address&gt;">https://&lt;NO1_XMI_IP_Address&gt;</a></p> </div> <p>Login as the <i>guiadmin</i> user:</p>  <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 'Fri Mar 20 12:29:52 2015 EDT'. A central box titled 'Log In' contains the text 'Enter your username and password to log in'. Below this are two input fields: 'Username: guiadmin' and 'Password: ●●●●●●'. There is a 'Change password' checkbox and a 'Log In' button. At the bottom of the screenshot, it says 'Welcome to the Oracle System Login.' and a warning: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.' At the very bottom, it states 'Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p>

Procedure 24. Configure the NOAM Server Group

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Enter NOAM Server Group Data</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Select <b>Insert</b> and fill the following fields:</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <ul style="list-style-type: none"> <li>• <b>Server Group Name:</b> &lt;Enter Server Group Name&gt;</li> <li>• <b>Level:</b> <b>A</b></li> <li>• <b>Parent :</b> <b>None</b></li> <li>• <b>Function:</b> <b>DSR (Active/Standby Pair)</b></li> <li>• <b>WAN Replication Connection Count:</b> <b>Use Default Value</b></li> </ul> <p>Select <b>OK</b> when all fields are filled in.</p>									
<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Edit the NOAM Server Group</p>	<p>From the GUI <b>Main Menu -&gt; Configuration -&gt; Server Groups.</b></p> <p>Select the new server group, and then select <b>Edit</b></p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Select the Network Element that represents the NOAM.</p> <table border="1" data-bbox="456 1381 1078 1486"> <thead> <tr> <th colspan="3">NO_900060103</th> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>HPC6NO</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>In the portion of the screen that lists the servers for the server group, find the NOAM server being configured.</p> <p>Click the <b>Include in SG</b> checkbox.</p> <p>Leave other boxes blank.</p> <p>Press <b>OK</b></p>	NO_900060103			Server	SG Inclusion	Preferred HA Role	HPC6NO	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
NO_900060103											
Server	SG Inclusion	Preferred HA Role									
HPC6NO	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare									

Procedure 24. Configure the NOAM Server Group

<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM:</b> Verify NOAM server role</p>	<p>From terminal window of the first NOAM server, execute the following command:</p> <pre>\$ha.mystate</pre> <p>Verify that the <b>DbReplication</b> and <b>VIP</b> item under the <b>resourceId</b> column has a value of <b>Active</b> under the <b>role</b> column.</p> <p>You might have to wait a few minutes for it to become in that state.</p> <p>Example:</p> <pre>[admusr@CM01-NO1 ~]\$ ha.mystate resourceId  role      node      subResources  lastUpdate DbReplication Active    A1588.201  0 0923:105604.649 VIP Active    A1588.201  0 0923:105604.650 CaadProcessRes Active    A1588.201  0 0923:105610.351 CAPM_HELP_Proc OOS      A1588.201  0 0923:105558.364 DSROAM_Proc Active    A1588.201  0 0923:105610.361 CAPM_PSFS_Proc OOS      A1588.201  0 0923:105558.365 [admusr@CM01-NO1 ~]\$</pre>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Restart 1<sup>st</sup> NOAM Server</p>	<p>From the NOAM GUI, select the <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b> menu.</p>  <p>Select the first NOAM server. Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup.</p>  <p>Wait for restart to complete.</p>



**Procedure 25. Configure the Second NOAM Server**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure the Second NOAM 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>Exchange SSH keys between PMAC and Second NOAM server</b></p>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the second NOAM server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p> <p>Note the IP address for the Second NOAM server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the 2<sup>nd</sup> NOAM server using the keyexchange utility, using the Control network IP address for the NOAM server. When prompted for the password, enter the password for the <b>admusr</b> user of the NOAM server.</p> <div data-bbox="456 831 1219 873" style="border: 1px solid black; padding: 2px;"> <pre>\$ keyexchange admusr@&lt;NO2_Control_IP_Address&gt;</pre> </div> <p><b>Note:</b> if keyexchange fails, <b>edit /home/admusr/.ssh/known_hosts</b> and remove blank lines, and retry the keyexchange commands.</p>
<p>2 <input type="checkbox"/></p>	<p><b>NOAM GUI: Login</b></p>	<p>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="456 1073 1219 1115" style="border: 1px solid black; padding: 2px;"> <p><a href="https://&lt;NO1_XMI_IP_Address&gt;">https://&lt;NO1_XMI_IP_Address&gt;</a></p> </div> <p>Login to the NOAM GUI as the <b>guiadmin</b> user:</p> <div data-bbox="456 1226 1219 1629" style="text-align: center;"> <p>The screenshot shows the Oracle System Login interface. At the top is the Oracle logo. Below it, the text 'Oracle System Login' is followed by the date and time 'Fri Mar 20 12:29:52 2015 EDT'. A central box titled 'Log In' contains the instruction 'Enter your username and password to log in'. It has two input fields: 'Username: guiadmin' and 'Password: ●●●●●●'. There is a checkbox for 'Change password' and a 'Log In' button. Below the login box, it says 'Welcome to the Oracle System Login.' At the bottom, there is a disclaimer: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p> </div>

Procedure 25. Configure the Second NOAM Server

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Insert the 2<sup>nd</sup> NOAM server</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>Select the <b>Insert</b> button to insert the 2<sup>nd</sup> NOAM server into servers table (the first or server).</p> <p>Adding a new server</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>NO-Server2 *</td> </tr> <tr> <td>Role</td> <td>NETWORK OAM&amp;P *</td> </tr> <tr> <td>System ID</td> <td>NO-Server2</td> </tr> <tr> <td>Hardware Profile</td> <td>DSR TVOE Guest</td> </tr> <tr> <td>Network Element Name</td> <td>JETTA *</td> </tr> <tr> <td>Location</td> <td></td> </tr> </tbody> </table> <p>Fill in the fields as follows:</p> <p><b>Hostname:</b> &lt;Hostname&gt;</p> <p><b>Role:</b> NETWORK OAM&amp;P</p> <p><b>System ID:</b> &lt;Site System ID&gt;</p> <p><b>Hardware Profile:</b> DSR TVOE Guest</p> <p><b>Network Element Name:</b> [Choose NE from Drop Down Box]</p> <p>The network interface fields will now become available with selection choices based on the chosen hardware profile and network element</p> <table border="1"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI (10.240.84.128/25)</td> <td>10.240.84.155</td> <td>xmi <input type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>INTERNALIMI (10.240.85.0/26)</td> <td>10.240.85.10</td> <td>imi <input type="checkbox"/> VLAN (4)</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p> <p>Fill in the server IP addresses for the XMI network. Select <b>xmi</b> for the interface. <b>Leave the “VLAN” checkbox unchecked.</b></p> <p>Fill in the server IP addresses for the IMI network. Select <b>imi</b> for the interface. <b>Leave the “VLAN” checkbox unchecked.</b></p> <p>Next, add the following NTP servers:</p> <table border="1"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;2nd NOAM-TVOE-IP-Address&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>Select the <b>Ok</b> button when you have completed entering all the server data.</p>	Attribute	Value	Hostname	NO-Server2 *	Role	NETWORK OAM&P *	System ID	NO-Server2	Hardware Profile	DSR TVOE Guest	Network Element Name	JETTA *	Location		Interfaces:			Network	IP Address	Interface	INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)	INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)	NTP Server	Preferred?	<2nd NOAM-TVOE-IP-Address>	Yes
Attribute	Value																															
Hostname	NO-Server2 *																															
Role	NETWORK OAM&P *																															
System ID	NO-Server2																															
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Network Element Name	JETTA *																															
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Interfaces:																																
Network	IP Address	Interface																														
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INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)																														
NTP Server	Preferred?																															
<2nd NOAM-TVOE-IP-Address>	Yes																															
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Export the Initial Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>From the GUI screen, select the 2<sup>nd</sup> NOAM server and then select <b>Export</b> to generate the initial configuration data for that server.</p> <p>Insert Edit Delete Export Report</p>																														


Procedure 25. Configure the Second NOAM Server

<p>5</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> NOAM Server:</b> Copy Configuration File to 2<sup>nd</sup> NOAM Server</p>	<p>Obtain a terminal session to the 1<sup>st</sup> NOAM as the <b>admusr</b> user.</p> <p>Use the <b>awpushcfg</b> utility to 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 2<sup>nd</sup> NOAM server, using the Control network IP address for the 2<sup>nd</sup> NOAM server.</p> <p>The configuration file will have a filename like “TKLCConfigData.&lt;hostname&gt;.sh”.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user will be prompted 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 2<sup>nd</sup> NOAM server).</li> <li>• Hostname of the target server: Enter the server name configured in <b>step 3</b></li> </ul>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Verify awpushcfg was called and Reboot the Server</p>	<p>Obtain a terminal window connection on the 2<sup>nd</sup> NOAM.</p> <p>SSH from the 1<sup>st</sup> NOAM to the 2<sup>nd</sup> NOAM server by executing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ ssh admusr@&lt;NO2_Control_IP_Address&gt;</pre> <p>Login as the <b>admusr</b> user.</p> <p>The automatic configuration daemon will look for the file named “<b>TKLCConfigData.sh</b>” in the /var/tmp directory, implement the configuration in the file, and then prompt the user to reboot the server.</p> <p>Verify awpushcfg was called by checking the following file</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre style="border: 1px solid black; padding: 5px;">[SUCCESS] script completed successfully!</pre> <p>Now Reboot the Server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre> <p>Wait for the server to reboot</p>
<p>7</p> <p><input type="checkbox"/></p>	<p><b>2<sup>nd</sup> NOAM Server:</b> Establish an SSH session and Login</p>	<p>Obtain a terminal window to the 2<sup>nd</sup> NOAM server, logging in as the <b>admusr</b> user.</p>

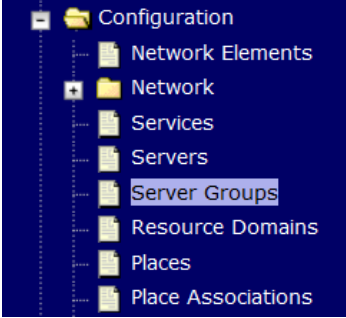
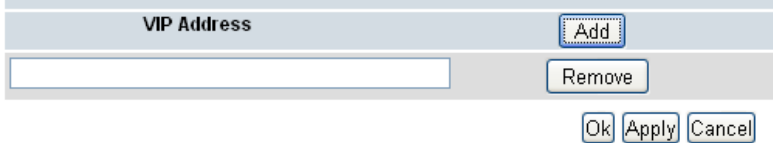
Procedure 25. Configure the Second NOAM Server

<p>8</p> <p><input type="checkbox"/></p>	<p><b>2<sup>nd</sup> NOAM Server:</b> Configure Networking for Dedicated NetBackup Interface (Optional)</p>	<p><b>Note:</b> You will only execute this step if your NOAM is using a dedicated Ethernet interface for NetBackup.</p> <pre>\$ 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;</pre> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add -route=net --device=NetBackup -address=&lt;NO1_NetBackup_Network_ID&gt; --netmask=&lt;NO2_NetBackup_NetMask&gt; --gateway=&lt;NO2_NetBackup_Gateway_IP_Address&gt;</pre>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>2<sup>nd</sup> NOAM Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre>\$ sudo tuned-adm profile virtual-guest \$ sudo service_conf add tuned rc runlevels=345 \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre>\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>
<p>10</p> <p><input type="checkbox"/></p>	<p><b>2<sup>nd</sup> NOAM Server:</b> Verify Server Health</p>	<p>Execute the following command on the 2<sup>nd</sup> NOAM server and make sure that no errors are returned:</p> <pre>\$ sudo syscheck</pre> <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</pre>

**Procedure 26. Complete NOAM Server Group Configuration**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to finish configuring the NOAM server group.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Login</p>	<p>Establish a GUI session on the 1<sup>st</sup> NOAM server by using the XMI IP address. Open the web browser and enter a URL of:</p> <div data-bbox="456 583 1312 625" style="border: 1px solid black; padding: 2px;"> <p><a href="https://&lt;NO1_XMI_IP_Address&gt;">https://&lt;NO1_XMI_IP_Address&gt;</a></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="451 709 1372 1234" style="text-align: center;">  </div>

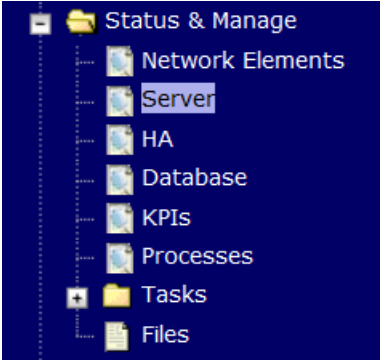
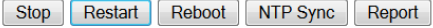
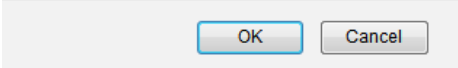
Procedure 26. Complete NOAM Server Group Configuration

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Edit the NOAM Server Group Data</p>	<p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Server Groups.</b></p>  <p>Select the NOAM Server group and click on <b>Edit</b></p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Add the 2<sup>nd</sup> NOAM server to the Server Group by clicking the <b>Include in SG</b> checkbox for the 2<sup>nd</sup> NOAM server.</p> <table border="1" data-bbox="456 905 1138 1056"> <thead> <tr> <th colspan="3">RMSNO_900060102</th> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>RMSNOA</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>RMSNOB</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>Click <b>Apply.</b></p> <p>Add a NOAM VIP by click on <b>Add.</b> Fill in the VIP Address and press <b>Ok</b> as shown below</p> 	RMSNO_900060102			Server	SG Inclusion	Preferred HA Role	RMSNOA	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	RMSNOB	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
RMSNO_900060102														
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RMSNOA	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												
RMSNOB	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												

**Procedure 26. Complete NOAM Server Group Configuration**

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Establish GUI Session</p>	<p>Establish a GUI session on the NOAM by using the XMI VIP address:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;NOAM_VIP_IP_Address&gt;">https://&lt;NOAM_VIP_IP_Address&gt;</a></p> </div> <p>Login as user <b>guiadmin</b>.</p> 																																																						
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b> <span style="float: right;">Fri Mar 20</span></p> <div style="border: 1px solid gray; padding: 5px;"> <p>Filter <span style="margin-left: 20px;">Tasks</span></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="5">Additional Info</td> </tr> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td style="color: green;">CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="5">Remote Database re-initialization in progress Cleared because DB Re-Init Completed</td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td style="color: orange;">MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="5">Remote Database re-initialization in progress Remote Database re-initialization in progress</td> </tr> </tbody> </table> </div>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type					Additional Info					414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG					Remote Database re-initialization in progress Cleared because DB Re-Init Completed					413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG					Remote Database re-initialization in progress Remote Database re-initialization in progress				
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				Remote Database re-initialization in progress Remote Database re-initialization in progress																																																				

**Procedure 26. Complete NOAM Server Group Configuration**

<p>5</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Restart 2<sup>nd</sup> NOAM Server</p>	<p>From the NOAM GUI, select the <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b> menu.</p>  <p>Select the 2<sup>nd</sup> NOAM server. Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup.</p>  <p>Wait for restart to complete. Wait approximately 3-5 minutes before proceeding.</p>
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## 4.15.2 DSR Configuration: NetBackup Client Installation (Optional)

### Procedure 27. Install NetBackup Client (Optional)

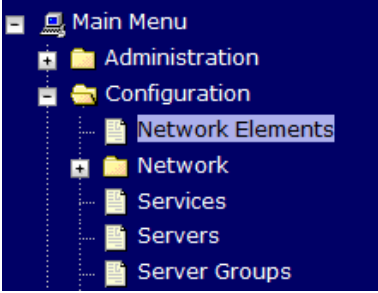
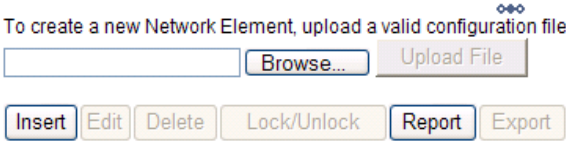
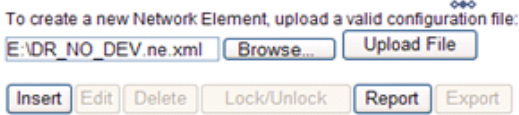
<b>S T E P #</b>	<p>This procedure will download and install NetBackup Client software on the server.</p> <p>Location of the bpstart_notify and bpend_notify scripts is required for the execution of this procedure. For Appworks based applications the scripts are located as follows:</p> <ul style="list-style-type: 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Install NetBackup Client Software</b>	<p>If a customer has a way of transferring and installing the net Backup client without the aid of TPD tools (push configuration) then use <b>Appendix I.2: NETBACKUP CLIENT INSTALL/UPGRADE WITH NBAUTOINSTALL</b></p> <p><b>Note:</b> This is not common. If the answer to the previous question is not known then use <b>Appendix I.1: NetBackup Client Install using PLATCFG</b></p>
2 <input type="checkbox"/>	<b>Install NetBackup Client Software</b>	<p>Choose the same method used in step 1 to install NetBackup on the 2<sup>nd</sup> NOAM.</p>

### 4.15.3 DSR Configuration: Disaster Recovery NOAM (Optional)

#### Procedure 28. NOAM Configuration for DR Site (Optional)

<b>S T E P #</b>	<p>This procedure will provide the steps to configure the First DR NOAM 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>PRIMARY NOAM VIP GUI: Login</b></p>	<p>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 data-bbox="456 705 1312 743" style="border: 1px solid black; padding: 2px;"> <p><a href="https://&lt;NOAM_XMI_VIP_IP_Address&gt;">https://&lt;NOAM_XMI_VIP_IP_Address&gt;</a></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="456 835 1312 1367" style="text-align: center;">  </div>

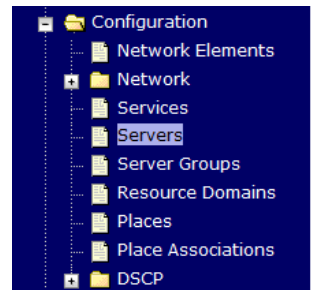
Procedure 28. NOAM Configuration for DR Site (Optional)

<p>2</p> <p>□</p>	<p><b>PRIMARY NOAM VIP GUI:</b> Insert the DR NOAM Network Element</p>	<p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Network Elements</b></p>  <p>The <b>Network Elements</b> screen will display select the <b>Browse</b> (scroll to bottom left corner of screen).</p> <p>To create a new Network Element, upload a valid configuration file:</p>  <p>A dialogue will pop up, browse to the location of the DSR DR NOAM Site Element XML File and click the <b>Open</b> button.</p> <p>Then click <b>Upload File</b> as shown below</p>  <p>Once the data has been uploaded, you should see a folder appear with the name of your network element. Click on this folder and you will get a drop-down which describes the individual networks that are now configured:</p> <table border="1" data-bbox="461 1310 1062 1482"> <thead> <tr> <th colspan="5">Network Element</th> </tr> <tr> <td colspan="5">NO_9006005</td> </tr> <tr> <th>Network Name</th> <th>Network Address</th> <th>Netmask</th> <th>VLAN ID</th> <th>Gateway IP Address</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI</td> <td>10.240.10.32</td> <td>255.255.255.224</td> <td>3</td> <td>10.240.10.35</td> </tr> <tr> <td>INTERNALIMI</td> <td>10.240.10.0</td> <td>255.255.255.224</td> <td>4</td> <td>10.240.10.3</td> </tr> </tbody> </table>	Network Element					NO_9006005					Network Name	Network Address	Netmask	VLAN ID	Gateway IP Address	INTERNALXMI	10.240.10.32	255.255.255.224	3	10.240.10.35	INTERNALIMI	10.240.10.0	255.255.255.224	4	10.240.10.3
Network Element																											
NO_9006005																											
Network Name	Network Address	Netmask	VLAN ID	Gateway IP Address																							
INTERNALXMI	10.240.10.32	255.255.255.224	3	10.240.10.35																							
INTERNALIMI	10.240.10.0	255.255.255.224	4	10.240.10.3																							

Procedure 28. NOAM Configuration for DR Site (Optional)

3  
 **PRIMARY NOAM VIP GUI:** Insert the 1<sup>st</sup> DR-NOAM server

Navigate to **Main Menu -> Configuration -> Servers.**



Select the **Insert** button to insert the new DR-NOAM server into servers table.

**Adding a new server**

Attribute	Value
Hostname	DR-NOAM-A *
Role	NETWORK OAM&P *
System ID	DR-NOAM-A
Hardware Profile	DSR TVOE Guest
Network Element Name	- Unassigned - *
Location	

Fill in the fields as follows:

**Hostname:** <Hostname>

**Role:** NETWORK OAM&P

**System ID:** <Site System ID>

**Hardware Profile:** DSR TVOE Guest

**Network Element Name:** [Choose NE from Drop Down Box]

The network interface fields will now become available with selection choices based on the chosen hardware profile and network element

Interfaces:		
Network	IP Address	Interface
INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)
INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)

Fill in the server IP addresses for the XMI network. Select **xmi** for the interface. **Leave the "VLAN" checkbox unchecked.**

Fill in the server IP addresses for the IMI network. Select **imi** for the interface. **Leave the "VLAN" checkbox unchecked.**

Next, add the following NTP servers:

NTP Server	Preferred?
<1st DR-NOAM –RMS-TVOE-IP-Address>	Yes

Select the **Ok** button when you have completed entering all the server data.

Procedure 28. NOAM Configuration for DR Site (Optional)

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PRIMARY NOAM VIP GUI:</b> Export the Initial Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>From the GUI screen, select the DR-NOAM server and then select <b>Export</b> to generate the initial configuration data for that server.</p> <div style="border: 1px solid gray; padding: 5px; width: fit-content; margin: 10px auto;"> <span>Insert</span> <span>Edit</span> <span>Delete</span> <span>Export</span> <span>Report</span> </div>																		
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Exchange SSH keys between PMAC and DR-NOAM server</p>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the first NOAM server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory.</b></p> <div style="border: 1px solid gray; padding: 5px; margin: 10px auto; width: fit-content;"> <table border="1"> <tr> <td>RMS: <a href="#">Jetta-A</a></td> <td>192.168.1.17</td> <td>Jetta-NO-1</td> <td>TPD (x86_64)</td> <td>7.0.0.0-86.14.0</td> <td>DSR</td> <td>7.1.0.0.0-71.11.0</td> <td></td> <td></td> </tr> <tr> <td>Guest: <a href="#">Jetta-NO-A</a></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> </div> <p>Note the IP address for the first DR-NOAM server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the 1<sup>st</sup> DR-NOAM server using the keyexchange utility, using the Control network IP address for the NOAM server. When prompted for the password, enter the password for the <b>admusr</b> user of the NOAM server.</p> <div style="border: 1px solid gray; padding: 5px; margin: 10px auto; width: fit-content;"> <pre>\$ keyexchange admusr@&lt;DR-NO1_Control_IP Address&gt;</pre> </div>	RMS: <a href="#">Jetta-A</a>	192.168.1.17	Jetta-NO-1	TPD (x86_64)	7.0.0.0-86.14.0	DSR	7.1.0.0.0-71.11.0			Guest: <a href="#">Jetta-NO-A</a>								
RMS: <a href="#">Jetta-A</a>	192.168.1.17	Jetta-NO-1	TPD (x86_64)	7.0.0.0-86.14.0	DSR	7.1.0.0.0-71.11.0														
Guest: <a href="#">Jetta-NO-A</a>																				
<p>6</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Exchange SSH keys between NOAM and PMAC at the DR site.</p>	<p>From a terminal window connection on the NOAMP VIP as the <b>admusr</b>.</p> <p>Exchange SSH keys for admusr between the NOAM and the DR NO's PMAC using the keyexchange utility.</p> <div style="border: 1px solid gray; padding: 5px; margin: 10px auto; width: fit-content;"> <pre>\$ keyexchange admusr@&lt;DR-NO1_Site_PMAC_Mgmt_IP Address&gt;</pre> </div> <p>When prompted for the password, enter the appropriate password for <b>admusr</b> on the PMAC server.</p>																		
<p>7</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM:</b> Copy Configuration File to 1<sup>st</sup> DR-NOAM Server</p>	<p>Obtain a terminal session to the primary NOAM as the <b>admusr</b> user.</p> <p>Use the <b>awpushcfg</b> utility to copy the configuration file created in the previous step from the /var/TKLC/db/filemgmt directory on the primary NOAM to the 1<sup>st</sup> DR-NOAM server, using the Control network IP address for the DR-NOAM server. The configuration file will have a filename like "TKLCConfigData.&lt;Hostname&gt;.sh".</p> <div style="border: 1px solid gray; padding: 5px; margin: 10px auto; width: fit-content;"> <pre>\$ sudo awpushcfg</pre> </div> <p>The awpushcfg utility is interactive, so the user will be prompted for the following:</p> <ul style="list-style-type: none"> <li>• IP address of the local PMAC server of the DR NOAM: 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> DR-NOAM server).</li> <li>• Hostname of the target server: Enter the server name configured in <b>step 3</b></li> </ul>																		

Procedure 28. NOAM Configuration for DR Site (Optional)

<p>8</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> DR-NOAM Server:</b> Verify awpushcfg was called and Reboot the Server</p>	<p>Obtain a terminal window connection on the 1<sup>st</sup> DR-NOAM iLO from the OA. (Use the procedure in <b>Appendix D: TVOE iLO/iLOM GUI Access</b>).</p> <p>Login as the <i>admusr</i> user.</p> <p>The automatic configuration daemon will look for the file named “<b>TKLCConfigData.sh</b>” in the /var/tmp directory, implement the configuration in the file, and then prompt the user to reboot the server.</p> <p>Verify awpushcfg was called by checking the following file</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre style="border: 1px solid black; padding: 5px;">[SUCCESS] script completed successfully!</pre> <p>Now Reboot the Server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre> <p>Wait for the server to reboot</p>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> DR-NOAM:</b> Configure Networking for Dedicated NetBackup Interface (Optional)</p>	<p><b>Note:</b> You will only execute this step if your DR-NOAM is using a dedicated Ethernet interface for NetBackup.</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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;</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add -route=net --device=NetBackup -address=&lt;NO1_NetBackup_Network_ID&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; --gateway=&lt;NO1_NetBackup_Gateway_IP_Address&gt;</pre>
<p>10</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> DR-NOAM:</b> Establish an SSH session and Login</p>	<p>Obtain a terminal window to the 1<sup>st</sup> DR-NOAM server, logging in as the <i>admusr</i> user.</p>

Procedure 28. NOAM Configuration for DR Site (Optional)

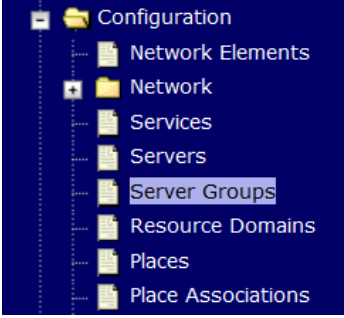
<p>11</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> NOAM Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm profile virtual-guest</pre> <p>Verify that tuned is active:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre style="border: 1px solid black; padding: 5px;">Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>				
<p>12</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> DR-NOAM Server:</b> Verify Server Health</p>	<p>Execute the following command on the 1<sup>st</sup> DR-NOAM server and make sure that no errors are returned:</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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>13</p> <p><input type="checkbox"/></p>	<p><b>Repeat for 2<sup>nd</sup> DR NOAM Server</b></p>	<p>Repeat <b>Steps 3 through 12</b> 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" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">NTP Server</th> <th style="text-align: center;">Preferred?</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">&lt;2nd DR-NOAM-RMS-TVOE-IP-Address&gt;</td> <td style="text-align: center;">Yes</td> </tr> </tbody> </table>	NTP Server	Preferred?	<2nd DR-NOAM-RMS-TVOE-IP-Address>	Yes
NTP Server	Preferred?					
<2nd DR-NOAM-RMS-TVOE-IP-Address>	Yes					

**Procedure 29. Pairing for DR-NOAM Site (Optional)**

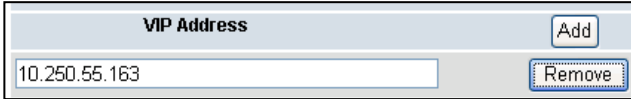
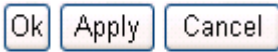
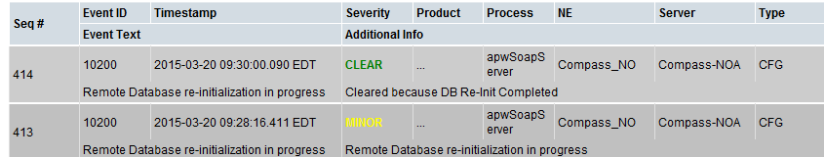
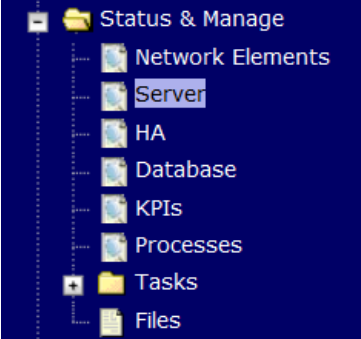
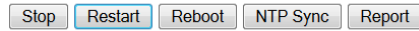
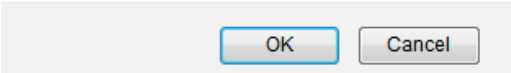
<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to pair the DR-NOAM site.</p> <p><b>Prerequisite:</b> Installation for DR-NOAM Site complete</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>Primary NOAM VIP GUI: Login</b></p>	<p>Establish a GUI session on the primary NOAM server by using the VIP IP address of the primary NOAM server. Open the web browser and enter a URL of:</p> <div data-bbox="456 688 1312 730" style="border: 1px solid black; padding: 2px;"> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> </div> <p>Login as the <i>guiadmin</i> user:</p> 



Procedure 29. Pairing for DR-NOAM Site (Optional)

<p>2</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP</b>  <b>GUI:</b> Enter DR-NOAM Server Group Data</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Select <b>Insert</b> and fill the following fields:</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <ul style="list-style-type: none"> <li>• <b>Server Group Name:</b> &lt;Enter Server Group Name&gt;</li> <li>• <b>Level:</b> <b>A</b></li> <li>• <b>Parent :</b> <b>None</b></li> <li>• <b>Function:</b> <b>DSR (Active/Standby Pair)</b></li> <li>• <b>WAN Replication Connection Count:</b> <b>Use Default Value</b></li> </ul> <p>Select <b>OK</b> when all fields are filled in.</p>												
<p>3</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP</b>  <b>GUI:</b> Update Server Group</p>	<p>Select the <b>Server Group</b> that was created in the previous step, and click on <b>Edit</b>.</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>The user will be presented with the <b>Server Groups [Edit]</b> screen</p> <p>Check the checkbox labeled <b>Include in SG</b> for <b>both</b> DR-NOAM Servers as shown below and click on <b>Apply</b></p> <table border="1" data-bbox="456 1329 1154 1507"> <thead> <tr> <th colspan="3">deaDR_CSLAB_ATT</th> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>deaNO-ChaNC-A</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>deaNO-ChaNC-B</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table>	deaDR_CSLAB_ATT			Server	SG Inclusion	Preferred HA Role	deaNO-ChaNC-A	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	deaNO-ChaNC-B	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
deaDR_CSLAB_ATT														
Server	SG Inclusion	Preferred HA Role												
deaNO-ChaNC-A	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												
deaNO-ChaNC-B	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												

**Procedure 29. Pairing for DR-NOAM Site (Optional)**


<p>4</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP</b>  <b>GUI: Add DR-NOAM VIP</b></p>	<p>Click the <b>Add</b> dialogue button for the VIP Address and enter an IP Address for the VIP as shown below</p>  <p>Then click the <b>Apply</b> dialogue button. Verify that the banner information message states <b>Data committed</b>.</p> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP</b>  <b>GUI: Wait for Remote Database Alarm to Clear</b></p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> 
<p>6</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP</b>  <b>GUI: Restart 1<sup>st</sup> DR-NOAM Server</b></p>	<p>From the NOAM GUI, select the <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b> menu.</p>  <p>Select the 1<sup>st</sup> DR-NOAM server. Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup.</p> <p>Are you sure you wish to restart application software on the following server(s)          Jetta-NO-2</p>  <p>Wait for restart to complete. Wait approximately 3-5 minutes before proceeding.</p>

Procedure 29. Pairing for DR-NOAM Site (Optional)

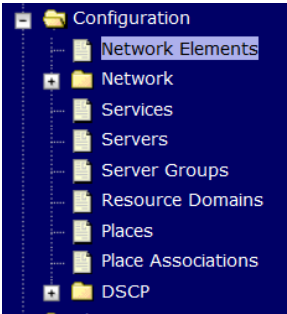
<p>7</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM VIP GUI</b> :Restart the application on the 2<sup>nd</sup> DR-NOAM Server</p>	<p>Repeat Steps 6, this time select the 2<sup>nd</sup> DR-NOAM Server.</p>						
<p>8</p> <p><input type="checkbox"/></p>	<p><b>Primary NOAM:</b> Modify DSR OAM process</p>	<p>Establish an SSH session to the primary NOAM, login as <i>admusr</i>.</p> <p>Execute the following commands:</p> <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;' "</pre> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Server_ID</th> <th style="text-align: left;">NodeID</th> <th style="text-align: left;">ClusterID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Oahu-DSR-DR-NOAM-2</td> <td>A1055</td> </tr> </tbody> </table> <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>	Server_ID	NodeID	ClusterID	1	Oahu-DSR-DR-NOAM-2	A1055
Server_ID	NodeID	ClusterID						
1	Oahu-DSR-DR-NOAM-2	A1055						

## 4.15.4 DSR Configuration: SOAMs

### Procedure 30. Configure the SOAM NE

<b>S T E P #</b>	<p>This procedure will provide the steps to configure 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>NOAM VIP GUI: Login</b>	<p>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="456 646 1312 688" style="border: 1px solid black; padding: 2px;"><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="451 772 1401 1283" style="text-align: center;"></div>

**Procedure 30. Configure the SOAM NE**

<p>2</p> <p>☐</p>	<p><b>NOAM VIP GUI:</b> Create the SOAM Network Element using an XML File</p>	<p>Make sure to have an SOAM Network Element XML file available on the PC that is running the web browser. The SOAM Network Element XML file is similar to what was created and used in <b>Procedure 23</b>, but defines the SOAM “Network Element”.</p> <p>Refer to <b>Appendix L: Sample Network Element</b> for a sample Network Element xml file</p> <p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Network Elements</b></p>  <p>Select the <b>Browse</b> button, and enter the path and name of the SOAM network XML file.</p> <p>Select the <b>Upload File</b> button to upload the XML file and configure the SOAM Network Element.</p> <p>To create a new Network Element, upload a valid configuration file:</p> <p><input type="button" value="Browse..."/> No file selected. <input type="button" value="Upload File"/></p> <p><input type="button" value="Insert"/> <input type="button" value="Delete"/> <input type="button" value="Export"/> <input type="button" value="Report"/></p>
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Procedure 31. Configure the SOAM Servers

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>													
<p>1 <input type="checkbox"/></p>	<p><b>Exchange SSH keys between SOAM site's local PMAC and the SOAM Server</b></p>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the SOAM server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p> <table border="1" data-bbox="462 577 1404 625"> <tr> <td>Enc:9102 Bay:1F</td> <td>192.168.1.246</td> <td>Compass-SOA</td> <td>TPD (x86_64)</td> <td>7.0.0.0-86.14.0</td> <td>DSR</td> </tr> <tr> <td>Guest:DSR_SOAM_A</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Note the IP address for the SOAM server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the SOAM server using the keyexchange utility, using the Control network IP address for the SOAM server. When prompted for the password, enter the password for the <b>admusr</b> user of the NOAM server.</p> <pre>\$ keyexchange admusr@&lt;SO1_Control_IP_Address&gt;</pre>	Enc:9102 Bay:1F	192.168.1.246	Compass-SOA	TPD (x86_64)	7.0.0.0-86.14.0	DSR	Guest:DSR_SOAM_A					
Enc:9102 Bay:1F	192.168.1.246	Compass-SOA	TPD (x86_64)	7.0.0.0-86.14.0	DSR									
Guest:DSR_SOAM_A														
<p>2 <input type="checkbox"/></p>	<p><b>Exchange SSH keys between NOAM and PMAC at the SOAM site (if necessary)</b></p>	<p><b>Note:</b> If this SOAM shares the same PMAC as the NOAM, then you can skip this step.</p> <p>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.</p> <p>When prompted for the password, enter the admusr password for the PMAC server.</p> <pre>\$ keyexchange admusr@&lt;SO1_Site_PMAC_Mgmt_IP_Address&gt;</pre> <p><b>Repeat</b> this step for the standby SOAM Server</p>												

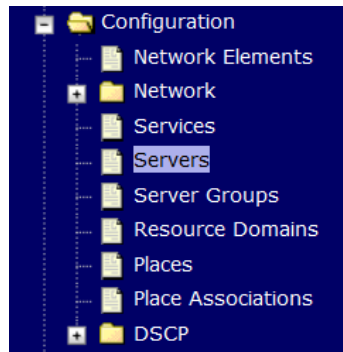
Procedure 31. Configure the SOAM Servers

3 <input type="checkbox"/>	<b>NOAM VIP GUI: Login</b>	<p>If not already done, establish a GUI session on the NOAM server by using the XMI IP address of the first NOAM server. Open the web browser and enter a URL of: <a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> 
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Procedure 31. Configure the SOAM Servers

4  
 **NOAM VIP GUI:** Insert the 1<sup>st</sup> SOAM server

Navigate to **Main Menu -> Configuration -> Servers.**



Select the **Insert** button to insert the 1<sup>st</sup> SOAM server into servers table (the first or server).

Attribute	Value	Description
Hostname	SOAM-A *	Unique name for 20-character string minus sign. Must be alphanumeric.
Role	SYSTEM OAM *	Select the function.
Hardware Profile	DSR TVOE Guest	Hardware profile.
Network Element Name	HPC6_90006 *	Select the network element.
Location		Location description. Valid value.

Fill in the fields as follows:

**Hostname:** <Hostname>

**Role:** **SYSTEM OAM**

**System ID:** <Site System ID>

**Hardware Profile:** **DSR TVOE Guest**

**Network Element Name:** [Choose NE from Drop Down Box]

The network interface fields will now become available with selection choices based on the chosen hardware profile and network element

Interfaces:		
Network	IP Address	Interface
INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)
INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)

Fill in the server IP addresses for the XMI network. Select **xmi** for the interface. **Leave the "VLAN" checkbox unchecked.**

Fill in the server IP addresses for the IMI network. Select **imi** for the interface. **Leave the "VLAN" checkbox unchecked.**

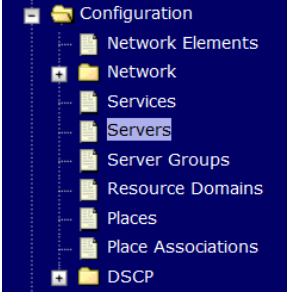
Next, add the following NTP servers:

NTP Server	Preferred?
<1st SOAM-TV0E-IP-Address>	Yes

Select the **Ok** button when you have completed entering all the server data.



Procedure 31. Configure the SOAM Servers

<p>5</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Export the Initial Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers</b>.</p>  <p>From the GUI screen, select the SOAM server and then select <b>Export</b> to generate the initial configuration data for that server.</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>6</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Copy Configuration File to 1<sup>st</sup> SOAM Server</p>	<p>Obtain a terminal session to the NOAM VIP as the <b>admusr</b> user.</p> <p>Use the <b>awpushcfg</b> utility to copy the configuration file created in the previous step from the /var/TKLC/db/filemgmt 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 will have a filename like "TKLCConfigData.&lt;hostname&gt;.sh".</p> <pre>\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user will be prompted 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 <b>step 4</b></li> </ul>


Procedure 31. Configure the SOAM Servers

<p>7</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SOAM Server:</b> Verify awpushcfg was called and Reboot the Server</p>	<p>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.</p> <pre style="border: 1px solid black; padding: 5px;">\$ ssh admusr@&lt;SO1_Control_IP&gt;</pre> <p>Login as the <i>admusr</i> user.</p> <p>The automatic configuration daemon will look for the file named “<i>TKLCConfigData.sh</i>” in the /var/tmp directory, implement the configuration in the file, and then prompt the user to reboot the server.</p> <p>Verify awpushcfg was called by checking the following file</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre style="border: 1px solid black; padding: 5px;">[SUCCESS] script completed successfully!</pre> <p>Now Reboot the Server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre> <p>Wait for the server to reboot</p>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SOAM Server:</b> Login</p>	<p>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.</p> <pre style="border: 1px solid black; padding: 5px;">\$ ssh admusr@&lt;SO1_Control_IP&gt;</pre>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SOAM Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm profile virtual-guest \$ sudo service_conf add tuned rc runlevels=345 \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>

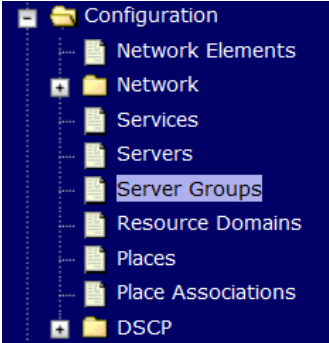
**Procedure 31. Configure the SOAM Servers**

<p>10</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SOAM Server: Verify Server Health</b></p>	<p>Execute the following command on the 1<sup>st</sup> SOAM server and make sure that no errors are returned:</p> <pre style="border: 1px solid black; padding: 5px;"> \$ 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>11</p> <p><input type="checkbox"/></p>	<p><b>Insert and Configure the 2<sup>nd</sup> SOAM server</b></p>	<p>Repeat this procedure to insert and configure the 2<sup>nd</sup> SOAM server, with the exception of the NTP server, which should be configured as so:</p> <table border="1" data-bbox="479 743 1352 842"> <thead> <tr> <th data-bbox="479 743 906 779">NTP Server</th> <th data-bbox="906 743 1352 779">Preferred?</th> </tr> </thead> <tbody> <tr> <td data-bbox="479 779 906 842">&lt;RMS2-TVOE-IP-Address&gt;</td> <td data-bbox="906 779 1352 842">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 <i>TKLCConfigData</i> 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?	<RMS2-TVOE-IP-Address>	Yes
NTP Server	Preferred?					
<RMS2-TVOE-IP-Address>	Yes					
<p>12</p> <p><input type="checkbox"/></p>	<p><b>Install NetBackup Client Software on SOAMs (Optional)</b></p>	<p>If you are using NetBackup at this site, then execute <b>Appendix I: Application NetBackup Client Installation Procedures</b> again to install the NetBackup Client on all SOAM servers.</p>				

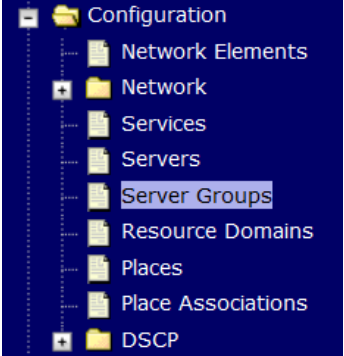
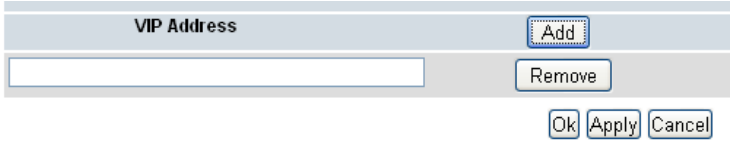
**Procedure 32. Configure the SOAM Server Group**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure the SOAM Server Group</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the NOAM server by using the XMI VIP address. Open the web browser and enter a URL of:</p> <p><a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> 

Procedure 32. Configure the SOAM Server Group

2 <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Enter SOAM Server Group Data	<p>After waiting approximately <b>5 minutes</b> for the 2<sup>nd</sup> SOAM server to reboot,</p> <p>Navigate to the GUI <b>Main Menu-&gt;Configuration-&gt;Server Groups</b></p>  <p>Select <b>Insert</b></p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Add the SOAM Server Group name along with the values for the following fields:</p> <ul style="list-style-type: none"><li>• <b>Name:</b> &lt;Hostname&gt;</li><li>• <b>Level:</b> B</li><li>• <b>Parent</b> [Select the NOAM Server Group]</li><li>• <b>Function:</b> DSR (Active/Standby Pair)</li><li>• <b>WAN Replication Connection Count:</b> Use Default Value</li></ul> <p>Select <b>OK</b> when all fields are filled.</p> <p><b>Note:</b> For DSR mated sites, repeat this step for additional SOAM server groups where the preferred SOAM spares may be entered prior to the active/Standby SOAMs.</p>
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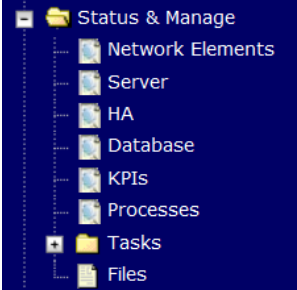
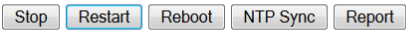
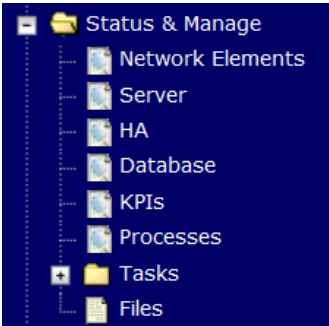

Procedure 32. Configure the SOAM Server Group

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Edit the SOAM Server Group and add VIP</p>	<p>From the GUI Main Menu-&gt;Configuration-&gt;Server Groups</p>  <p>Select the new SOAM server group, and then select <b>Edit</b>.</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Add both SOAM servers to the Server Group Primary Site by clicking the <b>Include in SG</b> checkbox.</p> <p>Do not check any of the <b>Preferred Spare</b> checkboxes.</p> <table border="1" data-bbox="456 1016 1078 1161"> <thead> <tr> <th colspan="3">SO_900060102</th> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>RMSSOA</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>RMSSOB</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>Click <b>Apply</b>.</p> <p>Add a SOAM VIP by click on <b>Add</b>. Fill in the <b>VIP Address</b> and press <b>Ok</b> as shown below:</p> 	SO_900060102			Server	SG Inclusion	Preferred HA Role	RMSSOA	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	RMSSOB	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
SO_900060102														
Server	SG Inclusion	Preferred HA Role												
RMSSOA	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												
RMSSOB	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												

**Procedure 32. Configure the SOAM Server Group**

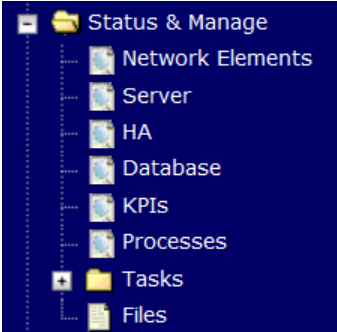
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the SOAM Server Group and add Preferred Spares for Site Redundancy (Optional)</p>	<p>If the Two Site Redundancy feature is wanted for the SOAM Server Group, add a SOAM server that is located in its Server Group Secondary Site by clicking the <b>Include in SG</b> checkbox. Also check the <b>Preferred Spare</b> checkbox.</p> <table border="1" data-bbox="461 390 1398 499"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>LabF123SOsp1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>For more information about Server Group Secondary Site, Tertiary Site or Site Redundancy, see <b>Terminology</b> section.</p>	Server	SG Inclusion	Preferred HA Role	LabF123SOsp1	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Preferred Spare																																																
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<p>5</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Edit the SOAM Server Group and add additional SOAM VIPs (Optional)</p>	<p>Add additional SOAM VIPs by click on <b>Add</b>. Fill in the “<b>VIP Address</b>” and press <b>Ok</b> as shown below.</p> <p><b>Note:</b> Additional SOAM VIPs only apply to SOAM Server Groups with Preferred Spare SOAMs.</p> <div data-bbox="467 831 1227 978"> <table border="1"> <tr> <td style="text-align: center;">VIP Address</td> <td style="text-align: right;"><input type="button" value="Add"/></td> </tr> <tr> <td><input type="text"/></td> <td style="text-align: right;"><input type="button" value="Remove"/></td> </tr> <tr> <td colspan="2" style="text-align: right;"><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></td> </tr> </table> </div>	VIP Address	<input type="button" value="Add"/>	<input type="text"/>	<input type="button" value="Remove"/>	<input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/>																																																	
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<p>6</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> <div data-bbox="456 1115 1295 1344"> <p style="text-align: right;">Fri Mar 20</p> <p>Filter <input type="text"/> Tasks <input type="text"/></p> <table border="1"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="5">Additional Info</td> </tr> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td>CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td></td> <td colspan="5">Cleared because DB Re-Init Completed</td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td>MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td></td> <td colspan="5">Remote Database re-initialization in progress</td> </tr> </tbody> </table> </div>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type					Additional Info					414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress		Cleared because DB Re-Init Completed					413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress		Remote Database re-initialization in progress				
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Procedure 32. Configure the SOAM Server Group



<p>7</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Restart 1<sup>st</sup> SOAM server</b></p>	<p>From the NOAMP GUI, select <b>Main menu-&gt;Status &amp; Manage-&gt;Server.</b></p>  <p>Select the <b>1<sup>st</sup></b> SOAM server.</p> <p>Select the <b>Restart</b> button. Answer <b>OK</b> to the confirmation popup. Wait for restart to complete.</p> 
<p>8</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Restart 2<sup>nd</sup> SOAM server</b></p>	<p>From the NOAMP GUI, select <b>Main menu-&gt;Status &amp; Manage-&gt;Server.</b></p>  <p>Select the <b>2<sup>nd</sup></b> SOAM server.</p> <p>Select the <b>Restart</b> button. Answer <b>OK</b> to the confirmation popup. Wait for restart to complete.</p> 



**Procedure 32. Configure the SOAM Server Group**

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 <i>Secondary or Tertiary Sites</i>, this step can be skipped.</p> <p>If additional Preferred Spare servers are configured for <i>Secondary and/or Tertiary Sites</i>, continuing in the <b>Main menu-&gt;Status &amp; Manage-&gt;Server</b></p>  <p>Select the all <b>Preferred Spare</b> SOAM servers.</p> <p>Select the <b>Restart</b> button. Answer <b>OK</b> to the confirmation popup.</p> <p><input type="button" value="Stop"/> <input type="button" value="Restart"/> <input type="button" value="Reboot"/> <input type="button" value="NTP Sync"/> <input type="button" value="Report"/></p>
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**Procedure 33. Configure RMS-Specific B-Level Resources (HP 380 Servers ONLY)**

<b>S T E P #</b>	<p>This procedure will provide the steps to Configure RMS-specific B-level Resources</p> <p> <b>IMPORTANT: SKIP THIS STEP IF INSTALLING ON ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Active SOAM:</b> Login	Obtain a terminal window connection on the <b>Active SOAM</b> server. Login as <b>admusr</b> .
2 <input type="checkbox"/>	<b>Active SOAM:</b> Execute B-Level Resource Script	<p>Execute the following on the command line. Wait until the script completes and you are returned to the command line:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <pre>\$ sudo /usr/TKLC/dsr/bin/rmsResourceConfig.sh</pre> </div> <p>Verify that no errors are displayed. If any errors are displayed, halt this procedure and contact <b>Appendix T: My Oracle</b> Support (MOS)</p>

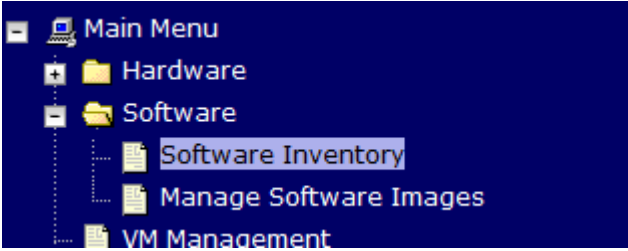
**4.15.5 DSR Configuration: Activate PCA (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)**

**Procedure 34. Activate PCA (PCA Only)**

<b>S T E P #</b>	<p>This procedure will provide the steps to activate PCA</p> <p><b>Note:</b> PCA should only be activated on Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Rack mount 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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>(PCA Only) Activate PCA Feature</b>	<p>If you are installing PCA, execute procedures "(PCA Activation or PCA Activation on a newly added site)" within <b>Appendix A</b> of the PCA activation and configuration guide [12] 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 *new* SOAM site that comes online.</p>

## 4.15.5 DSR Configuration: MPs

### Procedure 35. Configure the MP Servers

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure an MP Servers (IPFE, SBR, SS7-MP, DA-MP)</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>							
<p>1</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Exchange SSH keys between MP site's local PMAC and the MP server</p>	<p>Use the MP site's PMAC GUI to determine the Control Network IP address of the server that is to be an MP server. From the MP site's PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p>  <table border="1" data-bbox="451 947 1263 1089"> <tbody> <tr> <td>RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DAMP-1</a></td> <td>169.254.5.112</td> <td>Oahu-DSR-DAMP-1</td> </tr> <tr> <td>RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DAMP-2</a></td> <td>169.254.5.111</td> <td>Oahu-DSR-DAMP-2</td> </tr> </tbody> </table> <p>Note the IP address for an MP server.</p> <p>Login to the MP site's PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the MP site's PMAC as the <b>admusr</b>.</p> <p>Exchange SSH keys for <b>admusr</b> between the PMAC and the MP server using the keyexchange utility, using the Control network IP address for the MP server.</p> <pre data-bbox="451 1329 1320 1367">\$ keyexchange admusr@&lt;MP_Control_IP Address&gt;</pre> <p>When prompted for the password, enter the password for the <b>admusr</b> user of the MP server.</p>	RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DAMP-1</a>	169.254.5.112	Oahu-DSR-DAMP-1	RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DAMP-2</a>	169.254.5.111	Oahu-DSR-DAMP-2
RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DAMP-1</a>	169.254.5.112	Oahu-DSR-DAMP-1						
RMS: <a href="#">Oahu-TVOE-2</a> Guest: <a href="#">Oahu-DAMP-2</a>	169.254.5.111	Oahu-DSR-DAMP-2						

Procedure 35. Configure the MP Servers

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the NOAM server by using the XMI IP address of the first NOAM server. Open the web browser and enter a URL of: <a href="https://&lt;Primary_NOAM_VIP_IP_Address&gt;">https://&lt;Primary_NOAM_VIP_IP_Address&gt;</a></p> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> 
<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Navigate to Signaling Network Configuration Screen</b></p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Network</b></p>  <p>Click on <b>Insert</b> in the lower left corner.</p> 

Procedure 35. Configure the MP Servers

4	<p><b>NOAMP VIP GUI: Add Signaling Networks</b></p>	<p>You will see the following screen:</p> <p>Insert Network</p> <table border="1"> <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. [Default = N/A. Range = Alpha]</td> </tr> <tr> <td>Network Element</td> <td>- Unassigned -</td> <td>The network element this network is a part of. If not spec</td> </tr> <tr> <td>VLAN ID</td> <td>5</td> <td>The VLAN ID to use for this network. [Default = N/A. Rang</td> </tr> <tr> <td>Network Address</td> <td>10.71.88.0</td> <td>The network address of this network. [Default = N/A. Ran colon hex (IPv6) format.]</td> </tr> <tr> <td>Netmask</td> <td>255.255.255.0</td> <td>Subnetting to apply to servers within this network. [Defau IPv6) or dotted decimal (IPv4) format.]</td> </tr> <tr> <td>Router IP</td> <td>10.71.88.3</td> <td>The IP address of a router on this network. If this is a def route on servers with interfaces on this network. If custo monitored.</td> </tr> <tr> <td>Default Network</td> <td><input type="radio"/> Yes <input checked="" type="radio"/> No</td> <td>A selection indicating whether this is the network with a c</td> </tr> <tr> <td>Routable</td> <td><input checked="" type="radio"/> Yes <input type="radio"/> No</td> <td>Whether or not this network is routable outside its netwo be possibly present in all network elements.</td> </tr> </tbody> </table> <p style="text-align: right;">Ok Apply Cancel</p> <p>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>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> <ul style="list-style-type: none"> <li>• <b>IMPORTANT:</b> Leave the Network Element field as <b>Unassigned</b>.</li> <li>• Select <b>No</b> for Default Network</li> <li>• Select <b>Yes</b> for Routable.</li> </ul> <p>Press <b>OK</b>. If you are finished adding signaling networks</p> <p><b>-OR-</b></p> <p>Press <b>Apply</b> to save this signaling network and repeat this step to enter additional signaling networks.</p>	Field	Value	Description	Network Name	XSI1	The name of this network. [Default = N/A. Range = Alpha]	Network Element	- Unassigned -	The network element this network is a part of. If not spec	VLAN ID	5	The VLAN ID to use for this network. [Default = N/A. Rang	Network Address	10.71.88.0	The network address of this network. [Default = N/A. Ran colon hex (IPv6) format.]	Netmask	255.255.255.0	Subnetting to apply to servers within this network. [Defau IPv6) or dotted decimal (IPv4) format.]	Router IP	10.71.88.3	The IP address of a router on this network. If this is a def route on servers with interfaces on this network. If custo monitored.	Default Network	<input type="radio"/> Yes <input checked="" type="radio"/> No	A selection indicating whether this is the network with a c	Routable	<input checked="" type="radio"/> Yes <input type="radio"/> No	Whether or not this network is routable outside its netwo be possibly present in all network elements.
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Procedure 35. Configure the MP Servers

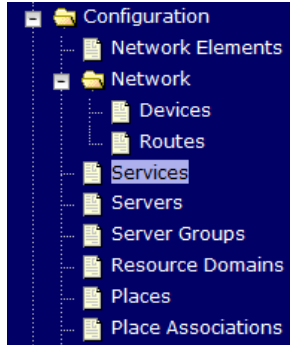
<p>5</p> <p><input type="checkbox"/></p> <p><b>NOAM VIP GUI:</b> [PCA Only]: Define SBR DB Replication Network</p>	<p><b>Note:</b> Execute this step only if you are defining a separate, dedicated network for SBR Replication.</p> <p><b>Main Menu: Configuration -&gt; Network [Insert]</b></p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Info ▾</p> </div> <p><b>Insert Network</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Field</th> <th style="text-align: left;">Value</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>Network Name</td> <td>Replicaion</td> <td>* The name of this network. [Default = N/A. Range = Alphanumeric]</td> </tr> <tr> <td>Network Element</td> <td>- Unassigned - ▾</td> <td>The network element this network is a part of. If not specified, t</td> </tr> <tr> <td>VLAN ID</td> <td>8</td> <td>* The VLAN ID to use for this network. [Default = N/A. Range = 1-</td> </tr> <tr> <td>Network Address</td> <td>10.71.88.0</td> <td>* The network address of this network. [Default = N/A. Range = v format.]</td> </tr> <tr> <td>Netmask</td> <td>255.255.255.0</td> <td>* Subnetting to apply to servers within this network. [Default = N/ decimal (IPv4) format.]</td> </tr> <tr> <td>Router IP</td> <td>10.71.88.3</td> <td>The IP address of a router on this network. If this is a default n with interfaces on this network. If customer router monitoring is</td> </tr> <tr> <td>Default Network</td> <td><input type="radio"/> Yes <input checked="" type="radio"/> No</td> <td>A selection indicating whether this is the network with a default</td> </tr> <tr> <td>Routable</td> <td><input checked="" type="radio"/> Yes <input type="radio"/> No</td> <td>Whether or not this network is routable outside its network ele present in all network elements.</td> </tr> </tbody> </table> <p style="text-align: right;"> <input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p>	Field	Value	Description	Network Name	Replicaion	* The name of this network. [Default = N/A. Range = Alphanumeric]	Network Element	- Unassigned - ▾	The network element this network is a part of. If not specified, t	VLAN ID	8	* The VLAN ID to use for this network. [Default = N/A. Range = 1-	Network Address	10.71.88.0	* The network address of this network. [Default = N/A. Range = v format.]	Netmask	255.255.255.0	* Subnetting to apply to servers within this network. [Default = N/ decimal (IPv4) format.]	Router IP	10.71.88.3	The IP address of a router on this network. If this is a default n with interfaces on this network. If customer router monitoring is	Default Network	<input type="radio"/> Yes <input checked="" type="radio"/> No	A selection indicating whether this is the network with a default	Routable	<input checked="" type="radio"/> Yes <input type="radio"/> No	Whether or not this network is routable outside its network ele present in all network elements.
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Routable	<input checked="" type="radio"/> Yes <input type="radio"/> No	Whether or not this network is routable outside its network ele present in all network elements.																										

**Procedure 35. Configure the MP Servers**

6  
 **NOAM VIP GUI:** [PCA Only]: Perform Additional Service to Networks Mapping

**Note:** Execute this step only if you are defining a separate, dedicated network for SBR Replication.

Navigate to **Main Menu -> Configuration -> Services**



Select the **Edit** button

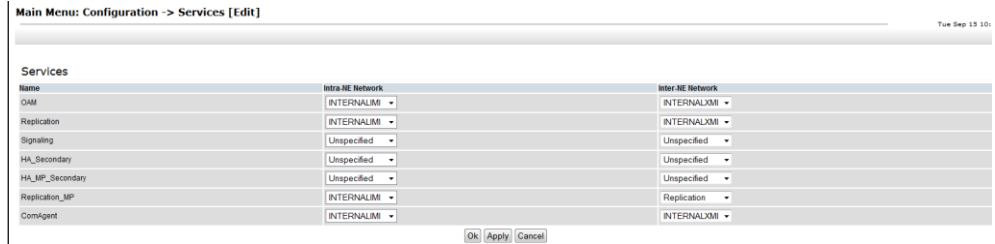


Set the Services as shown in the table below:

Name	Intra-NE Network	Inter-NE Network
Replication_MP	<IMI Network>	<SBR DB Replication Network>*
ComAgent	<IMI Network>	<SBR DB Replication Network>*

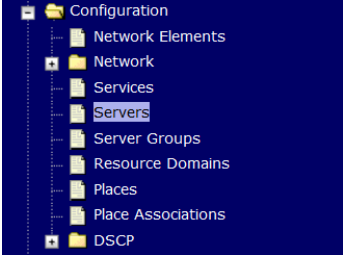
**Note:** It is recommended that dual-path HA heartbeats be enabled in support of geo-diverse SBRs. This requires participating servers to be attached to at least two routable networks.

**Note:** For **HA\_MP\_Secondary** it is recommended the **Inter-NE Network** be set as the PCA replication network (configured in **Step 5**) or the XMI network and **Intra-NE Network** be set as the IMI network.



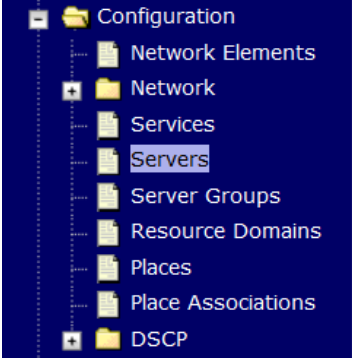
Select the **Ok** button to apply the Service-to-Network selections.

Procedure 35. Configure the MP Servers

<p>7</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Insert the MP server (Part 1)</b></p>	<p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Servers</b></p>  <p>Select the <b>Insert</b> button to insert the new MP 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>Fill out the following values:</p> <p><b>Hostname:</b> &lt;Hostname&gt;  <b>Role:</b> MP  <b>Network Element:</b> [Choose Network Element]  <b>Hardware Profile:</b> DSR TVOE Guest  <b>Location:</b> &lt;enter an optional location description&gt;</p> <p>The interface configuration form will now appear.</p> <table border="1" data-bbox="451 1039 1409 1171"> <thead> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI (10.240.108.0/26)</td> <td><input type="text"/></td> <td>xmi <input type="checkbox"/> VLAN (14)</td> </tr> <tr> <td>INTERNALIMI (169.254.2.0/24)</td> <td><input type="text"/></td> <td>imi <input type="checkbox"/> VLAN (15)</td> </tr> <tr> <td>xsi1 (10.240.59.128/26)</td> <td><input type="text"/></td> <td>xsi1 <input type="checkbox"/> VLAN (11)</td> </tr> <tr> <td>xsi2 (10.240.59.192/26)</td> <td><input type="text"/></td> <td>xsi2 <input type="checkbox"/> VLAN (12)</td> </tr> <tr> <td>Replication (10.240.60.0/24)</td> <td><input type="text"/></td> <td>replication <input type="checkbox"/> VLAN (22)</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• For the XMI network, enter the MP's XMI IP address. Select the xmi interface.</li> <li>• For the IMI network, enter the MP's IMI IP address. Select the imi interface.</li> <li>• For the XSI1 network, enter the MP's XSI1 IP address. Select the xsi1 interface.</li> <li>• For the XSI2 network, enter the MP's XSI2 IP address. Select the xsi2 interface.</li> <li>• For the Replication network (If Step 5 was executed), enter the MP's Replication IP address. Select the replication interface.</li> </ul> <p><b>Note:</b> If XSI3 and XSI4 were configured, follow the same method of entry as XSI1 and XSI2</p>	Network	IP Address	Interface	INTERNALXMI (10.240.108.0/26)	<input type="text"/>	xmi <input type="checkbox"/> VLAN (14)	INTERNALIMI (169.254.2.0/24)	<input type="text"/>	imi <input type="checkbox"/> VLAN (15)	xsi1 (10.240.59.128/26)	<input type="text"/>	xsi1 <input type="checkbox"/> VLAN (11)	xsi2 (10.240.59.192/26)	<input type="text"/>	xsi2 <input type="checkbox"/> VLAN (12)	Replication (10.240.60.0/24)	<input type="text"/>	replication <input type="checkbox"/> VLAN (22)
Network	IP Address	Interface																		
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Replication (10.240.60.0/24)	<input type="text"/>	replication <input type="checkbox"/> VLAN (22)																		
<p>8</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Insert the MP server (Part 2)</b></p>	<p>Next, add the following NTP servers:</p> <table border="1" data-bbox="474 1612 1351 1717"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;MP-RMS-TVOE-IP-Address&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>Select <b>OK</b> when all fields are filled in to finish MP server insertion.</p>	NTP Server	Preferred?	<MP-RMS-TVOE-IP-Address>	Yes														
NTP Server	Preferred?																			
<MP-RMS-TVOE-IP-Address>	Yes																			



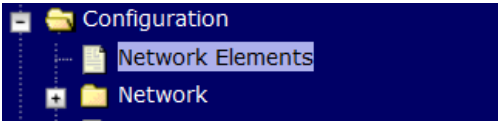
Procedure 35. Configure the MP Servers

<p>9</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI: Export</b>  the  Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p>  <p>From the GUI screen, select the MP server and then select <b>Export</b> to generate the initial configuration data for that server.</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>10</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b>  Copy  Configuration  File to MP  Server</p>	<p>Obtain a terminal session to the NOAM VIP as the <b>admusr</b> user.</p> <p>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 MP server, using the Control network IP address for the MP server.</p> <p>The configuration file will have a filename like <code>TKLCConfigData.&lt;hostname&gt;.sh</code>.</p> <pre>\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user will be prompted 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 <b>step 1</b></li> </ul>

Procedure 35. Configure the MP Servers

<p>11</p> <p><input type="checkbox"/></p>	<p><b>MP Server:</b> Verify awpushcfg was called and Reboot the Configured Server</p>	<p>Obtain a terminal window connection on the MP server console by establishing an ssh session from the PMAC of the MP.</p> <pre>\$ ssh admusr@&lt;MP_Control_IP&gt;</pre> <p>Login as the <b>admusr</b> user.</p> <p>Verify awpushcfg was called by checking the following file:</p> <pre>\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre>[SUCCESS] script completed successfully!</pre> <p>Reboot the sever:</p> <pre>\$ sudo init 6</pre> <p>Proceed to the next step once the Server finished rebooting, The server is done rebooting once the login prompt is displayed.</p>
<p>12</p> <p><input type="checkbox"/></p>	<p><b>MP Server:</b> Login</p>	<p>After the reboot, login as <b>admusr</b>.</p>
<p>13</p> <p><input type="checkbox"/></p>	<p><b>MP Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre>\$ sudo tuned-adm profile virtual-guest</pre> <pre>\$ sudo service_conf add tuned rc runlevels=345</pre> <pre>\$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre>\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>

Procedure 35. Configure the MP Servers

<p>14</p> <p><input type="checkbox"/></p>	<p><b>MP Server:</b> Verify Server Health</p>	<p>Execute the following command on the server and make sure that no errors are returned:</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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>15</p> <p><input type="checkbox"/></p>	<p><b>MP Server:</b> Delete Auto-Configured Default Route on MP and Replace it with a Network Route via the XMI Network-Part1 (Optional)</p>	<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 will mean that a default route will not be configurable on this MP and you will have to create separate network routes for each signaling network destination.)</p> <p>Using the iLO facility, log into the MP as the <i>admusr</i> user. (<i>Alternatively, you can log into the site's PMAC then SSH to the MP's control address.</i>)</p> <p>Determine &lt;XMI_Gateway_IP&gt; from your SO site network element info.</p> <p>Gather the following items:</p> <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_Addres&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> <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>Main Menu -&gt; Configuration -&gt; Network Elements</b> screen.</p>  <p>Proceed to the next step to modify the default routes on the MP servers.</p>


### Procedure 35. Configure the MP Servers

16 □	<b>MP Server:</b> Delete Auto-Configured Default Route on MP and Replace it with a Network Route via the XMI Network-Part2 (Optional)	<p>After gathering the network information from <b>step 15</b>, proceed with modifying the default routes on the MP server.</p> <p>Establish a connection to the MP server, login as <b>admusr</b>.</p> <p>Create network routes to the NO's XMI(OAM) network:</p> <p><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.</p> <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; Route to &lt;MP_XMI_Interface&gt; added.</pre> <p>Create network routes to the DR NO's XMI(OAM) network:</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --address=&lt;DR-NO_Site_Network_ID&gt; --netmask=&lt;DR-NO_Site_Network_Netmask&gt; --gateway=&lt;MP_XMI_Gateway_IP_Address&gt; --device=&lt;MP_XMI_Interface&gt; Route to &lt;MP_XMI_Interface&gt; added.</pre> <p>Create network routes to the Management Server TVOE XMI(OAM) network for NTP:</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --address=&lt;TVOE_Mgmt_XMI_Network_Address&gt; --netmask=&lt;TVOE_Mgmt_XMI_Network_Netmask&gt; --gateway=&lt;MP_XMI_Gateway_IP_Address&gt; --device=&lt;MP_XMI_Interface&gt; Route to &lt;MP_XMI_Interface&gt; added.</pre> <p><b>(Optional)</b> If Sending SNMP traps from individual servers, create host routes to customer SNMP trap destinations on the XMI network:</p> <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; Route to &lt;MP_XMI_Interface&gt; added.</pre> <p>(Repeat for any existing customer NMS stations)</p> <p>Delete the existing default route:</p> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm delete --route=default --gateway=&lt;MP_XMI_Gateway_IP&gt; --device=&lt;MP_XMI_Interface&gt; Route to &lt;MP_XMI_Interface&gt; removed.</pre>
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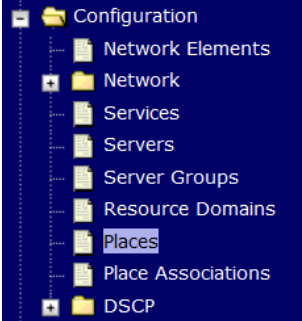
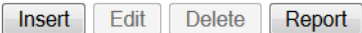
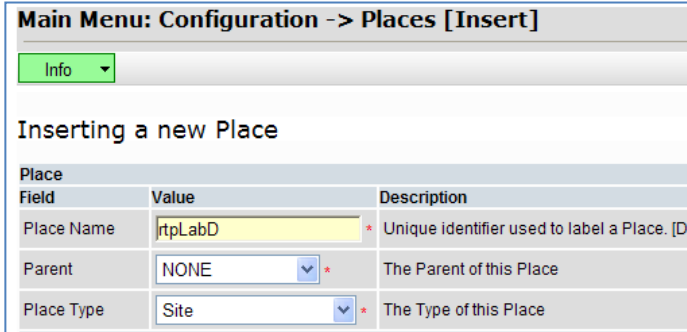
**Procedure 35. Configure the MP Servers**

<p>17</p> <p><input type="checkbox"/></p>	<p><b>MP Server:</b> Verify connectivity</p>	<p>After steps 15 and 16 have been executed, verify network connectivity.</p> <p>Establish a connection to the MP server, login as <b>admusr</b>.</p> <p>Ping active NO XMI IP address to verify connectivity:</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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><b>(Optional) Ping Customer NMS Station(s):</b></p> <pre style="border: 1px solid black; padding: 5px;">\$ 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>If you do not get a response, then verify your network configuration. If you continue to get failures then halt the installation and contact Oracle customer support.</p>
<p>18</p> <p><input type="checkbox"/></p>	<p><b>Repeat for remaining MPs</b></p>	<p><b>Repeat</b> this entire procedure for all remaining MP (SBR, SS7-MP, DA-MP, and IPFE) servers.</p>

**Procedure 36. Configure Places and Assign MP Servers to Places (PCA ONLY)**

<b>S T E P #</b>	<p>This procedure will provide the steps/reference to add “Places” in the PCA Network.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <input type="checkbox"/>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the 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: 5px; width: fit-content; margin: 10px auto;"> <p><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> <div style="text-align: center; margin: 20px 0;">  </div>

Procedure 36. Configure Places and Assign MP Servers to Places (PCA ONLY)


<p>2</p> <p>☐</p>	<p><b>NOAM VIP GUI:</b> Configure Places</p>	<p>Establish a GUI session on the NOAMP by using the XMI VIP address. Login as user <i>guidadmin</i>.</p> <p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Places</b></p>  <p>Select the <b>Insert</b> button</p>   <p><b>Place Name:</b> &lt;Site Name&gt; <b>Parent:</b> NONE <b>Place Type:</b> Site</p> <p>Repeat this step for each of the <i>PCA Places (Sites)</i> in the network.</p> <p>See the <b>Terminology</b> section for more information on <i>Sites &amp; Places</i>.</p>
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**Procedure 36. Configure Places and Assign MP Servers to Places (PCA ONLY)**

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b> <b>GUI: Assign MP Servers To Places</b></p>	<p>Select the place configured in <b>step 2</b>, press the edit button.</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>For each place you have defined, choose the set of MP servers that will be assigned to those places.</p> <table border="1"><thead><tr><th colspan="2">Place</th></tr><tr><th>Field</th><th>Value</th></tr></thead><tbody><tr><td>Place Name</td><td>rtplabC *</td></tr><tr><td>Parent</td><td>NONE *</td></tr><tr><td>Place Type</td><td>Site *</td></tr></tbody></table> <p><b>Servers</b></p> <p>LABCSONE <input type="checkbox"/> labCe1b04pdra1</p> <p>Check all the check boxes for <b>SS7-MPs</b> and <b>PCA DA-MP</b> and <b>SBR</b> servers that will be assigned to this place.</p> <p>Repeat this step for all other DA-MP or SBR servers you wish to assign to places.</p> <p><b>Note:</b> All DA-MPs and SBR servers must be added to the <i>Site Place</i> that corresponds to the physical location of the server.</p> <p>See the <b>Terminology</b> section for more information on <i>Sites</i>.</p>	Place		Field	Value	Place Name	rtplabC *	Parent	NONE *	Place Type	Site *
Place												
Field	Value											
Place Name	rtplabC *											
Parent	NONE *											
Place Type	Site *											



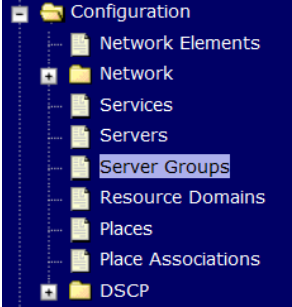
**Procedure 37. Configure the MP Server Group(s) and Profile(s)**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure MP Server Groups</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the NOAM server the VIP IP address of the NOAM server.</p> <p>Open the web browser and enter a URL of:  <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</b> </div> </p> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  <p>The screenshot shows the Oracle System Login interface. At the top is the Oracle logo in red. Below it, the text 'Oracle System Login' is displayed on the left, and the date 'Fri Mar 20 12:29:52 2015 EDT' is on the right. A central box contains a 'Log In' form with fields for 'Username: guiadmin' and 'Password: ●●●●●●', a 'Change password' checkbox, and a 'Log In' button. Below the form, it says 'Welcome to the Oracle System Login.' and 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.' At the bottom, it states 'Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p> </div>

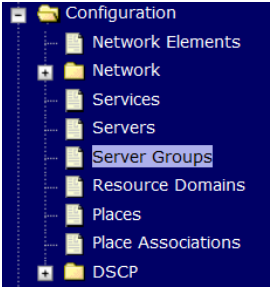
Procedure 37. Configure the MP Server Group(s) and Profile(s)

<p>2</p> <p>☐</p>	<p><b>NOAM VIP GUI:</b> Determine Server Group Function</p>	<p>Determine what server group function will be configured, make note the following configuration decisions.</p> <table border="1"> <thead> <tr> <th>Server Group Function</th> <th>MPs Will Run</th> <th>Redundancy Model</th> </tr> </thead> <tbody> <tr> <td><b>DSR (multi-active cluster)</b></td> <td>Diameter Relay and Application Services</td> <td>Multiple MPs active Per SG</td> </tr> <tr> <td><b>IP Load Balancer</b></td> <td>IPFE application</td> <td>1 Active MP Per SG</td> </tr> <tr> <td><b>SS7-IWF</b></td> <td>MAP IWF Application</td> <td>1 Active MP Per SG</td> </tr> <tr> <td><b>Session Binding Repository</b></td> <td>Session Binding Repository Function</td> <td>1 Active MP and 1 Standby MP / Per SG</td> </tr> <tr> <td><b>Policy &amp; Charging SBR</b></td> <td>Policy and Charging Session/or Policy Binding Function</td> <td>1 Active MP Per SG</td> </tr> </tbody> </table> <p><b>For PCA application:</b></p> <ul style="list-style-type: none"> <li>- <b>Online Charging function (only)</b> <ul style="list-style-type: none"> <li>o At least one MP Server Group with the “Policy and Charging SBR” function must be configured</li> <li>o At least one MP Server Group with the “DSR (multi-active cluster)” function must be configured</li> <li>o MP Server Groups with the “IP Load Balancer” function (IPFE) are optional.</li> </ul> </li> <li>- <b>Policy DRA function</b> <ul style="list-style-type: none"> <li>o At least two MP Server Groups with the “Policy and Charging SBR” function must be configured. One will store Session data and one will store Binding data.</li> <li>o At least one MP Server Group with the “DSR (multi-active cluster)” function must be configured</li> <li>o MP Server Groups with the “IP Load Balancer” function (IPFE) are optional.</li> </ul> </li> </ul> <p><b>WAN Replication Connection Count:</b></p> <ul style="list-style-type: none"> <li>• For non-Policy and Charging SBR Server Groups: <b>Default Value</b></li> <li>• For Policy and Charging Server Groups: <b>8</b></li> </ul> <p>For the PCA application, the following types of MP Server Groups must be configured:</p> <ul style="list-style-type: none"> <li>- <b>DA-MP ( Function: <b>DSR (multi-active cluster)</b>)</b></li> <li>- <b>SBR ( Function: <b>Policy and Charging SBR</b>)</b></li> <li>- <b>IPFE ( Function: IP Load Balancer) – Optional)</b></li> </ul>	Server Group Function	MPs Will Run	Redundancy Model	<b>DSR (multi-active cluster)</b>	Diameter Relay and Application Services	Multiple MPs active Per SG	<b>IP Load Balancer</b>	IPFE application	1 Active MP Per SG	<b>SS7-IWF</b>	MAP IWF Application	1 Active MP Per SG	<b>Session Binding Repository</b>	Session Binding Repository Function	1 Active MP and 1 Standby MP / Per SG	<b>Policy &amp; Charging SBR</b>	Policy and Charging Session/or Policy Binding Function	1 Active MP Per SG
Server Group Function	MPs Will Run	Redundancy Model																		
<b>DSR (multi-active cluster)</b>	Diameter Relay and Application Services	Multiple MPs active Per SG																		
<b>IP Load Balancer</b>	IPFE application	1 Active MP Per SG																		
<b>SS7-IWF</b>	MAP IWF Application	1 Active MP Per SG																		
<b>Session Binding Repository</b>	Session Binding Repository Function	1 Active MP and 1 Standby MP / Per SG																		
<b>Policy &amp; Charging SBR</b>	Policy and Charging Session/or Policy Binding Function	1 Active MP Per SG																		

**Procedure 37. Configure the MP Server Group(s) and Profile(s)**

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Enter MP Server Group Data</p>	<p>From the data collected from step 2, create the server group with the following:</p> <p>Navigate to <b>Main Menu -&gt;Configuration -&gt;Server Groups</b></p>  <p>Select <b>Insert</b></p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Fill out the following fields:</p> <p><b>Server Group Name:</b> &lt;Server Group Name&gt;  <b>Level:</b> C  <b>Parent:</b> [SOAMP Server Group That is Parent To this MP]  <b>Function:</b> Select the Proper Function for this MP Server Group (Gathered in Step 2)</p> <p>Select <b>OK</b> when all fields are filled in.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Repeat For Additional Server Groups</p>	<p>Repeat <b>Steps 2-3</b> for any remaining MP server groups you wish to create.</p> <p>For instance, if you are installing IPFE, you will need to create an IP Load Balancer server group.</p>

**Procedure 37. Configure the MP Server Group(s) and Profile(s)**

<p>5</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Edit the MP Server Groups to include MPs</p>	<p>From the GUI, navigate to <b>Main Menu-&gt;Configuration-&gt;Server Groups</b></p>  <p>Select a server group that you just created and then select <b>Edit</b>.</p> <p>Select the Network Element that represents the MP server group you wish to edit.</p> <p>Click the <b>Include in SG</b> box for every MP server that you wish to include in <i>this</i> server group. Leave other checkboxes blank.</p> <table border="1" data-bbox="456 863 1122 1003"> <thead> <tr> <th colspan="3">HPC6_90006</th> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>MP-1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>MP-2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p><b>Note:</b> Each IPFE server should be in its own server group.</p> <p>Select <b>OK</b>.</p>	HPC6_90006			Server	SG Inclusion	Preferred HA Role	MP-1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	MP-2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
HPC6_90006														
Server	SG Inclusion	Preferred HA Role												
MP-1	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												
MP-2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												

**Procedure 37. Configure the MP Server Group(s) and Profile(s)**

<p>6</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> [PCA ONLY]          Edit the MP Server Group and add Preferred Spares for Site Redundancy (Optional)</p>	<p>If Two Site Redundancy for the Policy and Charging SBR Server Group is wanted, add a MP server that is physically located in a separate site (location) to the Server Group by clicking the <b>Include in SG</b> checkbox and also check the <b>Preferred Spare</b> checkbox.</p> <table border="1" data-bbox="461 432 1321 546"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>LabF123SBRsp1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>If Three Site Redundancy for the SBR MP Server Group is wanted, add two SBR MP servers that are both physically located in separate sites (<i>location</i>) to the Server Group by clicking the <b>Include in SG</b> checkbox and also check 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><b>Note:</b> There must first be Non-Preferred spare present in the server group before adding the preferred spare.</p> <table border="1" data-bbox="461 942 1321 1117"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>LabF123SBRsp1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>LabF123SBRsp2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>For more information about Site Redundancy for Policy and Charging SBR Server Groups, see the <b>Terminology</b> section.</p> <p>Select <b>OK</b> to save</p>	Server	SG Inclusion	Preferred HA Role	LabF123SBRsp1	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Preferred Spare	Server	SG Inclusion	Preferred HA Role	LabF123SBRsp1	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Preferred Spare	LabF123SBRsp2	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Preferred Spare																																																																		
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LabF123SBRsp2	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Preferred Spare																																																																																	
<p>7</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Repeat For Additional Server Groups</p>	<p>Repeat <b>Steps 5-6</b> for any remaining MP server groups you need to edit.</p>																																																																																	
<p>8</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> <div data-bbox="461 1545 1386 1776"> <p style="text-align: right;">Fri Mar 20 09:28:16 EDT 2015</p> <p>Filter <input type="text"/> Tasks <input type="text"/></p> <table border="1"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td>CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td>MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> </div>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type	414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress																									413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress																								
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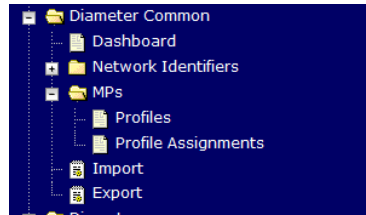
**Procedure 37. Configure the MP Server Group(s) and Profile(s)**

9 <input type="checkbox"/>	<b>SOAM VIP GUI: Login</b>	<p>If not already done, establish a GUI session on the SOAM server by using the VIP IP address of the SOAM server.</p> <p>Open the web browser and enter a URL of: <code>https://&lt;Primary_SOAM_VIP_IP_Address&gt;</code></p> <p>Login to the SOAM GUI as the <i>guiadmin</i> user:</p> 
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**Procedure 37. Configure the MP Server Group(s) and Profile(s)**

10 **SOAM VIP GUI:** Assign Profiles to DA-MPs from SOAM GUI.

Navigate to **Main Menu -> Diameter Common ->MPs -> Profiles Assignments**



Refer to the **DA-MP** section. (If the site has both DSR and MAP-IWF server groups, you will see both a DA-MP section and an SS7-MP section)


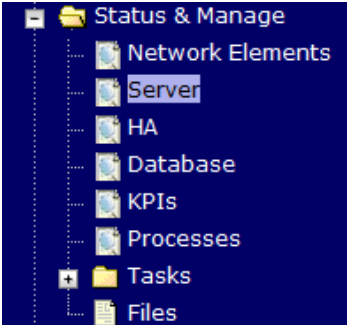
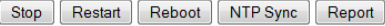
DA-MP	MP Profile
MultiApp3-DA-MP1	VM:10K_MPS
MultiApp3-DA-MP10	VM:10K_MPS
MultiApp3-DA-MP2	VM:10K_MPS
MultiApp3-DA-MP3	VM:10K_MPS
MultiApp3-DA-MP4	VM:10K_MPS
MultiApp3-DA-MP5	VM:10K_MPS
MultiApp3-DA-MP6	VM:10K_MPS
MultiApp3-DA-MP7	VM:10K_MPS
MultiApp3-DA-MP8	VM:10K_MPS
MultiApp3-DA-MP9	VM:10K_MPS
SS7-MP	MP Profile
MultiApp3-SS7-MP1	VM:MD-IWF

For each MP, select the proper profile assignment based on the function each MP will serve:

Profile Name	Description
<b>VM:Relay (HP DL380 Gen 8 Only)</b>	Virtualized DA-MP on TVOE Guest running the relay application
<b>VM:Database (HP DL380 Gen 8 Only)</b>	Virtualized DA-MP on TVOE Guest running relay and database applications
<b>VM:10K_MPS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</b>	Virtualized DA-MP on TVOE Guest running relay, session, and database applications
<b>VM:MD-IWF</b>	Virtualized SS7-MP on TVOE Guest running MD-IWF applications

When finished, press the **Assign** button


**Procedure 37. Configure the MP Server Group(s) and Profile(s)**

<p>11</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server.</p> <p>Open the web browser and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px 0;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>
<p>12</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Restart MP servers</b></p>	<p>Navigate to <b>Main menu-&gt;Status &amp; Manage-&gt;Server</b></p> <div style="text-align: center;">  </div> <p>For each MP (SS7-MP, DA-MP, SBR) server:</p> <ul style="list-style-type: none"> <li>• Select the MP server.</li> <li>• Select the <b>Restart</b> button.</li> <li>• Answer <b>OK</b> to the confirmation popup. Wait for the message which tells you that the restart was successful.</li> </ul> <div style="text-align: center; margin-top: 10px;">  </div> <p><b>Note:</b> POLICY AND CHARGING DRA INSTALLATIONS: You may continue to see alarms related to ComAgent until you complete PCA installation.</p>

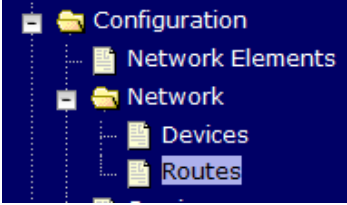
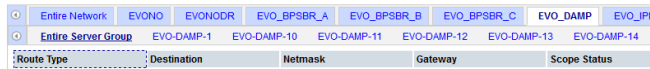

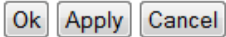


## 4.15.6 DSR Configuration: Signaling Network

### Procedure 38. Configure the Signaling Network Routes

<b>S T E P #</b>	<p>This procedure will provide the steps to configure Signaling Network Routes on MP-type servers (DA-MP, IPFE, SS7-MP, etc.)</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <input type="checkbox"/>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the NOAM server the VIP IP address of the NOAM server.</p> <p>Open the web browser and enter a URL of:  <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</b> </div> </p> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>

**Procedure 38. Configure the Signaling Network Routes**

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Navigate to Routes Configuration Screen</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Network -&gt; Routes</b></p>  <p>Select the first MP Server group you see listed on the first row of tabs as shown, then click the <b>Entire Server Group</b> link. Initially, no routes should be displayed.</p>  <p><b>Note:</b> For SBRs that span multiple sites, routes should be added individually.</p>																		
<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Add Route</p>	<p>Click on <b>Insert</b> at the bottom of the screen to add additional routes.</p> 																		
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Add Default Route for MPs Going Through Signaling Network Gateway (Optional)</p>	<p><b>OPTIONAL</b> - Only execute this step if you performed <b>Procedure 35 Step 16:</b> which removed the XML 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 here which uses one of the signaling network gateways.</p> <p>Insert Route on Oahu-DSR-DAMP-1</p> <table border="1" data-bbox="464 1167 1341 1352"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</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 route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPv4 default route :</td> </tr> <tr> <td>Device</td> <td>xs1</td> <td>Select the network device name through which traffic is being routed. The selection of AUTO will result in the device</td> </tr> <tr> <td>Destination</td> <td></td> <td>The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal</td> </tr> <tr> <td>Netmask</td> <td></td> <td>A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the netwo</td> </tr> <tr> <td>Gateway IP</td> <td></td> <td>The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted dec</td> </tr> </tbody> </table> <p style="text-align: right;"><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></p> <p><b>Route Type: Default</b></p> <p><b>Device:</b> Select the signaling device that is directly attached to the network where the XSI default gateway resides.</p> <p><b>Gateway IP:</b> The XSI gateway you wish to use for default signaling network access.</p> <p>Select <b>OK</b></p> 	Field	Value	Description	Route Type	<input type="radio"/> Net <input checked="" type="radio"/> Default <input type="radio"/> Host*	Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPv4 default route :	Device	xs1	Select the network device name through which traffic is being routed. The selection of AUTO will result in the device	Destination		The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal	Netmask		A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the netwo	Gateway IP		The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted dec
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Netmask		A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the netwo																		
Gateway IP		The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted dec																		

Procedure 38. Configure the Signaling Network Routes

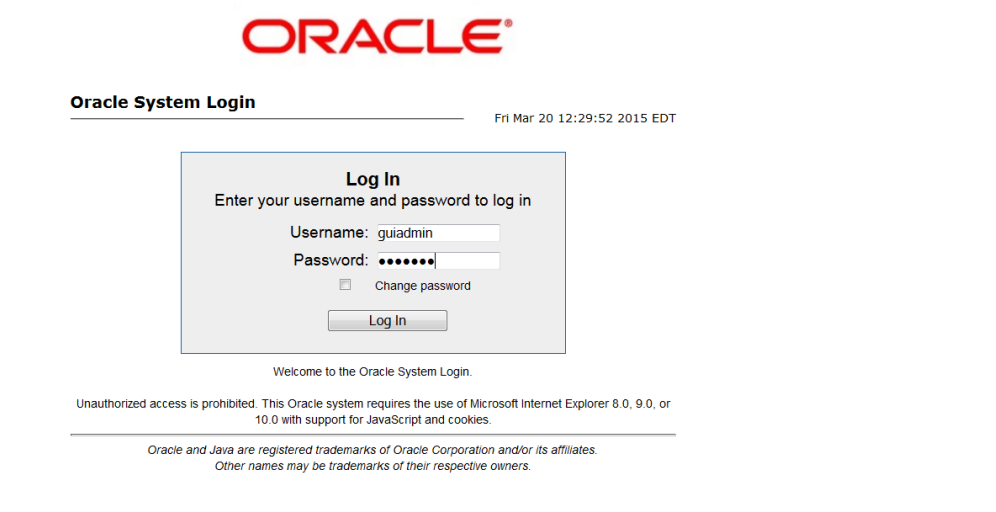
<p>5</p> <p>□</p> <p><b>NOAM VIP GUI: Add Network Routes for Diameter Peers</b></p>	<p>Use this step to add IPv4 and/or IPv6 routes to <i>diameter</i> peer destination networks. The goal here is to ensure that diameter traffic uses the gateway(s) on the signaling networks.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Field</th> <th style="text-align: left;">Value</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>Route Type</td> <td> <input checked="" type="radio"/> Net  <input type="radio"/> Default  <input type="radio"/> Host                 </td> <td>Select a route type.</td> </tr> <tr> <td>Device</td> <td>bond0.5</td> <td>* Enter the network device name through which traffic is being routed. This must be an existing device on the server.</td> </tr> <tr> <td>Destination</td> <td>10.250.46.0</td> <td>A valid netmask for the destination network or host. Must be in dotted quad format</td> </tr> <tr> <td>Netmask</td> <td>255.255.255.0</td> <td>A valid netmask for the destination network or host. Must be in dotted quad format</td> </tr> <tr> <td>Gateway IP</td> <td>10.240.70.99</td> <td>* A valid IP address of the gateway. Must be in dotted quad format</td> </tr> </tbody> </table> <p style="text-align: right;"> <input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p> <p><b>Route Type: Net</b></p> <p><b>Device: Select the appropriate signaling interface that will be used to connect to that network</b></p> <p><b>Destination: Enter the Network ID of Network to which the peer node is connected to.</b></p> <p><b>Netmask: Enter the corresponding Netmask.</b></p> <p><b>Gateway IP: Enter the Int-XSI switch VIP of the chosen Network for L3 deployments (either of int-XSI-1 or of int-XSI2). Or the IP of the customer gateway for L2 deployments.</b></p> <p>If you have more routes to enter, Press <b>Apply</b> to save the current route entry and repeat this step to enter more routes</p> <p>If you are finished entering routes, Press <b>OK</b> to save the latest route and leave this screen.</p> <p>If <b>aggregation switches</b> are used, routes should be configured on the aggregation switches so that the 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 (examples shown -- actual values will vary) :</p> <p>Add routes (IPv4 &amp; IPv6):</p> <pre style="border: 1px solid black; padding: 5px;"> \$ sudo netConfig --device=switch1A addRoute network=10.10.10.0 mask=255.255.255.0 nexthop=10.50.76.81 \$ sudo netConfig --device=switch1A addRoute network6=2001::/64 nexthop=fd0f::1         </pre> <p>Delete routes (IPv4 &amp; IPv6):</p> <pre style="border: 1px solid black; padding: 5px;"> \$ sudo netConfig --device=switch1A deleteRoute network=10.10.10.0 mask=255.255.255.0 nexthop=10.50.76.81 \$ sudo netConfig --device=switch1A deleteRoute network6=2001::/64 nexthop=fd0f::1         </pre> <p>After the routes are added via netconfig, a <b>netconfig backup</b> should be taken so that the new routes are retained in the backup.</p>	Field	Value	Description	Route Type	<input checked="" type="radio"/> Net <input type="radio"/> Default <input type="radio"/> Host	Select a route type.	Device	bond0.5	* Enter the network device name through which traffic is being routed. This must be an existing device on the server.	Destination	10.250.46.0	A valid netmask for the destination network or host. Must be in dotted quad format	Netmask	255.255.255.0	A valid netmask for the destination network or host. Must be in dotted quad format	Gateway IP	10.240.70.99	* A valid IP address of the gateway. Must be in dotted quad format
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**Procedure 38. Configure the Signaling Network Routes**

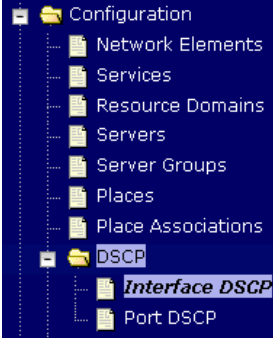
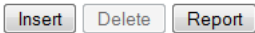
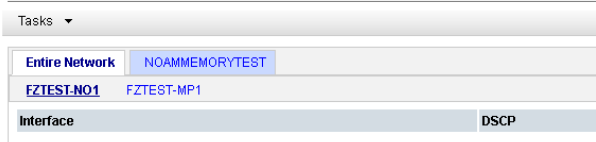
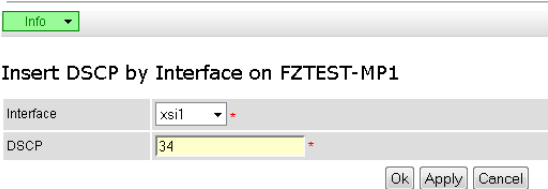
6 <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Repeat for all other MP server groups.	<p>The routes entered in this procedure should now be configured on all MPs in the server group for the first MP you selected.</p> <p>If you have additional MP server groups, repeat from <b>step 2</b>, but this time, select an MP from the next MP server group.</p> <p>Continue until you have covered all MP server groups. This includes DAMP, IPFE, and SS7MP servers.</p> <p><b>Note:</b> IPFE and DAMP servers must have the same routes configured.</p>
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## 4.15.7 DSR Configuration: DSCP (Optional)

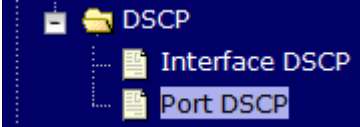

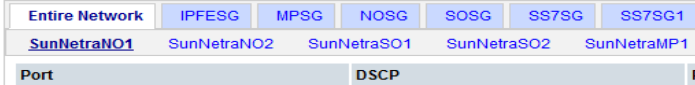
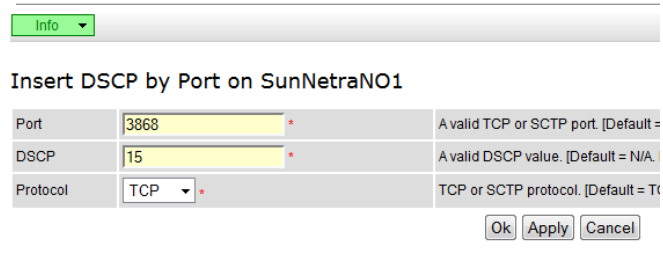
### Procedure 39. Configure DSCP Values for Outgoing Traffic (Optional)

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure 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 will utilize packet DSCP markings for Quality-of-Service purposes.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the NOAM server to the VIP IP address of the NOAM server.</p> <p>Open the web browser and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <p><b>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</b></p> </div> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>

**Procedure 39. Configure DSCP Values for Outgoing Traffic (Optional)**

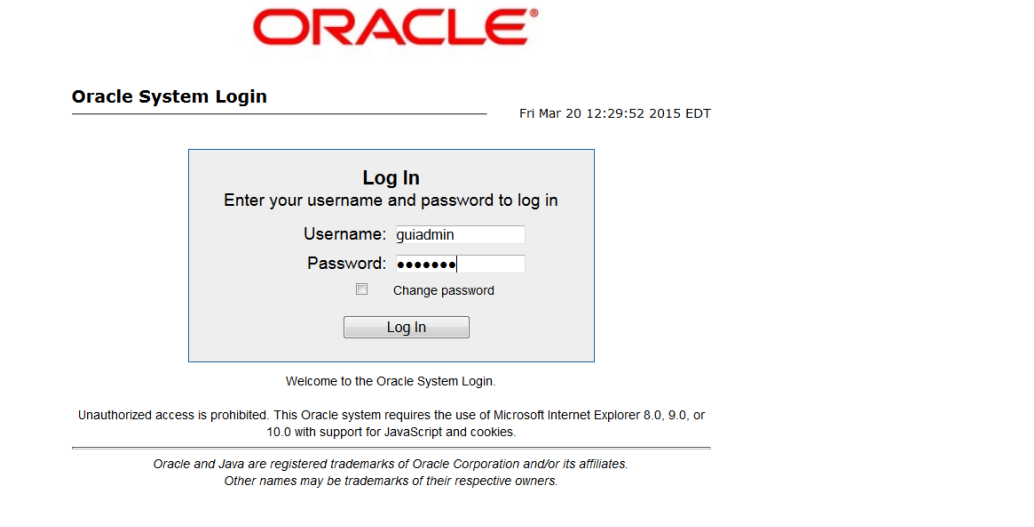
<p>2</p> <p>☐</p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Option 1:          Configure          Interface          DSCP</p>	<p><b>Note:</b> The values displayed in the screenshots are for demonstration purposes only. The exact DSCP values for your site will vary.</p> <p>Navigate to <b>Main Menu -&gt; Configuration -&gt; DSCP -&gt; Interface DSCP</b></p>  <p>Select the server you wish 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).</p> <p>Click <b>Insert</b></p>  <p>Main Menu: Configuration -&gt; DSCP -&gt; Interface DSCP</p>  <p>Select the network interface from the drop down box, then enter the <i>DSCP value</i> you wish to have applied to packets leaving this interface.</p> <p>Main Menu: [Insertdscpbyintf]</p>  <p>Click <b>OK</b> if there are no more interfaces on this server to configure, or <b>Apply</b> to finish this interface and continue on with more interfaces by selecting them from the drop down and entering their <i>DSCP values</i>.</p>
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**Procedure 39. Configure DSCP Values for Outgoing Traffic (Optional)**

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>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 will vary.</p> <p>Navigate to <b>Main Menu -&gt; Configuration -&gt; DSCP -&gt; Port DSCP</b></p>  <p>Select the server you wish 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).</p> <p>Click <b>Insert</b></p>  <p><b>Main Menu: Configuration -&gt; DSCP -&gt; Port DSCP</b></p>  <p>Enter the source port, DSCP value, and select the transport protocol.</p> <p><b>Main Menu: Configuration -&gt; DSCP -&gt; Port DSCP [Insert]</b></p>  <p>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 <i>DSCP mappings</i>.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Repeat for additional servers.</p>	<p>Repeat <b>Steps 2-3</b> for all remaining servers.</p>

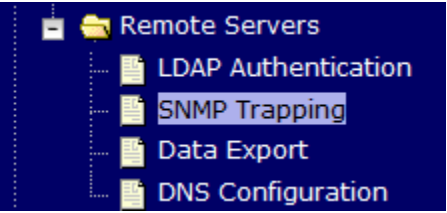
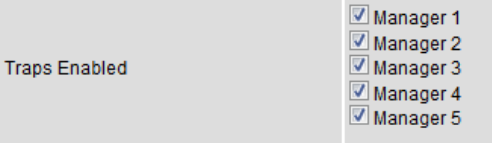
## 4.15.8 DSR Configuration: SNMP (Optional)

### Procedure 40. Configure SNMP Trap Receiver(s) (Optional)

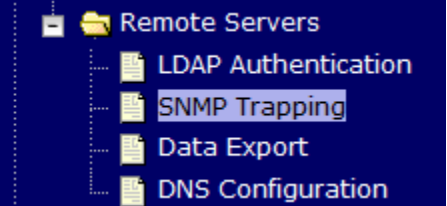
<b>S T E P #</b>	<p>This procedure will provide the steps to configure forwarding of SNMP Traps from each individual server.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <input type="checkbox"/>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the NOAM server the VIP IP address of the NOAM server.</p> <p>Open the web browser and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>



**Procedure 40. Configure SNMP Trap Receiver(s) (Optional)**

<p>2</p> <p><input type="checkbox"/></p> <p><b>NOAM VIP GUI:</b> Configure System-Wide SNMP Trap Receiver(s)</p>	<p>Navigate to <b>Main Menu -&gt; Administration -&gt; Remote Servers -&gt; SNMP Trapping</b></p>  <p>Verify that <b>Traps Enabled</b> is checked:</p>  <p>Fill in 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 "XMI" network.</p> <p>Continue to fill in additional secondary, tertiary, etc. Manager IPs in the corresponding slots if desired.</p> <table border="1" data-bbox="418 1026 1032 1129"> <thead> <tr> <th>Variable</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Manager 1</td> <td>10.10.55.88</td> </tr> </tbody> </table> <p>Enter the <b>SNMP Community Name</b>:</p> <table border="1" data-bbox="418 1224 1318 1352"> <tr> <td>SNMPv2c Read-Only Community Name</td> <td>snmppublic</td> </tr> <tr> <td>SNMPv2c Read-Write Community Name</td> <td>snmppublic</td> </tr> </table> <p>Leave all other fields at their default values.</p> <p>Press <b>OK</b></p>	Variable	Value	Manager 1	10.10.55.88	SNMPv2c Read-Only Community Name	snmppublic	SNMPv2c Read-Write Community Name	snmppublic
Variable	Value								
Manager 1	10.10.55.88								
SNMPv2c Read-Only Community Name	snmppublic								
SNMPv2c Read-Write Community Name	snmppublic								

**Procedure 40. Configure SNMP Trap Receiver(s) (Optional)**

<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 MPs are aggregated and then displayed at the active NOAMP. If instead, you wish for every server to send its own traps directly to the NMS, then execute this procedure.</p> <p>This procedure requires that all servers, including MPs, have an XMI interface on which the customer SNMP Target server (NMS) is reachable.</p> <p>Navigate to <b>Main Menu -&gt; Administration -&gt; Remote Servers -&gt; SNMP Trapping</b></p>  <p>Make sure the checkbox next to <b>Enabled</b> is checked, if not, check it as shown below</p> <table border="1" data-bbox="418 884 1386 1041"> <tr> <td></td> <td></td> <td>[Default: enabled.]</td> </tr> <tr> <td>Traps from Individual Servers</td> <td><input checked="" type="checkbox"/> Enabled</td> <td>Enable or disable SNMP traps from in sent from individual servers, otherwise OAM&amp;P server. [Default: disabled.]</td> </tr> <tr> <td></td> <td></td> <td>Configured Community Name (SNMP</td> </tr> </table> <p>Then click on <b>Apply</b> and verify that the data is committed.</p>			[Default: enabled.]	Traps from Individual Servers	<input checked="" type="checkbox"/> Enabled	Enable or disable SNMP traps from in sent from individual servers, otherwise OAM&P server. [Default: disabled.]			Configured Community Name (SNMP
		[Default: enabled.]									
Traps from Individual Servers	<input checked="" type="checkbox"/> Enabled	Enable or disable SNMP traps from in sent from individual servers, otherwise OAM&P server. [Default: disabled.]									
		Configured Community Name (SNMP									
<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Update the TVOE Host SNMP Community String</p>	<p>Establish an SSH session to the PMAC, login as <b>admusr</b>.</p> <p>Execute the following command to update the TVOE host community string:</p> <pre data-bbox="418 1255 1430 1325">\$ sudo pmaccli setCommStr --accessType=rw --commStr=&lt;site specific value&gt;</pre> <p><b>Note:</b> When this operation is initiated, all supporting TVOE hosting servers and the PMAC guest on the PMAC control network will be updated. All those servers that match the existing Site Specific Community String will not be updated again until the string name is changed.</p>									

## 4.15.9 DSR Configuration: IP Front End (IPFE)

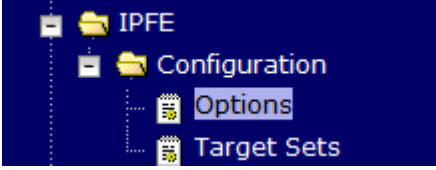
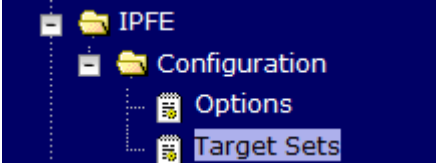
### Procedure 41. IP Front End (IPFE) Configuration (Optional)

<b>S T E P #</b>	<p>This procedure will provide the steps to configure IP Front End (IPFE), and optimize performance.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <input type="checkbox"/>	<p><b>NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the NOAM server the VIP IP address of the NOAM server.</p> <p>Open the web browser and enter a URL of:  <input type="text" value="https://&lt;Primary_NOAM_VIP_IP_Address&gt;"/></p> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>

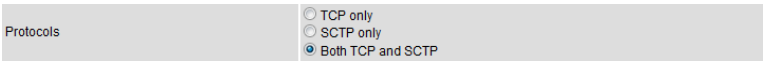

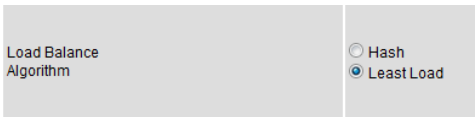
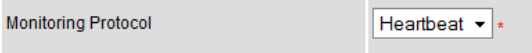
Procedure 41. IP Front End (IPFE) Configuration (Optional)

2 <input type="checkbox"/>	<b>SOAM VIP GUI: Login</b>	<p>Establish a GUI session on the SOAM server the VIP IP address of the SOAM server.</p> <p>Open the web browser and enter a URL of: <code>https://&lt;Primary_SOAM_VIP_IP_Address&gt;</code></p> <p>Login to the SOAM GUI as the <i>guiadmin</i> user:</p> 
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Procedure 41. IP Front End (IPFE) Configuration (Optional)

<p>3</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Configuration of replication IPFE association data.</p>	<p>Select <b>Main Menu -&gt; IPFE -&gt; Configuration -&gt; Options</b></p>  <p>Enter the IP address of the 1<sup>st</sup> IPFE in the IPFE-A1 IP Address field and the IP address of the 2<sup>nd</sup> IPFE in the IPFE-A2 IP Address field</p> <p>If applicable, enter the address of the 3<sup>rd</sup> and 4<sup>th</sup> IPFE servers in IPFE-B1 IP Address and IPFE-B2 IP Address fields.</p> <table border="1" data-bbox="456 659 1200 879"> <thead> <tr> <th>Variable</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td colspan="2"><b>Inter-IPFE Synchronization</b></td> </tr> <tr> <td>IPFE-A1 IP Address</td> <td>10.240.79.103 - Viper-IPFE1</td> </tr> <tr> <td>IPFE-A2 IP Address</td> <td>10.240.79.104 - Viper-IPFE2</td> </tr> <tr> <td>IPFE-B1 IP Address</td> <td>&lt;unset&gt;</td> </tr> <tr> <td>IPFE-B2 IP Address</td> <td>&lt;unset&gt;</td> </tr> </tbody> </table> <p><b>Note:</b> It is recommended that the address reside on the IMI (Internal Management Interface) network.</p> <p><b>Note:</b> IPFE-A1 and IPFE-A2 must have connectivity between each other via these addresses. The same applies with IPFE-B1 and IPFE-B2.</p> <p>Press <b>OK</b></p>	Variable	Value	<b>Inter-IPFE Synchronization</b>		IPFE-A1 IP Address	10.240.79.103 - Viper-IPFE1	IPFE-A2 IP Address	10.240.79.104 - Viper-IPFE2	IPFE-B1 IP Address	<unset>	IPFE-B2 IP Address	<unset>
Variable	Value													
<b>Inter-IPFE Synchronization</b>														
IPFE-A1 IP Address	10.240.79.103 - Viper-IPFE1													
IPFE-A2 IP Address	10.240.79.104 - Viper-IPFE2													
IPFE-B1 IP Address	<unset>													
IPFE-B2 IP Address	<unset>													
<p>4</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Configuration of IPFE Target sets-Part 1 (Insert Target Set)</p>	<p>Select <b>Main Menu -&gt; IPFE -&gt; Configuration -&gt; Target Sets</b></p>  <p>Select either <b>Insert IPv4</b> or <b>Insert IPv6</b> button, depending on the IP version of the target set you plan to use.</p> <p><input type="button" value="Insert IPv4"/> <input type="button" value="Insert IPv6"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/></p>												

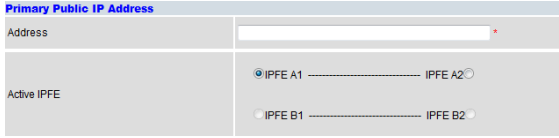
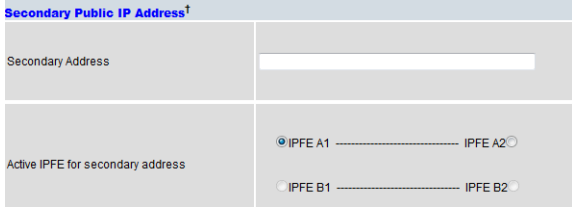
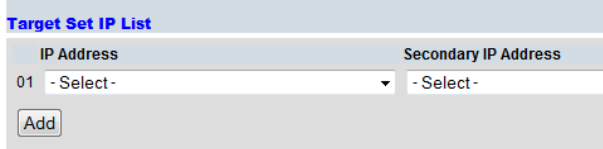
Procedure 41. IP Front End (IPFE) Configuration (Optional)

5 <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Configuration of IPFE Target sets-Part 2 (Target Set Configuration)	<p>Continued from the previous step, the following are configurable:</p> <p><b>Protocols:</b> protocols the target set will support.</p>  <p>The screenshot shows a 'Protocols' configuration box with three radio button options: 'TCP only', 'SCTP only', and 'Both TCP and SCTP'. The 'Both TCP and SCTP' option is selected.</p> <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 will be treated as a new connection and will not automatically go to the same application server.</p>  <p>The screenshot shows a 'Delete Age' configuration box with a text input field containing the value '600' and a red asterisk indicating a required field.</p> <p><b>Load Balance Algorithm:</b> <i>Hash</i> or <i>Least Load</i> options</p>  <p>The screenshot shows a 'Load Balance Algorithm' configuration box with two radio button options: 'Hash' and 'Least Load'. The 'Least Load' option is selected.</p> <p><b>Note:</b> In order for the IPFE to provide Least Load distribution, <b>Main Menu -&gt; 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>  <p>The screenshot shows a 'Monitoring Protocol' configuration box with a dropdown menu set to 'Heartbeat' and a red asterisk indicating a required field.</p> <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>
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Procedure 41. IP Front End (IPFE) Configuration (Optional)

6 <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Configuration of IPFE Target sets-Part 3 (Target Set Configuration)	<p><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> <table border="1" data-bbox="456 495 889 621"><tr><td>MPS Factor</td><td>50 *</td></tr><tr><td>Connection Count Factor</td><td>50 *</td></tr></table> <p>To configure <b>Reserved Ingress MPS</b>, go to <b>Main Menu -&gt; Diameter -&gt; Configuration -&gt; Configuration Sets -&gt; Capacity Configuration Sets</b>. If you choose not to use <b>Reserved Ingress MPS</b>, 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> <table border="1" data-bbox="456 1052 889 1142"><tr><td>Allowed Deviation</td><td>5 *</td></tr></table>	MPS Factor	50 *	Connection Count Factor	50 *	Allowed Deviation	5 *
MPS Factor	50 *							
Connection Count Factor	50 *							
Allowed Deviation	5 *							

Procedure 41. IP Front End (IPFE) Configuration (Optional)

<p>7</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>  <p><b>Note:</b> This address must reside on the XSI (External Signaling Interface) network because it will be 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>Active IPFE: 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>  <p><b>Note:</b> 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.</p> <p><b>Note:</b> 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.</p> <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>  <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>Click the <b>Add</b> button to add more application servers (Up to 16)</p> <p>Click the <b>Apply</b> button.</p> <p style="text-align: center;"> <input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p>
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**Procedure 41. IP Front End (IPFE) Configuration (Optional)**

8 <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Repeat for additional Configuration of IPFE Target sets.	Repeat <b>steps 5-7</b> for each target set (Up to 16). At least one target set must be configured.
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## 4.16 Application Configuration: SDS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)


**Note:** SDS installation should only be performed on Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Rack Mount Servers.

### 4.16.1 SDS Configuration: NOAMs

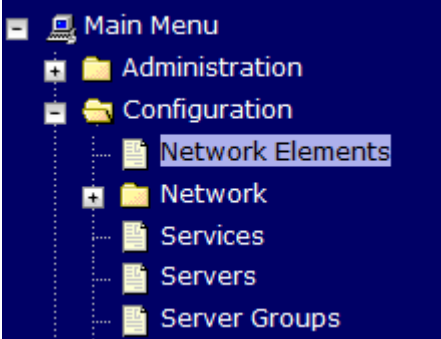
#### Procedure 42. Configure First SDS NOAM NE and Server

<b>S T E P #</b>	<p>This procedure will provide the steps to configure the First NOAM server.</p> <p><b>Note:</b> SDS NOAM configuration only applicable on Oracle X5-2/Netra X5-2/HP DL380 Gen 9</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>																			
1 <input type="checkbox"/>	<p><b>Save the NOAM Network Data to an XML file</b></p>	<p>Using a text editor, create a SDS NOAM Network Element file that describes the networking of the target install environment of your first SDS NOAM server.</p> <p>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 SDS NOAM network element XML file would have a filename <b>“SDS_NOAM_NetworkElement.xml”</b>.</p> <p>Alternatively, you can update the sample SDS Network Element file. It can be found on the management server at:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> <pre>/usr/TKLC/smac/etc/SAMPLE-NetworkElement.xml</pre> </div> <p>A sample XML file can also be found in <b>Appendix L: Sample Network Element</b>.</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>																		
2 <input type="checkbox"/>	<p><b>Exchange SSH keys between PMAC and first SDS NOAM server</b></p>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the first SDS NOAM server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="font-size: small;">RMS: <a href="#">Jetta-A</a></td> <td style="font-size: small;">192.168.1.17</td> <td style="font-size: small;">Jetta-NO-1</td> <td style="font-size: small;">TPD (x86_64)</td> <td style="font-size: small;">7.0.0.0-86.14.0</td> <td style="font-size: small;">DSR</td> <td style="font-size: small;">7.1.0.0-71.11.0</td> <td></td> <td></td> </tr> <tr> <td style="font-size: small;">Guest: <a href="#">Jetta-NO-A</a></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Note the IP address for the first SDS NOAM server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the 1<sup>st</sup> SDS NOAM server using the keyexchange utility, using the Control network IP address for the SDS NOAM server. When prompted for the password, enter the password for the <b>admusr</b> user of the SDS NOAM server.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> <pre>\$ keyexchange admusr@&lt;NO1_Control_IP Address&gt;</pre> </div>	RMS: <a href="#">Jetta-A</a>	192.168.1.17	Jetta-NO-1	TPD (x86_64)	7.0.0.0-86.14.0	DSR	7.1.0.0-71.11.0			Guest: <a href="#">Jetta-NO-A</a>								
RMS: <a href="#">Jetta-A</a>	192.168.1.17	Jetta-NO-1	TPD (x86_64)	7.0.0.0-86.14.0	DSR	7.1.0.0-71.11.0														
Guest: <a href="#">Jetta-NO-A</a>																				

Procedure 42. Configure First SDS NOAM NE and Server

<p>3</p> <p><input type="checkbox"/></p>	<p><b>Connect a Web Browser to the NOAM GUI</b></p>	<p>Use SSH Tunneling through the PMAC to connect the laptop to the SDS NOAM server.</p> <p>If you are using tunneling, then you can skip the rest of this step and instead complete the instructions in <b>Appendix M: Accessing the NOAM GUI using SSH Tunneling with Putty</b> (for using Putty) <b>Appendix N: Accessing the NOAM GUI using SSH Tunneling with OpenSSH for Windows</b> (for OpenSSH). OpenSSH is recommended if you are using a Windows 7 PC.</p> <p>From the PMAC, enable the switch port that the laptop is plugged into.</p> <p>Enable that laptop Ethernet port to acquire a DHCP address and then access the NOAM-“A” GUI via its control IP address.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM GUI: Login</b></p>	<p>Login to the SDS NOAM GUI as the <i>guiadmin</i> user:</p> 

Procedure 42. Configure First SDS NOAM NE and Server

<p>5</p> <p>□</p>	<p><b>Create the SDS NOAM Network Element using the XML File</b></p>	<p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Network Elements</b></p>  <p>Select the <b>Browse</b> button, and enter the pathname of the SDS NOAM network XML file.</p> <p>Select the <b>Upload File</b> button to upload the XML file and configure the SDS NOAM Network Element.</p> <p>To create a new Network Element, upload a valid configuration file:</p> <p><input type="button" value="Browse..."/> No file selected. <input type="button" value="Upload File"/></p> <p><input type="button" value="Insert"/> <input type="button" value="Delete"/> <input type="button" value="Export"/> <input type="button" value="Report"/></p> <p>Once the data has been uploaded, you should see a folder appear with the name of your network element. Click on this folder and you will get a drop-down which describes the individual networks that are now configured:</p> <table border="1" data-bbox="467 1234 1117 1417"> <thead> <tr> <th colspan="5">Network Element</th> </tr> <tr> <td colspan="5">NO_9006005</td> </tr> <tr> <th>Network Name</th> <th>Network Address</th> <th>Netmask</th> <th>VLAN ID</th> <th>Gateway IP Address</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI</td> <td>10.240.10.32</td> <td>255.255.255.224</td> <td>3</td> <td>10.240.10.35</td> </tr> <tr> <td>INTERNALIMI</td> <td>10.240.10.0</td> <td>255.255.255.224</td> <td>4</td> <td>10.240.10.3</td> </tr> </tbody> </table>	Network Element					NO_9006005					Network Name	Network Address	Netmask	VLAN ID	Gateway IP Address	INTERNALXMI	10.240.10.32	255.255.255.224	3	10.240.10.35	INTERNALIMI	10.240.10.0	255.255.255.224	4	10.240.10.3
Network Element																											
NO_9006005																											
Network Name	Network Address	Netmask	VLAN ID	Gateway IP Address																							
INTERNALXMI	10.240.10.32	255.255.255.224	3	10.240.10.35																							
INTERNALIMI	10.240.10.0	255.255.255.224	4	10.240.10.3																							

Procedure 42. Configure First SDS NOAM NE and Server

6	<p><b>Map Services to Networks</b></p>	<p>Navigate to <b>Main Menu -&gt;Configuration-&gt; Services</b>.</p> <p>Select the <b>Edit</b> button and set the Services as shown in the table below:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 33%;">Name</th> <th style="width: 33%;">Intra-NE Network</th> <th style="width: 33%;">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> <tr> <td>Signaling</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>HA_Secondary</td> <td>&lt;IMI Network&gt;</td> <td>&lt;XMI Network&gt;</td> </tr> <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;XMI Network&gt;</td> </tr> <tr> <td>ComAgent</td> <td>&lt;IMI Network&gt;</td> <td>&lt;XMI Network&gt;</td> </tr> </tbody> </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 should config should look like the following:</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <p>Services</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;">Name</th> <th style="width: 25%;">Intra-NE Network</th> <th style="width: 30%;">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>INTERNALIMI ▾</td> <td>INTERNALXMI ▾</td> </tr> <tr> <td>HA_MP_Secondary</td> <td>INTERNALIMI ▾</td> <td>INTERNALXMI ▾</td> </tr> <tr> <td>Replication_MP</td> <td>INTERNALIMI ▾</td> <td>INTERNALXMI ▾</td> </tr> <tr> <td>ComAgent</td> <td>INTERNALIMI ▾</td> <td>INTERNALXMI ▾</td> </tr> </tbody> </table> <p style="text-align: right; margin-top: 5px;"> <input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p> </div> <p>Select the <b>Ok</b> button to apply the Service-to-Network selections.</p>	Name	Intra-NE Network	Inter-NE Network	OAM	<IMI Network>	<XMI Network>	Replication	<IMI Network>	<XMI Network>	Signaling	Unspecified	Unspecified	HA_Secondary	<IMI Network>	<XMI Network>	HA_MP_Secondary	<IMI Network>	<XMI Network>	Replication_MP	<IMI Network>	<XMI Network>	ComAgent	<IMI Network>	<XMI Network>	Name	Intra-NE Network	Inter-NE Network	OAM	INTERNALIMI ▾	INTERNALXMI ▾	Replication	INTERNALIMI ▾	INTERNALXMI ▾	Signaling	Unspecified ▾	Unspecified ▾	HA_Secondary	INTERNALIMI ▾	INTERNALXMI ▾	HA_MP_Secondary	INTERNALIMI ▾	INTERNALXMI ▾	Replication_MP	INTERNALIMI ▾	INTERNALXMI ▾	ComAgent	INTERNALIMI ▾	INTERNALXMI ▾
Name	Intra-NE Network	Inter-NE Network																																																
OAM	<IMI Network>	<XMI Network>																																																
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HA_MP_Secondary	<IMI Network>	<XMI Network>																																																
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Replication_MP	INTERNALIMI ▾	INTERNALXMI ▾																																																
ComAgent	INTERNALIMI ▾	INTERNALXMI ▾																																																

Procedure 42. Configure First SDS NOAM NE and Server

<p>7</p> <p><input type="checkbox"/></p>	<p><b>Insert the 1st SDS NOAM server</b></p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>Select the <b>Insert</b> button to insert the new SDS NOAM server into servers table (the first or server).</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>NO-Server1 *</td> <td>Unique name for the server. [Default string. Valid characters are alphanumeric and end with a period.]</td> </tr> <tr> <td>Role</td> <td>NETWORK.OAM&amp;P *</td> <td>Select the function of the server</td> </tr> <tr> <td>System ID</td> <td>NO-Server1</td> <td>System ID for the NOAMP or SOAMP. 64-character string. Valid value is alphanumeric and end with a period.</td> </tr> <tr> <td>Hardware Profile</td> <td>DSR.TVOE.Guest</td> <td>Hardware profile of the server</td> </tr> <tr> <td>Network Element Name</td> <td>NOAMMEMORYTEST *</td> <td>Select the network element</td> </tr> <tr> <td>Location</td> <td></td> <td>Location description [Default = ""]. Value is any text string.]</td> </tr> </tbody> </table> <p>Fill in the fields as follows:</p> <p><b>Hostname:</b> &lt;Hostname&gt;</p> <p><b>Role:</b> <b>NETWORK OAM&amp;P</b></p> <p><b>System ID:</b> &lt;Site System ID&gt;</p> <p><b>Hardware Profile:</b> <b>SDS TVOE Guest</b></p> <p><b>Network Element Name:</b> [Choose NE from Drop Down Box]</p> <p>The network interface fields will now become available with selection choices based on the chosen hardware profile and network element</p> <table border="1"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI (10.240.84.128/25)</td> <td>10.240.84.155</td> <td>xmi <input type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>INTERNALIMI (10.240.85.0/26)</td> <td>10.240.85.10</td> <td>imi <input type="checkbox"/> VLAN (4)</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p> <p>Fill in the server IP addresses for the XMI network. Select <b>xmi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Fill in the server IP addresses for the IMI network. Select <b>imi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Next, add the following NTP servers:</p> <table border="1"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;1st NOAM-TVOE-IP-Address&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>Select the <b>Ok</b> button when you have completed entering all the server data.</p>	Attribute	Value	Description	Hostname	NO-Server1 *	Unique name for the server. [Default string. Valid characters are alphanumeric and end with a period.]	Role	NETWORK.OAM&P *	Select the function of the server	System ID	NO-Server1	System ID for the NOAMP or SOAMP. 64-character string. Valid value is alphanumeric and end with a period.	Hardware Profile	DSR.TVOE.Guest	Hardware profile of the server	Network Element Name	NOAMMEMORYTEST *	Select the network element	Location		Location description [Default = ""]. Value is any text string.]	Interfaces:			Network	IP Address	Interface	INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)	INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)	NTP Server	Preferred?	<1st NOAM-TVOE-IP-Address>	Yes
Attribute	Value	Description																																					
Hostname	NO-Server1 *	Unique name for the server. [Default string. Valid characters are alphanumeric and end with a period.]																																					
Role	NETWORK.OAM&P *	Select the function of the server																																					
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INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)																																					
NTP Server	Preferred?																																						
<1st NOAM-TVOE-IP-Address>	Yes																																						
<p>8</p> <p><input type="checkbox"/></p>	<p><b>Export the Initial Configuration</b></p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>From the GUI screen, select the SDS NOAM server and then select <b>Export</b> to generate the initial configuration data for that server.</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>																																					

Procedure 42. Configure First SDS NOAM NE and Server

<p>9</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM iLO:</b> Copy Configuration File to 1<sup>st</sup> SDS NOAM Server</p>	<p>Obtain a terminal window to the 1<sup>st</sup> SDS NOAM server, logging in as the <b>admusr</b> user.</p> <p>(See <b>Appendix D: TVOE iLO/iLOM GUI Access</b> for instructions on how to access the SDS NOAM from iLO)</p> <p>Copy the configuration file created in the previous step from the <code>/var/TKLC/db/filemgmt</code> directory on the 1<sup>st</sup> SDS NOAM to the <code>/var/tmp</code> directory.</p> <p>The configuration file will have a filename like <code>TKLCConfigData.&lt;hostname&gt;.sh</code>. The following is an example:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cp /var/TKLC/db/filemgmt/TKLCConfigData.RMS01.sh /var/tmp/TKLCConfigData.sh</pre>
<p>10</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM iLO:</b> Wait for Configuration to Complete</p>	<p>The automatic configuration daemon will look for the file named <b>“TKLCConfigData.sh”</b> in the <code>/var/tmp</code> directory, implement the configuration in the file, and then prompt 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 will be 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>
<p>11</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM iLO:</b> Set the Time zone and Reboot the Server</p>	<p>From the command line prompt, execute <b>set_ini_tz.pl</b>. This will set the system time zone. The following command example uses the <code>America/New_York</code> time zone.</p> <p>Replace as appropriate with the time zone you have selected for this installation. For a full list of valid time zones, see <b>Appendix J: List of Frequently used Time Zones</b>.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/appworks/bin/set_ini_tz.pl "America/New_York" &gt;/dev/null 2&gt;&amp;1</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre>

Procedure 42. Configure First SDS NOAM NE and Server

<p>12</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS NOAM:</b> Configure Networking for Dedicated NetBackup Interface (Optional)</p>	<p><b>Note:</b> You will only execute this step if your SDS NOAM is using a dedicated Ethernet interface for NetBackup.</p> <p>Obtain a terminal window to the 1<sup>st</sup> SDS NOAM server, logging in as the <i>admusr</i> 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;</pre> <pre>\$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=NetBackup --address=&lt;NO1_NetBackup_Network_ID&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; --gateway=&lt;NO1_NetBackup_Gateway_IP_Address&gt;</pre>
<p>13</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS NOAM Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre>\$ sudo tuned-adm profile virtual-guest \$ sudo service_conf add tuned rc runlevels=345 \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre>\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>
<p>14</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS NOAM Server:</b> Verify Server Health</p>	<p>Execute the following command on the 1<sup>st</sup> SDS NOAM server and make sure that no errors are returned:</p> <pre>\$ sudo syscheck</pre> <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</pre>

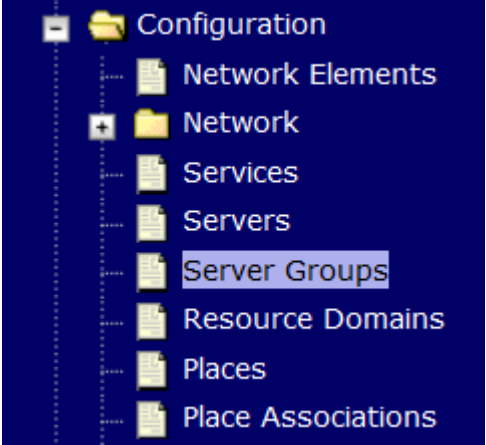




**Procedure 43. Configure the SDS NOAM Server Group**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure the SDS NOAM server group.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>SDS NOAM GUI: Login</b></p>	<p>Establish a GUI session on the first SDS NOAM server by using the XMI IP address of the first SDS NOAM server. Open the web browser and enter a URL of:</p> <div data-bbox="456 583 1312 625" style="border: 1px solid black; padding: 2px;"> <p><code>https://&lt;SDS_NO1_XMI_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="444 709 1438 1312" style="text-align: center;">  </div>

Procedure 43. Configure the SDS NOAM Server Group

2 <input type="checkbox"/>	<b>SDS NOAM</b> <b>GUI:</b> Enter NOAM Server Group Data	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Select <b>Insert</b> and fill the following fields:</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <ul style="list-style-type: none"><li>• <b>Server Group Name:</b> &lt;Enter Server Group Name&gt;</li><li>• <b>Level:</b> <b>A</b></li><li>• <b>Parent :</b> <b>None</b></li><li>• <b>Function:</b> <b>SDS</b></li><li>• <b>WAN Replication Connection Count:</b> <b>Use Default Value</b></li></ul> <p>Select <b>OK</b> when all fields are filled in.</p>
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Procedure 43. Configure the SDS NOAM Server Group

3 <input type="checkbox"/>	<b>SDS NOAM</b> <b>GUI:</b> Edit the SDS NOAM Server Group	<p>From the GUI <b>Main Menu -&gt; Configuration -&gt; Server Groups.</b></p> <p>Select the new server group, and then select <b>Edit</b></p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Select the Network Element that represents the SDS NOAM.</p> <table border="1" data-bbox="467 579 1263 709"><tr><td colspan="3">NO_900060103</td></tr><tr><th>Server</th><th>SG Inclusion</th><th>Preferred HA Role</th></tr><tr><td>HPC6NO</td><td><input checked="" type="checkbox"/> Include in SG</td><td><input type="checkbox"/> Preferred Spare</td></tr></table> <p>In the portion of the screen that lists the servers for the server group, find the SDS NOAM server being configured.</p> <p>Click the <b>Include in SG</b> checkbox.</p> <p>Leave other boxes blank.</p> <p>Press <b>OK</b></p>	NO_900060103			Server	SG Inclusion	Preferred HA Role	HPC6NO	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
NO_900060103											
Server	SG Inclusion	Preferred HA Role									
HPC6NO	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare									

Procedure 43. Configure the SDS NOAM Server Group

4 **SDS NOAM:**  
Verify SDS  
NOAM server  
role

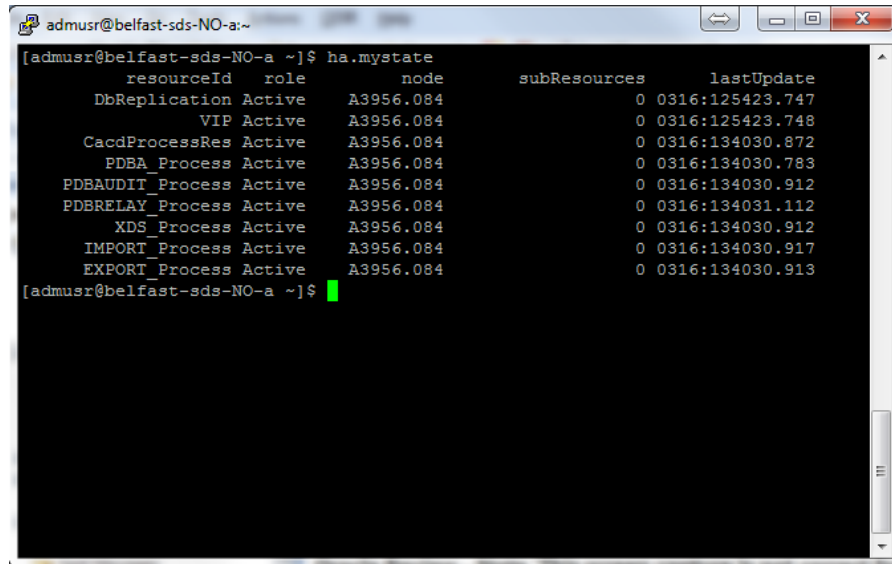
From terminal window to the iLO of the first SDS NOAM server, execute the following command:

```
$ha.mystate
```

Verify that the **DbReplication** and **VIP** item under the **resourceId** column has a value of **Active** under the **role** column.

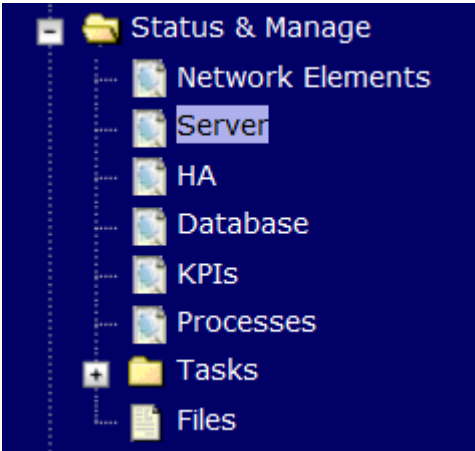
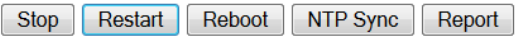
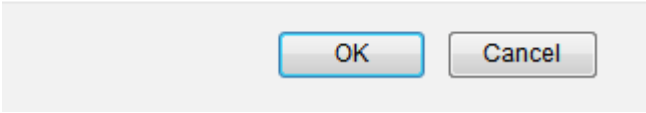
You might have to wait a few minutes for it to become in that state.

Example:

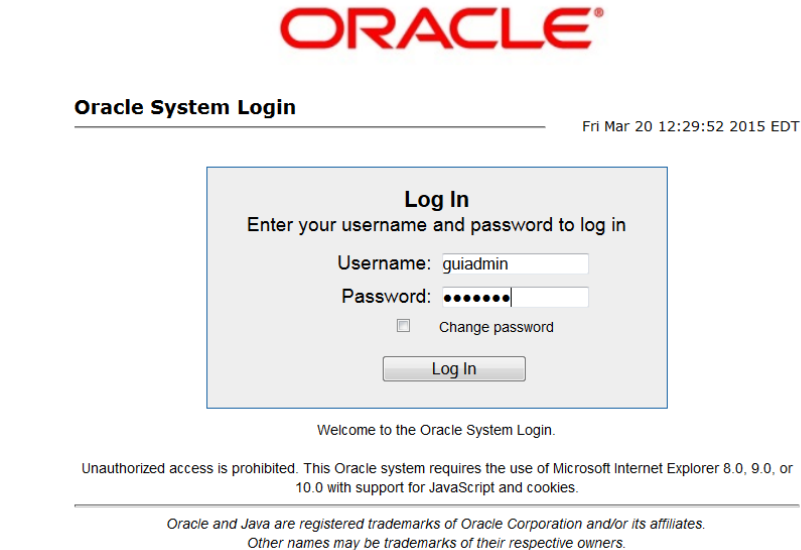


```
[admusr@belfast-sds-NO-a ~]$ ha.mystate
resourceId  role      node      subResources  lastUpdate
DbReplication Active    A3956.084  0 0316:125423.747
VIP Active  A3956.084  0 0316:125423.748
CacdProcessRes Active    A3956.084  0 0316:134030.872
PDBA_Process Active    A3956.084  0 0316:134030.783
PDBAUDIT_Process Active    A3956.084  0 0316:134030.912
PDBRELAY_Process Active    A3956.084  0 0316:134031.112
XDS_Process Active    A3956.084  0 0316:134030.912
IMPORT_Process Active    A3956.084  0 0316:134030.917
EXPORT_Process Active    A3956.084  0 0316:134030.913
[admusr@belfast-sds-NO-a ~]$
```

Procedure 43. Configure the SDS NOAM Server Group

5 <input type="checkbox"/>	<b>SDS NOAM GUI:</b> Restart 1 <sup>st</sup> SDS NOAM Server	<p>From the SDS NOAM GUI, select the <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b> menu.</p>  <p>Select the first SDS NOAM server. Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup.</p>  <p>Wait for restart to complete.</p>
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**Procedure 44. Configure the Second SDS NOAM Server**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure the Second SDS NOAM 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>Exchange SSH keys between PMAC and Second NOAM server</b></p>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the second SDS NOAM server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p> <p>Note the IP address for the Second SDS NOAM server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the 2<sup>nd</sup> SDS NOAM server using the keyexchange utility, using the Control network IP address for the SDS NOAM server. When prompted for the password, enter the password for the <b>admusr</b> user of the SDS NOAM server.</p> <div data-bbox="456 835 1219 905" style="border: 1px solid black; padding: 5px;"> <pre>\$ keyexchange admusr@&lt;SDS_NO2_Control_IP Address&gt;</pre> </div> <p><b>Note:</b> if keyexchange fails, <b>edit /home/admusr/.ssh/known_hosts</b> and remove blank lines, and retry the keyexchange commands.</p>
<p>2 <input type="checkbox"/></p>	<p><b>SDS NOAM GUI: Login</b></p>	<p>If not already done, establish a GUI session on the first SDS NOAM server by using the XMI IP address of the first SDS NOAM server. Open the web browser and enter a URL of:</p> <div data-bbox="456 1104 1219 1142" style="border: 1px solid black; padding: 5px;"> <pre>https://&lt;SDS_NO1_XMI_IP_Address&gt;</pre> </div> <p>Login to the SDS NOAM GUI as the <b>guiadmin</b> user:</p> <div data-bbox="456 1262 1252 1808" style="text-align: center;">  </div>

Procedure 44. Configure the Second SDS NOAM Server

<p>3</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM GUI:</b> Insert the 2<sup>nd</sup> SDS NOAM server</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>Select the <b>Insert</b> button to insert the 2<sup>nd</sup> SDS NOAM server into servers table (the first or server).</p> <p>Adding a new server</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>NO-Server2 *</td> </tr> <tr> <td>Role</td> <td>NETWORK OAM&amp;P *</td> </tr> <tr> <td>System ID</td> <td>NO-Server2</td> </tr> <tr> <td>Hardware Profile</td> <td>DSR TVOE Guest</td> </tr> <tr> <td>Network Element Name</td> <td>JETTA *</td> </tr> <tr> <td>Location</td> <td></td> </tr> </tbody> </table> <p>Fill in the fields as follows:</p> <p><b>Hostname:</b> &lt;Hostname&gt;</p> <p><b>Role:</b> NETWORK OAM&amp;P</p> <p><b>System ID:</b> &lt;Site System ID&gt;</p> <p><b>Hardware Profile:</b> SDS TVOE Guest</p> <p><b>Network Element Name:</b> [Choose NE from Drop Down Box]</p> <p>The network interface fields will now become available with selection choices based on the chosen hardware profile and network element</p> <table border="1"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI (10.240.84.128/25)</td> <td>10.240.84.155</td> <td>xmi <input type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>INTERNALIMI (10.240.85.0/26)</td> <td>10.240.85.10</td> <td>imi <input type="checkbox"/> VLAN (4)</td> </tr> </tbody> </table> <p style="text-align: center;"> <input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p> <p>Fill in the server IP addresses for the XMI network. Select <b>xmi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Fill in the server IP addresses for the IMI network. Select <b>imi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Next, add the following NTP servers:</p> <table border="1"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;2nd NOAM-TVOE-IP-Address&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>Select the <b>Ok</b> button when you have completed entering all the server data.</p>	Attribute	Value	Hostname	NO-Server2 *	Role	NETWORK OAM&P *	System ID	NO-Server2	Hardware Profile	DSR TVOE Guest	Network Element Name	JETTA *	Location		Interfaces:			Network	IP Address	Interface	INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)	INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)	NTP Server	Preferred?	<2nd NOAM-TVOE-IP-Address>	Yes
Attribute	Value																															
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System ID	NO-Server2																															
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Network Element Name	JETTA *																															
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NTP Server	Preferred?																															
<2nd NOAM-TVOE-IP-Address>	Yes																															
<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM GUI:</b> Export the Initial Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>From the GUI screen, select the SDS NOAM server and then select <b>Export</b> to generate the initial configuration data for that server.</p> <p style="text-align: center;"> <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>																														



Procedure 44. Configure the Second SDS NOAM Server

<p>5</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS NOAM Server:</b> Copy Configuration File to 2<sup>nd</sup> SDS NOAM Server</p>	<p>Obtain a terminal session to the 1<sup>st</sup> SDS NOAM as the <b>admusr</b> user.</p> <p>Use the <b>awpushcfg</b> utility to copy the configuration file created in the previous step from the /var/TKLC/db/filemgmt directory on the 1<sup>st</sup> SDS NOAM to the 2<sup>nd</sup> SDS NOAM server, using the Control network IP address for the 2<sup>nd</sup> SDS NOAM server.</p> <p>The configuration file will have a filename like “TKLCConfigData.&lt;hostname&gt;.sh”.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user will be prompted for the following:</p> <ul style="list-style-type: none"> <li>• IP address of the local PMAC server: Use the local control 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 2nd SDS NOAM server).</li> <li>• Hostname of the target server: Enter the server name configured in <b>step 3</b></li> </ul>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Verify awpushcfg was called and Reboot the Server</p>	<p>Obtain a terminal window connection on the 2<sup>nd</sup> SDS NOAM.</p> <p>SSH from the 1<sup>st</sup> SDS NOAM to the 2<sup>nd</sup> SDS NOAM server by executing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ ssh admusr@&lt;NO2 Control IP Address&gt;</pre> <p>Login as the <b>admusr</b> user.</p> <p>The automatic configuration daemon will look for the file named “<b>TKLCConfigData.sh</b>” in the /var/tmp directory, implement the configuration in the file, and then prompt the user to reboot the server.</p> <p>Verify awpushcfg was called by checking the following file</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre style="border: 1px solid black; padding: 5px;">[SUCCESS] script completed successfully!</pre> <p>Now Reboot the Server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre> <p>Wait for the server to reboot</p>

Procedure 44. Configure the Second SDS NOAM Server

<p>7</p> <p><input type="checkbox"/></p>	<p><b>2<sup>nd</sup> SDS NOAM Server:</b> Establish an SSH session and Login</p>	<p>Obtain a terminal window to the 2<sup>nd</sup> SDS NOAM server, logging in as the <i>admusr</i> user.</p>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>2<sup>nd</sup> SDS NOAM Server:</b> Configure Networking for Dedicated NetBackup Interface (Optional)</p>	<p><b>Note:</b> You will only execute this step if your SDS NOAM is using a dedicated Ethernet interface for NetBackup.</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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;</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=NetBackup --address=&lt;NO1_NetBackup_Network_ID&gt; --netmask=&lt;NO2_NetBackup_NetMask&gt; --gateway=&lt;NO2_NetBackup_Gateway_IP_Address&gt;</pre>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>2<sup>nd</sup> SDS NOAM Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p style="text-align: center;"><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm profile virtual-guest \$ sudo service_conf add tuned rc runlevels=345 \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>

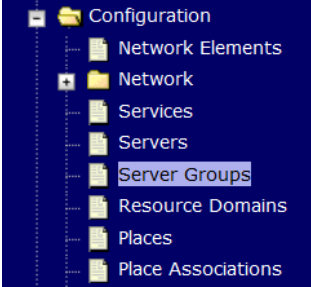
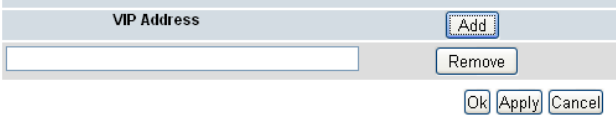
**Procedure 44. Configure the Second SDS NOAM Server**

10 <input type="checkbox"/>	<b>2<sup>nd</sup> SDS NOAM Server:</b> Verify Server Health	Execute the following command on the 2 <sup>nd</sup> SDS NOAM server and make sure that no errors are returned:  <pre data-bbox="456 338 1386 604">\$ 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>
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**Procedure 45. Complete SDS NOAM Server Group Configuration**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to finish configuring the SDS NOAM server group.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM GUI: Login</b></p>	<p>Establish a GUI session on the first SDS NOAM server by using the XMI IP address of the first SDS NOAM server. Open the web browser and enter a URL of:</p> <div data-bbox="456 583 1312 625" style="border: 1px solid black; padding: 2px;"> <p><code>https://&lt;SDS_NO1_XMI_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="444 709 1442 1339" style="text-align: center;">  </div>

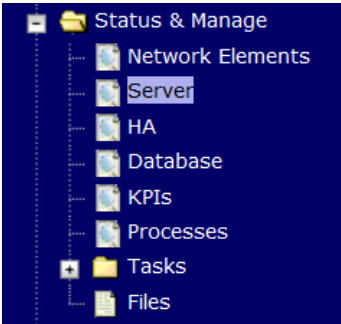
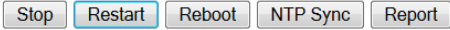
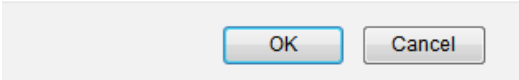
Procedure 45. Complete SDS NOAM Server Group Configuration

<p>2</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM GUI:</b> Edit the SDS NOAM Server Group Data</p>	<p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Server Groups.</b></p>  <p>Select the SDS NOAM Server group and click on <b>Edit</b></p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Add the 2<sup>nd</sup> SDS NOAM server to the Server Group by clicking the <b><i>Include in SG</i></b> checkbox for the 2<sup>nd</sup> SDS NOAM server.</p> <table border="1" data-bbox="456 884 1164 1043"> <thead> <tr> <th colspan="3">RMSNO_900060102</th> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>RMSNOA</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>RMSNOB</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>Click <b>Apply</b>.</p> <p>Add a SDS NOAM VIP by click on <b>Add</b>. Fill in the VIP Address and press <b>Ok</b> as shown below</p> 	RMSNO_900060102			Server	SG Inclusion	Preferred HA Role	RMSNOA	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	RMSNOB	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
RMSNO_900060102														
Server	SG Inclusion	Preferred HA Role												
RMSNOA	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												
RMSNOB	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												

**Procedure 45. Complete SDS NOAM Server Group Configuration**

<p>3</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP: Establish GUI Session</b></p>	<p>Establish a GUI session on the SDS NOAM by using the XMI VIP address:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><b>https://&lt;SDS_NOAM_VIP_IP_Address&gt;</b></p> </div> <p>Login as user <b>guiadmin</b>.</p> 																																													
<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP: Wait for Remote Database Alarm to Clear</b></p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> <div style="text-align: right;">Fri Mar 20</div> <div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> <p>Filter <span style="float: right;">Tasks</span></p> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td style="color: green;">CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td></td> <td></td> <td colspan="4">Cleared because DB Re-Init Completed</td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td style="color: yellow;">MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td></td> <td></td> <td colspan="4">Remote Database re-initialization in progress</td> </tr> </tbody> </table>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type	414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress			Cleared because DB Re-Init Completed				413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress			Remote Database re-initialization in progress			
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		Remote Database re-initialization in progress			Remote Database re-initialization in progress																																										

Procedure 45. Complete SDS NOAM Server Group Configuration

5 <input type="checkbox"/>	<b>SDS NOAM GUI: Restart 2<sup>nd</sup> SDS NOAM Server</b>	<p>From the NOAM GUI, select the <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b> menu.</p>  <p>Select the 2<sup>nd</sup> SDS NOAM server. Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup.</p>  <p>Wait for restart to complete. Wait approximately 3-5 minutes before proceeding.</p>
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## 4.16.2 SDS Configuration: NetBackup Client Installation (Optional)

### Procedure 46. Install NetBackup Client (Optional)

<b>S T E P #</b>	<p>This procedure will download and install 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Install NetBackup Client Software</b>	<p>If a customer has a way of transferring and installing the NetBackup client without the aid of TPD tools (push configuration) then use <b>Appendix I.2: NETBACKUP CLIENT INSTALL/UPGRADE WITH NBAUTOINSTALL</b></p> <p><b>Note:</b> This is not common. If the answer to the previous question is not known then use <b>Appendix I.1: NetBackup Client Install using PLATCFG</b></p>
2 <input type="checkbox"/>	<b>Install NetBackup Client Software</b>	<p>Choose the same method used in step 1 to install NetBackup on the 2<sup>nd</sup> SDS NOAM.</p>



### 4.16.3 SDS Configuration: Disaster Recovery SDS NOAM (Optional)

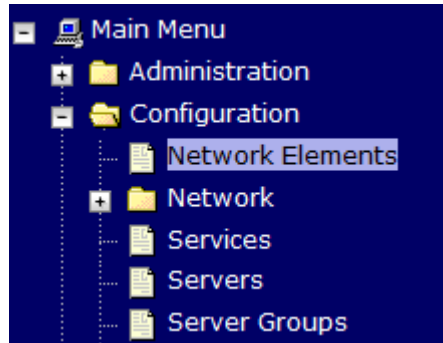
#### Procedure 47. SDS NOAM Configuration for DR Site (Optional)

<b>S T E P #</b>	<p>This procedure will provide the steps to configure the First SDS DR NOAM 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>PRIMARY SDS NOAM VIP GUI:</b> Login</p>	<p>Establish a GUI session on the SDS 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><code>https://&lt;SDS_NOAM_XMI_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>

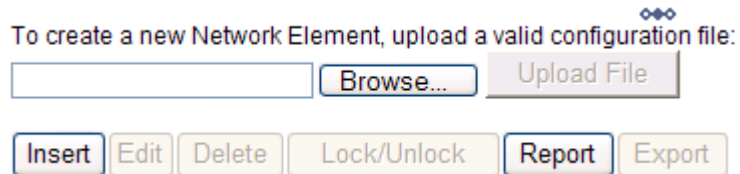
Procedure 47. SDS NOAM Configuration for DR Site (Optional)

2  
 **PRIMARY SDS NOAM VIP GUI:**  
 Insert the SDS DR NOAM Network Element

Navigate to **Main Menu->Configuration->Network Elements**

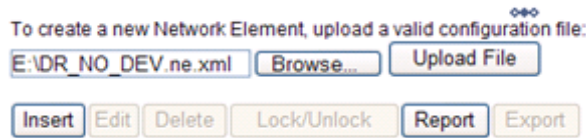


The **Network Elements** screen will display select the **Browse** (scroll to bottom left corner of screen).



A dialogue will pop up, browse to the location of the SDS DR NOAM Site Element XML File and click the **Open** button.

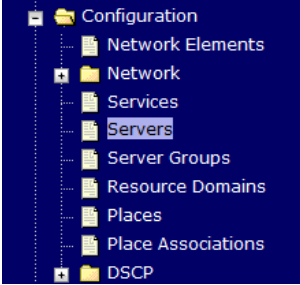
Then click **Upload File** as shown below





Once the data has been uploaded, you should see a folder appear with the name of your network element. Click on this folder and you will get a drop-down which describes the individual networks that are now configured:

Network Element				
NO_9006005				
Network Name	Network Address	Netmask	VLAN ID	Gateway IP Address
INTERNALXMI	10.240.10.32	255.255.255.224	3	10.240.10.35
INTERNALIMI	10.240.10.0	255.255.255.224	4	10.240.10.3

Procedure 47. SDS NOAM Configuration for DR Site (Optional)

3	<p><b>PRIMARY SDS NOAM VIP GUI:</b> Insert the 1st SDS DR-NOAM server</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p>  <p>Select the <b>Insert</b> button to insert the new SDS DR-NOAM server into servers table.</p> <p><b>Adding a new server</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Attribute</th> <th style="text-align: left;">Value</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>DR-NOAM-A *</td> </tr> <tr> <td>Role</td> <td>NETWORK OAM&amp;P *</td> </tr> <tr> <td>System ID</td> <td>DR-NOAM-A</td> </tr> <tr> <td>Hardware Profile</td> <td>DSR TVOE Guest</td> </tr> <tr> <td>Network Element Name</td> <td>- Unassigned - *</td> </tr> <tr> <td>Location</td> <td></td> </tr> </tbody> </table> <p>Fill in the fields as follows:</p> <p><b>Hostname:</b> &lt;Hostname&gt;</p> <p><b>Role:</b> NETWORK OAM&amp;P</p> <p><b>System ID:</b> &lt;Site System ID&gt;</p> <p><b>Hardware Profile:</b> SDS TVOE Guest</p> <p><b>Network Element Name:</b> [Choose NE from Drop Down Box]</p> <p>The network interface fields will now become available with selection choices based on the chosen hardware profile and network element</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI (10.240.84.128/25)</td> <td>10.240.84.155</td> <td>xmi <input type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>INTERNALIMI (10.240.85.0/26)</td> <td>10.240.85.10</td> <td>imi <input type="checkbox"/> VLAN (4)</td> </tr> </tbody> </table> <p style="text-align: center;">Ok Apply Cancel</p> <p>Fill in the server IP addresses for the XMI network. Select <b>xmi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Fill in the server IP addresses for the IMI network. Select <b>imi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Next, add the following NTP servers:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;1st SDS-DR-NOAM-RMS-TVOE-IP-Address&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>Select the <b>Ok</b> button when you have completed entering all the server data.</p>	Attribute	Value	Hostname	DR-NOAM-A *	Role	NETWORK OAM&P *	System ID	DR-NOAM-A	Hardware Profile	DSR TVOE Guest	Network Element Name	- Unassigned - *	Location		Interfaces:			Network	IP Address	Interface	INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)	INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)	NTP Server	Preferred?	<1st SDS-DR-NOAM-RMS-TVOE-IP-Address>	Yes
Attribute	Value																															
Hostname	DR-NOAM-A *																															
Role	NETWORK OAM&P *																															
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Network Element Name	- Unassigned - *																															
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NTP Server	Preferred?																															
<1st SDS-DR-NOAM-RMS-TVOE-IP-Address>	Yes																															

Procedure 47. SDS NOAM Configuration for DR Site (Optional)

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PRIMARY SDS NOAM VIP GUI:</b> Export the Initial Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>From the GUI screen, select the SDS DR-NOAM server and then select <b>Export</b> to generate the initial configuration data for that server.</p> <div style="text-align: center;">  </div>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Exchange SSH keys between PMAC and SDS DR-NOAM server</p>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the first SDS NOAM server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory.</b></p> <div style="text-align: center;">  </div> <p>Note the IP address for the first SDS DR-NOAM server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the 1<sup>st</sup> SDS DR-NOAM server using the keyexchange utility, using the Control network IP address for the SDS NOAM server. When prompted for the password, enter the password for the <b>admusr</b> user of the SDS NOAM server.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre>\$ keyexchange admusr@&lt;DR-NO1_Control_IP Address&gt;</pre> </div>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP:</b> Exchange SSH keys between SDS NOAM and PMAC at the SDS DR site.</p>	<p>From a terminal window connection on the SDS NOAMP VIP as the <b>admusr</b>.</p> <p>Exchange SSH keys for admusr between the SDS NOAM and the SDS DR NO's PMAC using the keyexchange utility.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre>\$ keyexchange admusr@&lt;DR-NO1_Site_PMAC_Mgmt_IP Address&gt;</pre> </div> <p>When prompted for the password, enter the appropriate password for <b>admusr</b> on the PMAC server.</p>

Procedure 47. SDS NOAM Configuration for DR Site (Optional)

<p>7</p> <p><input type="checkbox"/></p>	<p><b>Primary SDS NOAM:</b> Copy Configuration File to 1<sup>st</sup> SDS DR-NOAM Server</p>	<p>Obtain a terminal session to the primary SDS NOAM as the <b>admusr</b> user.</p> <p>Use the <b>awpushcfg</b> utility to copy the configuration file created in the previous step from the /var/TKLC/db/filemgmt directory on the primary SDS NOAM to the 1<sup>st</sup> SDS DR-NOAM server, using the Control network IP address for the SDS DR-NOAM server.</p> <p>The configuration file will have a filename like “TKLCConfigData.&lt;Hostname&gt;.sh”.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user will be prompted for the following:</p> <ul style="list-style-type: none"> <li>• IP address of the local PMAC server: Use the local control 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> SDS DR-NOAM server).</li> <li>• Hostname of the target server: Enter the server name configured in <b>step 3</b></li> </ul>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DR-NOAM Server:</b> Verify awpushcfg was called and Reboot the Server</p>	<p>Obtain a terminal window connection on the 1<sup>st</sup> SDS DR-NOAM iLO from the OA. (Use the procedure in <b>Appendix D: TVOE iLO/iLOM GUI Access</b>).</p> <p>Login as the <b>admusr</b> user.</p> <p>The automatic configuration daemon will look for the file named “<b>TKLCConfigData.sh</b>” in the /var/tmp directory, implement the configuration in the file, and then prompt the user to reboot the server.</p> <p>Verify awpushcfg was called by checking the following file</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre style="border: 1px solid black; padding: 5px;">[SUCCESS] script completed successfully!</pre> <p>Now Reboot the Server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre> <p>Wait for the server to reboot</p>

Procedure 47. SDS NOAM Configuration for DR Site (Optional)

<p>9</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DR-NOAM:</b> Configure Networking for Dedicated NetBackup Interface (Optional)</p>	<p><b>Note:</b> You will only execute this step if your SDS DR-NOAM is using a dedicated Ethernet interface for NetBackup.</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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;</pre> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=NetBackup --address=&lt;NO1_NetBackup_Network_ID&gt; --netmask=&lt;NO1_NetBackup_NetMask&gt; --gateway=&lt;NO1_NetBackup_Gateway_IP_Address&gt;</pre>
<p>10</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DR-NOAM:</b> Establish an SSH session and Login</p>	<p>Obtain a terminal window to the 1<sup>st</sup> SDS DR-NOAM server, logging in as the <i>admusr</i> user.</p>
<p>11</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DR-NOAM Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p style="text-align: center;"><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm profile virtual-guest  \$ sudo service_conf add tuned rc runlevels=345  \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>

**Procedure 47. SDS NOAM Configuration for DR Site (Optional)**

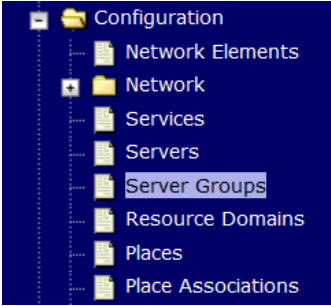
<p>12</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DR-NOAM Server: Verify Server Health</b></p>	<p>Execute the following command on the 1<sup>st</sup> SDS DR-NOAM server and make sure that no errors are returned:</p> <pre style="border: 1px solid black; padding: 5px;"> \$ sudo syscheck 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>13</p> <p><input type="checkbox"/></p>	<p><b>Repeat for 2<sup>nd</sup> SDS DR NOAM Server</b></p>	<p>Repeat <b>Steps 3 through 12</b> to configure 2<sup>nd</sup> SDS DR-NOAM Server. When inserting the 2<sup>nd</sup> SDS DR-NOAM server, change the NTP server address to the following:</p> <table border="1" data-bbox="479 758 1352 858"> <thead> <tr> <th data-bbox="479 758 906 798">NTP Server</th> <th data-bbox="906 758 1352 798">Preferred?</th> </tr> </thead> <tbody> <tr> <td data-bbox="479 798 906 858">&lt;2nd SDS DR-NOAM-RMS-TVOE-IP-Address&gt;</td> <td data-bbox="906 798 1352 858">Yes</td> </tr> </tbody> </table>	NTP Server	Preferred?	<2nd SDS DR-NOAM-RMS-TVOE-IP-Address>	Yes
NTP Server	Preferred?					
<2nd SDS DR-NOAM-RMS-TVOE-IP-Address>	Yes					

**Procedure 48. Pairing for SDS DR-NOAM Site (Optional)**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to pair the SDS DR-NOAM site.</p> <p><b>Prerequisite:</b> Installation for SDS 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1 <input type="checkbox"/></p>	<p><b>Primary SDS NOAM VIP GUI: Login</b></p> <p>Establish a GUI session on the primary SDS NOAM server by using the VIP IP address of the primary SDS NOAM server. Open the web browser and enter a URL of:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><code>https://&lt;Primary_SDS_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center; margin: 20px 0;">  </div> <div style="text-align: center;"> <p><b>Oracle System Login</b> <span style="float: right;">Fri Mar 20 12:29:52 2015 EDT</span></p> <hr style="width: 50%; margin: 0 auto;"/> </div> <div style="text-align: center; border: 1px solid gray; padding: 10px; width: fit-content; margin: 10px auto;"> <p><b>Log In</b> Enter your username and password to log in</p> <p>Username: <input type="text" value="guiadmin"/></p> <p>Password: <input type="password" value="••••••"/></p> <p><input type="checkbox"/> Change password</p> <p><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;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 50%; margin: 0 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>



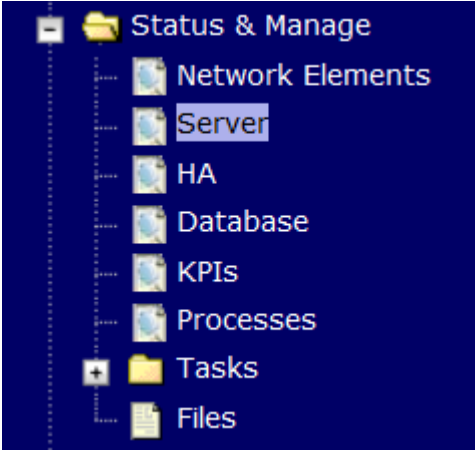
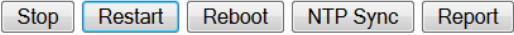
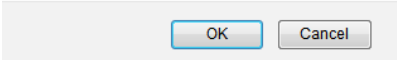
Procedure 48. Pairing for SDS DR-NOAM Site (Optional)

<p>2</p> <p><input type="checkbox"/></p>	<p><b>Primary SDS NOAM VIP</b>  <b>GUI:</b> Enter SDS DR-NOAM Server Group Data</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Select <b>Insert</b> and fill the following fields:</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <ul style="list-style-type: none"> <li>• <b>Server Group Name:</b> &lt;Enter Server Group Name&gt;</li> <li>• <b>Level:</b> <b>A</b></li> <li>• <b>Parent :</b> <b>None</b></li> <li>• <b>Function:</b> <b>SDS</b></li> <li>• <b>WAN Replication Connection Count:</b> <b>Use Default Value</b></li> </ul> <p>Select <b>OK</b> when all fields are filled in.</p>												
<p>3</p> <p><input type="checkbox"/></p>	<p><b>Primary SDS NOAM VIP</b>  <b>GUI:</b> Update Server Group</p>	<p>Select the <b>Server Group</b> that was created in the previous step, and click on <b>Edit</b>.</p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>The user will be presented with the <b>Server Groups [Edit]</b> screen</p> <p>Check the checkbox labeled <b>Include in SG</b> for <b>both</b> SDS DR-NOAM Servers as shown below and click on <b>Apply</b></p> <table border="1" data-bbox="456 1346 1287 1560"> <thead> <tr> <th colspan="3">deaDR_CSLAB_ATT</th> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>deaNO- ChaNC-A</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>deaNO- ChaNC-B</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table>	deaDR_CSLAB_ATT			Server	SG Inclusion	Preferred HA Role	deaNO- ChaNC-A	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	deaNO- ChaNC-B	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
deaDR_CSLAB_ATT														
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deaNO- ChaNC-B	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare												

**Procedure 48. Pairing for SDS DR-NOAM Site (Optional)**

<p>4</p> <p><input type="checkbox"/></p>	<p><b>Primary SDS NOAM VIP</b>  <b>GUI:</b> Add SDS DR- NOAM VIP</p>	<p>Click the <b>Add</b> dialogue button for the VIP Address and enter an IP Address for the VIP as shown below</p> <div data-bbox="457 327 1304 457" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>VIP Address</b> <span style="float: right;">Add</span></p> <p>10.250.55.163 <span style="float: right;">Remove</span></p> </div> <p>Then click the <b>OK</b> dialogue button. Verify that the banner information message states <b>Data committed</b>.</p> <div data-bbox="810 560 1086 606" style="text-align: center;"> <p>Ok Apply Cancel</p> </div>																																																						
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Primary SDS NOAM VIP</b>  <b>GUI:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> <div data-bbox="457 806 1390 1037" style="border: 1px solid gray; padding: 5px;"> <p style="text-align: right;">Fri Mar 20</p> <p>Filter Tasks</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2">Event Text</td> <td colspan="6">Additional Info</td> </tr> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td>CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td colspan="2">Remote Database re-initialization in progress</td> <td colspan="6">Cleared because DB Re-Init Completed</td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td>MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td colspan="2">Remote Database re-initialization in progress</td> <td colspan="6">Remote Database re-initialization in progress</td> </tr> </tbody> </table> </div>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type		Event Text		Additional Info						414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG		Remote Database re-initialization in progress		Cleared because DB Re-Init Completed						413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG		Remote Database re-initialization in progress		Remote Database re-initialization in progress					
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	Remote Database re-initialization in progress		Remote Database re-initialization in progress																																																					

**Procedure 48. Pairing for SDS DR-NOAM Site (Optional)**

<p>6</p> <p><input type="checkbox"/></p>	<p><b>Primary SDS NOAM VIP</b>  <b>GUI:</b> Restart 1<sup>st</sup> SDS DR-NOAM Server</p>	<p>From the SDS NOAM GUI, select the <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b> menu.</p>  <p>Select the 1<sup>st</sup> SDS DR-NOAM server. Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup.</p> <p>Are you sure you wish to restart application software on the following server(s)?          Jetta-NO-2</p>  <p>Wait for restart to complete. Wait approximately 3-5 minutes before proceeding.</p>
<p>7</p> <p><input type="checkbox"/></p>	<p><b>Primary SDS NOAM VIP</b>  <b>GUI :</b>Restart the application on the 2<sup>nd</sup> DR-NOAM Server</p>	<p>Repeat <b>Step 6</b>, this time select the 2<sup>nd</sup> SDS DR-NOAM Server.</p>


### 4.16.3 SDS Configuration: Query Servers

The user should be aware that during the Query Server installation procedure, various errors may be seen at different stages of the procedure. During the execution of a step, the user is directed to ignore errors related to values other than the ones referenced by that step.

#### Procedure 49. Configuring SDS Query Servers

<b>S T E P #</b>	<p>This procedure will provide the steps to configure SDS query 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>															
1 <input type="checkbox"/>	<p><b>Exchange SSH keys between SOAM site's local PMAC and the Query Server</b></p>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the query server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">RMS: <a href="#">Yukon-TVQE-10</a></td> <td style="text-align: center; border: 2px solid red;">192.168.1.98</td> <td style="font-size: small;">MultiApp3-QS</td> <td style="font-size: small;">TPD (x86_64)</td> <td style="font-size: small;">7.0.2.0.0-86.32.0</td> <td style="font-size: small;">SDS</td> <td style="font-size: small;">7.1.0.0.0-71.11.0</td> </tr> <tr> <td style="font-size: small;">Guest: <a href="#">MultiApp3-QS</a></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Note the IP address for the Query Server server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the query server using the keyexchange utility, using the Control network IP address for the query server. When prompted for the password, enter the password for the <b>admusr</b> user of the NOAM server.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>\$ keyexchange admusr@&lt;Query_Server_Control_IP Address&gt;</pre> </div>	RMS: <a href="#">Yukon-TVQE-10</a>	192.168.1.98	MultiApp3-QS	TPD (x86_64)	7.0.2.0.0-86.32.0	SDS	7.1.0.0.0-71.11.0	Guest: <a href="#">MultiApp3-QS</a>						
RMS: <a href="#">Yukon-TVQE-10</a>	192.168.1.98	MultiApp3-QS	TPD (x86_64)	7.0.2.0.0-86.32.0	SDS	7.1.0.0.0-71.11.0										
Guest: <a href="#">MultiApp3-QS</a>																

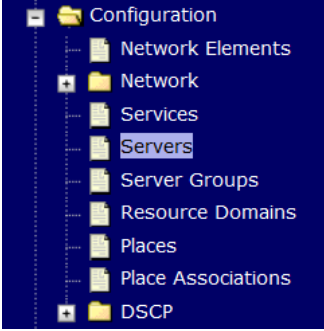
Procedure 49. Configuring SDS Query Servers

2 <input type="checkbox"/>	<b>Primary SDS NOAM VIP GUI: Login</b>	<p>Establish a GUI session on the primary SDS NOAM server by using the VIP IP address of the primary SDS NOAM server. Open the web browser and enter a URL of:</p> <div data-bbox="456 396 1312 436" style="border: 1px solid black; padding: 2px;"><code>https://&lt;Primary_SDS_NOAM_VIP_IP_Address&gt;</code></div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="444 527 1442 1161" style="text-align: center;"></div>
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Procedure 49. Configuring SDS Query Servers

3	<p><b>Primary SDS NOAM VIP GUI:</b> Insert the first Query Server</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p> <p>Select the <b>Insert</b> button to insert the new SDS Query server into servers table (the first or server).</p> <p><b>Adding a new server</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Attribute</th> <th style="text-align: left;">Value</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>QS1 *</td> </tr> <tr> <td>Role</td> <td>QUERY SERVER *</td> </tr> <tr> <td>System ID</td> <td></td> </tr> <tr> <td>Hardware Profile</td> <td>SDS TVOE Guest</td> </tr> <tr> <td>Network Element Name</td> <td>NO_RLGHNC *</td> </tr> <tr> <td>Location</td> <td></td> </tr> </tbody> </table> <p>Fill in the fields as follows:</p> <p><b>Hostname:</b> &lt;Hostname&gt;</p> <p><b>Role:</b> Query Server</p> <p><b>System ID:</b> &lt;Site System ID&gt;</p> <p><b>Hardware Profile:</b> SDS TVOE Guest</p> <p><b>Network Element Name:</b> [Choose NE from Drop Down Box]</p> <p>The network interface fields will now become available with selection choices based on the chosen hardware profile and network element</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI (10.240.84.128/25)</td> <td>10.240.84.155</td> <td>xmi <input type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>INTERNALIMI (10.240.85.0/26)</td> <td>10.240.85.10</td> <td>imi <input type="checkbox"/> VLAN (4)</td> </tr> </tbody> </table> <p style="text-align: center;"> <input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p> <p>Fill in the server IP addresses for the XMI network. Select <b>xmi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Fill in the server IP addresses for the IMI network. Select <b>imi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Next, add the following NTP servers:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">NTP Server</th> <th style="text-align: center;">Preferred?</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">&lt;Query-Server-TVOE-IP-Address&gt;</td> <td style="text-align: center;">Yes</td> </tr> </tbody> </table> <p>Select the <b>Ok</b> button when you have completed entering all the server data.</p>	Attribute	Value	Hostname	QS1 *	Role	QUERY SERVER *	System ID		Hardware Profile	SDS TVOE Guest	Network Element Name	NO_RLGHNC *	Location		Interfaces:			Network	IP Address	Interface	INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)	INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)	NTP Server	Preferred?	<Query-Server-TVOE-IP-Address>	Yes
Attribute	Value																															
Hostname	QS1 *																															
Role	QUERY SERVER *																															
System ID																																
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Network Element Name	NO_RLGHNC *																															
Location																																
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NTP Server	Preferred?																															
<Query-Server-TVOE-IP-Address>	Yes																															

Procedure 49. Configuring SDS Query Servers

<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP:</b> Export the Initial Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p>  <p>From the GUI screen, select the query server and then select <b>Export</b> to generate the initial configuration data for that server.</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>5</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP:</b> Copy Configuration File to Query Server</p>	<p>Obtain a terminal session to the SDS NOAM VIP as the <b>admusr</b> user.</p> <p>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 SDS NOAM to the query server, using the Control network IP address for the query server.</p> <p>The configuration file will have a filename like “TKLCConfigData.&lt;hostname&gt;.sh”.</p> <pre>\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user will be prompted for the following:</p> <ul style="list-style-type: none"> <li>• IP address of the local PMAC server: Use the local control 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 query server).</li> <li>• Hostname of the target server: Enter the server name configured in <b>step 3</b></li> </ul>

Procedure 49. Configuring SDS Query Servers


<p>6 <input type="checkbox"/></p>	<p><b>Query Server:</b> Verify awpushcfg was called and Reboot the Server</p>	<p>Obtain a terminal window connection on the query server console by establishing an ssh session from the SDS NOAM VIP terminal console.</p> <pre style="border: 1px solid black; padding: 5px;">\$ ssh admusr@&lt;query_Server_Control_IP&gt;</pre> <p>Login as the <i>admusr</i> user.</p> <p>The automatic configuration daemon will look for the file named “<i>TKLCConfigData.sh</i>” in the /var/tmp directory, implement the configuration in the file, and then prompt the user to reboot the server.</p> <p>Verify awpushcfg was called by checking the following file</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre style="border: 1px solid black; padding: 5px;">[SUCCESS] script completed successfully!</pre> <p>Now Reboot the Server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre> <p>Wait for the server to reboot</p>
<p>7 <input type="checkbox"/></p>	<p><b>Query Server:</b> Login</p>	<p>Obtain a terminal window connection on the query server console by establishing an ssh session from the NOAM VIP terminal console.</p> <pre style="border: 1px solid black; padding: 5px;">\$ ssh admusr@&lt;query_Server_Control_IP&gt;</pre>
<p>8 <input type="checkbox"/></p>	<p><b>Query Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p style="text-align: center;"><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm profile virtual-guest \$ sudo service_conf add tuned rc runlevels=345 \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre style="border: 1px solid black; padding: 5px;">Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>



**Procedure 49. Configuring SDS Query Servers**

9 <input type="checkbox"/>	<b>Query Server:</b> Verify Server Health	Execute the following command on the query server and make sure that no errors are returned:  <pre data-bbox="456 338 1386 604">\$ 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>
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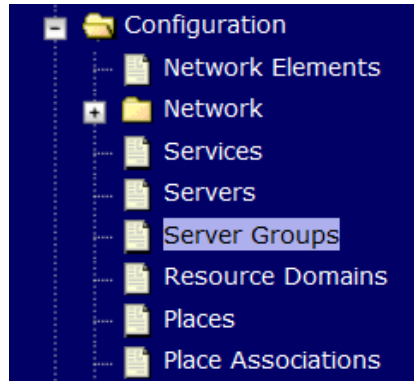
**Procedure 50. Query Server SDS NOAM Pairing**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to pair the SDS query server with the SDS NOAMs</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI: Login</b></p>	<p>Establish a GUI session on the primary SDS NOAM server by using the VIP IP address of the primary SDS NOAM 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_SDS_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> 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;">Fri Mar 20 12:29:52 2015 EDT</span></p> <hr style="width: 50%; margin: 0 auto;"/> </div> <div style="border: 1px solid gray; padding: 10px; width: fit-content; margin: 10px 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 style="text-align: center;">Username: <input type="text" value="guiadmin"/></p> <p style="text-align: center;">Password: <input type="password" value="••••••"/></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;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 50%; margin: 0 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>

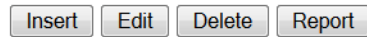
Procedure 50. Query Server SDS NOAM Pairing

2  
 **SDS NOAM  
 VIP GUI: Edit  
 the SDS  
 NOAM Server  
 Group Data**

Navigate to **Main Menu->Configuration->Server Groups.**



Select the SDS NOAM Server group and click on **Edit**



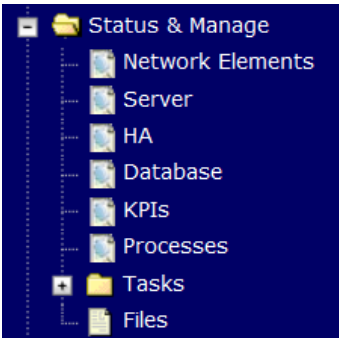
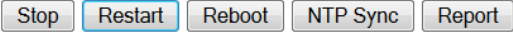
Add the query server to the Server Group by clicking the **Include in SG** checkbox for the query server.

Main Menu: Configuration -> Server Groups [Edit]

Field	Value	Description
Server Group Name	NO_rlghnc_grp *	Unique identifier used to identify the group. Must contain an underscore.
Level	A *	Select one of the Levels supported by the system.
Parent	NONE *	Select an existing Server Group.
Function	SDS *	Select one of the Functions supported by the system.
WAN Replication Connection Count	1	Specify the number of WAN Replication Connections. [Default = 1. Range = Any integer greater than 0.]
<b>NO_RLGHNC</b>		
<b>Server</b>	<b>SG Inclusion</b>	<b>Preferred HA Role</b>
sds-rlghnc-a	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
sds-rlghnc-b	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
qs-rlghnc	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare


Click **OK**.

**Procedure 50. Query Server SDS NOAM Pairing**

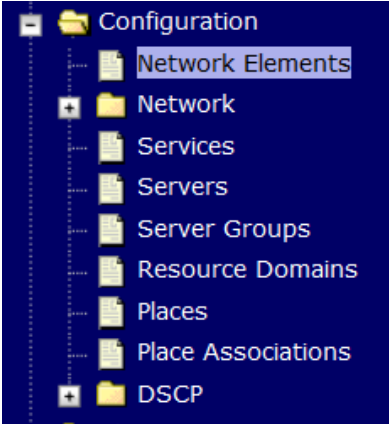
<p>3</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> <p style="text-align: right;">Fri Mar 20</p> <p>Filter Tasks</p> <table border="1"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td>CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td colspan="6">Cleared because DB Re-Init Completed</td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td>MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td colspan="6">Remote Database re-initialization in progress</td> </tr> </tbody> </table>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type	414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress	Cleared because DB Re-Init Completed						413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress	Remote Database re-initialization in progress					
Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type																																							
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		Remote Database re-initialization in progress	Remote Database re-initialization in progress																																												
<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Restart query server</p>	<p>Navigate to <b>Main menu-&gt;Status &amp; Manage-&gt;Server.</b></p>  <p>Select the query server.</p> <p>Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup. Wait for restart to complete.</p>																																													
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Repeat for SDS DR-NOAM</b></p>	<p>If SDS DR-NOAMs have been configured, repeat this procedure at the site of the SDS DR-NOAMs</p>																																													

## 4.16.4 SDS Configuration: SOAMs

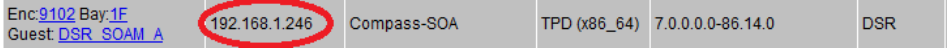
### Procedure 51. Configure the SDS DP SOAM NE

<b>S T E P #</b>	<p>This procedure will provide the steps to configure 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <input type="checkbox"/>	<p><b>NOAM SDS VIP GUI: Login</b></p>	<p>Establish a GUI session on the SDS 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; width: fit-content; margin: 10px auto;"> <p><code>https://&lt;Primary_SDS_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center; margin: 20px 0;">  </div> <div style="text-align: center;"> <p><b>Oracle System Login</b> <span style="float: right;">Fri Mar 20 12:29:52 2015 EDT</span></p> <hr style="width: 60%; margin: 0 auto;"/> </div> <div style="text-align: center; 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" value="guiadmin"/></p> <p>Password: <input type="password" value="••••••"/></p> <p><input type="checkbox"/> Change password</p> <p><input type="button" value="Log In"/></p> </div> <p style="text-align: center; margin-top: 10px;">Welcome to the Oracle System Login.</p> <p style="text-align: center; font-size: small;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 60%; margin: 0 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>


Procedure 51. Configure the SDS DP SOAM NE

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM SDS VIP GUI:</b> Create the SOAM Network Element using an XML File</p>	<p>Make sure to have an SDS DP SOAM Network Element XML file available on the PC that is running the web browser. The SDS DP SOAM Network Element XML file is similar to what was created and used in <b>Procedure 42</b>, but defines the SDS DP SOAM “Network Element”.</p> <p>Refer to <b>Appendix L</b>: Sample Network Element for a sample Network Element xml file</p> <p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Network Elements</b></p>  <p>Select the <b>Browse</b> button, and enter the path and name of the SDS DP SOAM network XML file.</p> <p>Select the <b>Upload File</b> button to upload the XML file and configure the SDS DP SOAM Network Element.</p> <p>To create a new Network Element, upload a valid configuration file:</p> <p><input type="button" value="Browse..."/> No file selected. <input type="button" value="Upload File"/></p> <p><input type="button" value="Insert"/> <input type="button" value="Delete"/> <input type="button" value="Export"/> <input type="button" value="Report"/></p>
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Procedure 52. Configure the SDS DP SOAM Servers

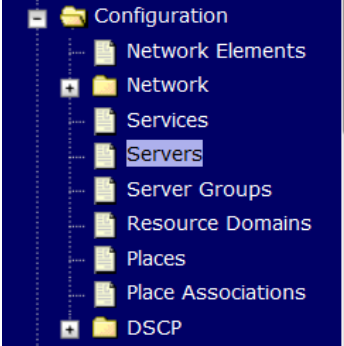
<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure the SDS DP SOAM servers.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>Exchange SSH keys between SDS DP SOAM site's local PMAC and the SOAM Server</b></p>	<p>Use the PMAC GUI to determine the Control Network IP address of the server that is to be the SDS DP SOAM server. From the PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p>  <p>Note the IP address for the SDS DP SOAM server.</p> <p>Login to the PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the PMAC as the <b>admusr</b> user, exchange SSH keys for <b>admusr</b> between the PMAC and the SDS DP SOAM server using the keyexchange utility, using the Control network IP address for the SDS DP SOAM server. When prompted for the password, enter the password for the <b>admusr</b> user of the SDS DP SOAM server.</p> <pre>\$ keyexchange admusr@&lt;SO1_Control_IP_Address&gt;</pre>
<p>2 <input type="checkbox"/></p>	<p><b>Exchange SSH keys between SDS NOAM and PMAC at the SDS DP SOAM site (If necessary)</b></p>	<p><b>Note:</b> If this SDS DP SOAM shares the same PMAC as the SDS NOAM, then you can skip this step.</p> <p>From a terminal window connection on the SDS NOAM VIP, as the <b>admusr</b>, exchange SSH keys for admusr between the SDS NOAM and the PMAC for this SDS DP SOAM site using the keyexchange utility.</p> <p>When prompted for the password, enter the admusr password for the PMAC server.</p> <pre>\$ keyexchange admusr@&lt;SO1_Site_PMAC_Mgmt_IP_Address&gt;</pre> <p><b>Repeat</b> this step for the standby SDS DP SOAM Server</p>

Procedure 52. Configure the SDS DP SOAM Servers

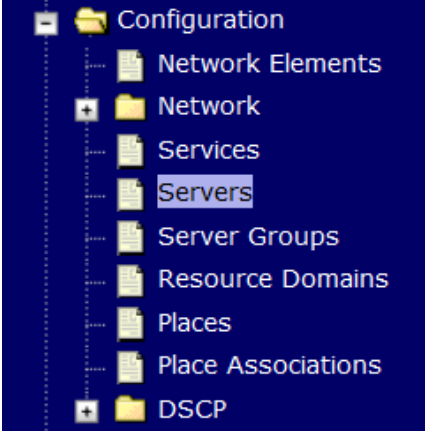
3 <input type="checkbox"/>	<b>NOAM SDS VIP GUI:</b> Login	<p>If not already done, establish a GUI session on the SDS NOAM server by using the XMI VIP address. Open the web browser and enter a URL of: <code>https://&lt;Primary_SDS_NOAM_VIP_IP_Address&gt;</code></p> <p>Login to the SDS NOAM GUI as the <i>guiadmin</i> user:</p> 
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Procedure 52. Configure the SDS DP SOAM Servers

4	<p><b>SDS NOAM VIP GUI:</b> Insert the 1<sup>st</sup> SDS DP SOAM server</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p>  <p>Select the <b>Insert</b> button to insert the 1<sup>st</sup> SDS DP SOAM server into servers table (the first or server).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Attribute</th> <th style="text-align: left;">Value</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>SOAM-A *</td> <td>Unique name for 20-character string minus sign. Must be alphanumeric.</td> </tr> <tr> <td>Role</td> <td>SYSTEM OAM *</td> <td>Select the function</td> </tr> <tr> <td>Hardware Profile</td> <td>DSR TVOE Guest</td> <td>Hardware profile</td> </tr> <tr> <td>Network Element Name</td> <td>HPC6_90006 *</td> <td>Select the network element</td> </tr> <tr> <td>Location</td> <td></td> <td>Location description. Valid value</td> </tr> </tbody> </table> <p>Fill in the fields as follows:</p> <p><b>Hostname:</b> &lt;Hostname&gt;</p> <p><b>Role:</b> <b>SYSTEM OAM</b></p> <p><b>System ID:</b> &lt;Site System ID&gt;</p> <p><b>Hardware Profile:</b> <b>SDS TVOE Guest</b></p> <p><b>Network Element Name:</b> [Choose NE from Drop Down Box]</p> <p>The network interface fields will now become available with selection choices based on the chosen hardware profile and network element</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>INTERNALXMI (10.240.84.128/25)</td> <td>10.240.84.155</td> <td>xmi <input type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>INTERNALIMI (10.240.85.0/26)</td> <td>10.240.85.10</td> <td>imi <input type="checkbox"/> VLAN (4)</td> </tr> </tbody> </table> <p style="text-align: center;"> <input type="button" value="OK"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p> <p>Fill in the server IP addresses for the XMI network. Select <b>xmi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Fill in the server IP addresses for the IMI network. Select <b>imi</b> for the interface. <b>Leave the "VLAN" checkbox unchecked.</b></p> <p>Next, add the following NTP servers:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;1st SDS-SOAM-RMS-TVOE-IP-Address&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>Select the <b>Ok</b> button when you have completed entering all the server data.</p>	Attribute	Value	Description	Hostname	SOAM-A *	Unique name for 20-character string minus sign. Must be alphanumeric.	Role	SYSTEM OAM *	Select the function	Hardware Profile	DSR TVOE Guest	Hardware profile	Network Element Name	HPC6_90006 *	Select the network element	Location		Location description. Valid value	Interfaces:			Network	IP Address	Interface	INTERNALXMI (10.240.84.128/25)	10.240.84.155	xmi <input type="checkbox"/> VLAN (3)	INTERNALIMI (10.240.85.0/26)	10.240.85.10	imi <input type="checkbox"/> VLAN (4)	NTP Server	Preferred?	<1st SDS-SOAM-RMS-TVOE-IP-Address>	Yes
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NTP Server	Preferred?																																			
<1st SDS-SOAM-RMS-TVOE-IP-Address>	Yes																																			

Procedure 52. Configure the SDS DP SOAM Servers

<p>5</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Export the Initial Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p>  <p>From the GUI screen, select the SDS SOAM server and then select <b>Export</b> to generate the initial configuration data for that server.</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>6</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP:</b> Copy Configuration File to 1<sup>st</sup> SDS DP SOAM Server</p>	<p>Obtain a terminal session to the SDS NOAM VIP as the <b>admusr</b> user.</p> <p>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 SDS NOAM to the 1<sup>st</sup> SDS DP SOAM server, using the Control network IP address for the 1<sup>st</sup> SDS DP SOAM server.</p> <p>The configuration file will have a filename like <code>TKLCConfigData.&lt;hostname&gt;.sh</code>.</p> <pre>\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user will be prompted for the following:</p> <ul style="list-style-type: none"> <li>• IP address of the local PMAC server: Use the local control 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> SDS DP SOAM server).</li> <li>• Hostname of the target server: Enter the server name configured in <b>step 4</b></li> </ul>


Procedure 52. Configure the SDS DP SOAM Servers

<p>7</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DP SOAM Server:</b> Verify awpushcfg was called and Reboot the Server</p>	<p>Obtain a terminal window connection on the 1<sup>st</sup> SDS DP SOAM server console by establishing an ssh session from the SDS NOAM VIP terminal console.</p> <pre style="border: 1px solid black; padding: 5px;">\$ ssh admusr@&lt;SDS_SO1_Control_IP&gt;</pre> <p>Login as the <i>admusr</i> user.</p> <p>The automatic configuration daemon will look for the file named “<i>TKLCConfigData.sh</i>” in the /var/tmp directory, implement the configuration in the file, and then prompt the user to reboot the server.</p> <p>Verify awpushcfg was called by checking the following file</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre style="border: 1px solid black; padding: 5px;">[SUCCESS] script completed successfully!</pre> <p>Now Reboot the Server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre> <p>Wait for the server to reboot</p>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DP SOAM Server:</b> Login</p>	<p>Obtain a terminal window connection on the 1<sup>st</sup> SDS DP SOAM server console by establishing an ssh session from the SDS NOAM VIP terminal console.</p> <pre style="border: 1px solid black; padding: 5px;">\$ ssh admusr@&lt;SDS_SO1_Control_IP&gt;</pre>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DP SOAM Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p style="text-align: center;"><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm profile virtual-guest \$ sudo service_conf add tuned rc runlevels=345 \$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre style="border: 1px solid black; padding: 5px;">Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>

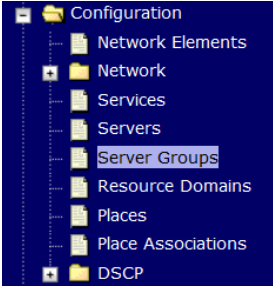
**Procedure 52. Configure the SDS DP SOAM Servers**

<p>10</p> <p><input type="checkbox"/></p>	<p><b>1<sup>st</sup> SDS DP SOAM Server: Verify Server Health</b></p>	<p>Execute the following command on the 1<sup>st</sup> SDS DP SOAM server and make sure that no errors are returned:</p> <pre style="border: 1px solid black; padding: 5px;"> <b>\$ sudo syscheck</b> 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>11</p> <p><input type="checkbox"/></p>	<p><b>Insert and Configure the 2<sup>nd</sup> SDS DP SOAM server</b></p>	<p>Repeat this procedure to insert and configure the 2<sup>nd</sup> SDS DP SOAM server, with the exception of the NTP server, which should be configured as so:</p> <table border="1" data-bbox="479 743 1352 844"> <thead> <tr> <th data-bbox="479 743 906 779">NTP Server</th> <th data-bbox="906 743 1352 779">Preferred?</th> </tr> </thead> <tbody> <tr> <td data-bbox="479 779 906 844">&lt;2nd SDS DP SOAM-RMS-TVOE-IP-Address&gt;</td> <td data-bbox="906 779 1352 844">Yes</td> </tr> </tbody> </table> <p>Instead of data for the 1<sup>st</sup> SDS DP SOAM Server, insert the network data for the 2<sup>nd</sup> SDS DP SOAM server, transfer the <i>TKLCConfigData</i> file to the 2<sup>nd</sup> SDS DP SOAM server, and reboot the 2<sup>nd</sup> SDS DP SOAM server when prompted at a terminal window.</p>	NTP Server	Preferred?	<2nd SDS DP SOAM-RMS-TVOE-IP-Address>	Yes
NTP Server	Preferred?					
<2nd SDS DP SOAM-RMS-TVOE-IP-Address>	Yes					

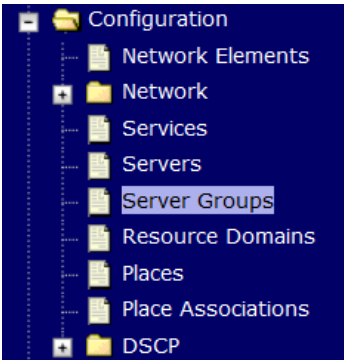

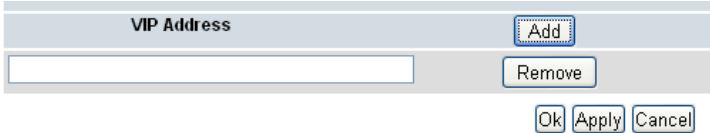
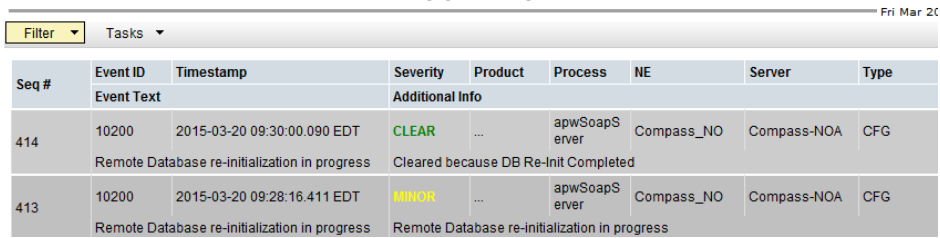
**Procedure 53. Configure the SDS DP SOAM Server Group**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure the SOAM Server Group</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM SDS VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the SDS NOAM server by using the XMI VIP address of the SDS NOAM server. Open the web browser and enter a URL of:</p> <div data-bbox="456 585 1216 627" style="border: 1px solid black; padding: 2px;"> <p><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login to the SDS NOAM GUI as the <i>guiadmin</i> user:</p> <div data-bbox="526 747 1252 1293" style="text-align: center;">  </div>

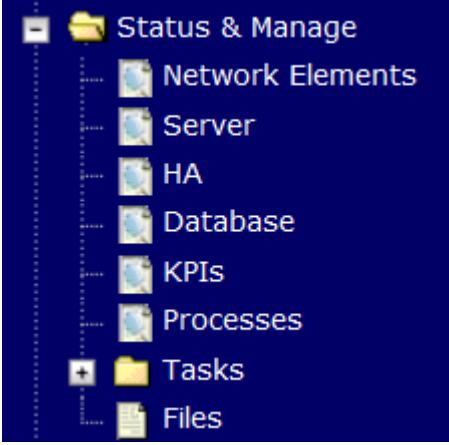
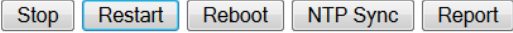
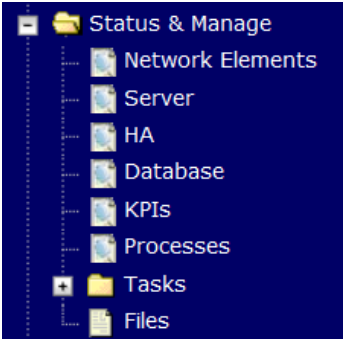
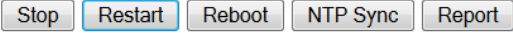
Procedure 53. Configure the SDS DP SOAM Server Group

2 <input type="checkbox"/>	<b>SDS NOAM VIP GUI:</b> Enter SOAM Server Group Data	<p>After approximately <b>5 minutes</b> for the 2<sup>nd</sup> SDS DP SOAM server to reboot,</p> <p>Navigate to the GUI <b>Main Menu-&gt;Configuration-&gt;Server Groups</b></p>  <p>Select <b>Insert</b></p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Add the SDS DP SOAM Server Group name along with the values for the following fields:</p> <ul style="list-style-type: none"><li>• <b>Name:</b> &lt;Hostname&gt;</li><li>• <b>Level:</b> B</li><li>• <b>Parent</b> [Select the NOAM Server Group]</li><li>• <b>Function:</b> SDS (Active/Standby Pair)</li><li>• <b>WAN Replication Connection Count:</b> Use Default Value</li></ul> <p>Select <b>OK</b> when all fields are filled.</p>
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Procedure 53. Configure the SDS DP SOAM Server Group

<p>3</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Edit the SDS DP SOAM Server Group and add VIP</p>	<p>From the GUI Main Menu-&gt;Configuration-&gt;Server Groups</p>  <p>Select the new SDS DP SOAM server group, and then select <b>Edit</b>.</p>  <p>Add both SDS DP SOAM servers to the Server Group Primary Site by clicking the <b>Include in SG</b> checkbox.</p> <p>Do not check any of the <b>Preferred Spare</b> checkboxes.</p> <table border="1" data-bbox="456 1003 1013 1136"> <thead> <tr> <th colspan="3">SO_900060102</th> </tr> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>RMSSOA</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>RMSOBB</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>Click <b>Apply</b>.</p> <p>Add a SDS DP SOAM VIP by click on <b>Add</b>. Fill in the <b>VIP Address</b> and press <b>Ok</b> as shown below:</p> 	SO_900060102			Server	SG Inclusion	Preferred HA Role	RMSSOA	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	RMSOBB	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare																																	
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RMSOBB	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare																																													
<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p>  <table border="1" data-bbox="456 1696 1390 1875"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td>CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td colspan="2">Remote Database re-initialization in progress</td> <td colspan="6">Cleared because DB Re-Init Completed</td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td>MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td colspan="2">Remote Database re-initialization in progress</td> <td colspan="6">Remote Database re-initialization in progress</td> </tr> </tbody> </table>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type	414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG		Remote Database re-initialization in progress		Cleared because DB Re-Init Completed						413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG		Remote Database re-initialization in progress		Remote Database re-initialization in progress					
Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type																																							
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	Remote Database re-initialization in progress		Remote Database re-initialization in progress																																												

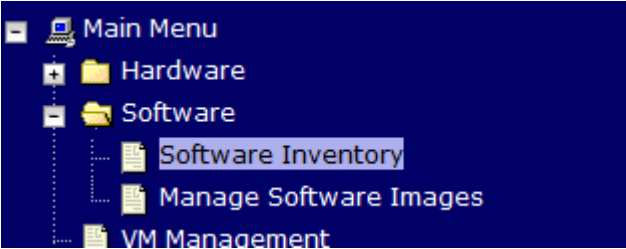
Procedure 53. Configure the SDS DP SOAM Server Group

<p>5</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Restart 1<sup>st</sup> SDS DP SOAM server</p>	<p>From the SDS NOAMP GUI, select <b>Main menu-&gt;Status &amp; Manage-&gt;Server</b>.</p>  <p>Select the <b>1<sup>st</sup></b> SDS DP SOAM server.</p> <p>Select the <b>Restart</b> button. Answer <b>OK</b> to the confirmation popup. Wait for restart to complete.</p> 
<p>6</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Restart 2<sup>nd</sup> SDS DP SOAM server</p>	<p>From the SDS NOAM GUI, select <b>Main menu-&gt;Status &amp; Manage-&gt;Server</b>.</p>  <p>Select the <b>2<sup>nd</sup></b> SDS DP SOAM server.</p> <p>Select the <b>Restart</b> button. Answer <b>OK</b> to the confirmation popup. Wait for restart to complete.</p> 




## 4.16.5 SDS Configuration: DPs

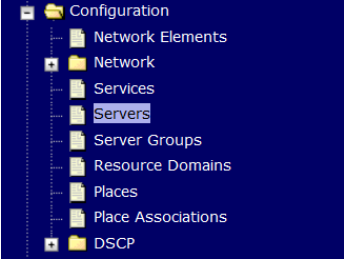
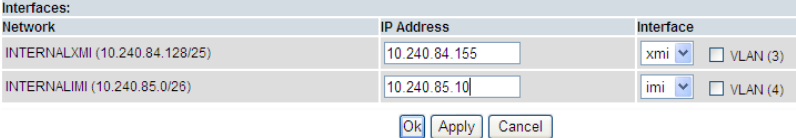
### Procedure 54. Configure the SDS DP Servers

<b>S T E P #</b>	<p>This procedure will provide the steps to configure SDS DP 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <input type="checkbox"/>	<p><b>PMAC:</b> Exchange SSH keys between SDS DP site's local PMAC and the DP server</p>	<p>Use the DP site's PMAC GUI to determine the Control Network IP address of the server that is to be a SDS DP server. From the MP site's PMAC GUI, navigate to <b>Main Menu -&gt; Software -&gt; Software Inventory</b>.</p>  <p>RMS: Oahu-TVOE-3 Guest SDS-DP-2</p> <p>Note the IP address for a SDS DP server.</p> <p>Login to the SDS DP site's PMAC terminal as the <b>admusr</b>.</p> <p>From a terminal window connection on the SDS DP site's PMAC as the <b>admusr</b>.</p> <p>Exchange SSH keys for <b>admusr</b> between the PMAC and the SDS DP server using the keyexchange utility, using the Control network IP address for the SDS DP server.</p> <pre>\$ keyexchange admusr@&lt;MP_Control_IP Address&gt;</pre> <p>When prompted for the password, enter the password for the <b>admusr</b> user of the SDS DP server.</p>

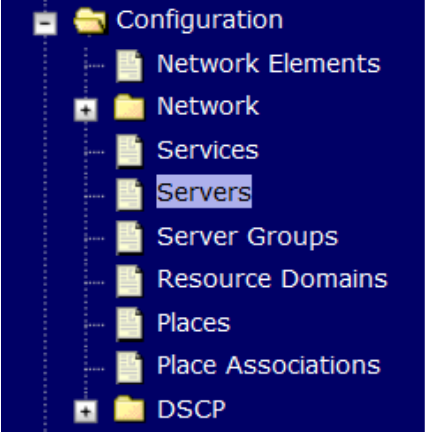
Procedure 54. Configure the SDS DP Servers

2 <input type="checkbox"/>	<b>SDS NOAM VIP GUI: Login</b>	<p>If not already done, establish a GUI session on the SDS NOAM server by using the XMI VIP address of the SDS NOAM server. Open the web browser and enter a URL of:</p> <div data-bbox="456 338 1216 380" style="border: 1px solid black; padding: 2px;"><code>https://&lt;Primary_SDS_NOAM_VIP_IP_Address&gt;</code></div> <p>Login to the SDS NOAM GUI as the <i>guiadmin</i> user:</p> <div data-bbox="526 499 1252 1045" style="text-align: center;"><p><b>ORACLE</b></p><p><b>Oracle System Login</b> <span style="float: right;">Fri Mar 20 12:29:52 2015 EDT</span></p><div style="border: 1px solid gray; padding: 10px; width: fit-content; margin: 0 auto;"><p><b>Log In</b> Enter your username and password to log in</p><p>Username: <input type="text" value="guiadmin"/></p><p>Password: <input type="password" value="••••••"/></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>Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</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></div>
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Procedure 54. Configure the SDS DP Servers

<p>3</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Insert the SDS DP server (Part 1)</p>	<p>Navigate to <b>Main Menu-&gt;Configuration-&gt;Servers</b></p>  <p>Select the <b>Insert</b> button to insert the new SDS DP 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>Fill out the following values:</p> <p><b>Hostname:</b> &lt;Hostname&gt;  <b>Role:</b> MP  <b>Network Element:</b> [Choose Network Element]  <b>Hardware Profile:</b> SDS TVOE Guest  <b>Location:</b> &lt;enter an optional location description&gt;</p> <p>The interface configuration form will now appear.</p>  <ul style="list-style-type: none"> <li>• For the XMI network, enter the SDS DP's XMI IP address. Select the xmi interface. <b>Leave the "VLAN" checkbox unchecked.</b></li> <li>• For the IMI network, enter the SDS DP's IMI IP address. Select the imi interface. <b>Leave the "VLAN" checkbox unchecked.</b></li> </ul>				
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Insert the DP server (Part 2)</p>	<p>Next, add the following NTP servers:</p> <table border="1" data-bbox="477 1377 1352 1482"> <thead> <tr> <th>NTP Server</th> <th>Preferred?</th> </tr> </thead> <tbody> <tr> <td>&lt;SDS-DP-RMS-TVOE-IP-Address&gt;</td> <td>Yes</td> </tr> </tbody> </table> <p>Select <b>OK</b> when all fields are filled in to finish SDS DP server insertion.</p>	NTP Server	Preferred?	<SDS-DP-RMS-TVOE-IP-Address>	Yes
NTP Server	Preferred?					
<SDS-DP-RMS-TVOE-IP-Address>	Yes					

Procedure 54. Configure the SDS DP Servers

<p>5</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Export the Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Servers.</b></p>  <p>From the GUI screen, select the SDS DP server and then select <b>Export</b> to generate the initial configuration data for that server.</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>6</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Copy Configuration File to SDS DP Server</p>	<p>Obtain a terminal session to the SDS NOAM VIP as the <b>admusr</b> user.</p> <p>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 SDS NOAM to the SDS DP server, using the Control network IP address for the MP server.</p> <p>The configuration file will have a filename like <code>TKLCConfigData.&lt;hostname&gt;.sh</code>.</p> <pre>\$ sudo awpushcfg</pre> <p>The awpushcfg utility is interactive, so the user will be prompted for the following:</p> <ul style="list-style-type: none"> <li>• IP address of the local PMAC server: Use the local control 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 SDS DP server).</li> <li>• Hostname of the target server: Enter the server name configured in <b>step 3</b></li> </ul>


Procedure 54. Configure the SDS DP Servers

<p>7</p> <p><input type="checkbox"/></p>	<p><b>SDS DP Server:</b> Verify awpushcfg was called and Reboot the Configured Server</p>	<p>Obtain a terminal window connection on the SDS DP server console by establishing an ssh session from the SDS NOAM VIP terminal console.</p> <pre>\$ ssh admusr@&lt;DP_Control_IP&gt;</pre> <p>Login as the <i>admusr</i> user.</p> <p>Verify awpushcfg was called by checking the following file:</p> <pre>\$ sudo cat /var/TKLC/appw/logs/Process/install.log</pre> <p>Verify no errors are present and that the following message is displayed:</p> <pre>[SUCCESS] script completed successfully!</pre> <p>Reboot the sever:</p> <pre>\$ sudo init 6</pre> <p>Proceed to the next step once the Server finished rebooting, The server is done rebooting once the login prompt is displayed.</p>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>SDS DP Server:</b> Install Tuned (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</p>	<p><b>ORACLE X5-2/NETRA X5-2/HP DL380 GEN 9 ONLY, HP DL380 GEN 8 SKIP THIS STEP</b></p> <p>Activate the tuned profile for the Guest Virtual Machine:</p> <pre>\$ sudo tuned-adm profile virtual-guest</pre> <pre>\$ sudo service_conf add tuned rc runlevels=345</pre> <pre>\$ sudo service_conf add ktune rc runlevels=345</pre> <p>Verify that tuned is active:</p> <pre>\$ sudo tuned-adm active</pre> <p>Expected output:</p> <pre>Current active profile: virtual-guest Service tuned: enabled, running Service ktune: enabled, running</pre>

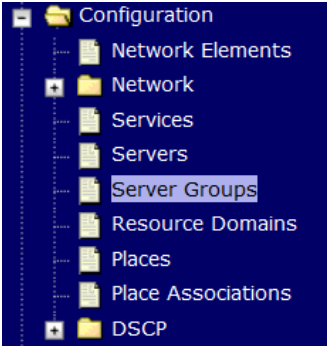
Procedure 54. Configure the SDS DP Servers

9 <input type="checkbox"/>	<b>SDS DP Server:</b> Verify Server Health	<p>After the reboot, login as <i>admusr</i>.</p> <p>Execute the following command as super-user on the 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>
10 <input type="checkbox"/>	<b>Repeat for remaining SDS DPs</b>	<b>Repeat</b> this entire procedure for all remaining SDS DP servers.

**Procedure 55. Configure the SDS DP Server Group(s) and Profile(s)**

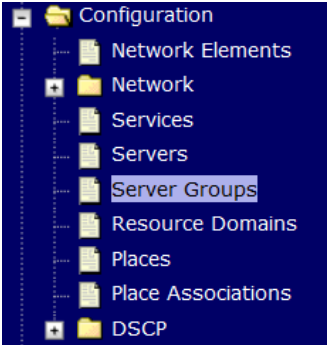
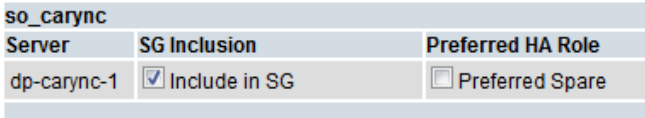
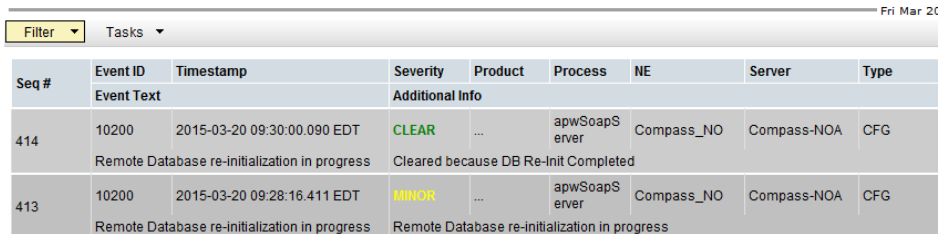
<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to configure MP Server Groups</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>SDs NOAM VIP GUI: Login</b></p>	<p>If not already done, establish a GUI session on the SDS NOAM server the VIP address.</p> <p>Open the web browser and enter a URL of:  <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</b> </div> </p> <p>Login to the SDS NOAM GUI as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>

**Procedure 55. Configure the SDS DP Server Group(s) and Profile(s)**

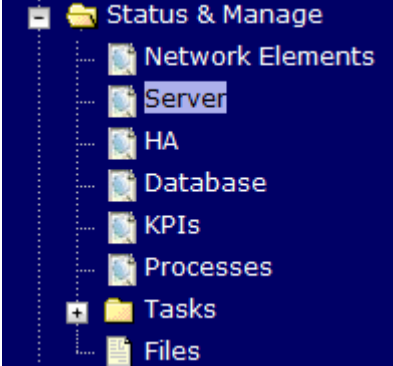
<p>2</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM</b>  <b>VIP GUI:</b>          Enter SDS DP          Server Group          Data</p>	<p>Navigate to <b>Main Menu -&gt;Configuration -&gt;Server Groups</b></p>  <p>Select <b>Insert</b></p> <p><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></p> <p>Fill out the following fields:</p> <p><b>Server Group Name:</b> &lt;Server Group Name&gt;  <b>Level:</b> C  <b>Parent:</b> [SDS DP SOAM Server Group That is Parent To this SDS DP]  <b>Function:</b> SDS</p> <p>Select <b>OK</b> when all fields are filled in.</p>
<p>3</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM</b>  <b>VIP GUI:</b>          Repeat For          Additional          Server Groups</p>	<p>Repeat <b>Step 2</b> for any remaining SDS DP server groups you wish to create.</p>



**Procedure 55. Configure the SDS DP Server Group(s) and Profile(s)**

<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM</b>  <b>VIP GUI:</b> Edit the SDS DP Server Groups to include SDS DPs</p>	<p>From the GUI, navigate to <b>Main Menu-&gt;Configuration-&gt;Server Groups</b></p>  <p>Select a server group that you just created and then select <b>Edit</b>.</p> <p>Select the Network Element that represents the SDS DP server group you wish to edit.</p> <p>Click the <b>Include in SG</b> box for the SDS DP server that you wish to include in <i>this</i> server group. Leave other checkboxes blank.</p>  <p><b>Note:</b> Each SDS DP server should be in its own server group.</p> <p>Select <b>OK</b>.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM</b>  <b>VIP GUI:</b> Repeat For Additional Server Groups</p>	<p>Repeat <b>Step 4</b> for any remaining SDS DP server groups you need to edit.</p>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM</b>  <b>VIP GUI:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> 

Procedure 55. Configure the SDS DP Server Group(s) and Profile(s)

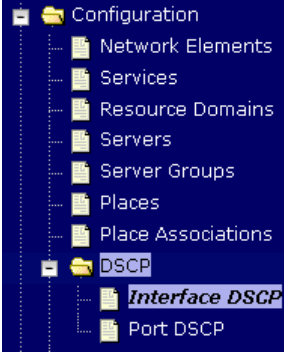
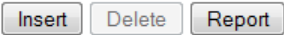
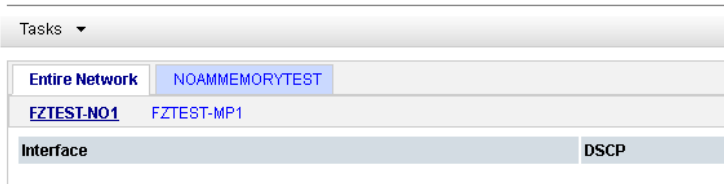


7 <input type="checkbox"/>	<b>SDS NOAM VIP GUI:</b> Restart SDS DP servers	<p>Navigate to <b>Main menu-&gt;Status &amp; Manage-&gt;Server</b></p>  <p>For each SDS DP server:</p> <ul style="list-style-type: none"><li>• Select the SDS DP server.</li><li>• Select the <b>Restart</b> button.</li><li>• Answer <b>OK</b> to the confirmation popup. Wait for the message which tells you that the restart was successful.</li></ul> <p><input type="button" value="Stop"/> <input type="button" value="Restart"/> <input type="button" value="Reboot"/> <input type="button" value="NTP Sync"/> <input type="button" value="Report"/></p>
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## 4.16.6 SDS Configuration: DSCP (Optional)

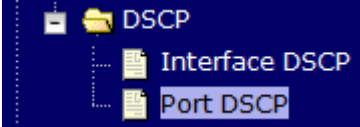

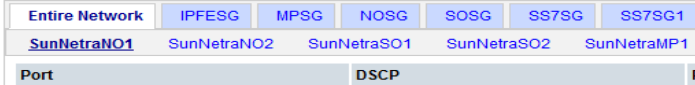
### Procedure 56. Configure DSCP Values for Outgoing Traffic (Optional)

<b>S T E P #</b>	<p>This procedure will provide the steps to configure 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 will utilize packet DSCP markings for Quality-of-Service purposes.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>NOAM VIP GUI: Login</b>	<p>If not already done, establish a GUI session on the NOAM server the VIP IP address of the NOAM server.</p> <p>Open the web browser and enter a URL of:  <input type="text" value="https://&lt;Primary_NOAM_VIP_IP_Address&gt;"/></p> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> 

**Procedure 56. Configure DSCP Values for Outgoing Traffic (Optional)**

<p>2</p> <p>☐</p>	<p><b>NOAM VIP</b>  <b>GUI:</b> 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 will vary.</p> <p>Navigate to <b>Main Menu -&gt; Configuration -&gt; DSCP -&gt; Interface DSCP</b></p>  <p>Select the server you wish 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).</p> <p>Click <b>Insert</b></p>  <p>Main Menu: Configuration -&gt; DSCP -&gt; Interface DSCP</p>  <p>Select the network interface from the drop down box, then enter the <i>DSCP value</i> you wish to have applied to packets leaving this interface.</p> <p>Main Menu: [Insertdscpbyintf]</p>  <p><b>Insert DSCP by Interface on FZTEST-MP1</b></p>  <p>Click <b>OK</b> if there are no more interfaces on this server to configure, or <b>Apply</b> to finish this interface and continue on with more interfaces by selecting them from the drop down and entering their <i>DSCP values</i>.</p>
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**Procedure 56. Configure DSCP Values for Outgoing Traffic (Optional)**

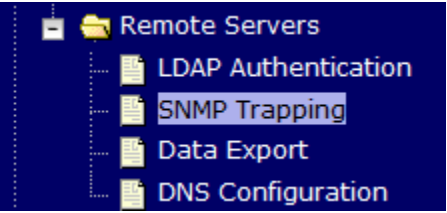
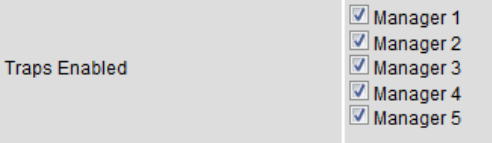
<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Option 2: Configure Port DSCP</p>	<p><b>Note:</b> The values displayed in the screenshots are for demonstration purposes only. The exact DSCP values for your site will vary.</p> <p>Navigate to <b>Main Menu -&gt; Configuration -&gt; DSCP -&gt; Port DSCP</b></p>  <p>Select the server you wish 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).</p> <p>Click <b>Insert</b></p>  <p><b>Main Menu: Configuration -&gt; DSCP -&gt; Port DSCP</b></p>  <p>Enter the source port, DSCP value, and select the transport protocol.</p> <p><b>Main Menu: Configuration -&gt; DSCP -&gt; Port DSCP [Insert]</b></p>  <p>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 <i>DSCP mappings</i>.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP</b>  <b>GUI:</b> Repeat for additional servers.</p>	<p>Repeat <b>Steps 2-3</b> for all remaining servers.</p>

## 4.16.7 SDS Configuration: SNMP (Optional)

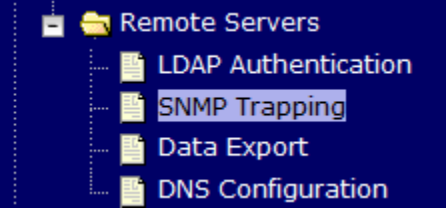
### Procedure 57. Configure SNMP Trap Receiver(s) (Optional)

<b>S T E P #</b>	<p>This procedure will provide the steps to configure forwarding of SNMP Traps from each individual 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
1 <input type="checkbox"/>	<p><b>SDS NOAM VIP GUI: Login</b></p> <p>If not already done, establish a GUI session on the NOAM server the VIP IP address of the NOAM server.</p> <p>Open the web browser and enter a URL of: <input type="text" value="https://&lt;Primary_NOAM_VIP_IP_Address&gt;"/></p> <p>Login to the NOAM GUI as the <i>guiadmin</i> user:</p> <div data-bbox="414 829 1209 1396" style="text-align: center;"></div>

Procedure 57. Configure SNMP Trap Receiver(s) (Optional)

<p>2</p> <p><input type="checkbox"/></p> <p><b>SDS</b> <b>NOAM VIP</b> <b>GUI:</b> Configure System-Wide SNMP Trap Receiver(s)</p>	<p>Navigate to <b>Main Menu -&gt; Administration -&gt; Remote Servers -&gt; SNMP Trapping</b></p>  <p>Verify that <b>Traps Enabled</b> is checked:</p>  <p>Fill in 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 "XMI" network.</p> <p>Continue to fill in additional secondary, tertiary, etc. Manager IPs in the corresponding slots if desired.</p> <table border="1" data-bbox="418 1026 1032 1129"> <thead> <tr> <th>Variable</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Manager 1</td> <td>10.10.55.88</td> </tr> </tbody> </table> <p>Enter the <b>SNMP Community Name</b>:</p> <table border="1" data-bbox="418 1224 1317 1352"> <tr> <td>SNMPv2c Read-Only Community Name</td> <td>snmppublic</td> </tr> <tr> <td>SNMPv2c Read-Write Community Name</td> <td>snmppublic</td> </tr> </table> <p>Leave all other fields at their default values.</p> <p>Press <b>OK</b></p>	Variable	Value	Manager 1	10.10.55.88	SNMPv2c Read-Only Community Name	snmppublic	SNMPv2c Read-Write Community Name	snmppublic
Variable	Value								
Manager 1	10.10.55.88								
SNMPv2c Read-Only Community Name	snmppublic								
SNMPv2c Read-Write Community Name	snmppublic								

**Procedure 57. Configure SNMP Trap Receiver(s) (Optional)**

<p>3</p> <p><input type="checkbox"/></p> <p><b>SDS NOAM VIP GUI:</b> Enable Traps from Individual Servers (Optional)</p>	<p><b>Note:</b> By default SNMP traps from MPs are aggregated and then displayed at the active NOAMP. If instead, you wish for every server to send its own traps directly to the NMS, then execute this procedure.</p> <p>This procedure requires that all servers, including MPs, have an XMI interface on which the customer SNMP Target server (NMS) is reachable.</p> <p>Navigate to <b>Main Menu -&gt; Administration -&gt; Remote Servers -&gt; SNMP Trapping</b></p>  <p>Make sure the checkbox next to <b>Enabled</b> is checked, if not, check it as shown below</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%;"></td> <td style="width: 40%; text-align: right;">[Default: enabled.]</td> </tr> <tr> <td>Traps from Individual Servers</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Enabled</td> <td>Enable or disable SNMP traps from in sent from individual servers, otherwise OAM&amp;P server. [Default: disabled.]</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">Configured Community Name (SNMP</td> </tr> </table> <p>Then click on <b>Apply</b> and verify that the data is committed.</p>			[Default: enabled.]	Traps from Individual Servers	<input checked="" type="checkbox"/> Enabled	Enable or disable SNMP traps from in sent from individual servers, otherwise OAM&P server. [Default: disabled.]			Configured Community Name (SNMP
		[Default: enabled.]								
Traps from Individual Servers	<input checked="" type="checkbox"/> Enabled	Enable or disable SNMP traps from in sent from individual servers, otherwise OAM&P server. [Default: disabled.]								
		Configured Community Name (SNMP								



## 4.17 IDIH Installation and Configuration (Optional)

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

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

**Note:** Before proceeding, refer to **Section 4.10** for IDIH VM placement information.

### 4.17.1 IDIH Installation

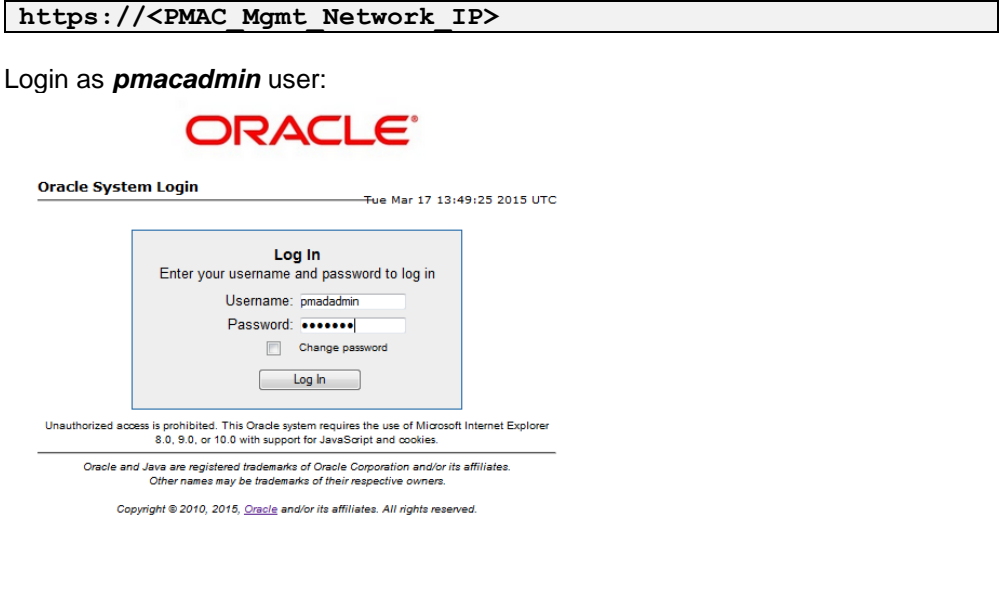
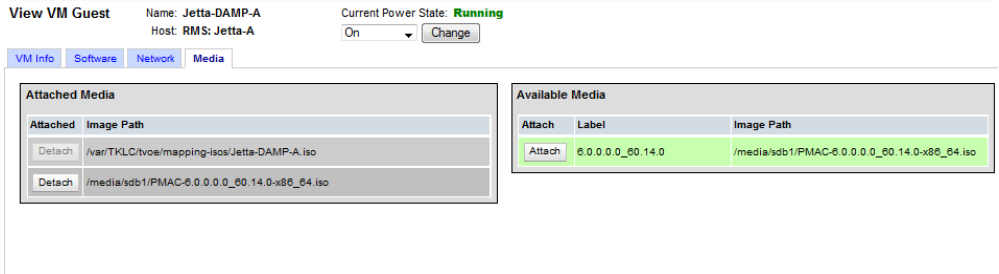
This procedure is part of DSR software installation. The installation procedure uses the “fast deployment” utility (fdconfig) bundled with the PMAC server to install and configure IDIH.

**Note: [Non-HA Lab Node Installations of Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only]:** Follow procedure **Appendix S.4** instead of procedure 58 for IDIH installation.


#### Procedure 58. IDIH Installation (Optional)

<b>S T E P #</b>	<p>This procedure will provide the steps to install and configure 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>TVOE Host:</b> Load Application ISO</p>	<p><b>Note:</b> If the IDIH ISO images have NOT yet been added to the PMAC, execute this steps 1-4</p> <p>Add the Application ISO images (<b>Mediation, Application, and Oracle</b>) to the PMAC, this can be done in one of three ways:</p> <ol style="list-style-type: none"> <li>1. Insert the CD containing the IDIH media into the removable media drive.</li> <li>2. Attach the USB device containing the ISO 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</b> (<i>not on the PMAC server</i>)</p> <p>Using sftp, connect to the PMAC server</p> <pre style="border: 1px solid black; padding: 5px;">\$ 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 style="border: 1px solid black; padding: 5px;">\$ quit</pre>

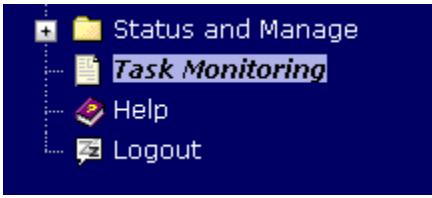
Procedure 58. IDIH Installation (Optional)

<p>2</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;PMAC Mgmt Network IP&gt;">https://&lt;PMAC Mgmt Network IP&gt;</a></p> </div> <p>Login as <i>pmacadmin</i> user:</p> 
<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Attach the software Image to the PMAC Guest</p>	<p>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. If the image is on a CD or USB device, continue with this step.</p> <p>In the PMAC GUI, navigate to <b>Main Menu -&gt; VM Management</b>. In the "<b>VM Entities</b>" list, select the PMAC guest. On the resulting "<b>View VM Guest</b>" page, select the <b>Media</b> tab.</p> <p>Under the <b>Media</b> tab, find the ISO image in the "<b>Available Media</b>" list, and click its <b>Attach</b> button. After a pause, the image will appear in the "<b>Attached Media</b>" list.</p> 

Procedure 58. IDIH Installation (Optional)

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Add Application Image</p>	<p>Navigate to <b>Main Menu -&gt; Software -&gt; Manage Software Images</b></p> <p>Press <b>Add Image</b> button. Use the drop down to select the image.</p> <div style="text-align: center;">  </div> <p>If the image was supplied on a CD or a USB drive, it will appear 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 will appear in the list as a local file "<b>/var/TKLC/...</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</p> <p>Path: <input type="text" value="/var/TKLC/smac/image/isoimages/home/smacftpusr/mediation-7.2.0.0.0"/></p> <p>Description: <input type="text"/></p> <hr/> <p><b>Add New Image</b></p> <p>Select the appropriate path and Press <b>Add New Image</b> button.</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 IDIH Media from the optical drive of the management server.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Establish Terminal Session</p>	<p>Establish an SSH session to the PMAC. Login as <b>admusr</b>.</p>

**Procedure 58. IDIH Installation (Optional)**

<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Copy the fdc template XML file to the guest-dropin Directory</p>	<p>Copy the vedsr_idih.xml.template XML file to the pmac guest-dropin directory.</p> <p>Execute the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo cp /usr/TKLC/smac/html/TPD/mediation-7.1.0.0.0_x.x.x.x/vedsr_idih.xml.template /var/TKLC/smac/guest-dropin  \$ cd /var/TKLC/smac/guest-dropin/  \$ mv vedsr_idih.xml.template &lt;idih_fdc_file_name&gt;.xml</pre>
<p>7</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Configure the fdc.xml file</p>	<p>Configure the &lt;idih_fdc_file_name&gt;.xml file. See <b>Appendix O: IDIH Fast Deployment Configuration</b> for a breakdown of the parameters and a sample XML configuration file.</p> <p>Update the software versions, hostnames, bond interfaces, network addresses, and network VLAN information for the TVOE host and IDIH guests that you are installing.</p>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Run the fdconfig.</p>	<p>Run the fdconfig configuration by executing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ screen  \$ sudo fdconfig config --file=&lt;idih_fdc_file_name&gt;.xml</pre> <p>Example: \$sudo fdconfig config --file=tvoe-ferbrms4_01-22-15.xml</p> <p><b>Note:</b> This is a long duration command (45-90 Minutes). If the screen command was run prior to executing the fdconfig, perform a “screen -dr” to resume the screen session in the event of a terminal timeout etc.</p>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Monitor the Configuration</p>	<p>If not already done so, establish a GUI session on the PMAC server.</p> <p>Navigate to <b>Main Menu -&gt; Task Monitoring</b></p>  <p>Monitor the IDIH configuration to completion.</p>

**4.17.2 Post IDIH Installation Configuration**

The following sections should be executed after IDIH installation is complete.

#### 4.17.2.1 IDIH Configuration: Configure DSR Reference Data Synchronization

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 will be 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 59. Configure DSR Reference Data Synchronization for IDIH (Optional)

<b>S T E P #</b>	<p>This procedure will provide the steps to configure 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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>IDIH Application Server:</b> Login</p>	<p>Establish an SSH session to the IDIH Application Server. Login as user <i>admusr</i>.</p> <p>Issue the following commands to login as <i>tekelec</i> user.</p> <pre style="border: 1px solid black; padding: 2px; display: inline-block;">\$ sudo su - tekelec</pre>

Procedure 59. Configure DSR Reference Data Synchronization for IDIH (Optional)


<p>2</p> <p><input type="checkbox"/></p>	<p><b>IDIH Application Server:</b> Execute Configuration Script.</p>	<p>Execute the following script:</p> <pre> \$ apps/trda-config.sh  Example output: corsair-app:/usr/TKLC/xlH apps/trda-config.sh dos2unix: converting file /usr/TKLC/xlH/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: 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/xlH/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 xlH 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 xlH Trace Reference Data Adap [java] Task 24 completed: [Deployer:149026]stop application xlH Trace Reference Data Adap [java] Target state: stop completed on Server nsp [java]  BUILD SUCCESSFUL Total time: 29 seconds Buildfile: /usr/TKLC/xlH/apps/trace-refdata-adapter/build.xml  app.enable:  common.weblogic.start: [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 xlH 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 xlH Trace Reference Data Ada [java] Task 25 completed: [Deployer:149026]start application xlH Trace Reference Data Ada [java] Target state: start completed on Server nsp [java]  BUILD SUCCESSFUL Total time: 1 minute 17 seconds </pre> <p>For prompt “Please enter DSR OAM server IP address”, enter the VIP of the DSR SOAM and press <b>Enter</b>.</p> <p><b>Note:</b> If the address entered is unreachable the script will exit with error “Unable to connect to &lt;ip-address&gt;!”</p>
<p>314</p>	<p>Page</p>	<p>E 6 4 7 0 7 - 0 3</p>

**Procedure 59. Configure DSR Reference Data Synchronization for IDIH (Optional)**

3	<b>IDIH App Server:</b> Monitor Completion	Monitor the log file located at: <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"><code>/var/TKLC/xIH/log/apps/weblogic/apps/application.log</code></div> Examine the log file for entries containing text <b>“Trace Reference Data Adapter”</b>
---	---	---

**4.17.2.2 IDIH Configuration: Configuring the SSO Domain**

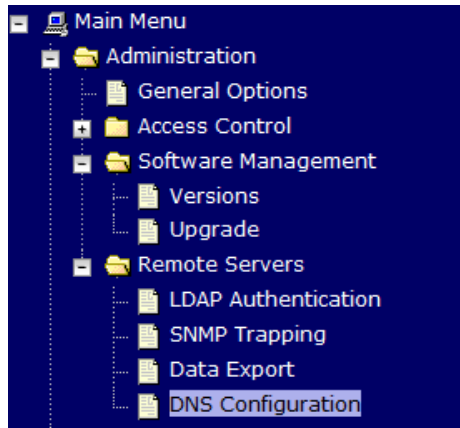
**Procedure 60. IDIH Configuration: Configuring the SSO Domain (Optional)**

<b>S T E P #</b>	This procedure will provide the steps to configure SSO Domain for IDIH  Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.  If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b> , and ask for assistance.	
1	<b>NOAM VIP GUI: Login</b>  <input type="checkbox"/>	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;"><code>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></div> Login as the <b>guiadmin</b> user:  <div style="text-align: center;">  <p>The screenshot shows the Oracle System Login interface. At the top is the Oracle logo in red. Below it is the text 'Oracle System Login' and the date 'Fri Mar 20 12:29:52 2015 EDT'. A central box titled 'Log In' contains the instruction 'Enter your username and password to log in'. It has two input fields: 'Username: guiadmin' and 'Password: ●●●●●●'. There is a 'Change password' checkbox and a 'Log In' button. Below the box, it says 'Welcome to the Oracle System Login.' and a disclaimer: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.' At the bottom, it states 'Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p> </div>

Procedure 60. IDIH Configuration: Configuring the SSO Domain (Optional)

2 **NOAM VIP**  
GUI:  
Configure  
DNS

Navigate to **Main Menu -> Administration -> Remote Servers -> DNS Configuration**



Configure values for the following fields:

- Domain Name
- Name Server
- Search Domain 1

System Domain	
	Domain Name
Domain	<input type="text"/>

External DNS Name Server	
	Address
Name Server	<input type="text"/>

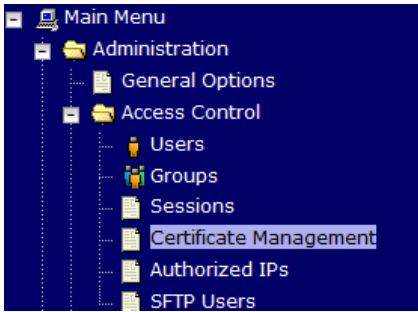
  

Domain Search Order	
	Domain Name
Search Domain 1	<input type="text"/>

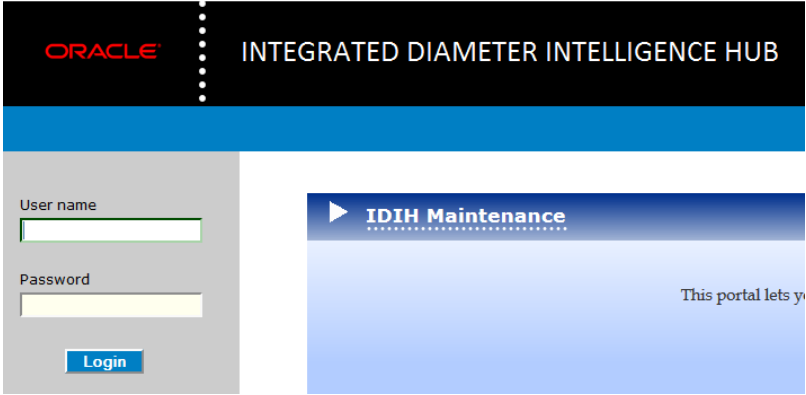
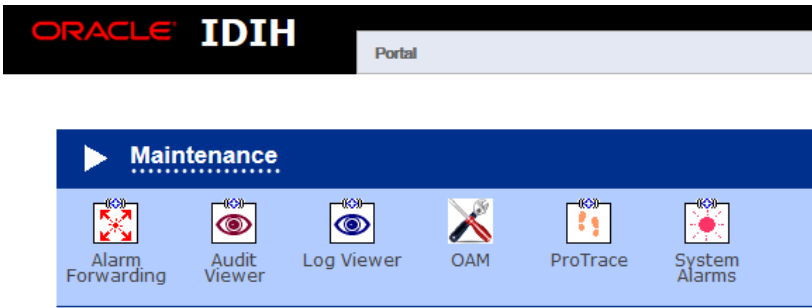
If values have already been configured, select the **Cancel** button; otherwise configure the above values and select the **Ok** button.



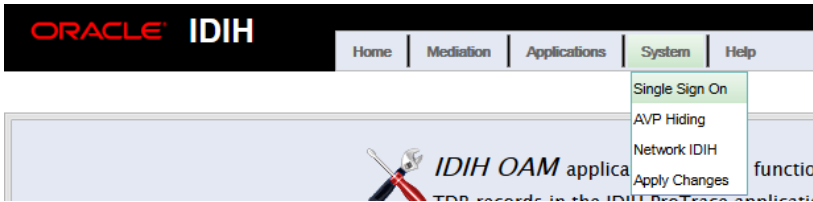
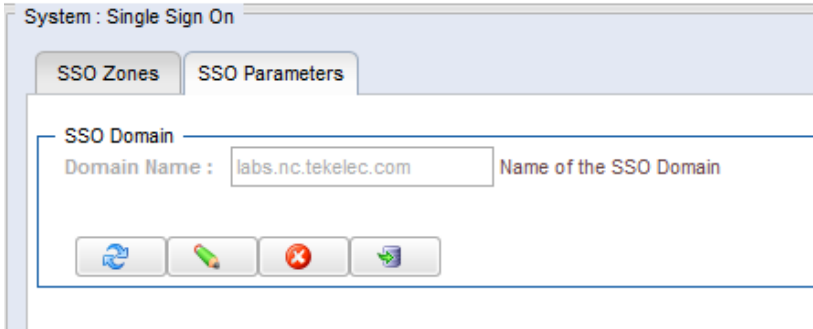
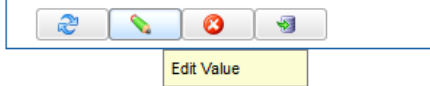


Procedure 60. IDIH Configuration: Configuring the SSO Domain (Optional)

<p>3</p> <p>NOAM VIP GUI:</p> <p>Establish SSO Local Zone</p>	<p>Navigate to <b>Main Menu -&gt; Access Control -&gt; Certification Management</b></p>  <p>Select the <b>Establish SSO Zone</b> button</p> <div style="border: 1px solid gray; padding: 5px; display: flex; justify-content: space-around; margin-bottom: 10px;"> <span>Establish SSO Zone</span> <span>Create CSR</span> <span>Import</span> <span>Delete</span> <span>Report</span> <span>Export</span> </div> <p>Enter a value for Zone Name:</p> <div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> <p>Zone Name <input style="width: 100px;" type="text" value=""/></p> <p style="font-size: small;">Name of the SSO-compatible local zone. [Range = A 1-15 character long string. Allowed characters are A-Z,a-z,0-9].</p> </div> <div style="display: flex; justify-content: center; gap: 10px;"> <span>Ok</span> <span>Apply</span> <span>Cancel</span> </div> <p>Select the <b>Ok</b> button.</p> <p>Information for the new Certificate type of SSO Local is now displayed.</p> <p>Select the <b>Report</b> button.</p> <div style="border: 1px solid gray; padding: 5px; display: flex; justify-content: space-around; margin-bottom: 10px;"> <span>Establish SSO Zone</span> <span>Create CSR</span> <span>Import</span> <span>Delete</span> <span>Report</span> <span>Export</span> </div> <p>The Certificate Report is displayed. Select and copy the encoded certificate text to the clipboard for future access.</p> <p>Example of Certificate report:</p> <pre style="border: 1px solid gray; padding: 5px; font-family: monospace; font-size: small;"> -----BEGIN CERTIFICATE----- MIICKzCCAdWgAwIBAgIJAOVfSLNc3CeJMA0GCSqGSIb3DQEBCwUAMHExCzAJBgNV BAYTAlVTMQswCQYDVQQIDAJQZjEQMA4GA1UEBwwHUWUwFzZlbnA0GA1UECgwG T3JhY2x1MQswCQYDVQQLEDAJQVJvEQMA4GA1UEAwwHTGlicXJ0eTETMBEGCSqGSIb3 DQEJARYEdGVzdAeFw0xNTA1MDQxNDIzNTRaFw0xNjA1MDMxNDIzNTRaMHExCzAJ BgNVBAYTAlVTMQswCQYDVQQIDAJQZjEQMA4GA1UEBwwHUWUwFzZlbnA0GA1UECgwG T3JhY2x1MQswCQYDVQQLEDAJQVJvEQMA4GA1UEAwwHTGlicXJ0eTETMBEGCSqG SIb3DQEJARYEdGVzdDBcMA0GCSqGSIb3DQEBAQUAA0sAMEgCQCZ/MpkhlVMP/iJ s5xDO2MwxJm3jYim43H8gr9pfBTMNP6L9kluJYi+2T0hngJFQLpIn6SK6pXnuAGY f/vDwfqPAGMBAAGjUDBOMB0GA1UdDgQWBBS6IzIOLP1gizQ6+BERr8Fo2XyDVDAf BgNVHSMEGDAWgBS6IzIOLP1gizQ6+BERr8Fo2XyDVBAMBgnVHRMEBTADAQH/MA0G CSqGSIb3DQEBCwUAA0EAOwIqBMEQyvfvvt38r/yfgIx3w5dN8SBwHjHC5TpJrHV6U zFlg5dfzoLz7ditjGOhWJ919VRw39LQ81KFp7SMxwA== -----END CERTIFICATE-----                 </pre>
---	--

Procedure 60. IDIH Configuration: Configuring the SSO Domain (Optional)

<p>4</p> <p><input type="checkbox"/></p>	<p><b>IDIH Application Server GUI:</b> Login</p>	<p>Establish a GUI session on the IDIH app server:</p> <p><code>https://&lt;app Server IP&gt;</code></p> <p>Login as the <i>idihadmin</i> 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> 

Procedure 60. IDIH Configuration: Configuring the SSO Domain (Optional)

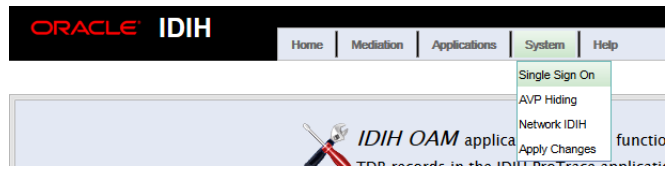
<p>6</p> <p>□</p> <p><b>IDIH Application Server GUI:</b> Configure the SSO Domain</p>	<p>Navigate to <b>System -&gt; Single Sign on</b></p>  <p>Select the <b>SSO Parameters</b> Tab</p>  <p>Select the <b>Edit Value</b> Icon Button</p>  <p>Enter a value for the Domain Name.</p> <p><b>Note:</b> This should be the same domain name assigned in the DSR NOAM DNS Configuration (<b>Step 2</b>)</p> <p>Select the <b>Save</b> icon button.</p>  <p>Select the <b>Refresh</b> icon button to display data saved for the Remote Zone.</p> 
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Procedure 60. IDIH Configuration: Configuring the SSO Domain (Optional)

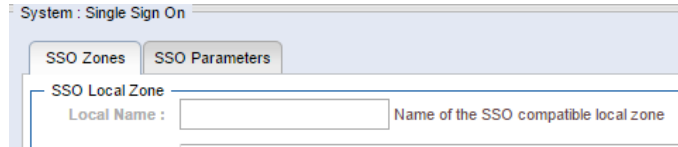
7

**DIH Application Server GUI:**  
Configure the SSO Remote Zone

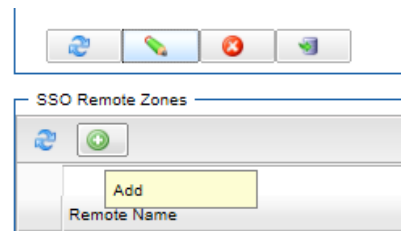
Navigate to **System -> Single Sign on**



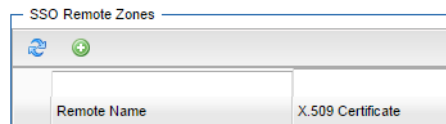
Select the **SSO Zones** Tab



Select the **Add** icon button



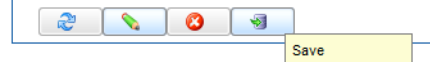
Enter a value for field **Remote Name**



For field **X.509 Certificate**, paste the encoded certificate text from the clipboard that was previously copied from the DSR NOAM.

```
X.509 Certificate
-----BEGIN CERTIFICATE----- MIIENTCCAx2gAwIBAgIBAMADGA1UECgwGT3JhY2xiMREwDwYDVQQLEDAhBjB:
CQEWEnN1cHBvcnRAb3JhY2xiMREwDwYDVQQLEDAhBjB:
FDASBgNVBAoMCO1vbnJpc3ZpbGxiMREwDwYDVQQK:
dHlwZT1BV1NTTzEhMB8GCSpGSlb3DQEJARYSo3Vwo:
ywYDdhXohb5bhORLUGCsSpo4RzHHlvKAu7DNI2GSs9:
DrVBdyqDqmBhP1stxGAaBFhnbSuUma2Qgy4mKppfeyX:
LLx5+o5EwkS8OhB9AVqjX+oETf58WYKgAgIX82o8rAW:
FoAUwCZ+1CZucSz4AivgXb122X/SLYwDAYDVR0TBAI:
tjI7N8HC9AEe0S8akEdE9pJHP7NwGjY1v5581Z2dnJ2s:
dxoXMVS5IEOO5Ea5PKk6ZyI3QCet1sEa5CRjlbOU94hj:
CERTIFICATE-----
```

Select the **save** icon



Select the **Refresh** icon to display the data saved for remote zone.

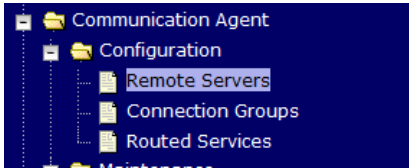
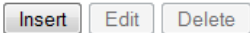
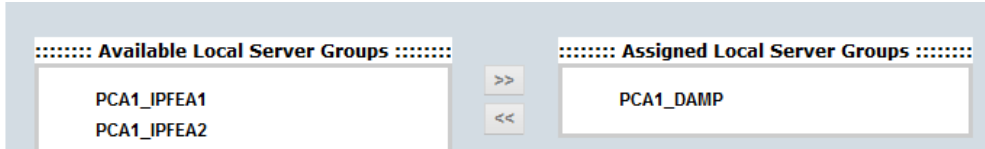


### 4.17.2.3 IDIH Configuration: Configuring IDIH in the DSR


#### Procedure 61. IDIH Configuration: Configure IDIH in the DSR (Optional)

<b>S T E P #</b>	<p>This procedure will provide the steps to complete 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>NOAM VIP GUI: Login</b></p>	<p>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; width: fit-content; margin: 10px auto;"> <p><b>https://&lt;Primary_NOAM_VIP_IP_Address&gt;</b></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>

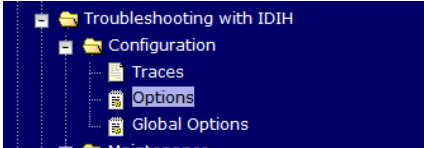
Procedure 61. IDIH Configuration: Configure IDIH in the DSR (Optional)

<p>2</p> <p>☐</p> <p><b>NOAM VIP GUI:</b> Configure CommAgent Connection</p>	<p>Navigate to <b>Main Menu -&gt; Communication Agent -&gt; Configuration -&gt; Remote Servers</b></p>  <p>Select the <b>Insert</b> button</p>  <p>Add the IDIH Mediation Server</p> <p>For the Remote Server IP address field, enter the IMI IP address of the IDIH Mediation Server.</p> <p>For the IP address Preference field, enter the IP protocol preference (if IPv6 and IPv4 are configured)</p> <table border="1" data-bbox="444 926 972 1230"> <thead> <tr> <th>Field</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Remote Server Name</td> <td><input type="text"/></td> </tr> <tr> <td>Remote Server IPv4 IP Address</td> <td><input type="text"/></td> </tr> <tr> <td>Remote Server IPv6 IP Address</td> <td><input type="text"/></td> </tr> <tr> <td>Remote Server Mode</td> <td>-- Select --</td> </tr> <tr> <td>IP Address Preference</td> <td>ComAgent Network Preference</td> </tr> </tbody> </table> <p>Set the Remote Server Mode to <b>Server</b></p> <p>Select the DA-MP server group from the <b>Available Local Server Groups</b> column</p> <p>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>Click <b>OK</b></p>	Field	Value	Remote Server Name	<input type="text"/>	Remote Server IPv4 IP Address	<input type="text"/>	Remote Server IPv6 IP Address	<input type="text"/>	Remote Server Mode	-- Select --	IP Address Preference	ComAgent Network Preference
Field	Value												
Remote Server Name	<input type="text"/>												
Remote Server IPv4 IP Address	<input type="text"/>												
Remote Server IPv6 IP Address	<input type="text"/>												
Remote Server Mode	-- Select --												
IP Address Preference	ComAgent Network Preference												

Procedure 61. IDIH Configuration: Configure IDIH in the DSR (Optional)

3 <input type="checkbox"/>	<b>SOAM VIP GUI: Login</b>	<p>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="446 367 1299 409" style="border: 1px solid black; padding: 2px;"><p><b>https://&lt;Primary_SOAM_VIP_IP_Address&gt;</b></p></div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="446 493 1299 1102" style="text-align: center;"><p>The screenshot shows the Oracle System Login interface. At the top is the Oracle logo in red. Below it is the text 'Oracle System Login' followed by a horizontal line and the date 'Fri Mar 20 12:29:52 2015 EDT'. In the center is a 'Log In' box with the heading 'Log In' and the instruction 'Enter your username and password to log in'. Inside this box are two input fields: 'Username: guiadmin' and 'Password: ●●●●●●'. Below the password field is a checkbox labeled 'Change password' and a 'Log In' button. Below the 'Log In' box is the text 'Welcome to the Oracle System Login.' At the bottom of the page is a disclaimer: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.' followed by a horizontal line and the text 'Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p></div>
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**Procedure 61. IDIH Configuration: Configure IDIH in the DSR (Optional)**

4	<p><b>SOAM VIP GUI:</b> Configure IDIH Hostname</p>	<p>Navigate to <b>Main Menu -&gt; Diameter -&gt; Troubleshooting with IDIH -&gt; Configuration -&gt; Options</b></p>  <p>From the drop down box, Select the mediation server configured in Step to in the <b>IDIH Host Name</b> field</p> <p>Enter the fully qualified domain name (or IP address) of the App server in the <b>IDIH Visualization Address</b> field:</p> <p><b>Main Menu: Diameter -&gt; Troubleshooting with IDIH -&gt; Configuration -&gt; Options</b></p> <hr/> <p><b>IDIH Configuration</b></p> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Max bandwidth</td> <td>25 *</td> <td>Maximum amount of bandwidth specified in Mbps that is used for s maximum. Node will discard TTRs so that the bandwidth required t the configured maximum. [Default = 25Mbps (26214400 bps); Range = 0-25]</td> </tr> <tr> <td>IDIH Host Name</td> <td>- Select -</td> <td>The Host Name of the peer IDIH server used for sending the mess: [Default = n/a].</td> </tr> <tr> <td>IDIH Visualization address</td> <td>100.65.135.179</td> <td>The IP address or FQDN of the remote IDIH server that visualizes th "Maintenance" screen). If an IP address is used in place of a FQDN then IDIH SSO function [Default=n/a].</td> </tr> </tbody> </table> <p style="text-align: right;"> <input type="button" value="Apply"/> <input type="button" value="Cancel"/> </p> <p>Click the <b>Apply</b> button</p>	Field	Value	Description	Max bandwidth	25 *	Maximum amount of bandwidth specified in Mbps that is used for s maximum. Node will discard TTRs so that the bandwidth required t the configured maximum. [Default = 25Mbps (26214400 bps); Range = 0-25]	IDIH Host Name	- Select -	The Host Name of the peer IDIH server used for sending the mess: [Default = n/a].	IDIH Visualization address	100.65.135.179	The IP address or FQDN of the remote IDIH server that visualizes th "Maintenance" screen). If an IP address is used in place of a FQDN then IDIH SSO function [Default=n/a].
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#### 4.17.2.4 IDIH Configuration: Configuring Mail Server (Optional)

##### Procedure 62. IDIH Configuration: Configure Mail Server-Optional (Optional)

<b>S</b> <b>T</b> <b>E</b> <b>P</b> <b>#</b>	<p>This procedure will provide the steps to configure 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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1  <input type="checkbox"/>	<b>IDIH Application Server: Login</b>	Establish an SSH session to the IDIH Application Server, login as <b>admusr</b> .

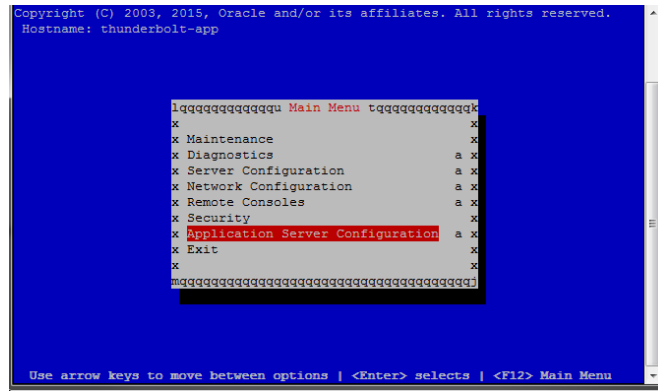
Procedure 62. IDIH Configuration: Configure Mail Server-Optional (Optional)

2 **IDIH Application Server:**  
Configure the Authenticated Mail Server

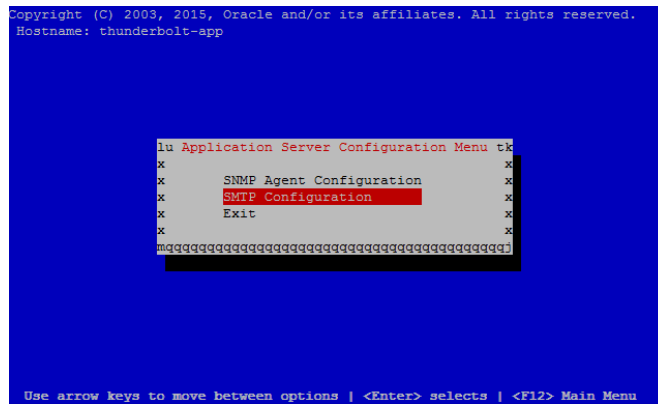
Enter the platcfg menu, execute the following command:

```
$ sudo su - platcfg
```

Select **Application Server Configuration**



Select **SMTP Configuration**



Select **Edit**

Enter the following parameters:

1. Mail Server IP Address
2. User
3. Password
4. Email Address (From)
5. Mail smtp timeout
6. Mail smtp connectiontimeout
7. SNMP over SSL used?

Select **OK**

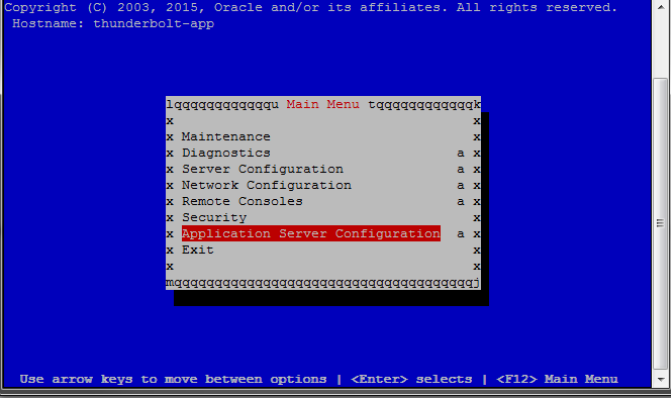
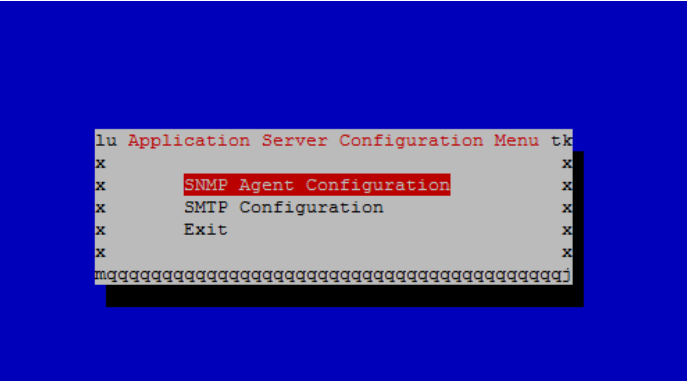
Select **Exit** to exit the platcfg menu.

#### 4.17.2.5 IDIH Configuration: Configuring SNMP Management Server (Optional)

##### Procedure 63. IDIH Configuration: Configure SNMP Management Server-Optional (Optional)

<b>S T E P #</b>	This procedure will provide the steps to configure the SNMP management server.	
	<b>Note:</b> This procedure is optional; however, this option is required for Forwarding (forwarding by SNMP filter defined) and is available only on the application 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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.	
1 <input type="checkbox"/>	<b>IDIH Application Server: Login</b>	Establish an SSH session to the IDIH Application Server, login as <b>admusr</b> .

Procedure 63. IDIH Configuration: Configure SNMP Management Server-Optional (Optional)

<p>2</p> <p><input type="checkbox"/></p>	<p><b>IDIH Application Server:</b> Configure SNMP Management Server</p>	<p>Enter the platcfg menu, execute the following command:</p> <pre>\$ sudo su - platcfg</pre> <p>Select <b>Application Server Configuration</b></p>  <p>Select <b>SNMP Agent Configuration</b></p>  <p>Select <b>Edit</b></p> <p>Enter the IP address of the SNMP Management Server</p> <p><b>Note:</b> The SNMP agent configuration is updated and the SNMP Management server is automatically restarted.</p> <p>Select <b>OK</b></p> <p>Select <b>Exit</b> to exit the platcfg menu.</p>
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#### 4.17.2.6 IDIH Configuration: Change Network Interface (Optional)

##### Procedure 64. IDIH Configuration: Change Network Interface-Optional (Optional)

<b>S</b> <b>T</b> <b>E</b> <b>P</b> <b>#</b>	<p>This procedure will provide the steps to change 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>IDIH Mediation Server: Login</b>	<p>Establish an SSH session to the IDIH Mediation Server. Login as user <b>admusr</b>.</p> <p>Issue the following commands to login as <b>tekelec</b> user.</p> <pre style="border: 1px solid black; padding: 2px;">\$ sudo su - tekelec</pre>

**Procedure 64. IDIH Configuration: Change Network Interface-Optional (Optional)**

<p>2</p> <p><input type="checkbox"/></p>	<p><b>IDIH Mediation Server:</b> Execute the Change Interface Script</p>	<p>Execute the change interface script with the following command:</p> <pre style="border: 1px solid black; padding: 10px;"> \$ 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>
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**4.17.2.7 IDIH Configuration: CPU Pinning**

Follow **Section 4.13** for CPU Pinning on the servers that host the IDIH VMs.

**4.17.2.8 IDIH Configuration: Generate Disaster Recovery FDC File (Optional)**

**Procedure 65. IDIH Configuration: Backup the upgrade and Disaster Recovery FDC File-Optional (Optional)**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps to generate 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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>Identify Backup Server</b></p>	<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>
<p>2</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Establish Terminal Session</p>	<p>Establish an SSH session to the PMAC. Login as <b>admusr</b>.</p>

**Procedure 65. IDIH Configuration: Backup the upgrade and Disaster Recovery FDC File-Optional (Optional)**

<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Verify Upgrade fdc file exists</p>	<p>Execute the following commands to verify the upgrade FDC file for IDIH exists:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /var/TKLC/smac/guest-dropin \$ ls -l *.xml</pre> <p>The following output is expected:</p> <pre style="border: 1px solid black; padding: 5px;">-rw-r----- 1 root smac 9542 May 11 09:43 &lt;idih_install&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>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Transfer the FDC file to a remote server.</p>	<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 style="border: 1px solid black; padding: 5px;">\$ 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 press <b>Enter</b>.</p> <p>If the Customer System is a Windows system please refer to [14] procedure <i>Using WinSCP</i> to copy the backup image to the customer system.</p>

## 4.18 Post-Install Activities

### 4.18.1 Optimization (DSR & Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

**Procedure 66. Optimization Procedure (DSR & Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)**

<p><b>S</b> <b>T</b> <b>E</b> <b>P</b> <b>#</b></p>	<p>This procedure will provide instruction on how to run Optimization Scripts for Oracle X5-2/Netra X5-2/HP DL380 Gen 9 only.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>DSR NOAM VIP:</b> Login</p>	<p>Establish an SSH to the NOAM VIP address, login as <i>admusr</i>.</p>
<p>2 <input type="checkbox"/></p>	<p><b>DSR NOAM VIP:</b> Execute the Optimization Script on the Active NOAM</p>	<p>Execute the following commands to execute the performance optimization script on the active NOAM:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /usr/TKLC/dsr/bin/ \$ sudo ./rmsNoamConfig.sh</pre> <p><b>Note:</b> Configuration Successful output should be given.</p>




## 4.18.2 Activate Optional Features

### Procedure 67. Activate Optional Features

S T E P #	<p>This procedure will provide instruction on how to install 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Refer to Install Guides for Optional Features to Complete Installation</b>	<p>Refer to <b>Section 3.3</b> for a list of feature install documents whose procedures are to be executed at this moment.</p>
2 <input type="checkbox"/>	<b>DR-NOAM: Feature Activation</b>	<p>If the DR NOAM was configured in <b>Section 4.15.3</b>, and MAPIWF has been activated in step 1; SSH to the active DR-NOAM, login as <b>admusr</b>.</p> <p>Execute the following commands:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre>\$ cd /usr/TKLC/dsr/prod/maint/loaders/activate \$ sudo ./load.mapinterworkingActivateAsourced</pre> </div> <p>Repeat this step for the standby DR-NOAM.</p>

### 4.18.3 Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

#### Procedure 68. Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

<p><b>S T E P #</b></p>	<p>This procedure will provide instruction on how to configure ComAgent connections on DSR/SDS for use in the FABR application.</p> <p><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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1 <input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI: Login</b></p> <p>Establish a GUI session on the SDS 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; width: fit-content; margin: 10px auto;"> <p><code>https://&lt;Primary_SDS_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> 


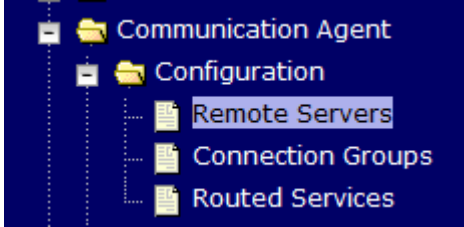
Procedure 68. Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

2 <input type="checkbox"/>	<b>SDS NOAM VIP GUI:</b> Configure Remote Server IP Address	Navigate to <b>Main Menu -&gt; Communication Agent -&gt; Configuration -&gt; Remote Servers</b>  Click <b>Insert</b> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>
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Procedure 68. Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

<p>3</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Configure Remote Server IP Address</p>	<p>Enter the Remote Server Name for the DSR MP Server:</p> <table border="1" data-bbox="446 310 1409 447"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Remote Server Name</td> <td>RDU08MP1 *</td> <td>Unique identifier used to label a Remote Server. [Default: n/a; Range: A 32-character string. Valid underscore. Must contain at least one alpha and</td> </tr> </tbody> </table> <p>Enter the Remote Server IMI IP address:</p> <table border="1" data-bbox="446 548 1307 646"> <tbody> <tr> <td>Remote Server IP Address</td> <td>169.254.2.6 *</td> <td>This is the IP address of the Remote Server. Default: n/a; Range: A valid IPv4 address.</td> </tr> </tbody> </table> <p><b>Note:</b> This should be the IMI IP address of the MP server.</p> <p>Select <b>Client</b> for the Remote Server Mode from the pull down menu:</p> <table border="1" data-bbox="446 804 1360 867"> <tbody> <tr> <td>Remote Server Mode</td> <td>Client *</td> </tr> </tbody> </table> <p>Select the Local Server Group for the SDS DP server group:</p> <table border="1" data-bbox="446 963 1214 1182"> <thead> <tr> <th>Available Local Server Groups</th> <th>Assigned Local Server Groups</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>DP_righnc_1_grp</li> <li>DP_drhmnc_1_grp</li> </ul> </td> <td></td> </tr> </tbody> </table> <p>Click <b>Apply</b></p> <table border="1" data-bbox="446 1276 1208 1507"> <thead> <tr> <th>Available Local Server Groups</th> <th>Assigned Local Server Groups</th> </tr> </thead> <tbody> <tr> <td></td> <td> <ul style="list-style-type: none"> <li>DP_righnc_1_grp</li> <li>DP_drhmnc_1_grp</li> </ul> </td> </tr> </tbody> </table>	Field	Value	Description	Remote Server Name	RDU08MP1 *	Unique identifier used to label a Remote Server. [Default: n/a; Range: A 32-character string. Valid underscore. Must contain at least one alpha and	Remote Server IP Address	169.254.2.6 *	This is the IP address of the Remote Server. Default: n/a; Range: A valid IPv4 address.	Remote Server Mode	Client *	Available Local Server Groups	Assigned Local Server Groups	<ul style="list-style-type: none"> <li>DP_righnc_1_grp</li> <li>DP_drhmnc_1_grp</li> </ul>		Available Local Server Groups	Assigned Local Server Groups		<ul style="list-style-type: none"> <li>DP_righnc_1_grp</li> <li>DP_drhmnc_1_grp</li> </ul>
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<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Repeat</p>	<p>Repeat steps 2-3 for each remote MP in the same SOAM NE.</p>																			

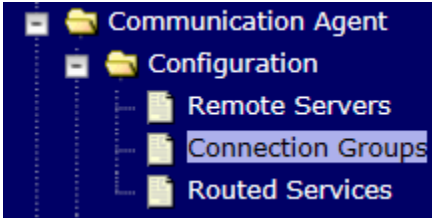
Procedure 68. Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

<p>5</p> <p><input type="checkbox"/></p>	<p><b>DSR NOAM VIP GUI:</b> Login</p>	<p>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; width: fit-content; margin: 10px auto;"> <p><code>https://&lt;Primary_DSR_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> 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 displayed on the left, and the date 'Fri Mar 20 12:29:52 2015 EDT' is on the right. A central 'Log In' box prompts the user to enter their username and password. The 'Username' field contains 'guiadmin' and the 'Password' field is masked with dots. There is a 'Change password' checkbox and a 'Log In' button. Below the login box, a welcome message reads 'Welcome to the Oracle System Login.' At the bottom, a disclaimer states: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>DSR NOAM VIP GUI:</b> Configure Remote Server IP Address</p>	<p>Navigate to <b>Main Menu -&gt; Communication Agent -&gt; Configuration -&gt; Remote Servers</b></p>  <p>The screenshot shows a navigation tree with a blue background. The path 'Communication Agent' -&gt; 'Configuration' -&gt; 'Remote Servers' is highlighted. Other options in the 'Remote Servers' menu include 'Connection Groups' and 'Routed Services'.</p> <p>Click <b>Insert</b></p> <div style="display: flex; justify-content: center; gap: 10px; margin-top: 10px;"> <div style="border: 1px solid gray; padding: 2px 10px;">Insert</div> <div style="border: 1px solid gray; padding: 2px 10px;">Edit</div> <div style="border: 1px solid gray; padding: 2px 10px;">Delete</div> </div>

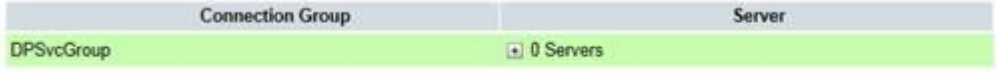


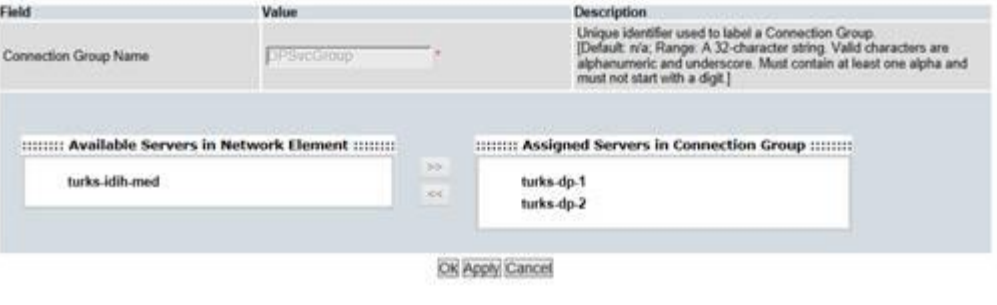

Procedure 68. Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

<p>7</p> <p>☐</p> <p><b>DSR NOAM VIP GUI:</b> Configure Remote Server IP Address</p>	<p>Enter the Remote Server Name for the SDS DP Server:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Field</th> <th style="text-align: left;">Value</th> </tr> </thead> <tbody> <tr> <td>Remote Server Name</td> <td>RDU08SDSDP1 *</td> </tr> </tbody> </table> <p>Enter the Remote Server IMI IP address:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Remote Server IPv4 IP Address</td> <td>169.254.2.9</td> </tr> </table> <p><b>Note:</b> This should be the IMI IP address of the DP Server.</p> <p>Select <b>Server</b> for the Remote Server Mode from the pull down menu:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Remote Server Mode</td> <td>Server ▼ *</td> </tr> </table> <p>Select the IP Address Preference:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>IP Address Preference</td> <td> <div style="border: 1px solid black; padding: 2px;">                     ComAgent Network Preference ▼                      ComAgent Network Preference                      IPv4 Preferred                      IPv6 Preferred                 </div> </td> </tr> </table> <p>Select the Local Server Group for the DSR MP server group:</p> <div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">Add selected Local Server Group(s).</p> <table style="width: 100%;"> <tr> <td style="width: 50%; border: 1px solid gray; padding: 5px;">                     Available Local Server Groups                      Oahu_IPFE_1                      Oahu_IPFE_2                      Oahu_SS7MP_1                      Oahu_SS7MP_2                      Oahu_DAMP                 </td> <td style="width: 10%; text-align: center; vertical-align: middle;">                     &gt;&gt;                      &lt;&lt;                 </td> <td style="width: 40%; border: 1px solid gray; padding: 5px;">                     Assigned Local Server Groups                 </td> </tr> </table> <p style="text-align: right;">Ok Apply Cancel</p> </div> <div style="border: 1px solid gray; padding: 5px;"> <table style="width: 100%;"> <tr> <td style="width: 50%; border: 1px solid gray; padding: 5px;">                     Available Local Server Groups                      Oahu_IPFE_1                      Oahu_IPFE_2                      Oahu_SS7MP_1                      Oahu_SS7MP_2                 </td> <td style="width: 10%; text-align: center; vertical-align: middle;">                     &gt;&gt;                      &lt;&lt;                 </td> <td style="width: 40%; border: 1px solid gray; padding: 5px;">                     Assigned Local Server Groups                      Oahu_DAMP                 </td> </tr> </table> <p style="text-align: right;">Ok Apply Cancel</p> </div> <p>Click <b>Apply</b></p>	Field	Value	Remote Server Name	RDU08SDSDP1 *	Remote Server IPv4 IP Address	169.254.2.9	Remote Server Mode	Server ▼ *	IP Address Preference	<div style="border: 1px solid black; padding: 2px;">                     ComAgent Network Preference ▼                      ComAgent Network Preference                      IPv4 Preferred                      IPv6 Preferred                 </div>	Available Local Server Groups Oahu_IPFE_1 Oahu_IPFE_2 Oahu_SS7MP_1 Oahu_SS7MP_2 Oahu_DAMP	>> <<	Assigned Local Server Groups	Available Local Server Groups Oahu_IPFE_1 Oahu_IPFE_2 Oahu_SS7MP_1 Oahu_SS7MP_2	>> <<	Assigned Local Server Groups Oahu_DAMP
Field	Value																
Remote Server Name	RDU08SDSDP1 *																
Remote Server IPv4 IP Address	169.254.2.9																
Remote Server Mode	Server ▼ *																
IP Address Preference	<div style="border: 1px solid black; padding: 2px;">                     ComAgent Network Preference ▼                      ComAgent Network Preference                      IPv4 Preferred                      IPv6 Preferred                 </div>																
Available Local Server Groups Oahu_IPFE_1 Oahu_IPFE_2 Oahu_SS7MP_1 Oahu_SS7MP_2 Oahu_DAMP	>> <<	Assigned Local Server Groups															
Available Local Server Groups Oahu_IPFE_1 Oahu_IPFE_2 Oahu_SS7MP_1 Oahu_SS7MP_2	>> <<	Assigned Local Server Groups Oahu_DAMP															

**Procedure 68. Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)**

<p>8</p> <p><input type="checkbox"/></p>	<p><b>DSR</b>  <b>NOAM VIP</b>  <b>GUI:</b> Repeat</p>	<p>Repeat steps 6-7 for each remote DP in the same SOAM NE.</p>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>DSR</b>  <b>NOAM VIP</b>  <b>GUI:</b>          Configure          Connection          Groups</p>	<p>Navigate to <b>Main Menu -&gt; Communication Agent -&gt; Configuration -&gt; Connection Groups</b></p>  <p>The screenshot shows a hierarchical menu structure on a dark blue background. At the top is 'Communication Agent' with a folder icon. Below it is 'Configuration' with a folder icon. Under 'Configuration' are three items: 'Remote Servers' with a document icon, 'Connection Groups' with a document icon and a light blue highlight, and 'Routed Services' with a document icon.</p>

Procedure 68. Configure ComAgent Connections (DSR + SDS-Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

<p>10</p> <p><input type="checkbox"/></p>	<p><b>DSR NOAM VIP GUI: Edit Connection Groups</b></p>	<p>Select the DPSvcGroup Connection Group</p>  <p>Click <b>Edit</b></p>  <p>Select the desired DP servers from the Available Servers in Network Element:</p>   <p>Click <b>Ok</b></p>
<p>11</p> <p><input type="checkbox"/></p>	<p><b>DSR NOAM VIP GUI: Verify correct number of servers in group</b></p>	<p>Verify Correct number of servers are in the connection group.</p> 



#### 4.18.4 Shared Secret Encryption Key Revocation (RADIUS & 7.2 Only)

##### Procedure 69: Shared secret encryption key revocation (RADIUS Only)

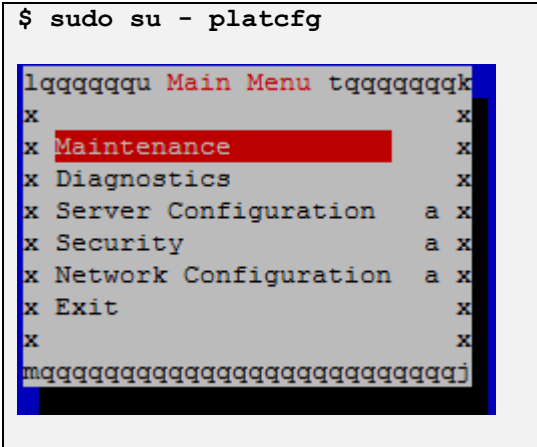
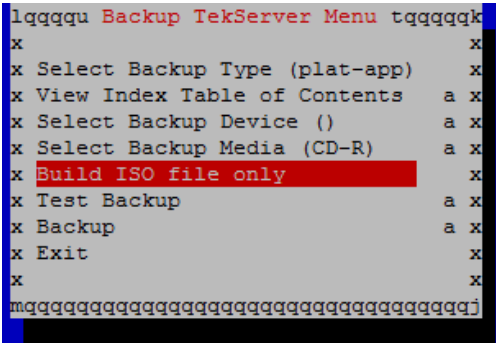
<b>S T E P #</b>	<p>This procedure will provide instruction on how to change shared secret encryption key on DSR 7.2 RADIUS setup.</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Revoke RADIUS shared secret encryption key</b>	<p>Refer to RADIUS Shared Secret Key revocation MOP to change the encryption key on the DSR installed setup. Refer to [17]</p> <p><b>Note:</b> This is highly recommended to change the key after installation due to security reasons.</p>

#### 4.18.5 Backup TVOE Configuration

##### Procedure 70. Backup TVOE Configuration

<b>S T E P #</b>	<p>This procedure will provide instruction on how to back up each TVOE rack mount server after a successful 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Identify Backup Server</b>	<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> <li>• SDS NOAM</li> <li>• SDS DP SOAM</li> </ul>
2 <input type="checkbox"/>	<b>TVOE Server: Login</b>	<p>Establish an SSH session to the TVOE host server, login as <b>admusr</b>.</p>

Procedure 70. Backup TVOE Configuration

<p>3</p> <p><input type="checkbox"/></p>	<p><b>TVOE Server:</b> Build ISO backup file</p>	<p>Execute the following command from the TVOE server:</p> <pre>\$ sudo su - platcfg</pre>  <p>Select the following menu options sequentially: <b>Maintenance -&gt; Backup and Restore -&gt;Backup Platform (CD/DVD).</b> The <b>“Backup TekServer Menu”</b> page will now be shown.</p> <p><b>Note:</b> If no cdrom device is found by TPD, you will receive an error dialog with the message: "No disk device available. This is normal on systems without a cdrom device." Press <b>Enter</b> to continue.</p> <p>Build the backup ISO image by selecting: Build ISO file only</p>  <p><b>Note:</b> Creating the ISO image may happen so quickly that this screen may only appear for an instant.</p> <p>After the ISO is created, platcfg will return to the Backup TekServer Menu. The ISO has now been created and is located in the /var/TKLC/bkp/ directory. An example filename of a backup file that was created is: "hostname1307466752-plat-app-201104171705.iso"</p> <p>Exit out of platcfg by selecting <b>Exit</b>.</p>
--	--	--

**Procedure 70. Backup TVOE Configuration**


<p>4</p> <p><input type="checkbox"/></p>	<p><b>Backup Server:</b> Transfer TVOE Files to Backup Server</p>	<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 style="border: 1px solid black; padding: 5px;">\$ sudo scp tvoexfer@&lt;TVOE IP Address&gt;:/var/TKLC/bkp/* /path/to/destination/</pre> <p>Move the TVOE backup to a customer provided backup server for safe keeping.</p> <p>When prompted, enter the tvoexfer user password and press <b>Enter</b>.</p> <p>If the Customer System is a Windows system please refer to [14] procedure <i>Using WinSCP</i> 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>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Repeat for Additional TVOE Servers</b></p>	<p>Repeat steps <b>2-4</b> for additional TVOE servers</p>

**4.18.6 Backup PMAC Application**

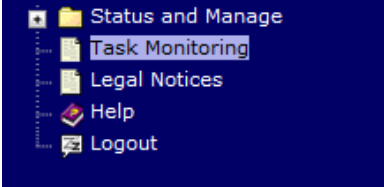



**Procedure 71. Backup PMAC Application**

<p><b>S T E P #</b></p>	<p>This procedure will provide instruction on how to back 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>Identify Backup Server</b></p>	<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> <li>• SDS NOAM</li> <li>• SDS DP SOAM</li> </ul>
<p>2</p> <p><input type="checkbox"/></p>	<p><b>PMAC Server: Login</b></p>	<p>Establish an SSH session to the PMAC server, login as <b>admusr</b>.</p>

Procedure 71. Backup PMAC Application


<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC Server:</b> Build backup File</p>	<p>Execute the following command from the PMAC server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/pmacadm backup</pre> <p>PM&amp;C backup been successfully initiated as task ID 7</p> <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:</p> <p>or issue the command "<b>sudo pmaccli getBgTasks</b>". The result should eventually be "PMAC Backup successful" and the background task should indicate "COMPLETE".</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and enter:</p> <pre style="border: 1px solid black; padding: 5px;">http://&lt;PMAC Mgmt Network IP&gt;</pre> <p>Login as <i>pmacadmin</i> user:</p> 

Procedure 71. Backup PMAC Application

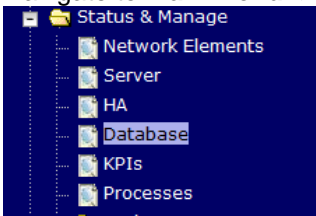
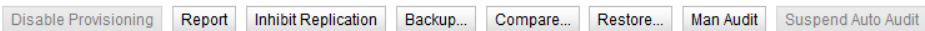
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC Server GUI:</b> Monitor/Verify Backup Task Completion</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b></p>  <p>Monitor the Backup PMAC Task:</p> <p><b>Background Task Monitoring</b></p> <p>Filter ▾</p> <table border="1" data-bbox="477 695 1373 793"> <thead> <tr> <th></th> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>State</th> </tr> </thead> <tbody> <tr> <td></td> <td>181</td> <td>Backup PM&amp;C</td> <td></td> <td>PM&amp;C Backup successful</td> <td>COMPLETE</td> </tr> </tbody> </table> <p><b>Note:</b> Alternatively, you can monitor the Backup task by executing the following command:</p> <pre>\$ sudo pmaccli getBgTasks</pre>		ID	Task	Target	Status	State		181	Backup PM&C		PM&C Backup successful	COMPLETE
	ID	Task	Target	Status	State									
	181	Backup PM&C		PM&C Backup successful	COMPLETE									
<p>6</p> <p><input type="checkbox"/></p>	<p><b>Backup Server:</b> Transfer PMAC File to Backup Server</p>	<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/backup/* /path/to/destination/</pre> <p>When prompted, enter the admusr user password and press <b>Enter</b>.</p> <p>If the Customer System is a Windows system please refer to [14] procedure <i>Using WinSCP</i> to copy the backup image to the customer system.</p>												
<p>7</p> <p><input type="checkbox"/></p>	<p><b>Repeat for Additional PMAC Servers</b></p>	<p>Repeat <b>steps 2-6</b> for additional PMAC servers</p>												

## 4.18.7 Backup NOAM Database

### Procedure 72. NOAM Database Backup

<b>S T E P #</b>	<p>This procedure will provide instruction on how to back 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<b>1</b> <input type="checkbox"/>	<b>Identify Backup Server</b>	<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> <li>• SDS NOAM</li> <li>• SDS DP SOAM</li> </ul>
<b>2</b> <input type="checkbox"/>	<b>NOAM VIP GUI: Login</b>	<p>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; width: fit-content; margin: 10px auto;"> <p><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center; margin: 20px 0;">  </div> <div style="text-align: center;"> <p><b>Oracle System Login</b> <span style="float: right;">Fri Mar 20 12:29:52 2015 EDT</span></p> <hr style="width: 80%; margin: 0 auto;"/> </div> <div style="text-align: center; border: 1px solid gray; padding: 10px; width: 60%; margin: 10px auto;"> <p><b>Log In</b></p> <p>Enter your username and password to log in</p> <p>Username: <input type="text" value="guiadmin"/></p> <p>Password: <input type="password" value="••••••"/></p> <p><input type="checkbox"/> Change password</p> <p><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;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 80%; margin: 0 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>

Procedure 72. NOAM Database Backup

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Perform Database Backup</p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; Database</b></p>  <p>Select the Active NOAM</p> <p>Select the <b>Backup</b> Button:</p>  <p>Select the desired file compression method</p> <p><b>Database Backup</b></p> <table border="1"><thead><tr><th>Field</th><th>Value</th></tr></thead><tbody><tr><td colspan="2">Server: Jetta-NO-1</td></tr><tr><td>Select data for backup</td><td><input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration</td></tr><tr><td>Compression</td><td><input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none *</td></tr><tr><td>Archive Name</td><td>Backup.dsr.Jetta-NO-1.Configuration.NETWORK_OAMP.20150505_12415 *</td></tr><tr><td>Comment</td><td><input type="text"/></td></tr></tbody></table> <p><input type="button" value="Ok"/> <input type="button" value="Cancel"/></p> <p>Set the archive file name if needed.</p> <p>Select <b>OK</b></p>	Field	Value	Server: Jetta-NO-1		Select data for backup	<input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration	Compression	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none *	Archive Name	Backup.dsr.Jetta-NO-1.Configuration.NETWORK_OAMP.20150505_12415 *	Comment	<input type="text"/>
Field	Value													
Server: Jetta-NO-1														
Select data for backup	<input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration													
Compression	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none *													
Archive Name	Backup.dsr.Jetta-NO-1.Configuration.NETWORK_OAMP.20150505_12415 *													
Comment	<input type="text"/>													


Procedure 72. NOAM Database Backup

<p>4</p> <p><input type="checkbox"/></p>	<p><b>Backup Server:</b> Transfer File to Backup Server</p>	<p>Login to the backup server identified in <b>step 1</b> and copy backup image and key file (RADIUS Only) 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="background-color: #f0f0f0; padding: 10px;">\$ sudo scp admusr@&lt;NOAM VIP&gt;:/var/TKLC/db/filemgmt/backup/* /path/to/destination/</pre> <p>Execute following command to encrypt the key file before sending to filemgmt area :</p> <pre style="background-color: #f0f0f0; padding: 10px;">\$ ./sharedKrevo -encr</pre> <p>Copy key file to customer server :</p> <pre style="background-color: #f0f0f0; padding: 10px;">\$ sudo scp admusr@&lt;NOAM VIP&gt;:/var/TKLC/db/filemgmt/DpiKf.bin.encr /path/to/destination/</pre> <p>When prompted, enter the admusr user password and press <b>Enter</b>.</p> <p>If the Customer System is a Windows system please refer to [14] procedure <i>Using WinSCP</i> to copy the backup image to the customer system.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Repeat for Additional NOAM Servers</b></p>	<p>Repeat <b>steps 2-4</b> for additional DSR and SDS NOAM Sites</p>

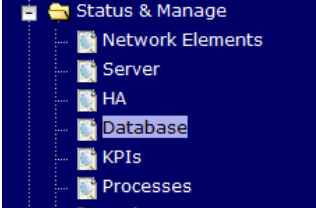



## 4.18.8 Backup SOAM Database



### Procedure 73. SOAM Database Backup

<b>S T E P #</b>	<p>This procedure will provide instruction on how to back 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Identify Backup Server</b>	<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> <li>• SDS NOAM</li> <li>• SDS DP SOAM</li> </ul>
2 <input type="checkbox"/>	<b>SOAM VIP GUI: Login</b>	<p>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; width: fit-content; margin: 10px auto;"> <p><code>http://&lt;Primary_SOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center; margin: 20px 0;">  </div> <div style="text-align: center;"> <p><b>Oracle System Login</b> <span style="float: right;">Fri Mar 20 12:29:52 2015 EDT</span></p> <hr style="width: 60%; margin: 0 auto;"/> </div> <div style="text-align: center; margin: 20px 0;"> <div style="border: 1px solid gray; padding: 10px; width: 300px; margin: 0 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 style="text-align: center;">Username: <input type="text" value="guiadmin"/></p> <p style="text-align: center;">Password: <input type="password" value="•••••"/></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> </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;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 60%; margin: 0 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>

Procedure 73. SOAM Database Backup

<p>3</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI: Perform Database Backup</b></p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; Database</b></p>  <p>Select the Active SOAM</p> <p>Select the <b>Backup</b> Button:</p>  <p>Select the desired file compression method</p> <p><b>Database Backup</b></p> <table border="1" data-bbox="456 846 1256 1125"> <thead> <tr> <th>Field</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Server: Jetta-NO-1</td> <td></td> </tr> <tr> <td>Select data for backup</td> <td><input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration</td> </tr> <tr> <td>Compression</td> <td><input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none *</td> </tr> <tr> <td>Archive Name</td> <td>Backup.dsr.Jetta-NO-1.Configuration.NETWORK_OAMP.20150505_12415 *</td> </tr> <tr> <td>Comment</td> <td><input type="text"/></td> </tr> </tbody> </table> <p>Ok Cancel</p> <p>Set the archive file name if needed.</p> <p>Select <b>OK</b></p>	Field	Value	Server: Jetta-NO-1		Select data for backup	<input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration	Compression	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none *	Archive Name	Backup.dsr.Jetta-NO-1.Configuration.NETWORK_OAMP.20150505_12415 *	Comment	<input type="text"/>
Field	Value													
Server: Jetta-NO-1														
Select data for backup	<input type="checkbox"/> Provisioning <input checked="" type="checkbox"/> Configuration													
Compression	<input type="radio"/> gzip <input checked="" type="radio"/> bzip2 <input type="radio"/> none *													
Archive Name	Backup.dsr.Jetta-NO-1.Configuration.NETWORK_OAMP.20150505_12415 *													
Comment	<input type="text"/>													
<p>4</p> <p><input type="checkbox"/></p>	<p><b>Backup Server:</b> Transfer PMAC File to Backup Server</p>	<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 data-bbox="456 1461 1430 1551">\$ sudo scp admusr@&lt;SOAM VIP&gt;:/var/TKLC/db/filemgmt/backup/* /path/to/destination/</pre> <p>When prompted, enter the admusr user password and press <b>Enter</b>.</p> <p>If the Customer System is a Windows system please refer to [14] procedure <i>Using WinSCP</i> to copy the backup image to the customer system.</p>												
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Repeat for Additional TVOE Servers</b></p>	<p>Repeat <b>steps 2-4</b> for additional DSR SOAM Sites</p>												

#### Procedure 74. Enable/Disable DTLS (SCTP Diameter Connections Only)

<b>S T E P #</b>	This procedure will provide instructions on how to prepare clients before configuring SCTP diameter connections.	
	 <b>Important</b> 	
	Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.	
	If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b> , and ask for assistance.	
1 <input type="checkbox"/>	<b>Enable/Disable DTLS (SCTP Diameter Connections Only)</b>	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 7.1.x/7.2/7.3 should prepare clients before the DSR connections are established after installation. This will ensure the DSR to Client SCTP connection will establish 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 MAY NOT establish after the DSR is installed.  <a href="https://access.redhat.com/security/cve/CVE-2015-1421">https://access.redhat.com/security/cve/CVE-2015-1421</a> <a href="https://access.redhat.com/security/cve/CVE-2014-5077">https://access.redhat.com/security/cve/CVE-2014-5077</a>  Execute procedures in [15] to disable/enable the DTLS feature.

## Appendix A: Pre-IPM Procedures

### Appendix A.1: Setting the Server's CMOS Clock

The date and time in the server's CMOS clock must be set accurately before running the IPM procedure.

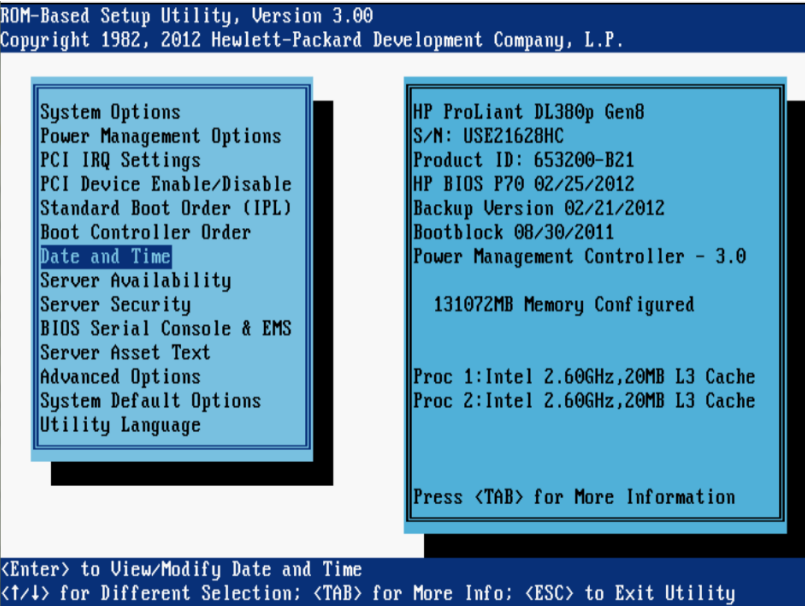
**Note:** The IPM installation process managed by PMAC for blade servers automatically sets the server's CMOS clock, so there is no need to set the server CMOS clock when using PMAC.

### Appendix A.2: Configure the RMS Server BIOS Settings

#### Appendix A.2.1: Configure HP Gen 8 Servers

Follow these steps to configure HP Gen 8 server BIOS settings

Appendix A.2.1. Configure HP Gen 8 Server BIOS Settings

<p><b>S T E P #</b></p>	<p>This procedure explains the steps needed to configure HP DL380 Server BIOS Settings</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>HP DL380 Server:</b> Connect VGA Monitor and USB Keyboard</p>	<p>Connect via a VGA monitor and USB keyboard.</p>
<p>2 <input type="checkbox"/></p>	<p><b>HP DL380 Server:</b> Reboot</p>	<p>Reboot the server and after the server is powered on, press the &lt;F9&gt; key when prompted to access the ROM-Based Setup Utility:</p> 
<p>3 <input type="checkbox"/></p>	<p><b>HP DL380 Server:</b> Select the Date and Time</p>	<p>From the above screen (Step 1), set the data and time to GMT (Greenwich Mean Time).</p> <p>Press &lt;Esc&gt; to navigate to the main menu</p>
<p>4 <input type="checkbox"/></p>	<p><b>HP DL380 Server:</b> Server Availability</p>	<p>From the above screen (Step 1), select Server Availability.</p> <ul style="list-style-type: none"> <li>• Change Automatic Power-On to Enabled</li> <li>• Change Power-On Delay to No Delay</li> <li>• Press &lt;Esc&gt; to navigate to the main menu</li> </ul>
<p>5 <input type="checkbox"/></p>	<p><b>HP DL380 Server:</b> System Options</p>	<p>From the above screen (Step 1), Select System Options.</p> <ul style="list-style-type: none"> <li>• Select Power Management Options</li> <li>• Select HP Power Regulator</li> <li>• Select HP Status High Performance Mode</li> <li>• Press &lt;ESC&gt; to navigate to the main menu.</li> </ul>

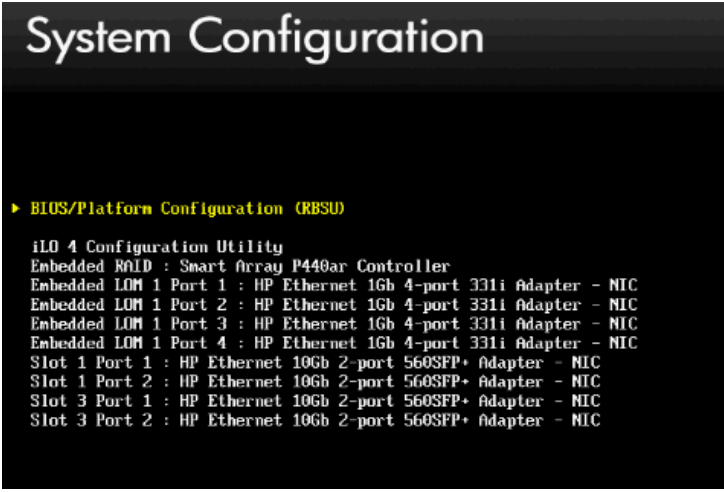
#### Appendix A.2.1. Configure HP Gen 8 Server BIOS Settings

6 <input type="checkbox"/>	<b>HP DL380 Server:</b> Power Management Options	From the above screen (Step 1), Select System Options. <ul style="list-style-type: none"><li>• Select Processor Options.</li><li>• Change Intel® Virtualization Technology to <b>Enabled</b>.</li><li>• Press &lt;ESC&gt; to return to System Options.</li><li>• Select Serial Port Options.</li></ul>
7 <input type="checkbox"/>	<b>HP DL380 Server:</b> Exit ROM-Based Utility	Press <ESC> to Save and Exit from the ROM-Based Setup Utility.


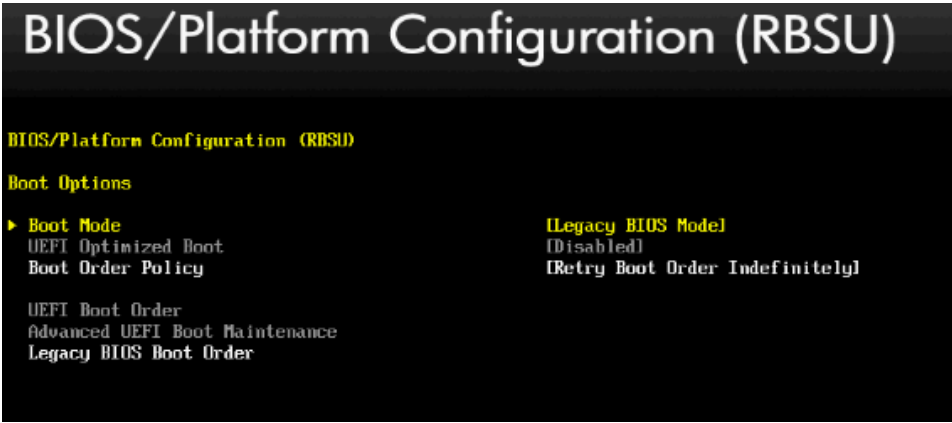
## Appendix A.2.2: Configure HP Gen 9 Servers

The HP Gen 9 systems can have UEFI boot enabled. Since TPD is configured to use the Legacy BIOS option, rack mount Gen 9 servers should have their BIOS settings checked before IPM. Rack mount servers should also have the iLO serial port configured at this time. Directions for both settings are provided below.

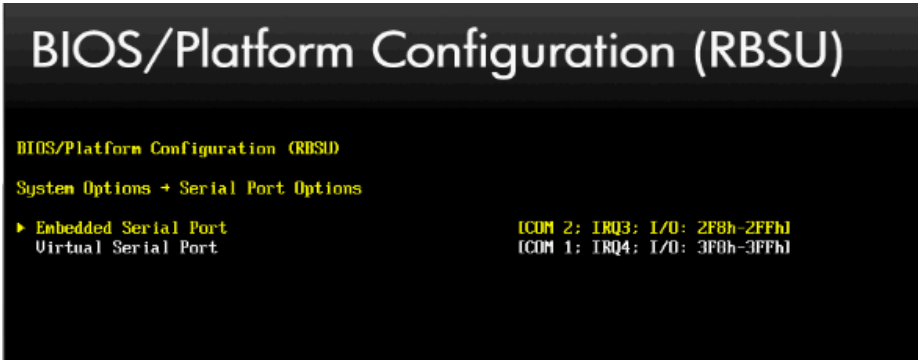
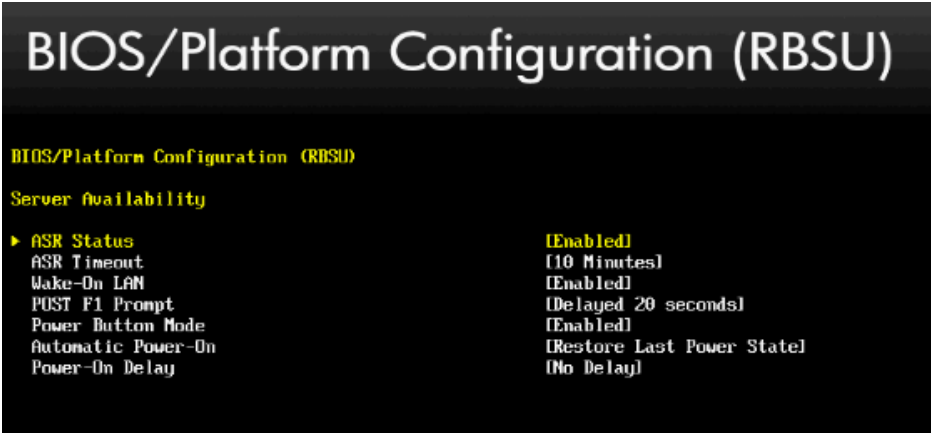
### Appendix A.2.2. Configure HP Gen 9 Server BIOS Settings

<b>S T E P #</b>	<p>This procedure explains the steps needed to configure HP Gen 9 server BIOS settings.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>HP Gen9 Server:</b> Connect VGA Monitor and USB Keyboard</p>	<p>Connect via a VGA monitor and USB keyboard.</p>
2 <input type="checkbox"/>	<p><b>HP Gen9 Server:</b> Reboot</p>	<p>Reboot the server. After the server is powered on, press the <b>F9</b> key when prompted to access the <b>System Utilities</b> menu:</p> <p>Navigate to <b>System Configuration -&gt; BIOS/Platform Configuration (RBSU)</b></p> 

Appendix A.2.2. Configure HP Gen 9 Server BIOS Settings

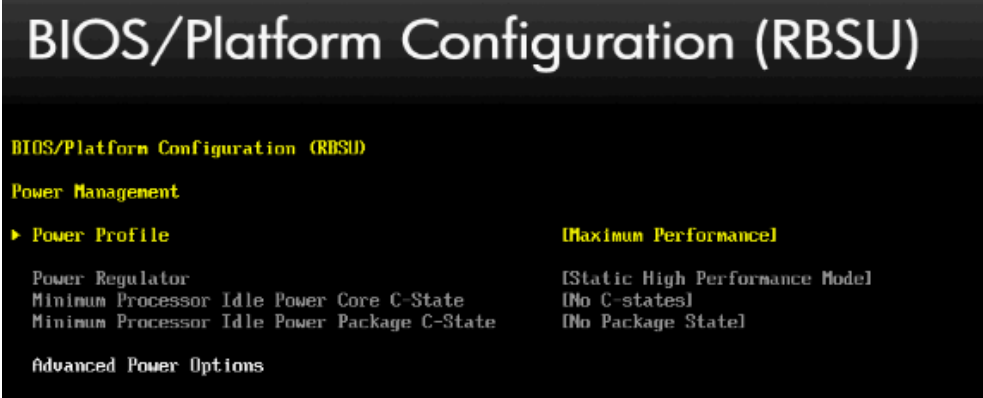
<p>3</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> Select the Date and Time</p>	<p>From the above screen (Step 2), navigate <b>Date and Time</b></p> <p>Set the data and time, and time format</p>  <p>Press <b>&lt;Esc&gt;</b> to navigate to the main menu</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> System Configuration</p>	<p>From the above screen (Step 2)</p> <ul style="list-style-type: none"> <li>• Select the <b>Boot Options</b> menu</li> <li>• If the Boot Mode is <b>NOT Legacy BIOS mode</b>, press <b>&lt;Enter&gt;</b> to open the BIOS mode menu. Otherwise skip to step 5.</li> </ul> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> System Configuration</p>	<p>Continued from the step 3, select <b>Legacy BIOS Mode</b>.</p>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> System Configuration</p>	<p>Press <b>&lt;Esc&gt;</b> once to back out to the <b>BIOS/Platform Configuration (RBSU)</b> menu.</p>

Appendix A.2.2. Configure HP Gen 9 Server BIOS Settings

<p>7</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> System Configuration</p>	<p>From the above screen (Step 2), Select the <b>System Options</b> menu, then select the <b>Serial Port Options</b> menu.</p> <ul style="list-style-type: none"> <li>• Change <b>Embedded Serial Port</b> to COM2</li> <li>• Change <b>Virtual Serial Port</b> to COM1</li> </ul> 
<p>8</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> Exit</p>	<p>Press &lt;Esc&gt; twice to back out to the <b>BIOS/Platform Configuration (RBSU)</b> menu.</p>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> Server Availability</p>	<p>From the above screen (Step 2), Select the <b>Server Availability</b> menu.</p> <ul style="list-style-type: none"> <li>• Set the <b>Automatic Power-On</b> to <b>Restore Last Power State</b></li> <li>• Set <b>Power-On Delay</b> to <b>No Delay</b></li> </ul> 
<p>10</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> Exit</p>	<p>Press &lt;Esc&gt; twice to back out to the <b>BIOS/Platform Configuration (RBSU)</b> menu.</p>



Appendix A.2.2. Configure HP Gen 9 Server BIOS Settings

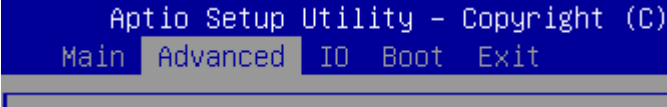
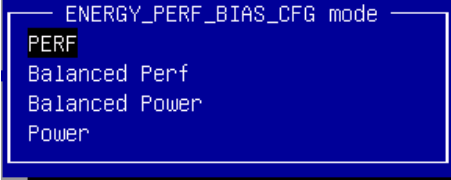
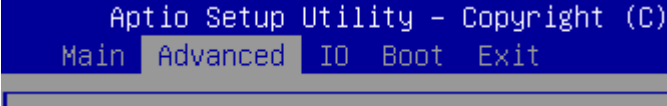
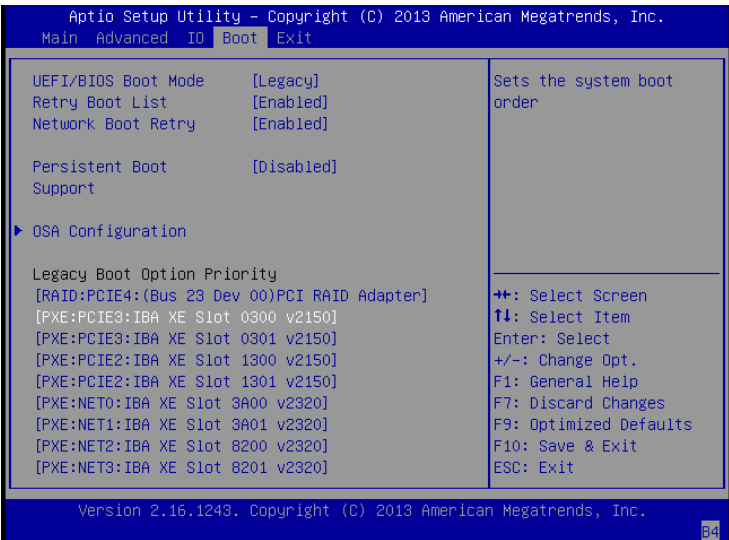
<p>11</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> Power Management</p>	<p>From the above screen (Step 2), select the <b>Power Management</b> menu</p> <ul style="list-style-type: none"> <li>Set HP Power Profile to <b>Maximum Performance</b>.</li> </ul>  <p>Press &lt;Esc&gt; once to back out to the <b>BIOS/Platform Configuration (RBSU)</b> menu.</p>
<p>12</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> Save Settings and Exit</p>	<p>Press &lt;F10&gt; to save the updated settings, then &lt;y&gt; to confirm the settings change.</p> <p>Press &lt;Esc&gt; twice to back out to the <b>System Utilities</b> menu.</p>
<p>13</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9 Server:</b> Reboot</p>	<p>Select <b>Reboot the System</b> and press &lt;Enter&gt; to confirm.</p>

## Appendix A.2.3: Configure Oracle X5-2/Netra X5-2 Server

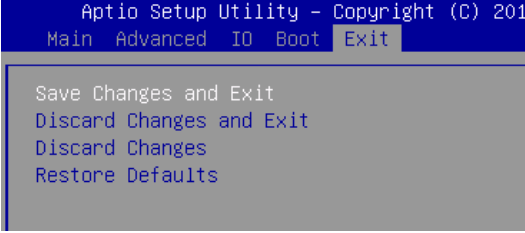
### Appendix A.2.3.1. Configure Oracle X5-2/Netra X5-2 Server BIOS Settings

<b>S T E P #</b>	<p>This procedure explains the steps needed to configure Oracle rack mount server BIOS settings.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Oracle X5-2/Netra X5-2: Access iLO GUI</b>	Obtain access to the Oracle X5-2/Netra X5-2 iLOM by following <b>Appendix D.2: iLOM GUI Access (Oracle X5-2/Netra X5-2)</b>
2 <input type="checkbox"/>	<b>Oracle X5-2/Netra X5-2: Reboot</b>	Reboot the server. After the server is powered on, press the <b>F2</b> key when prompted to access the Setup Utility: <div data-bbox="444 793 1289 1423" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. Main  Advanced  IO  Boot  Exit  Project Version      30.03.08.00 System Date          [Wed 07/15/2015] System Time          [14:32:19] QPI Link Speed      9.6 GT/s Total Memory         128 GB Current Memory Speed 2133 MT/s USB Devices:   1 Drive, 1 Keyboard, 1 Mouse, 2 Hubs  BMC Status           BMC is working BMC Firmware Revision 3.2.4.34 r95732  ▶ Product Information ▶ CPU Information ▶ DIMM Information ▶ Security  Set the Date. Use Tab to switch between Date elements.  ⇧⇧: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F7: Discard Changes F9: Optimized Defaults F10: Save &amp; Exit ESC: Exit  Version 2.16.1243. Copyright (C) 2013 American Megatrends, Inc. AB           </pre> </div>
3 <input type="checkbox"/>	<b>Oracle X5-2/Netra X5-2: Set Server Data and Time</b>	From the above screen (Step 1), set the data and time:

Appendix A.2.3.1. Configure Oracle X5-2/Netra X5-2 Server BIOS Settings

<p>4</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2: Advanced Menu</b></p>	<p>From the above screen (Step 1) Go to the <b>Advanced</b> menu.</p>  <p>Select <b>CPU Power Management Configuration</b> option.</p> <p>If <b>ENERGY_PERF_BIAS_CFG mode</b> is not set to <b>[PERF]</b>, select <b>PERF</b> and press <b>Enter</b>.</p>  <p>Press &lt;ESC&gt; to return to the advanced menu.</p> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2: Advanced Menu</b></p>	<p>Select the <b>Boot Menu</b>:</p> <p>Under Legacy Boot Option, verify the RAID Adapter is listed first. If not, highlight it and use the '+' key to move it to the top of the list:</p> 

Appendix A.2.3.1. Configure Oracle X5-2/Netra X5-2 Server BIOS Settings

6 <input type="checkbox"/>	<b>Oracle X5-2/Netra X5-2: Save Changes and Exit</b>	<p>Go to the <b>Exit</b> menu:</p>  <p>Select <b>Save Changes and Exit</b>.</p> <p>Confirm <b>Yes</b></p>
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**Appendix A.2.3.2. Enable Oracle Netra X5-2 CPU Power Limit for NEBS (Optional)**

<b>S T E P #</b>	<p>This procedure explains the steps needed to configure Oracle rack mount server NEBS settings.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>Oracle Netra X5-2:</b> Enable CPU Power Limit after IPM</p>	<p>Login to the TVOE as <i>admusr</i>.</p> <p>Password: &lt;admusr_password&gt;</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>\$ sudo /usr/TKLC/plat/sbin/cpuPowerLimit --enable</pre> </div>
2 <input type="checkbox"/>	<p><b>Oracle Netra X5-2:</b> Reboot Server</p>	<p>Reboot the server by executing the following command:</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>\$ sudo init 6</pre> </div>
3 <input type="checkbox"/>	<p><b>Oracle Netra X5-2:</b> Check current setting</p>	<p>Check the current CPU Power Limit setting:</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>\$ sudo /usr/TKLC/plat/sbin/cpuPowerLimit --status</pre> </div>

**Appendix A.2.3.3. Disable Oracle Netra X5-2 CPU Power Limit for NEBS (Optional)**

<b>S T E P #</b>	<p>This procedure explains the steps needed to configure Oracle rack mount server NEBS settings.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>Oracle Netra X5-2:</b> Disable CPU Power Limit after IPM</p>	<p>Login to the TVOE as <b>admusr</b>.</p> <p>Password: &lt;admusr_password&gt;</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>\$ sudo /usr/TKLC/plat/sbin/cpuPowerLimit --disable</pre> </div>
2 <input type="checkbox"/>	<p><b>Oracle Netra X5-2:</b> Reboot Server</p>	<p>Reboot the server by executing the following command:</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>\$ sudo init 6</pre> </div>
3 <input type="checkbox"/>	<p><b>Oracle Netra X5-2:</b> Check current setting</p>	<p>Check the current CPU Power Limit setting:</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre>\$ sudo /usr/TKLC/plat/sbin/cpuPowerLimit --status</pre> </div>

# Appendix B: Upgrade Server Firmware

## Appendix B.1: HP DL 380 Server

This procedure will upgrade the DL380 server firmware. All HP servers should have SNMP disabled. Refer to **Appendix C**: Changing the SNMP Configuration Settings.

The service Pack for ProLiant (SPP) installer automatically detects the firmware components available on the target server and will only upgrade those components with firmware older than what is provided by the SPP in the HP FUP version being used.

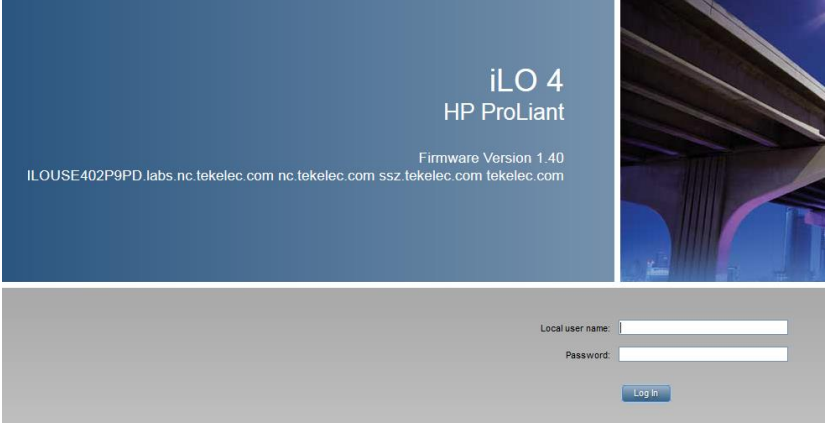
Variable	Value
<iLO_IP>	Fill in the IP address of the iLO for the server being upgraded _____
<iLO_admin_user>	Fill in the username of the iLO's Administrator user _____
<iLO_admin_password>	Fill in the password for the iLO's Administrator user _____
<local_HPSP_image_path>	Fill in the filename for the HP Support Pack for ProLiant ISO _____
<admusr_password>	Fill in the password for the admusr user for the server being upgraded _____

### Needed Material:

- HP Service Pack for ProLiant (SPP) firmware ISO image (min 2.2.9)
- HP MISC firmware ISO image (for errata updates if applicable)
- HP Solutions Firmware Upgrade Pack Release Notes [1]
- 4GB or larger USB stick is needed if upgrading firmware with USB media.

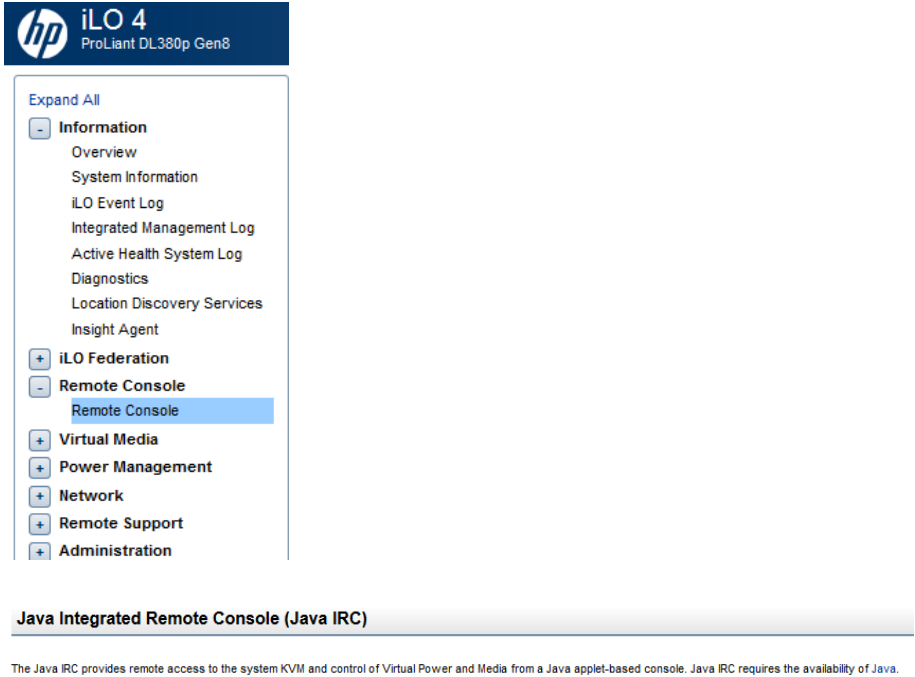

**Note:** For the "Update Firmware Errata" step check the HP Solutions Firmware Upgrade Pack Release notes [1] to see if there are any firmware errata items that apply to the server being upgraded. If there is, there will be a directory matching the errata's ID in the /errata directory of the HP MISC firmware ISO image. The errata directories contain the errata firmware and a README file detailing the installation steps.

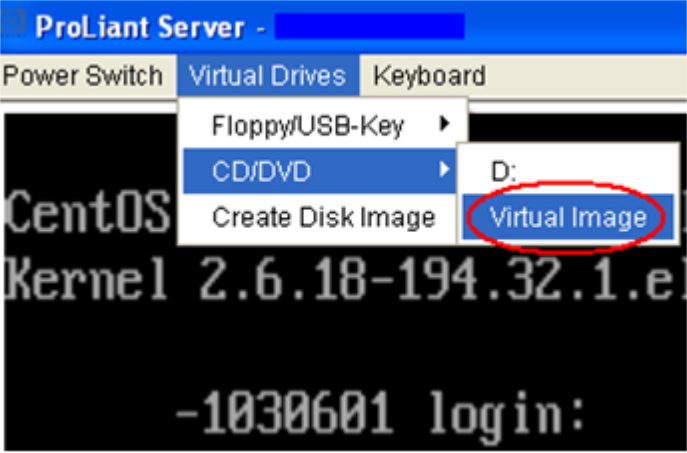
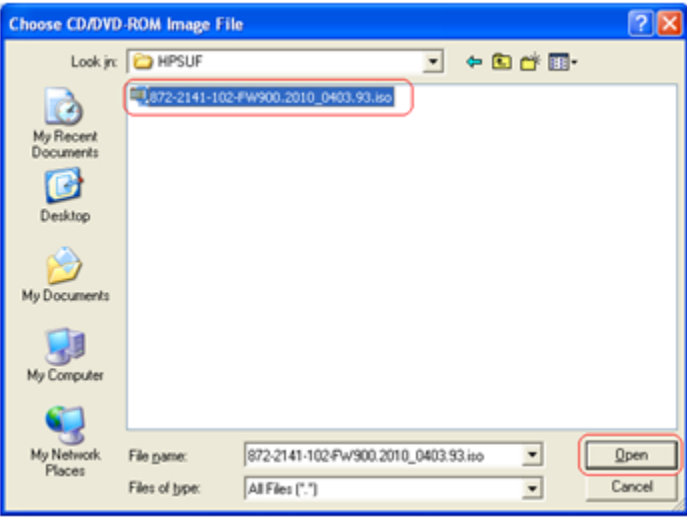

**Appendix B.1.1 Upgrade HP DL380 Server Firmware**

<p><b>S T E P #</b></p>	<p>This procedure explains the steps needed to upgrade the HP DL380 server firmware</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>Local Work Station:</b> Insert the USB Flash Drive</p>	<p>Insert Update Firmware USB into a USB port of the RMS server. Refer to refer to <b>Appendix P: Creating a Bootable USB Drive on Linux</b></p> <p><b>Note:</b> There is also the option of mounting a virtual image for this process. If this option is used, <b>skip this step.</b></p>
<p>2 <input type="checkbox"/></p>	<p><b>Local Work Station:</b> Login to the iLO web GUI</p>	<p>Access the iLO web GUI.</p> <p><code>https://&lt;iLO_IP&gt;/</code></p>  <p>Username = &lt;iLO_admin_user&gt; Password = &lt;iLO_admin_password&gt;</p>

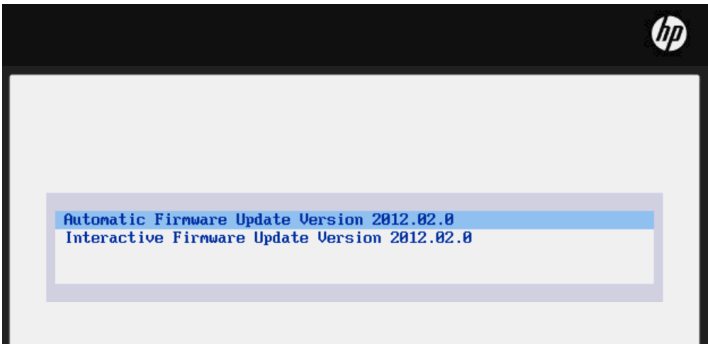


Appendix B.1.1 Upgrade HP DL380 Server Firmware

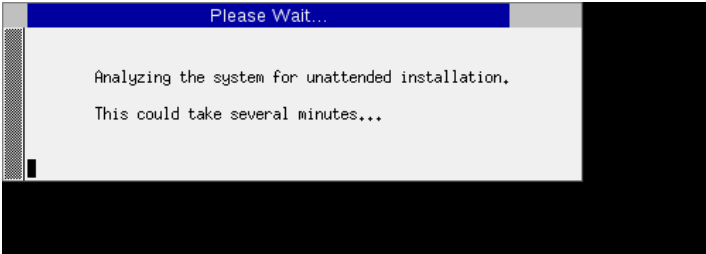
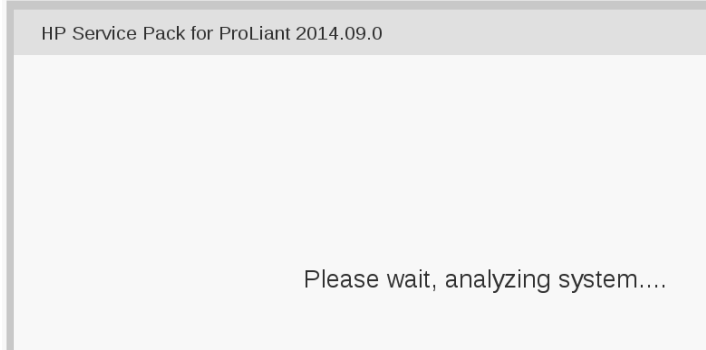
<p>3</p> <p>□</p>	<p><b>iLO4 Web GUI:</b> Launch Remote Console.</p>	<p>Launch the Java Integrated Remote Console applet.</p> <p>On the menu to the left navigate to the <b>Remote Console</b> page. Under Java Integrated Remote Console (Java IRC), click <b>Launch</b></p>  <p><b>Java Integrated Remote Console (Java IRC)</b></p> <p>The Java IRC provides remote access to the system KVM and control of Virtual Power and Media from a Java applet-based console. Java IRC requires the availability of Java.</p> <p>Acknowledge the security warning if presented:</p> 
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<p>4</p> <p><input type="checkbox"/></p>	<p><b>iLO4 Remote Console:</b> Create Virtual Drive Connection</p>	<p style="text-align: center;"><b>⚠ If using SPP USB media plugged into the server, skip this step ⚠</b></p> <p>Click on the <b>Virtual Drives</b> drop down menu. Go to <b>CD/DVD</b> then click on <b>Virtual Image</b>.</p>  <p>Navigate to the HP Support Pack for ProLiant ISO file copied to the workstation.</p>  <p>Select the ISO image file and click <b>Open</b>.</p> <p>At the bottom of the remote console window you should now see a green highlighted drive icon and <b>VirtualIM</b> written next to it.</p> 
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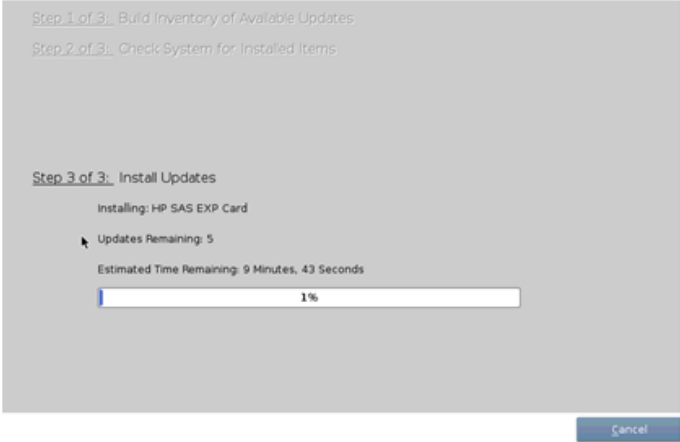
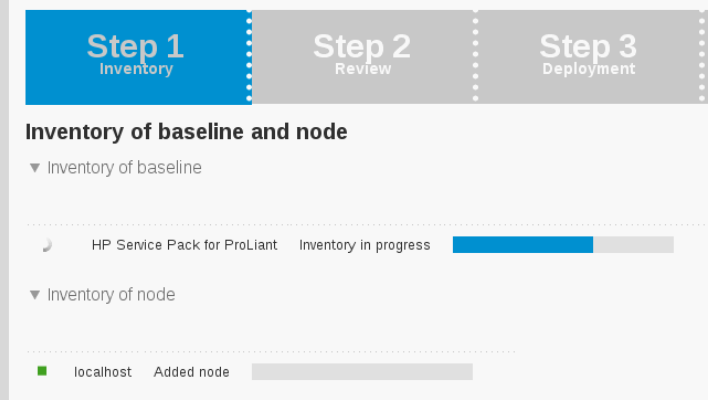
Appendix B.1.1 Upgrade HP DL380 Server Firmware

5 <input type="checkbox"/>	<b>iLO4 Remote Console:</b> Login	Login to the server as <b>admusr</b> .  Password: <admusr_password>
6 <input type="checkbox"/>	<b>iLO4 Remote Console:</b> Reboot Server	Reboot the server by executing the following command:  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <code>\$ sudo init 6</code> </div>
7 <input type="checkbox"/>	<b>iLO4 Remote Console:</b> Perform an unattended firmware upgrade.	The server will reboot into the <i>HP Support Pack for ProLiant ISO</i> and present the following boot prompt.  Press <b>[Enter]</b> to select the <b>Automatic Firmware Update</b> procedure.  <div data-bbox="440 674 1143 1016" style="border: 1px solid black; padding: 10px; text-align: center;">  <p>The screenshot shows a terminal window with the HP logo in the top right corner. A blue highlight is over the first option: "Automatic Firmware Update Version 2012.02.0". Below it is the second option: "Interactive Firmware Update Version 2012.02.0".</p> </div> <p><b>Note:</b> If no key is pressed in 30 seconds the system will automatically perform an Automatic Firmware Update.</p>

Appendix B.1.1 Upgrade HP DL380 Server Firmware

<p>8</p> <p><input type="checkbox"/></p>	<p><b>iLO4 Remote Console:</b> Monitor Installation.</p>	<p><b>Important:</b> Do not click inside the remote console during the rest of the firmware upgrade process.</p> <p>The firmware install will stay at the EULA acceptance screen for a short period of time. The time it takes this process to complete will vary by server and network connection speed and will take several minutes.</p> <p>Depending on the hardware, the following screens will be displayed:</p>   <p><b>Note:</b> No progress indication is displayed. The installation will proceed automatically to the next step.</p>
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Appendix B.1.1 Upgrade HP DL380 Server Firmware

<p>9</p> <p>□</p>	<p><b>iLO4 Remote Console:</b> Monitor Installation</p>	<p>Once analysis is complete, the installer will begin to upgrade inventory and deploy the eligible firmware components.</p> <p>A progress indicator is displayed at this time, as shown below. If iLO firmware is applied, the Remote Console will disconnect, but will continue upgrading.</p> <p>If the Remote Console closes due to the iLO upgrading, wait 3-5 minutes and log back in to the iLO Web GUI and re-connect to the Remote Console. The server might already be done upgrading and might have rebooted.</p> <p>Depending on the hardware, the following screens will be displayed:</p>   <p><b>Note:</b> If the iLO firmware is to be upgraded, it will be upgraded last. At this point the iLO 2 session will be terminated and you will lose the remote console, virtual media and Web GUI connections to the server. This is expected and will not impact the firmware upgrade process.</p>
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### Appendix B.1.1 Upgrade HP DL380 Server Firmware

10 <input type="checkbox"/>	<b>Local Work Station:</b> Clean Up	Once the firmware updates have been completed the server will automatically be rebooted.  Closing the remote console window will disconnect the Virtual Image and you can close the iLO3/iLO4 Web GUI browser session.  If you are using SPP USB media plugged into the server you can now remove it.
11 <input type="checkbox"/>	<b>Local Work Station:</b> Verify Server Availability	Wait 3 to 5 minutes and verify the server has rebooted and is available by gaining access to the login prompt.
12 <input type="checkbox"/>	<b>Local Work Station:</b> Update Firmware Errata	Refer to the ProLiant Server Firmware Errata section of [1] to determine if this HP Solutions Firmware Update Pack contains additional firmware errata updates that should be applied to the server at this time.
13 <input type="checkbox"/>	<b>Repeat for Additional RMS Servers</b>	Repeat this procedure for additional HP DL380 rack mount servers.

### Appendix B.2: Oracle X5-2/Netra X5-2

#### Needed Material:


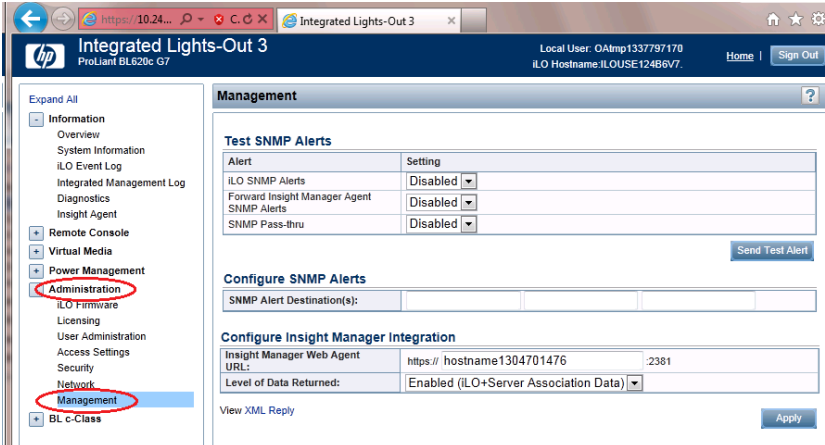
- Oracle Firmware Upgrade Pack 3.x.x
- Oracle Firmware Upgrade Pack 3.x.x Upgrade Guide

**Note:** The minimum supported Oracle Firmware Upgrade Pack for DSR 7.1.x/7.2/7.3 is release 3.1.6. However, when upgrading firmware, it is recommended that the latest release be used. Refer to the Oracle Firmware Upgrade Pack Release Notes for procedures on how to obtain the firmware, and then follow the procedures in the Oracle Firmware Upgrade Pack Upgrade Guide to upgrade the firmware.

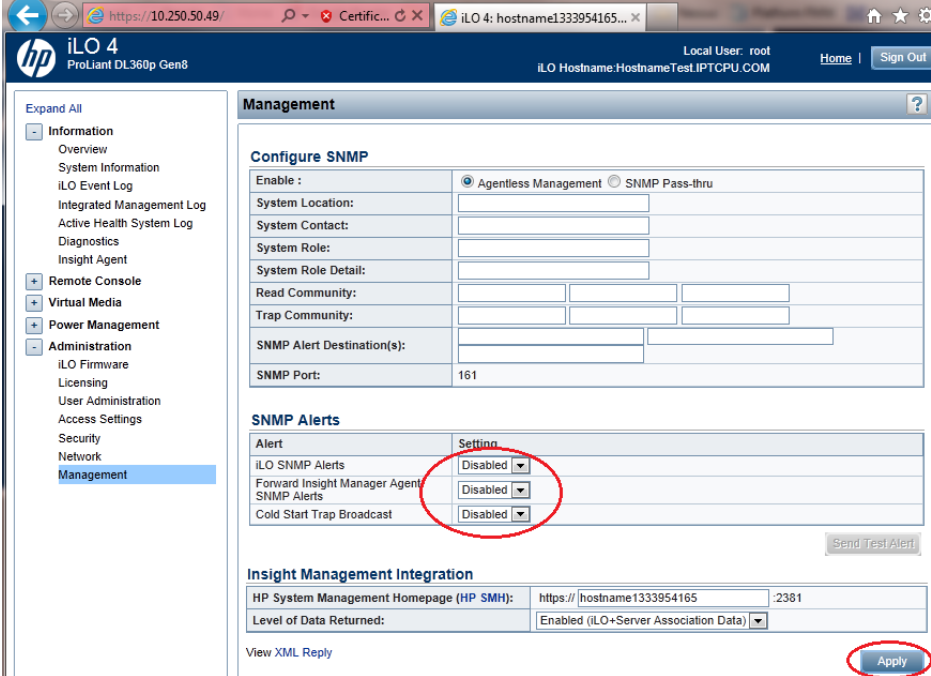
## Appendix C: Changing the SNMP Configuration Settings

This procedure provides instructions to change the default SNMP settings for the HP ProLiant iLO4 devices.

### Appendix C.1. Changing SNMP Configuration Settings for HP DL 380

<p><b>S T E P #</b></p>	<p>This procedure explains the steps needed to upgrade the HP DL380 server firmware</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>Local Work Station:</b> Login to the iLO web GUI</p>	<p>Access the iLO web GUI.</p> <p><code>https://&lt;iLO_IP&gt;/</code></p>  <p>Username = &lt;iLO_admin_user&gt; Password = &lt;iLO_admin_password&gt;</p>
<p>2</p> <p><input type="checkbox"/></p>	<p><b>iLO4 GUI:</b> Navigate to Management Screen</p>	<p>Expand the <b>[Administration]</b> menu item in the left hand navigation pane.</p> <p>Select the <b>[Management]</b> sub-menu item to display the Management configuration page.</p> 

Appendix C.1. Changing SNMP Configuration Settings for HP DL 380

<p>3</p> <p><input type="checkbox"/></p>	<p><b>iLO4 GUI:</b> Disable SNMP Alerts</p>	<p>From the above screen (Step 2):</p> <p>Select setting <b>[Disabled]</b> for each of the 3 SNMP Alerts options as shown to the right.</p>  <p>Click <b>[Apply]</b> to save the change.</p> <p><b>Note:</b> To verify the setting changes navigate away from the Management configuration page and then go page back to it to verify the SNMP settings as shown on the right.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>iLO4 GUI:</b> Exit</p>	<p>Click <b>[Sign Out]</b> link in upper right corner of page to log out of the iLO GUI.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Repeat for Additional RMS Servers.</b></p>	<p>Repeat this procedure for additional HP DL 380 rack mount servers.</p>



# Appendix D: TVOE iLO/iLOM GUI Access

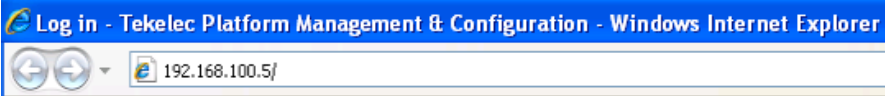
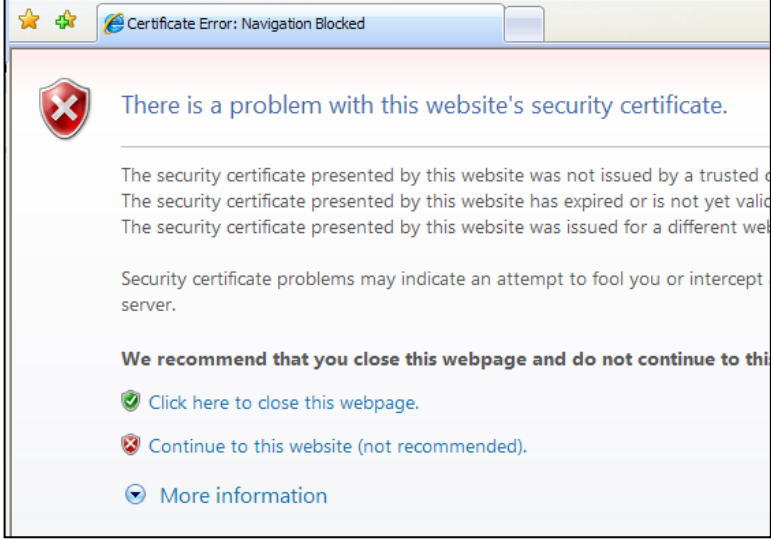
## Appendix D.1: iLO GUI Access (HP DL380)

### Appendix D.1. TVOE iLO4 GUI Access

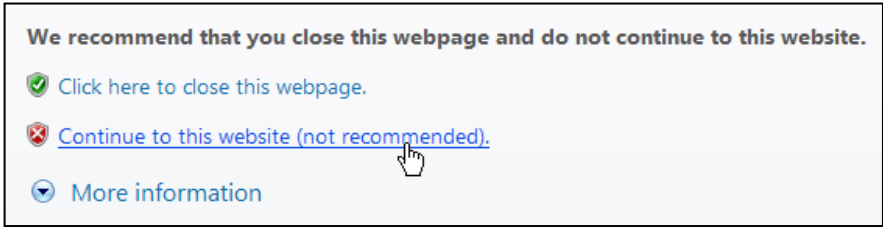
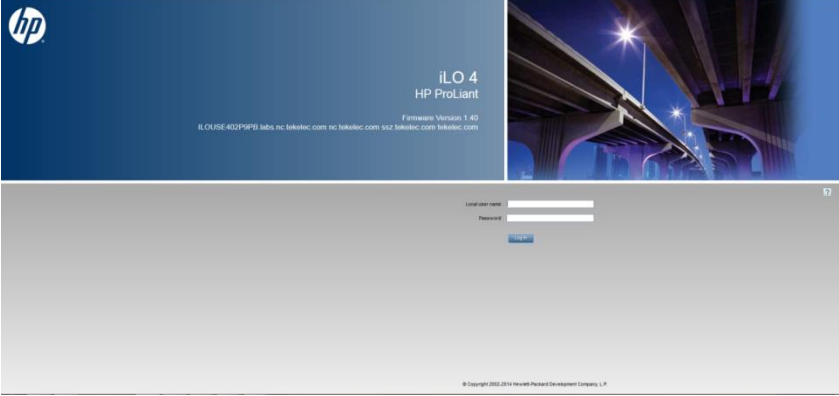
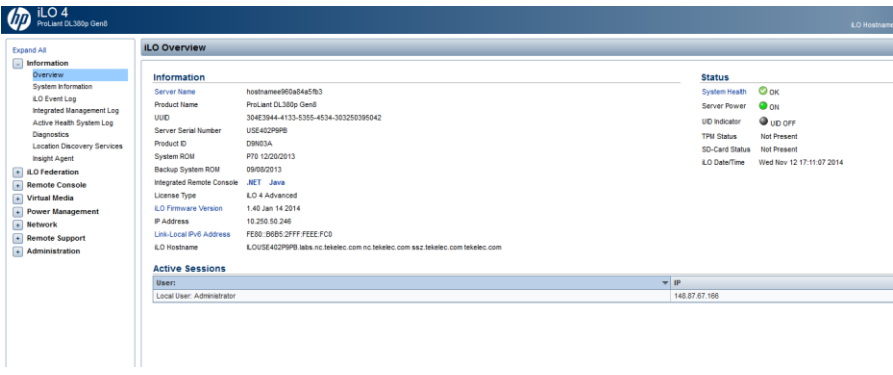

This procedure contains the steps to access the TVOE iLO4 GUI.

Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

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

STEP #	Procedure	Result
1 <input type="checkbox"/>	<b>Launch Internet Explorer</b>  Navigate to 192.168.100.5 (manufacturing default) or customer IP set during installation.	
2 <input type="checkbox"/>	Internet Explorer may display a warning message regarding the Security Certificate.	

Appendix D.1. TVOE iLO4 GUI Access

<p>3</p> <p><input type="checkbox"/></p>	<p>Select the option to <b>Continue to the website (not recommended)</b></p>	
<p>4</p> <p><input type="checkbox"/></p>	<p>Log in to the iLO4</p>	
<p>5</p> <p><input type="checkbox"/></p>	<p>The iLO4 Home page is displayed.</p>	
<p>6</p> <p><input type="checkbox"/></p>	<p>Click on <b>Launch</b> to start the PMAC iLO4 CLI</p>	

## Appendix D.2: iLOM GUI Access (Oracle X5-2/Netra X5-2)

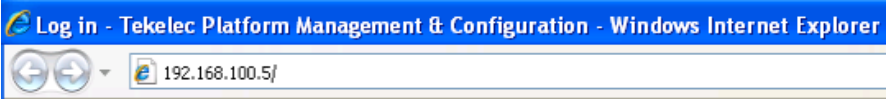
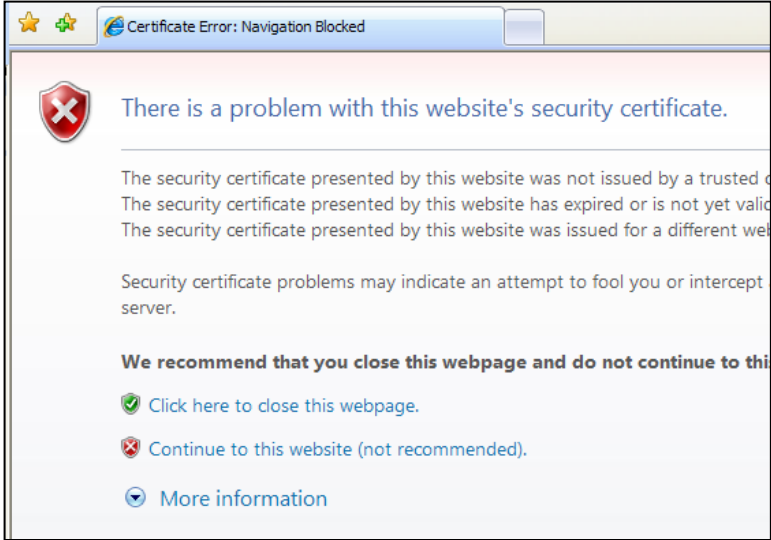
### Appendix D.2. TVOE iLOM GUI Access

This procedure contains the steps to set a static IP address on the iLOM and access the TVOE iLOM GUI.

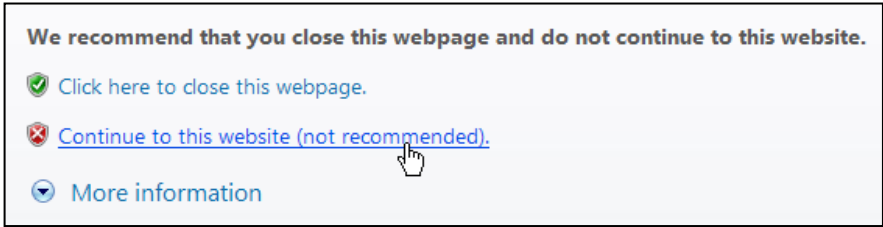
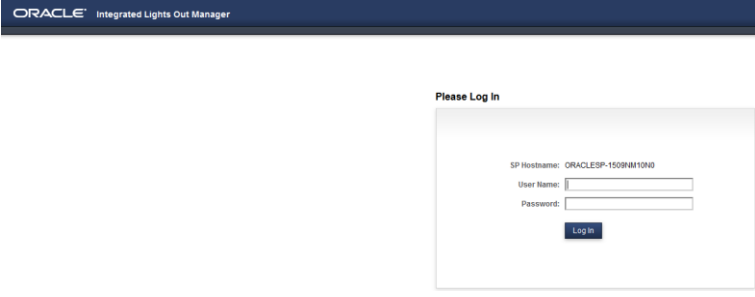
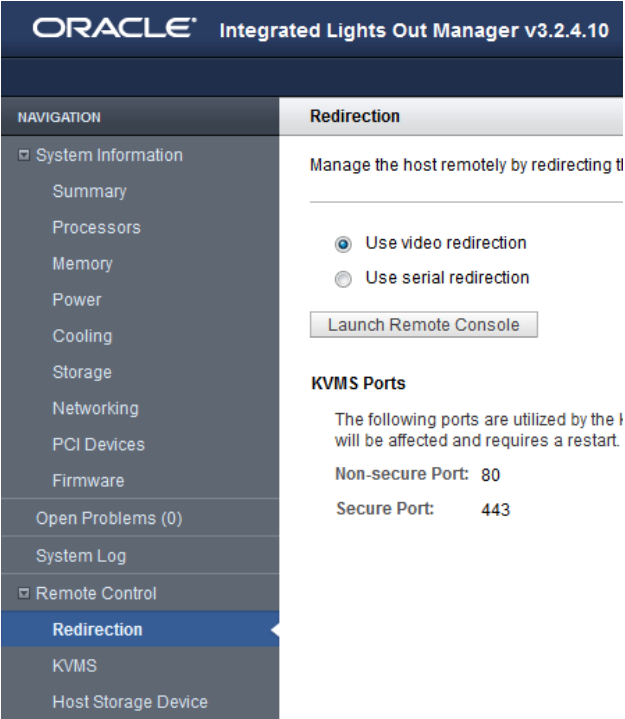
**Note:** These steps assume Out-of-Box State

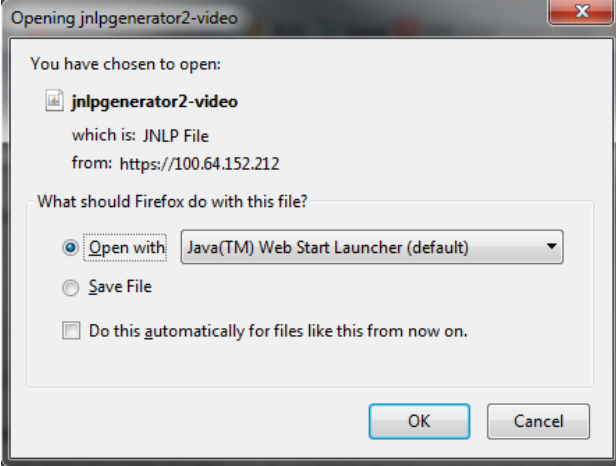
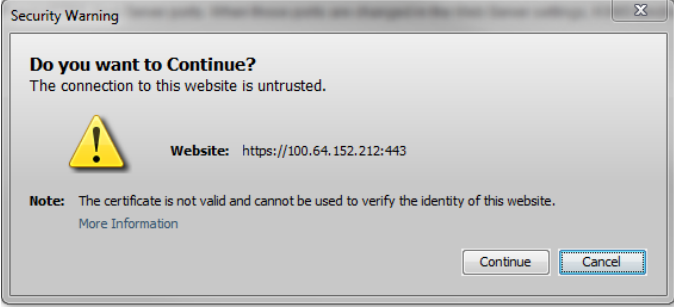
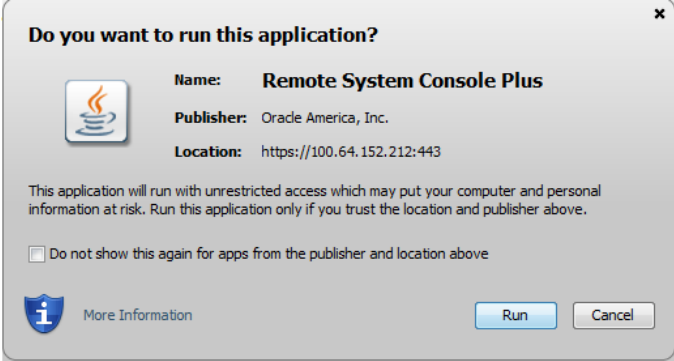
Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

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

STEP #	Procedure	Result
1 <input type="checkbox"/>	<b>Launch Internet Explorer</b>  Navigate to 192.168.100.5 (manufacturing default) or customer IP set during installation.	
2 <input type="checkbox"/>	Internet Explorer may display a warning message regarding the Security Certificate.	

Appendix D.2. TVOE iLOM GUI Access

<p>3</p> <p><input type="checkbox"/></p>	<p>Select the option to <b>Continue to the website (not recommended)</b></p>	
<p>4</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2:</b> Login</p>	<p>Login to the Oracle rack mount server iLOM:</p> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2:</b> Access the Remote Console</p>	<p>Navigate to <b>Remote Control -&gt; Redirection</b></p> <p>Select Launch <b>Remote Console</b></p> 

<p>6</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2:</b> Access the Remote Console</p>	<p>Select <b>OK</b> and open with Java Web Start Launcher</p>  <p>Select <b>Continue</b> and <b>Run</b> for any security warning prompts</p>  
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# Appendix E: Changing the TVOE iLO/iLOM Address

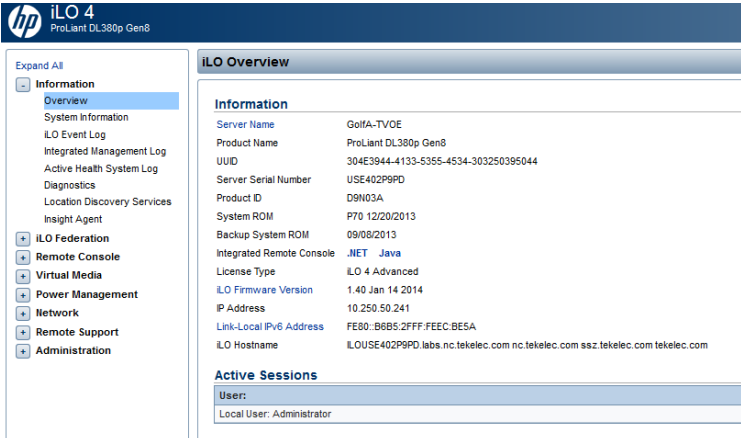
## Appendix E.1: HP DL 380 Servers (iLO4)

### Appendix E.1. Changing the TVOE iLO Address


This procedure will set the IP address of the TVOE iLO4 on HP DL380 servers to the customer's network so that it can be accessed by Oracle support.

Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

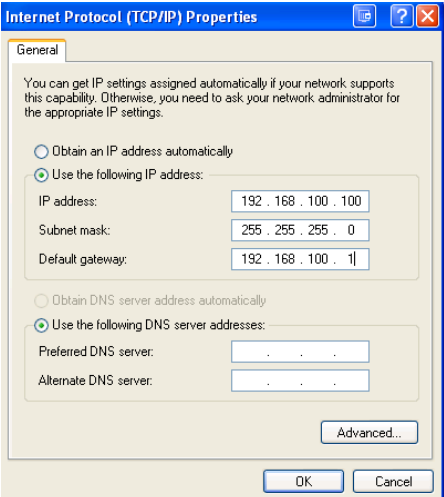
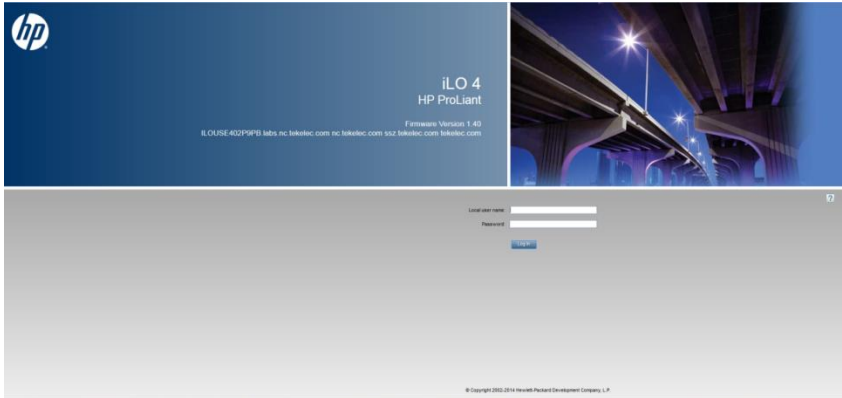
If this procedure fails, contact **Appendix T: My Oracle Support (MOS)**, and ask for assistance.

STEP #	Procedure	Result
<p>1</p> <p><input type="checkbox"/></p>	<p><b>HP DL 380:</b> Connect to the TVOE iLO GUI</p>	<p>Using the instructions in <b>Appendix D: TVOE iLO/iLOM GUI Access</b>, connect to the iLO4 GUI</p>  <p>The screenshot shows the HP iLO 4 ProLiant DL380p Gen8 interface. The left sidebar contains a navigation menu with categories like Information, ILO Federation, Remote Console, Virtual Media, Power Management, Network, Remote Support, and Administration. The main content area is titled 'iLO Overview' and displays system information such as Server Name (GolfA-TVOE), Product Name (ProLiant DL380p Gen8), UUID, Server Serial Number, Product ID, System ROM, Backup System ROM, Integrated Remote Console (.NET Java), License Type (ILO 4 Advanced), ILO Firmware Version (1.40 Jan 14 2014), IP Address (10.250.50.241), Link-Local IPv6 Address (FE80::B6B5:2FFF:FECC:B65A), and ILO Hostname (ILOUSE402P9PD.labs.nc.tekelec.com). Below this, there is an 'Active Sessions' section showing a local user named 'Administrator'.</p>

Appendix E.1. Changing the TVOE iLO Address

<p>2</p> <p><input type="checkbox"/></p>	<p><b>iLO4 GUI:</b> Navigate to Network Menu</p>	<p>Navigate to <b>Network -&gt; iLO Dedicated Network Port</b></p>  <p>Select the tab for either IPv4 or IPv6</p>																
<p>3</p> <p><input type="checkbox"/></p>	<p><b>iLO4 GUI:</b> <b>Change IP information Subnet Mask and Gateway IP Address</b> to the values supplied in the NAPD for the TVOE iLO.</p> <p>Select <b>Apply</b>.</p> <p><b>Note:</b> You will lose access after you hit the <b>Apply</b> button.</p>	<p>Change the IP address, subnet Mask/prefix, and Gateway address to the values supplied in the NAPD for the TVOE iLO.</p> <p>IPv4 Address: 10.250.50.241 Subnet Mask: 255.255.255.0 Gateway IPv4 Address: 10.250.50.1</p> <table border="1"> <thead> <tr> <th></th> <th>Destination</th> <th>Mask</th> <th>Gateway</th> </tr> </thead> <tbody> <tr> <td>Static Route #1</td> <td>0.0.0.0</td> <td>0.0.0.0</td> <td>0.0.0.0</td> </tr> <tr> <td>Static Route #2</td> <td>0.0.0.0</td> <td>0.0.0.0</td> <td>0.0.0.0</td> </tr> <tr> <td>Static Route #3</td> <td>0.0.0.0</td> <td>0.0.0.0</td> <td>0.0.0.0</td> </tr> </tbody> </table> <p>Select <b>Submit</b></p> <p><input type="button" value="Submit"/> <input type="button" value="Reset"/></p> <p><b>Note:</b> You will lose access after you hit the <b>Submit</b> button.</p>		Destination	Mask	Gateway	Static Route #1	0.0.0.0	0.0.0.0	0.0.0.0	Static Route #2	0.0.0.0	0.0.0.0	0.0.0.0	Static Route #3	0.0.0.0	0.0.0.0	0.0.0.0
	Destination	Mask	Gateway															
Static Route #1	0.0.0.0	0.0.0.0	0.0.0.0															
Static Route #2	0.0.0.0	0.0.0.0	0.0.0.0															
Static Route #3	0.0.0.0	0.0.0.0	0.0.0.0															

Appendix E.1. Changing the TVOE iLO Address

<p>4</p> <p><input type="checkbox"/></p>	<p><b>Local Machine:</b> Reset PC's network connection.</p>	<p>Using the instructions found in <b>Appendix G: Configuring for TVOE iLO Access</b>; reset the PC's network connection replacing the <b>Subnet Mask</b> and <b>Gateway</b> with those just used for the TVOE iLO.</p> <p>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 <b>Appendix D: TVOE iLO/iLOM GUI Access</b></p> <p><b>Note:</b> Use the IP address entered in <b>Step 3</b></p> 



## Appendix E.2: Oracle X5-2/Netra X5-2 Servers (Changing iLOM IP address using Keyboard/Monitor)

### Appendix E.2. Changing the TVOE Oracle X5-2/Netra X5-2 iLOM Address using keyboard/Monitor

This procedure will set the IP address of the TVOE iLOM on Oracle X5-2/Netra X5-2 servers to the customer's network so that it can be accessed by Oracle support.

**Note:** By default the ILOM is configured to get its IP address Dynamically through DHCP. This procedure lists how to statically set the IP address of the ILOM using a keyboard and monitor.

Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

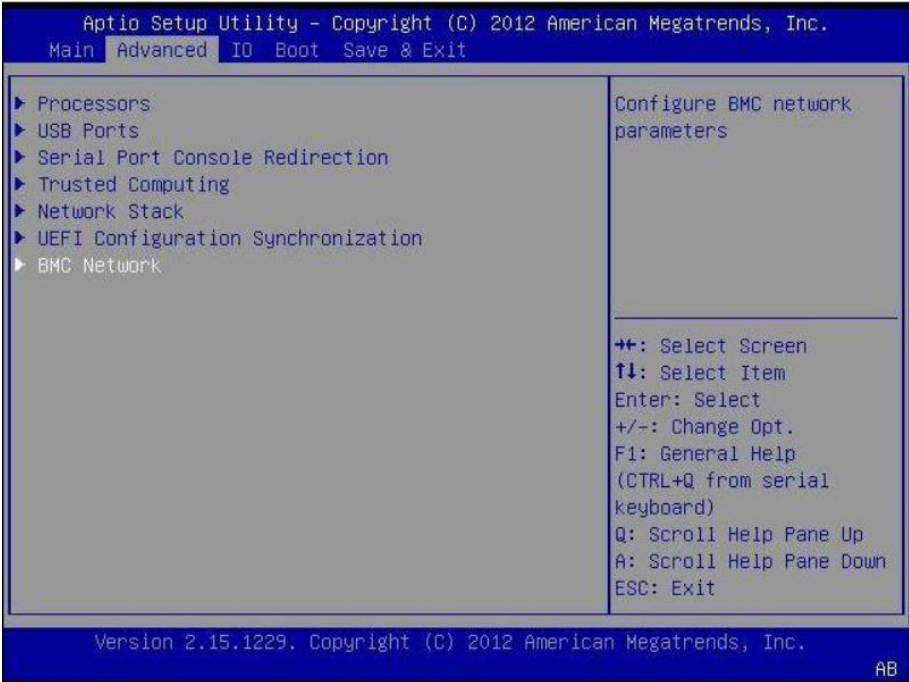
If this procedure fails, contact **Appendix T: My Oracle Support (MOS)**, and ask for assistance.

STEP #	Procedure	Result
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Appendix E.2. Changing the TVOE Oracle X5-2/Netra X5-2 iLOM Address using keyboard/Monitor

<p>1</p> <p>☐</p>	<p><b>Oracle X5-2/Netra X5-2:</b> Reboot and Access BIOS Configuration Menu</p>	<p>Reboot the Server</p> <p>Press <b>F2</b> when prompted to enter the BIOS configuration menu:</p>  <p>This action will take you to the Main Menu:</p> 
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Appendix E.2. Changing the TVOE Oracle X5-2/Netra X5-2 iLOM Address using keyboard/Monitor

<p>2</p> <p>□</p> <p><b>Oracle X5-2/Netra X5-2:</b> Access the Configuration Menu</p>	<p>Use the arrow keys to navigate to the <b>Advanced</b> menu:</p>  <p>Use the arrow keys to navigate to the <b>BMC Network</b> menu:</p> 
---	--

<p>3 □</p>	<p><b>Oracle X5-2/Netra X5-2:</b> Configure Static IPv4 Addresses</p>	<p style="text-align: center;"><b>Setting Static IPv4 Address, IPv6 Skip this step</b></p> <p>Use the arrow keys to navigate through the menu to highlight <b>IPv4 IP Assignment:</b></p>  <p>Press <b>Enter</b></p> <p>Highlight <b>Static</b>, then press <b>Enter</b></p> <p>Use the arrow keys to navigate down to highlight <b>IPv4 address</b>, press <b>Enter</b></p>  <p>Enter the desired IPv4 address, press <b>Enter</b></p> <p>Repeat for <b>IPv4 Subnet Mask</b> and <b>IPv4 Default Gateway</b></p> <p>Select the <b>Commit</b> BELOW the IPv4 fields:</p> 
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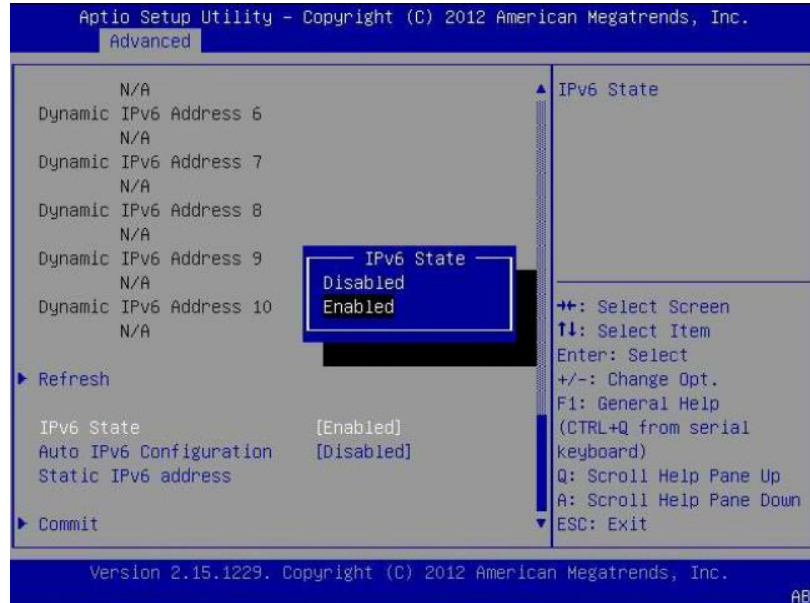
4



**Oracle X5-2/Netra X5-2:**  
Configure Static IPv6 Addresses

**Setting Static IPv6 Address**

Page down to the IPv6 configuration settings, set **IPv6 State** to **Enabled** and press **Enter**:



Navigate to **Auto IPv6 Configuration**, set **Auto IPv6 Configuration** to **Disabled** and press **Enter**

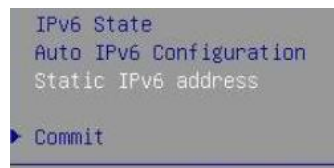


Highlight the **Static IPv6 address** option, press **Enter**

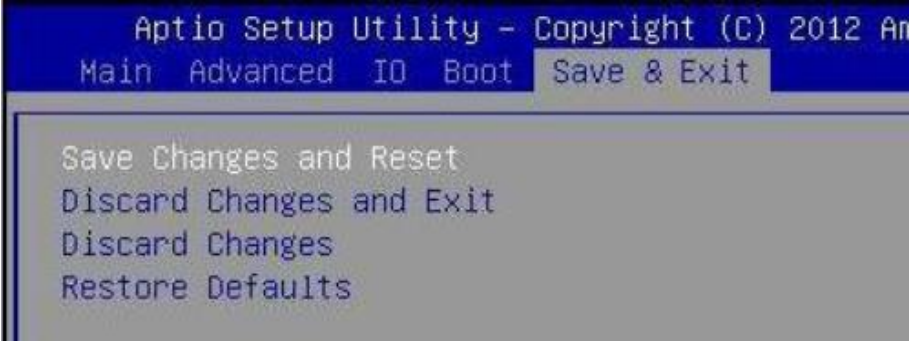
Enter the IPv6 address:



Select the **Commit** BELOW the IPv6 fields:



Appendix E.2. Changing the TVOE Oracle X5-2/Netra X5-2 iLOM Address using keyboard/Monitor

5 <input type="checkbox"/>	<b>Oracle X5-2/Netra X5-2:</b> Save and Exit	<p>Exit the <b>BMC Network</b> menu by pressing the <b>escape</b> key</p> <p>Use the arrow keys to navigate through the menu and select the <b>Save &amp; Exit</b> tab:</p>  <p>The screenshot shows the Aptio Setup Utility interface. At the top, it reads 'Aptio Setup Utility - Copyright (C) 2012 Am'. Below this, there are four menu options: 'Main', 'Advanced', 'IO Boot', and 'Save &amp; Exit'. The 'Save &amp; Exit' option is highlighted with a blue background. Below the menu options, there is a list of actions: 'Save Changes and Reset', 'Discard Changes and Exit', 'Discard Changes', and 'Restore Defaults'.</p> <p>Select <b>Save Changes and Reset</b></p> <p>When prompted, select <b>Yes</b> to confirm “Save configuration and reset?”</p> <p>The Server will reboot</p>
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## Appendix E.3: Oracle X5-2/Netra X5-2 Servers (Changing iLOM IP address using Serial Console)

### Appendix E.3. Changing the TVOE Oracle X5-2/Netra X5-2 iLOM Address using Serial Console

This procedure will set the IP address of the TVOE iLOM on Oracle X5-2/Netra X5-2 servers to the customer's network so that it can be accessed by Oracle support.

**Note:** By default the ILOM is configured to get its IP address Dynamically through DHCP. This procedure lists how to statically set the IP address of the ILOM using the serial console

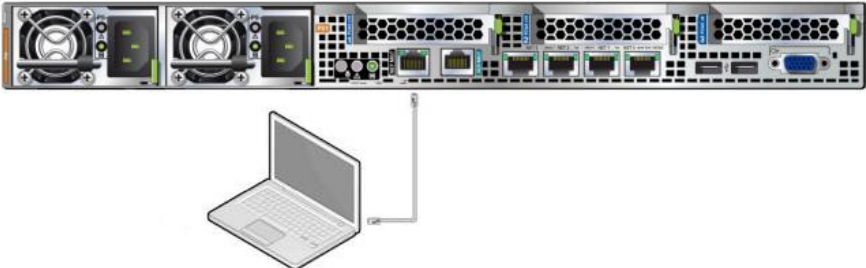
Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

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

STEP #	Procedure	Result												
<p>1</p> <p><input type="checkbox"/></p>	<p>Connect to the Serial Management Port of the Oracle X5-2/Netra X5-2 Server.</p>	<div data-bbox="699 737 1256 989" data-label="Image"> </div> <div data-bbox="534 1035 956 1073" data-label="Section-Header"> <h3>Serial Management Port</h3> </div> <div data-bbox="534 1092 1417 1173" data-label="Text"> <p>The serial management connector (labeled SER MGT) is an RJ-45 connector that can be accessed from the rear panel. This port is the default connection to the server. Use this port <i>only</i> for server management.</p> </div> <div data-bbox="534 1190 1023 1215" data-label="Caption"> <p><b>TABLE 19</b> Default Serial Connections for Serial Port</p> </div> <div data-bbox="534 1232 1417 1421" data-label="Table"> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>Connector</td> <td>SER MGT</td> </tr> <tr> <td>Rate</td> <td>9600 baud</td> </tr> <tr> <td>Parity</td> <td>None</td> </tr> <tr> <td>Stop bits</td> <td>1</td> </tr> <tr> <td>Data bits</td> <td>8</td> </tr> </tbody> </table> </div> <div data-bbox="522 1436 1404 1465" data-label="Text"> <p>Connect a laptop to the serial management (SER MGT) port on the server:</p> </div> <div data-bbox="539 1509 1252 1736" data-label="Image"> </div>	Parameter	Setting	Connector	SER MGT	Rate	9600 baud	Parity	None	Stop bits	1	Data bits	8
Parameter	Setting													
Connector	SER MGT													
Rate	9600 baud													
Parity	None													
Stop bits	1													
Data bits	8													



Appendix E.3. Changing the TVOE Oracle X5-2/Netra X5-2 iLOM Address using Serial Console

<p>2</p> <p><input type="checkbox"/></p>	<p>Login to the Serial Console</p>	<ol style="list-style-type: none"> <li>1) Press <b>Enter</b> on the terminal. The Oracle ILOM login prompt appears.</li> <li>2) Type your Oracle ILOM user name (default user: root), and then press <b>Enter</b>. A password prompt appears.</li> <li>3) Type the password associated with your user name, press <b>Enter</b>. Oracle ILOM displays the default command prompt (-&gt;), indicating that you have successfully logged in.</li> </ol>
<p>3</p> <p><input type="checkbox"/></p>	<p>Configure NET_MGT Network Interface</p>	<ol style="list-style-type: none"> <li>1) Navigate to the /SP/network target: -&gt; cd /SP/network</li> <li>2) Ensure that the SP network interface is enabled. -&gt; set state=enabled</li> <li>3) Configure a static IPv4 address for the SP. -&gt; set pendingipdiscovery=static pendingipaddress=&lt;ip_address&gt; pendingipnetmask=&lt;netmask&gt; pendingipgateway=&lt;gateway&gt; commitpending=true</li> <li>4) Verify settings. -&gt; show</li> </ol>
<p>4</p> <p><input type="checkbox"/></p>	<p>Connect to the NET_MGT port</p>	<p>Connect a laptop to the network management (NET MGT) port on the server:</p>  <p>The diagram shows a server rack with two fans on the left. A cable connects the server to a laptop below it. The server has various ports, including a blue VGA port and a green USB port.</p>

## Appendix F: Attaching an ISO Image to a Server using the iLO or iLOM

As an alternative to mounting the ISO image via USB, the user may also mount the ISO via the iLO or iLOM for HP and Oracle rack mount servers.

### Appendix F.1: HP DL380 Servers (iLO4)

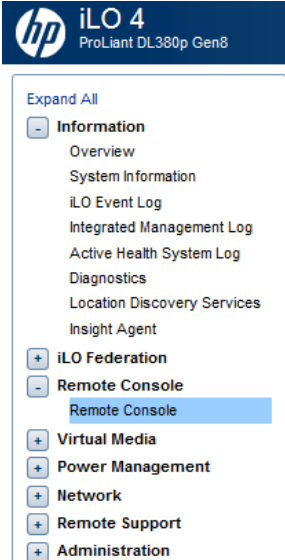


**Appendix F.1.1 HP DL380 Servers Mounting the ISO image via iLO4**

This procedure describes the steps needed to attach an ISO image to a server using the iLO4 for HP DL 380 servers.

Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

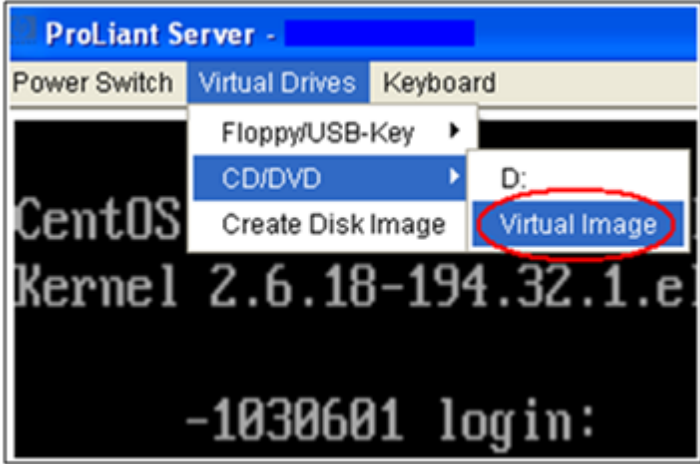
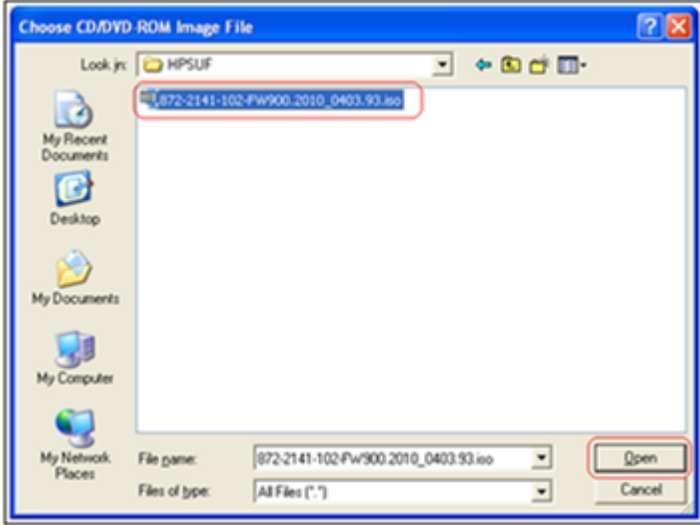

If this procedure fails, contact **Appendix T: My Oracle Support (MOS)**, and ask for assistance.

STEP #	Procedure	Result
<p>1</p> <p><input type="checkbox"/></p>	<p><b>iLO 4 Web GUI:</b> Launch Remote Console</p>	<p>Launch the Java Integrated Remote Console applet.</p> <p>On the menu to the left navigate to the <b>Remote Console</b> page. Under Java Integrated Remote Console (Java IRC), click <b>Launch</b></p>  <p><b>Java Integrated Remote Console (Java IRC)</b></p> <p>The Java IRC provides remote access to the system KVM and control of Virtual Power and Media from a Java applet-based console. Java IRC requires the availability of Java.</p>

Appendix F.1.1 HP DL380 Servers Mounting the ISO image via iLO4

2 <input type="checkbox"/>	<b>iLO 4 Web GUI: Java Security Prompt</b>	<p>Acknowledge Security Warning.</p> <p>If a dialog similar to the one below is presented, click <b>Yes</b> to acknowledge the issue and proceed</p> 
-------------------------------	--	---

Appendix F.1.1 HP DL380 Servers Mounting the ISO image via iLO4

<p>3</p> <p><input type="checkbox"/></p>		<p>Click on the <b>Virtual Drives</b> drop down menu. Go to <b>CD/DVD</b>, then click on <b>Virtual Image</b></p>  <p>Navigate to the location of the ISO image file specified by the procedure which referenced this appendix.</p>  <p>Select the desired file and click <b>Open</b>.</p>
<p>4</p> <p><input type="checkbox"/></p>		<p>Verify Virtual Image Connection.</p> <p>At the bottom of the remote console window, there should now be a green highlighted drive icon and <b>Virtual M</b> written next to it.</p> 

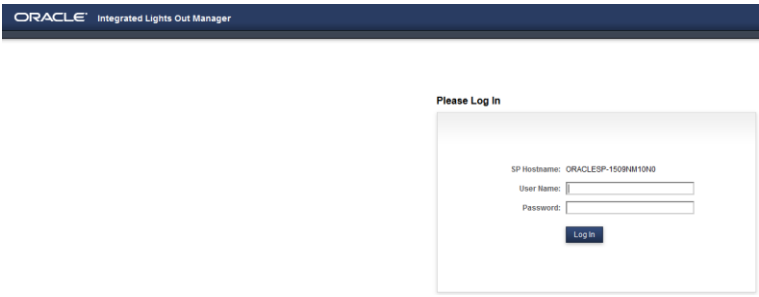
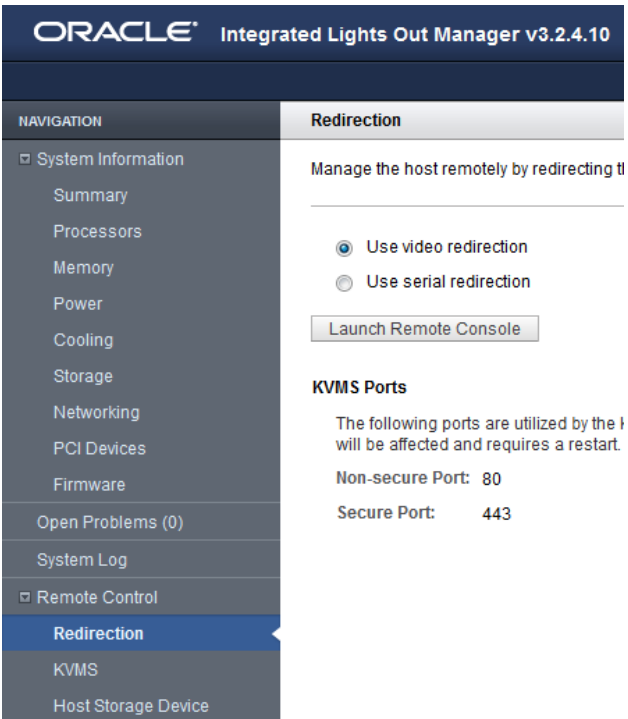
## Appendix F.2: Oracle X5-2/Netra X5-2 Servers (iLOM)

### Appendix F.2.2. Oracle X5-2/Netra X5-2 Servers Mounting the ISO image via iLOM

This procedure describes the steps needed to attach an ISO image to a server using the iLOM for Oracle rack mount 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 **Appendix T: My Oracle Support (MOS)**, and ask for assistance.

STEP #	Procedure	Result
<p>1</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2:</b> Login</p>	<p>Login to the Oracle rack mount server ILOM:</p> 
<p>2</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2:</b> Access the Remote Console</p>	<p>Navigate to <b>Remote Control -&gt; Redirection</b></p> <p>Select Launch <b>Remote Console</b></p> 

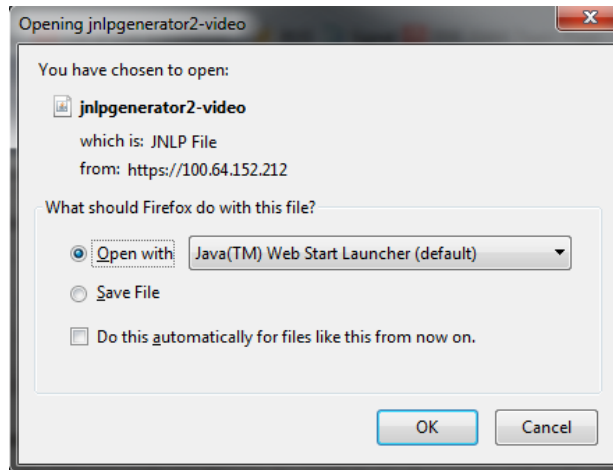
Appendix F.2.2. Oracle X5-2/Netra X5-2 Servers Mounting the ISO image via iLOM

3

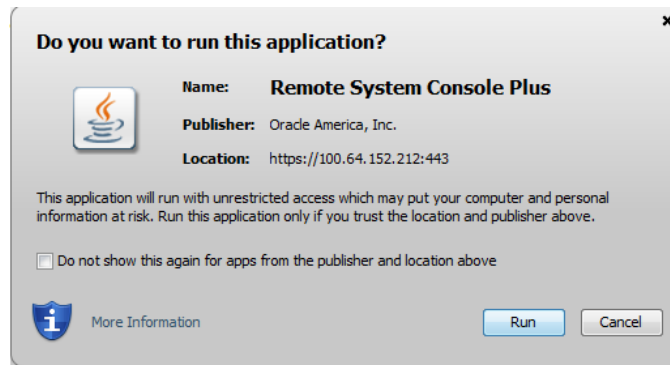
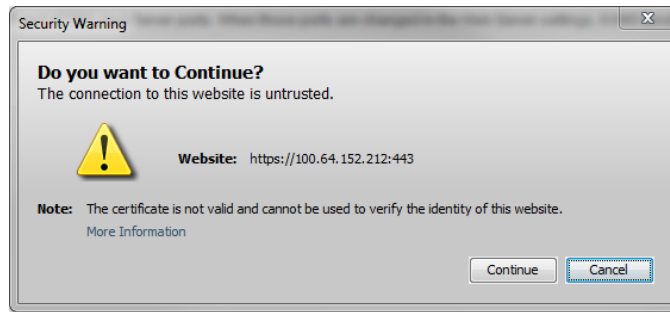


**Oracle X5-2/Netra X5-2:**  
Access the Remote Console

Select **OK** and open with Java Web Start Launcher



Select **Continue** and **Run** for any security warning prompts



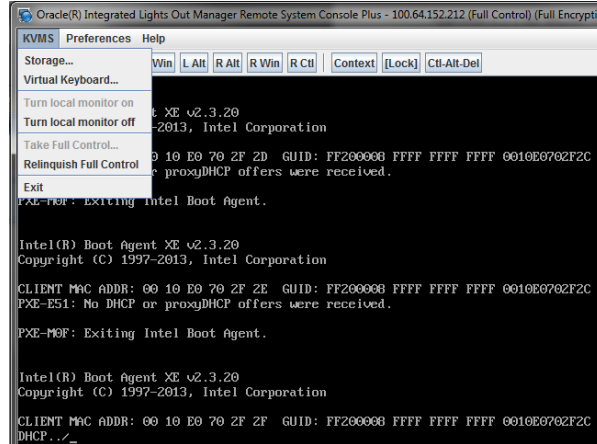
4



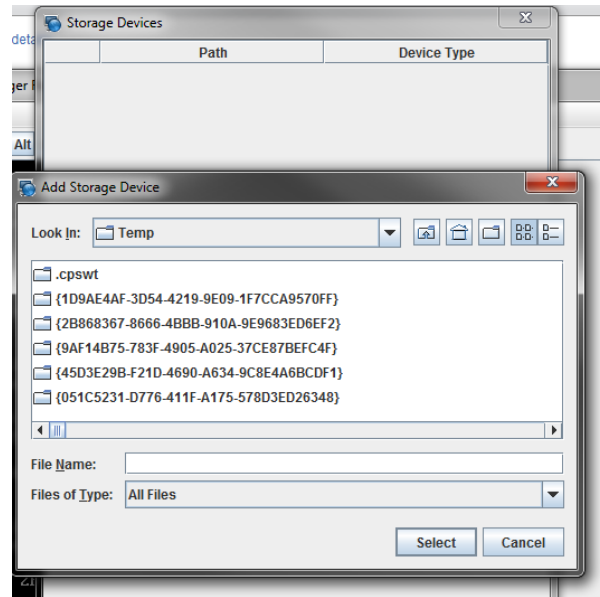
**Oracle X5-2/Netra X5-2:**  
Mount the ISO from the Remote Console

Navigate to **KVMS**

Select **Storage**



Select **Add**, browse to the ISO located on the local machine.

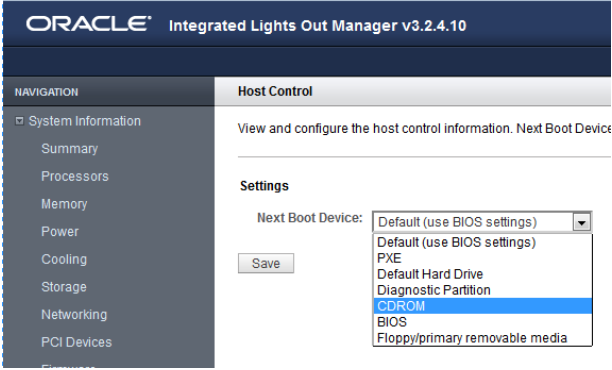
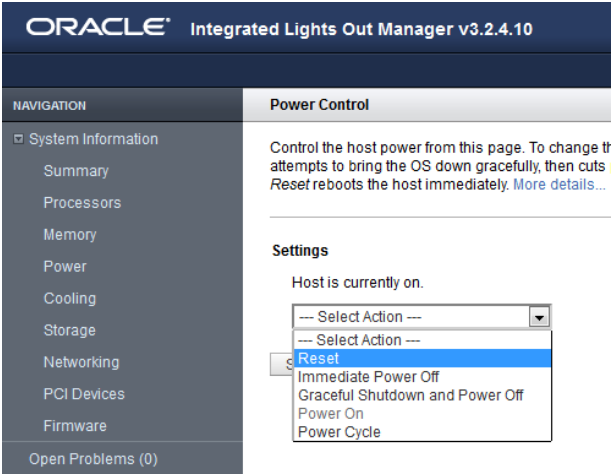


Click **Select**

Once the ISO image is selected, now select **Connect**



Appendix F.2.2. Oracle X5-2/Netra X5-2 Servers Mounting the ISO image via iLOM

<p>5</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2:</b> Change the Device for Next Boot</p>	<p>Change the Next Boot Device by navigating to <b>Host Management -&gt; Host Control</b></p> <p>In the drop down box, select <b>CDROM</b></p>  <p>Click <b>Save</b></p>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2:</b> Power Cycle</p>	<p>Reboot the rack mount server to start the install by navigating to <b>Host Management -&gt; Power Control</b></p> <p>From the drop down box, select <b>Reset</b></p>  <p>Click the <b>Save</b> button</p> <p><input type="button" value="Save"/></p> <p><b>Confirm Save</b></p>

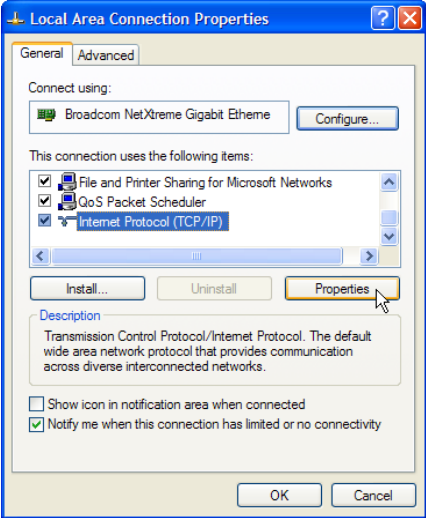
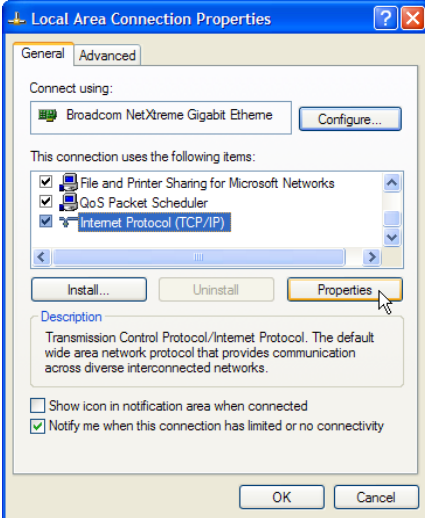
# Appendix G: Configuring for TVOE iLO Access

## Appendix G.1 Connecting to the TVOE iLO

This procedure contains the steps to connect a laptop to the TVOE iLO via a directly cabled Ethernet connection.

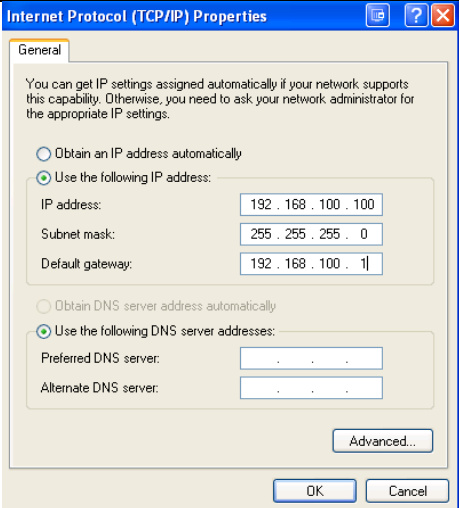
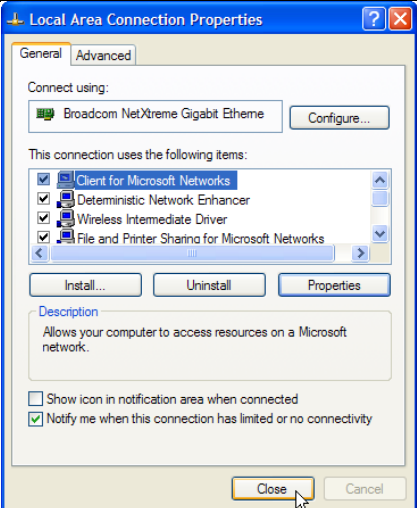
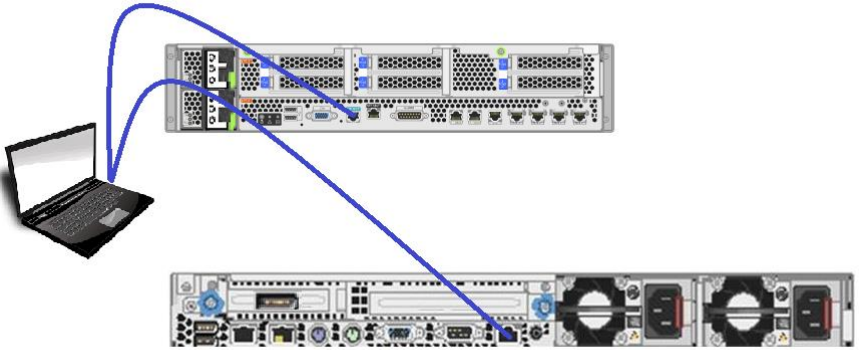
Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

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

STEP #	Procedure	Result	
1  <input type="checkbox"/>	Access the laptop network interface cards TCP/IP Properties screen.  <b>NOTE:</b> For this step follow the instruction specific to the laptop's OS (XP or 7).	<p style="text-align: center;"><b>Windows XP</b></p> <ul style="list-style-type: none"> <li>Go to <b>Control Panel</b></li> <li>Double-click on <b>Network Connections</b></li> <li>Right-click the wired Ethernet Interface icon and select <b>Properties</b></li> <li>Select <b>Internet Protocol (TCP/IP)</b></li> </ul> <p>Select <b>Properties</b></p> 	<p style="text-align: center;"><b>Windows 7</b></p> <ul style="list-style-type: none"> <li>Go to <b>Control Panel</b>.</li> <li>Double-click on <b>Network and Sharing Center</b></li> <li>Select <b>Change Adapter Settings</b> (left menu)</li> <li>Right-click the <b>Local Area Connection</b> icon and select <b>Properties</b></li> </ul> <p>Select <b>Internet Protocol Version 4 (TCP/IPv4)</b></p> 



Appendix G.1 Connecting to the TVOE iLO

<p>2</p> <p><input type="checkbox"/></p>	<p>Click <b>Use the following IP address</b></p> <p>Set the <b>IP address</b> to 192.168.100.100</p> <p>Set the <b>Subnet mask</b> to 255.255.255.0</p> <p>Set the <b>Default gateway</b> to 192.168.100.1</p> <p>Select <b>OK</b>.</p> <p>Select <b>Close</b> from the network interface card's main <b>Properties</b> screen.</p>		
<p>3</p> <p><input type="checkbox"/></p>	<p>Connect the laptop's Ethernet port directly to the TVOE iLO port using a standard Cat-5 cross-over cable.</p>		

## Appendix H: SNMP Configuration

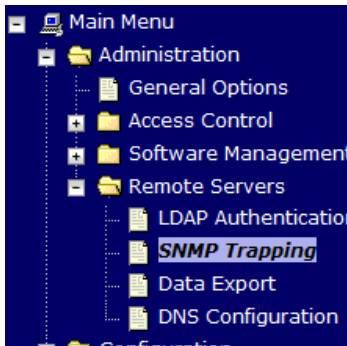
The network-wide plan for SNMP configuration should be decided upon before DSR installation proceeds. This section provides some recommendations for these decisions.

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

- DSR Application Servers (NOAM, SOAM, MPs of all types)
- DSR Auxiliary Components (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 will terminate at the NOAMP and be viewable from the NOAMP GUI (entire network) and the SOAM GUI (site specific) if **only** NOAM and SOAM are configured as Manager and **Traps Enabled** checkbox is selected for these managers on **Main Menu > Administration > Remote Servers > SNMP Trapping screen**. This is the default configuration option.



2. Send all their SNMP traps to an external Network Management Station (NMS). The traps will NOT be seen at the SOAM OR at the NOAM. They will be viewable at the configured NMS(s) only if **only** external NMS is configured as Manager and **Traps Enabled** checkbox is selected for this manager on **Main Menu > Administration > Remote Servers > SNMP Trapping screen**.

### Main Menu: Administration -> Remote Servers -> SNMP Trapping

Variable	Value	Description
Manager 1	<input type="text"/>	A remote manager to receive address or a valid hostname, case-insensitive, max. 20-chr SNMP trap port of '162' will be
Manager 2	<input type="text"/>	See description for Manager 1
Manager 3	<input type="text"/>	See description for Manager 1
Manager 4	<input type="text"/>	See description for Manager 1
Manager 5	<input type="text"/>	See description for Manager 1
Enabled Versions	SNMPv2c and SNMPv3	Selectively enable SNMPv2c, - supports both SNMP version
Traps Enabled	<input checked="" type="checkbox"/> Manager 1 <input checked="" type="checkbox"/> Manager 2 <input checked="" type="checkbox"/> Manager 3 <input checked="" type="checkbox"/> Manager 4 <input checked="" type="checkbox"/> Manager 5	Enable or disable SNMP trap enabled.]

3. Send SNMP traps from individual servers like MPs of all types If **Traps from Individual Servers** check box is selected on **Main Menu > Administration > Remote Servers > SNMP Trapping screen**.

Traps from Individual Servers	<input type="checkbox"/> Enabled
-------------------------------	----------------------------------

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 SOAM VIP, or an external (customer) NMS.

The recommended configuration is as follows:

The following components:

- PMAC (TVOE)
- PMAC (App)
- Applicable Switch types
- TVOE for DSR Servers

Should have their SNMP trap destinations set to:

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

**Note:** All the entities **MUST** use the same Community String during configuration of the NMS server.

**Note:** SNMP community strings i.e. (Read Only or Read Write SNMP community strings) should be same for all the components like OAM/MP servers, PMACs, TVOEs and external NMS.

## Appendix I: Application NetBackup Client Installation Procedures

NetBackup is a utility that allows for management of backups and recovery of remote systems. The NetBackup suite is for the purpose of supporting Disaster Recovery at the customer site. The following procedures provides instructions for installing and configuring the NetBackup client software on an application server in two different ways, first using platcfg and second using nbAutoInstall (push Configuration)

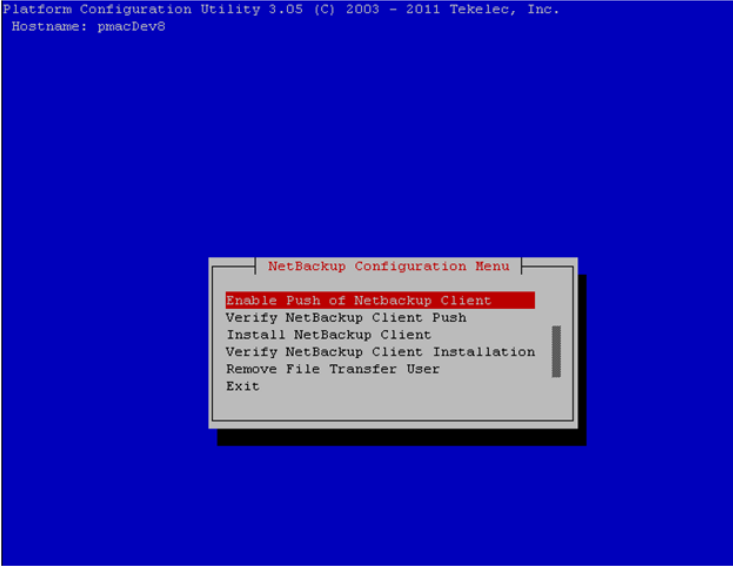
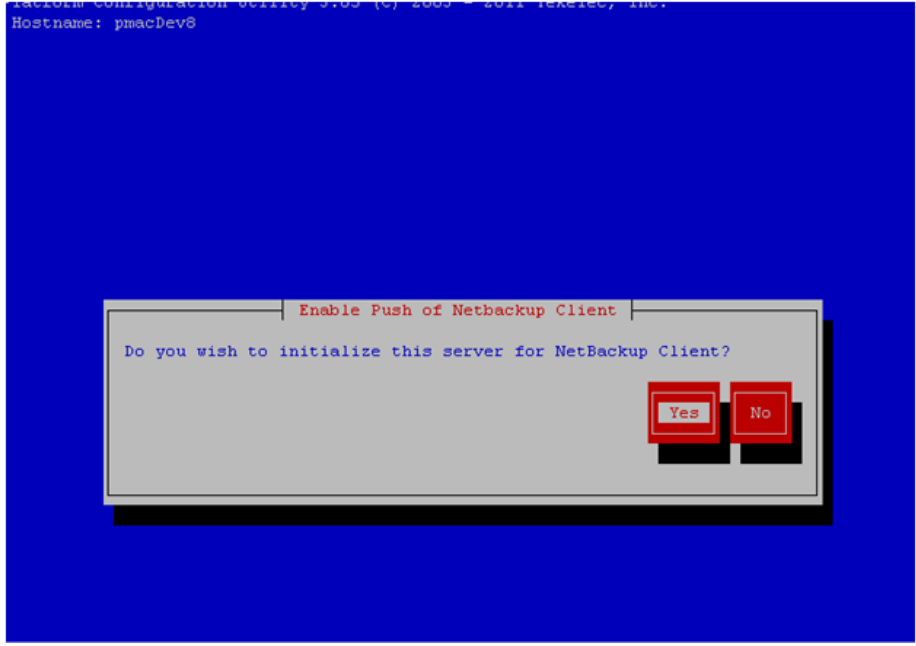
Please note that at the writing of this document, the supported versions of NetBackup are 7.1, 7.5 and 7.6.

## Appendix I.1: NetBackup Client Install using PLATCFG

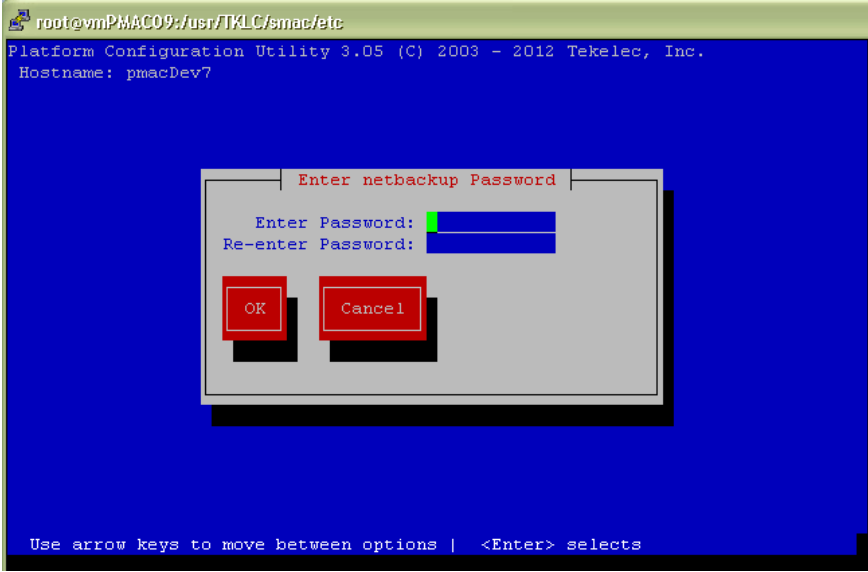
### Appendix I.1. Application NetBackup Client Installation (Using Platcfg)

<b>S T E P #</b>	<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> </ul> <p><b>Note:</b> Execute the following procedure to switch/migrate to having NetBackup installed via platcfg instead of using NBAutoInstall (<i>Push Configuration</i>)</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Application server iLO:</b> Login	Login and launch the integrated remote console 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.

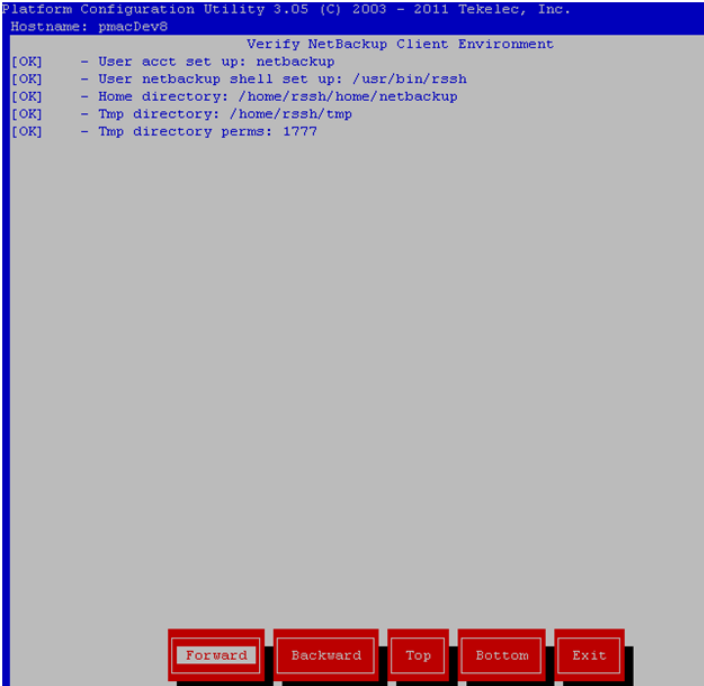
Appendix I.1. Application NetBackup Client Installation (Using Platcfg)

<p>2</p> <p>☐</p>	<p><b>Application server iLO:</b> Navigate to NetBackup Configuration</p>	<p>Configure NetBackup Client on application server</p> <pre>\$ sudo su - platcfg</pre> <p>Navigate to <b>NetBackup -&gt; Configuration</b></p>  <p>The screenshot shows a terminal window with a blue background. At the top, it says "Platform Configuration Utility 3.05 (C) 2003 - 2011 Tekelec, Inc. Hostname: pmacDev8". In the center, there is a "NetBackup Configuration Menu" box with the following options: "Enable Push of Netbackup Client" (highlighted in red), "Verify NetBackup Client Push", "Install NetBackup Client", "Verify NetBackup Client Installation", "Remove File Transfer User", and "Exit".</p>
<p>3</p> <p>☐</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>The screenshot shows a terminal window with a blue background. At the top, it says "Platform Configuration Utility 3.05 (C) 2003 - 2011 Tekelec, Inc. Hostname: pmacDev8". In the center, there is a dialog box titled "Enable Push of Netbackup Client" with the question "Do you wish to initialize this server for NetBackup Client?". At the bottom right of the dialog, there are two red buttons labeled "Yes" and "No".</p>

Appendix I.1. Application NetBackup Client Installation (Using Platcfg)

<p>4</p> <p><input type="checkbox"/></p>	<p><b>Application server iLO:</b> Enter NetBackup password</p>	<p>Enter the NetBackup password:</p>  <p>Select <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>
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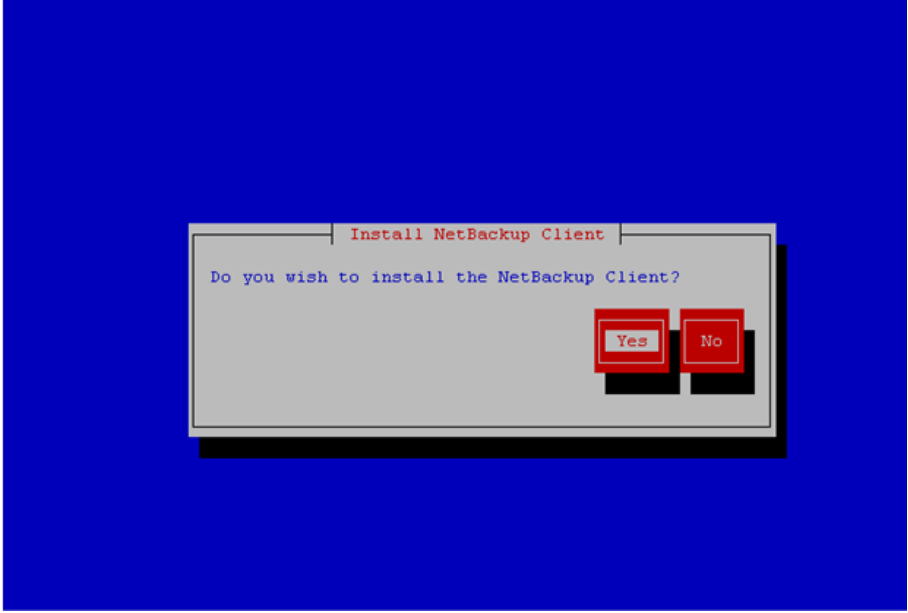
Appendix I.1. Application NetBackup Client Installation (Using Platcfg)

<p>5</p> <p><input type="checkbox"/></p>	<p><b>Application server iLO:</b> Verify NetBackup Client software push is enabled.</p>	<p>Navigate to <b>NetBackup Configuration -&gt; Verify NetBackup Client Push</b></p>  <pre>Platform Configuration Utility 3.05 (C) 2003 - 2011 Tekelec, Inc. Hostname: pmacDev8 Verify NetBackup Client Environment [OK] - User acct set up: netbackup [OK] - User netbackup shell set up: /usr/bin/rssh [OK] - Home directory: /home/rssh/home/netbackup [OK] - Tmp directory: /home/rssh/tmp [OK] - Tmp directory perms: 1777</pre> <p>Verify list entries indicate <b>OK</b> for NetBackup client software environment. Select <b>Exit</b> to return to NetBackup Configuration menu.</p>
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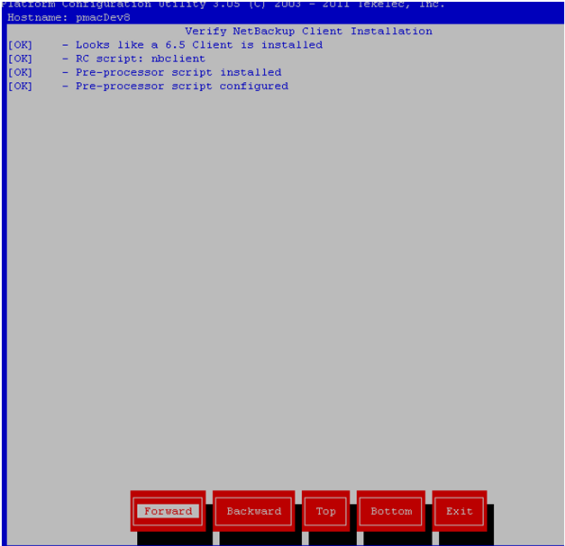





Appendix I.1. Application NetBackup Client Installation (Using Platcfg)

<p>7</p> <p>□</p>	<p><b>Application server iLO:</b> Install NetBackup Client software on application server.</p>	<p>Execute the command:</p> <pre>\$ sudo chmod 555 /var/TKLC/home/rssh/tmp/client_config</pre> <p>Where <b>NETBACKUP_BIN</b> is the temporary directory where the NetBackup client install programs were copied in <b>step 5</b>. The directory should look similar to the following: "/tmp/bp.XXXX/"</p> <p>Navigate to <b>NetBackup Configuration -&gt; Install NetBackup Client</b></p>  <p>Verify list entries indicate <b>OK</b> for NetBackup client software installation</p> <p>Select <b>Exit</b> to return to NetBackup Configuration menu</p>
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Appendix I.1. Application NetBackup Client Installation (Using Platcfg)

<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>Navigate to <b>NetBackup Configuration -&gt; Verify NetBackup Client Installation.</b></p>  <p>Verify list entries indicate <b>OK</b> for NetBackup Client software installation. Select <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>Navigate to <b>NetBackup Configuration -&gt; Remove File Transfer User</b></p>  <p>Select <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>

**Appendix I.1. Application NetBackup Client Installation (Using Platcfg)**

11 <input type="checkbox"/>	<b>Application server iLO:</b> Verify Server bp.conf file	Verify that the server has been added to the <i>/usr/opensv/NetBackup/bp.conf</i> file:  Issue the following command:  <pre data-bbox="456 369 1409 464">\$ sudo cat /usr/opensv/NetBackup/bp.conf CLIENT_NAME = 10.240.34.10 SERVER = NB71server</pre>
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Appendix I.1. Application NetBackup Client Installation (Using Platcfg)

12 **Application server iLO:**  
 Use platform configuration utility (platcfg) to modify hosts file with NetBackup server alias.

**Note:** After the successful transfer and installation of the NetBackup client software the NetBackup servers hostname can be found in the NetBackup **"/usr/opensv/NetBackup/bp.conf"** file, identified by the **SERVER** configuration parameter.

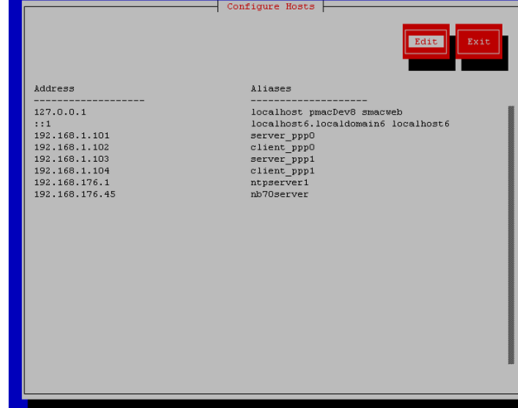
The NetBackup server hostname and IP address must be added to the application server's host's file. List NetBackup servers hostname:

```
$ sudo cat /usr/opensv/NetBackup/bp.conf
SERVER = nb70server
CLIENT_NAME = pmacDev8
```

Use platform configuration utility (platcfg) to update application hosts file with NetBackup Server alias.

```
$ sudo su - platcfg
```

Navigate to **Network Configuration -> Modify Hosts File**



Select **Edit**, the **Host Action Menu** will be displayed.



Select **Add Host**, and enter the appropriate data



Select **OK**, confirm the host alias add, and exit Platform Configuration Utility

### Appendix I.1. Application NetBackup Client Installation (Using Platcfg)

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</pre> An example of <path> is "/usr/TKLC/appworks/sbin"
--------------------------------	---	---

## Appendix I.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 will enable TPD to automatically detect when a NetBackup Client is installed and then complete TPD related tasks that are 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.

### Appendix I.2. Application NetBackup Client Installation (NBAUTOINSTALL)

<b>S T E P #</b>	<p>This procedure explains the NetBackup installation 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Application server iLO:</b> Login	<p>Login and launch the integrated remote console.</p> <p>SSH to the application Server (PMAC or NOAM) as <i>admusr</i> using the management network for the PMAC or XMI network for the NOAM.</p>
2 <input type="checkbox"/>	<b>Application server iLO:</b> Enable nbAutoInstall	<p>Execute the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/nbAutoInstall --enable</pre>
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.	<p>Execute the following commands</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo mkdir -p /usr/opencv/NetBackup/bin/  \$ sudo ln -s &lt;path&gt;/bpstart_notify /usr/opencv/NetBackup/bin/bpstart_notify  \$ sudo ln -s &lt;path&gt;/bpend_notify /usr/opencv/NetBackup/bin/bpend_notify  Note: An example of &lt;path&gt; is "/usr/TKLC/plat/sbin"</pre>

Appendix I.2. Application NetBackup Client Installation (NBAUTOINSTALL)

4 <input type="checkbox"/>	<b>Application server iLO:</b> Verify NetBackup configuration file	<p>Open <b>/usr/opensv/NetBackup/bp.conf</b> and make sure it points to the NetBackup Server using the following command:</p> <pre data-bbox="456 338 1373 522">\$ sudo vi /usr/opensv/NetBackup/bp.conf</pre> <pre data-bbox="456 405 1373 491">SERVER = nb75server CLIENT_NAME = 10.240.10.185 CONNECT_OPTIONS = localhost 1 0 2</pre> <p><b>Note:</b> Verify that the above server name matches the NetBackup Server, and verify that the CLIENT_NAME matches the hostname or IP of the local client machine, if they do not, update them as necessary.</p> <p>Edit <b>/etc/hosts</b> using the following command and add the NetBackup server:</p> <pre data-bbox="456 737 1373 858">\$ sudo vi /etc/hosts</pre> <pre data-bbox="456 800 1373 827">e.g.: 192.168.176.45      nb75server</pre> <p><b>Note:</b> The server will now periodically check to see if a new version of NetBackup Client has been installed and will perform necessary TPD configuration accordingly. At any time, the customer may now push and install a new version of NetBackup Client.</p>
-------------------------------	---	---

## Appendix I.3: Create NetBackup Client Config File

This procedure will copy a NetBackup Client config file into the appropriate location on the TPD based application server. This config file will allow a customer to install previously unsupported versions of NetBackup Client by providing necessary information to TPD.


### Appendix I.3. Create NetBackup Client Config File

<b>S T E P #</b>	<p>This procedure will copy a NetBackup Client config file into the appropriate location on the TPD based application server. This config file will allow a customer to install previously unsupported versions of 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>Application server iLO:</b> Create NetBackup Config File</p>	<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 <i>/usr/TKLC/plat/etc/NetBackup/profiles</i> directory and should follow the following naming conventions: NB\$ver.conf</p> <p>Where \$ver is the client version number with the periods removed. For the 7.5 client the value of \$ver would be 75 and the full path to the file would be: <i>/usr/TKLC/plat/etc/NetBackup/profiles/NB75.conf</i></p> <p><b>Note:</b> The config files must start with "NB" and must have a suffix of ".conf". The server is now capable of installing the corresponding NetBackup Client. The server is now capable of installing the corresponding NetBackup Client.</p>
2 <input type="checkbox"/>	<p><b>Application server iLO:</b> Create NetBackup Config script</p>	<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 <i>/usr/TKLC/plat/etc/NetBackup/scripts</i> 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><u>NetBackup Client config:</u> <i>/usr/TKLC/plat/etc/NetBackup/profiles/NB75.conf</i></p> <p><u>NetBackup Client config script:</u> <i>/usr/TKLC/plat/etc/NetBackup/scripts/NB75</i></p>

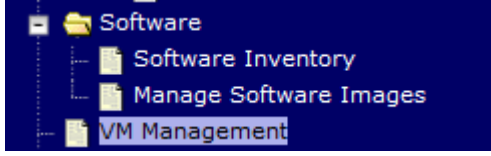
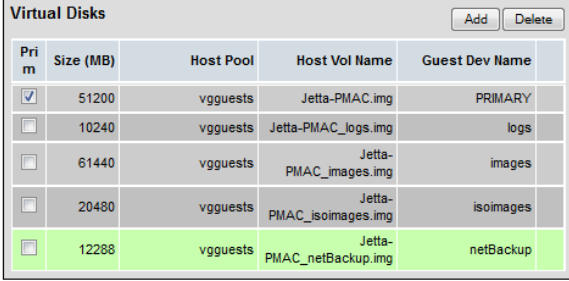
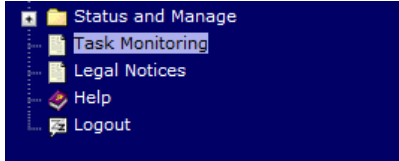


## Appendix I.4: Configure PMAC Application NetBackup Virtual Disk

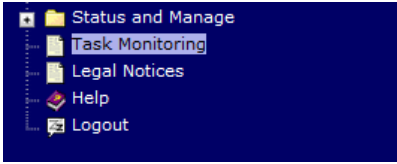
### Appendix I.4. Configure the PMAC Application Guest NetBackup Virtual Disk

<b>S T E P #</b>	<p>This procedure will configure the PMAC application guest NetBackup Virtual Disk.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>PMAC GUI: Login</b>	<p>Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user:</p> <p><code>https://&lt;pmac_network_ip&gt;</code></p> 

Appendix I.4. Configure the PMAC Application Guest NetBackup Virtual Disk

<p>2</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Create NetBackup Virtual Disk</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p>  <p>Edit the PMAC application guest to add the "NetBackup" virtual disk. Click "Edit" and enter the following data for the new NetBackup virtual disk.</p> <ul style="list-style-type: none"> <li>• Size (MB): "2048"</li> <li>• Host Pool: "vgguests"</li> <li>• Host Vol Name: "&lt;pmacGuestName&gt;_NetBackup.img"</li> <li>• Guest Dev Name: "NetBackup"</li> </ul>  <p>Confirm the PMAC application guest edit.</p> <p>A confirmation dialog will be presented with the message, "Changes to the PMAC guest :&lt;pmacGuestName&gt; will not take effect until after the next power cycle. Do you wish to continue?"</p> <p>Click <b>OK</b> to continue.</p>																								
<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify NetBackup Virtual Disk</p>	<p>Confirm the Edit VM Guest task has completed successfully.</p> <p>Navigate to <b>Main Menu -&gt; Task Monitoring</b></p>  <p>Confirm that the guest edit task has completed successfully.</p> <table border="1" data-bbox="451 1696 1419 1822"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>State</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>239</td> <td>VirtAction: Edit</td> <td>RMS: <a href="#">Jetta-A</a> Guest: <a href="#">Jetta-PMAC</a></td> <td>Guest editing completed (Jetta-PMAC)</td> <td>COMPLETE</td> <td>0:00:11</td> <td>2015-06-03 15:29:35</td> <td>100%</td> </tr> <tr> <td>238</td> <td>Backup PM&amp;C</td> <td></td> <td>PM&amp;C Backup successful</td> <td>COMPLETE</td> <td>0:00:04</td> <td>2015-06-03 05:00:01</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	State	Running Time	Start Time	Progress	239	VirtAction: Edit	RMS: <a href="#">Jetta-A</a> Guest: <a href="#">Jetta-PMAC</a>	Guest editing completed (Jetta-PMAC)	COMPLETE	0:00:11	2015-06-03 15:29:35	100%	238	Backup PM&C		PM&C Backup successful	COMPLETE	0:00:04	2015-06-03 05:00:01	100%
ID	Task	Target	Status	State	Running Time	Start Time	Progress																			
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238	Backup PM&C		PM&C Backup successful	COMPLETE	0:00:04	2015-06-03 05:00:01	100%																			

Appendix I.4. Configure the PMAC Application Guest NetBackup Virtual Disk

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify "In-Progress" tasks</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b></p>  <p>If any tasks show as in-progress (blue) then wait for the task to complete prior to going to the next step.</p> <p><b>Background Task Monitoring</b></p> <div style="text-align: right;">Wed Nov 07 16:10:13 2011</div> <p>Filter ▾</p> <table border="1"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1104</td> <td>Install OS</td> <td>Enc:50201 Bay:13F</td> <td>Done: TPD.install-6.0.0_80.26.0-CentOS6.3-x86_64</td> <td>0:23:26</td> <td>2012-10-31 14:46:21</td> <td>100%</td> </tr> <tr> <td>1103</td> <td>Install OS</td> <td>Enc:50201 Bay:5F</td> <td>Timed Out</td> <td>0:46:00</td> <td>2012-10-31 14:46:20</td> <td>83%</td> </tr> <tr> <td>1102</td> <td>Install OS</td> <td>Enc:50201 Bay:4F</td> <td>Error starting install</td> <td>0:00:54</td> <td>2012-10-31 14:46:19</td> <td>17%</td> </tr> <tr> <td>1101</td> <td>Install OS</td> <td>Enc:50201 Bay:2F</td> <td>Done: TPD.install-6.0.0_80.26.0-CentOS6.3-x86_64</td> <td>0:20:31</td> <td>2012-10-31 14:46:19</td> <td>100%</td> </tr> <tr> <td>1100</td> <td>Add Enclosure</td> <td>Enc:50701</td> <td>Enclosure added - starting monitoring</td> <td>0:06:15</td> <td>2012-10-31 14:04:41</td> <td>100%</td> </tr> </tbody> </table> <p style="text-align: center;"> <input type="button" value="Delete Completed"/> <input type="button" value="Delete Failed"/> <input type="button" value="Delete Selected"/> </p> <p><b>Note:</b> If desired, you can delete all of the Complete and Failed tasks using the "Delete Completed" and "Delete Failed" buttons. This will leave only the in-progress tasks.</p>	ID	Task	Target	Status	Running Time	Start Time	Progress	1104	Install OS	Enc:50201 Bay:13F	Done: TPD.install-6.0.0_80.26.0-CentOS6.3-x86_64	0:23:26	2012-10-31 14:46:21	100%	1103	Install OS	Enc:50201 Bay:5F	Timed Out	0:46:00	2012-10-31 14:46:20	83%	1102	Install OS	Enc:50201 Bay:4F	Error starting install	0:00:54	2012-10-31 14:46:19	17%	1101	Install OS	Enc:50201 Bay:2F	Done: TPD.install-6.0.0_80.26.0-CentOS6.3-x86_64	0:20:31	2012-10-31 14:46:19	100%	1100	Add Enclosure	Enc:50701	Enclosure added - starting monitoring	0:06:15	2012-10-31 14:04:41	100%
ID	Task	Target	Status	Running Time	Start Time	Progress																																						
1104	Install OS	Enc:50201 Bay:13F	Done: TPD.install-6.0.0_80.26.0-CentOS6.3-x86_64	0:23:26	2012-10-31 14:46:21	100%																																						
1103	Install OS	Enc:50201 Bay:5F	Timed Out	0:46:00	2012-10-31 14:46:20	83%																																						
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1100	Add Enclosure	Enc:50701	Enclosure added - starting monitoring	0:06:15	2012-10-31 14:04:41	100%																																						

Appendix I.4. Configure the PMAC Application Guest NetBackup Virtual Disk

<p>5</p> <p><input type="checkbox"/></p>	<p><b>Management Server TVOE iLO/iLOM:</b> SSH into the Management Server</p>	<p>Using an SSH client such as putty, ssh to the TVOE host as <b>admusr</b>.</p> <p>Login using <b>virsh</b>, and wait until you see the login prompt :</p> <pre>\$ sudo /usr/bin/virsh list</pre> <pre>Id Name State ----- 1 myTPD running 2 PM&amp;C running</pre> <pre>\$ sudo /usr/bin/virsh console &lt;PM&amp;C&gt;</pre> <p>[Output Removed]</p> <pre>Starting ntdMgr: [ OK ] Starting atd: [ OK ] 'TPD Up' notification(s) already sent: [ OK ] upstart: Starting tpdProvd... upstart: tpdProvd started. CentOS release 6.2 (Final) Kernel 2.6.32-220.17.1.el6prere16.0.0_80.14.0.x86_64 on an x86_64 PM&amp;Cdev7 login:</pre>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Shutdown the PMAC Guest</p>	<p>Assuming no in-progress tasks exists, it is safe to shut down the PMAC guest. Execute the following command:</p> <pre>[admusr@pmac ~]\$ sudo /usr/bin/halt -p</pre> <pre>Broadcast message from root@pmacDev901 (/dev/ttyS0) at 11:20 ... The system is going down for power off NOW! [admusr@pmac ~]\$</pre> <p>Eventually the virsh console session is closed and you are returned to the TVOE host command prompt:</p> <pre>Halting system... Power down. [admusr@tvoe ~]\$</pre>

Appendix I.4. Configure the PMAC Application Guest NetBackup Virtual Disk

<p>7</p> <p><input type="checkbox"/></p>	<p><b>Management Server TVOE iLO/iLOM:</b> Verify PMAC Guest is shutdown</p>	<p>From the TVOE host command prompt execute the following command:</p> <pre>[admusr@tvoe ~]\$ sudo /usr/bin/virsh list --all Id Name State ----- - pmac shut off [admusr@tvoe ~]\$</pre> <p>This should show the guest state as “shut off”. You will want to be sure all guests are in the shut off state as well.</p>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>Management Server TVOE iLO/iLOM:</b> Start PMAC Guest</p>	<p>Issue the following command to start the PMAC guest:</p> <pre>\$ sudo /usr/bin/virsh virsh # list --all Id Name State ----- 20 pmacU14-1 shut off  virsh # start pmacU14-1  Domain pmacU14-1 started  virsh # list --all Id Name State ----- 20 pmacU14-1 running</pre>

## Appendix J: List of Frequently used Time Zones

**Table 3. Time Zones**

<b>Time Zone Value</b>	<b>Description</b>	<b>Universal Time Code (UTC) Offset</b>
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 & westSaskatchewan	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
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 K: Upgrade Cisco 4948 PROM

## Appendix K.1. Upgrade Cisco 4948 PROM

<b>S T E P #</b>	<p>This procedure explains the procedure to upgrade the Cisco 4948 PROM</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Virtual PMAC:</b> Verify PROM image is on the system	<p>Determine if the PROM image for the 4948E-F is on the system.</p> <p>Execute the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ ls /var/TKLC/smac/image/&lt;PROM_image_file&gt;</pre> <p><b>Note:</b> If the file exists, continue with the next step. If the file does not exist, copy the file from the firmware media and ensure the file is specified by the HP Solutions Firmware Upgrade Pack Release Notes [1]</p>
2 <input type="checkbox"/>	<b>Virtual PMAC:</b> Attach to switch Console	<p>Connect serially to the switch by issuing the following command as admusr on the server:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/console -M &lt;management_server_mgmt_ip_address&gt; -l platcfg  switch1A_console Enter platcfg@pmac5000101's password: &lt;platcfg_password&gt; [Enter `^Ec?' for help] Press Enter</pre> <p>If the switch is not already in enable mode ("switch#" prompt) then issue the <b>"enable"</b> command, otherwise continue with the next step.</p> <pre style="border: 1px solid black; padding: 5px;">Switch&gt; enable Switch#</pre>

## Appendix K.1. Upgrade Cisco 4948 PROM

<p>3</p> <p><input type="checkbox"/></p>	<p><b>4948E-F:</b> Configure ports on the switch</p>	<p>Configure ports on the 4948E-F switch.</p> <p>To ensure connectivity, ping the management server's management vlan ip &lt;pmac_mgmt_ip_address&gt; address from the switch.</p> <p>Execute the following commands:</p> <pre>Switch# conf t Switch(config-if)# switchport mode trunk Switch(config-if)# spanning-tree portfast trunk Switch(config-if)# end Switch# write memory</pre> <p>Now issue ping command:</p> <pre>Switch# ping &lt;pmac_mgmtVLAN_ip_address&gt;</pre> <p>Type escape sequence to abort. Sending 5, 100-byte ICMP Echos to &lt;pmac mgmt ip address&gt;, timeout is 2 seconds: !!!!! Success rate is 100 percent (5/5), round trip min/avg/max = 1/1/4 ms</p> <p>If ping is not successful, double check that the procedure was completed correctly by repeating all steps up to this point. If after repeating those steps, ping is still unsuccessful, contact <b>Appendix T: My Oracle Support (MOS)</b>.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>4948E-F:</b> Upgrade PROM</p>	<p>To upgrade PROM, execute the following commands:</p> <pre>Switch# copy tftp: bootflash: Address or name of remote host []? &lt;pmac_mgmt_ip_address&gt; Source filename []? &lt;PROM_image_file&gt; Destination filename [&lt;PROM_image_file&gt;]? [Enter] Accessing tftp://&lt;pmac_mgmt_ip_address&gt;/&lt;PROM_image_file&gt;... Loading &lt;PROM_image_file&gt; from &lt;pmac_mgmt_ip_address&gt; (via Vlan2): !!!!! [OK- 45606 bytes] 45606 bytes copied in 3.240 secs (140759 bytes/sec) Switch#</pre>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>4948E-F:</b> Reload</p>	<p>Reload the switch, execute the following commands:</p> <pre>Switch# reload System configuration has been modified. Save? [yes/no]: no Proceed with reload? [confirm] [Enter] === Boot messages removed ===</pre> <p><b>Note:</b> Type <b>[Control-C]</b> when “<i>Type control-C to prevent autobooting</i>” is displayed on the screen.</p>



## Appendix K.1. Upgrade Cisco 4948 PROM

<p>6</p> <input type="checkbox"/>	<p><b>4948E-F:</b> Initiate PROM Upgrade</p>	<p>Initiate the PROM upgrade by executing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">rommon 1 &gt; boot bootflash:&lt;PROM_image_file&gt; === PROM upgrade messages removed === System will reset itself and reboot within few seconds....</pre>
<p>7</p> <input type="checkbox"/>	<p><b>4948E-F:</b> Verify PROM Upgrade</p>	<p>The switch will reboot when the firmware upgrade completes. Allow it to boot up. Wait for the following line to be printed:</p> <pre style="border: 1px solid black; padding: 5px;">Press RETURN to get started! Would you like to terminate autoinstall? [yes]: [Enter] Switch&gt; show version   include ROM ROM: 12.2(31r)SGA1 System returned to ROM by reload</pre> <p><b>Note:</b> Review the output and look for the ROM version. Verify that the version is the desired new version. If the switch does not boot properly or has the wrong ROM version, contact <b>My Oracle Support (MOS)</b>.</p>
<p>8</p> <input type="checkbox"/>	<p><b>4948E-F:</b> Reset Switch Factory Defaults</p>	<p>Reset switch to factory defaults. Execute the following command:</p> <pre style="border: 1px solid black; padding: 5px;">Switch# write erase Switch# reload</pre> <p>Note: Wait until the switch reloads, then exit from console, enter <b>&lt;ctrl-e&gt;&lt;c&gt;&lt;.&gt;</b> and you will be returned to the server prompt.</p> <p><b>Note:</b> There might be messages from the switch, if asked to confirm, press enter. If asked yes or no, type in <b>'no'</b> and press enter.</p>

## Appendix L: Sample Network Element

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.

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 accidentally create different network names for NOAMP and SOAM Network Element, and then the mapping of services to networks will not be possible.

**Figure 4. Example Network Element XML File**

```
<?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>
```

**'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 will be performed during server creation.

## Appendix M: Accessing the NOAM GUI using SSH Tunneling with Putty

### Appendix M.1. Accessing the NOAM GUI using SSH Tunneling with Putty

<b>S T E P #</b>	<p><b>Note:</b> This procedure assumes that the NOAM server you wish to create a tunnel to has been IPM'd with the DSR application ISO</p> <p><b>Note:</b> This procedure assumes that you have exchanged SSH keys between the PMAC and the first NOAM server.</p> <p><b>Note:</b> This procedure assumes that you have obtained the control network IP address for the first NOAM server. You can get this from the PMAC GUI's Software Inventory screen.</p> <p>That variable will be referred to as &lt;NOAM-Control-IP&gt; in these instructions.</p> <p><b>Note:</b> It is recommended that you only use this procedure if you are using Windows XP. There are known issues with putty and Windows 7 that may cause unpredictable results when viewing GUI screens through SSH tunnels.</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1 <input type="checkbox"/>	Log in to PMAC Server using Putty	Launch the Putty application from your station and open a session to the PMAC's management address.

Appendix M.1. Accessing the NOAM GUI using SSH Tunneling with Putty

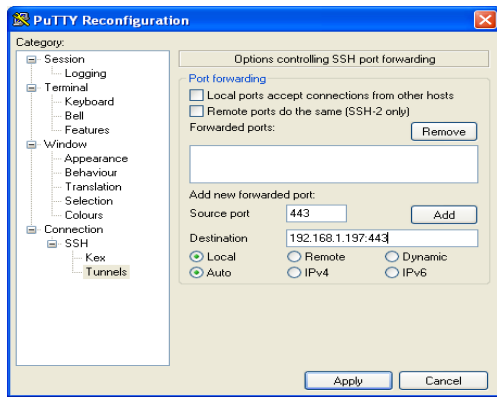
2 **Create SSH Tunnel through the PMAC in Putty**



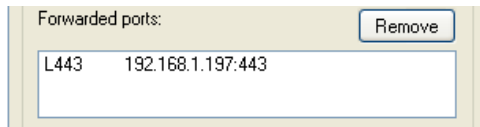
Click the icon in the upper left hand corner of the Putty window to bring down the **main menu**.

Select **Change Settings**

Select **Connections -> SSH -> Tunnels**




1. Verify that the **“Local”** and **“Auto”** buttons are selected. Leave other fields blank
2. In **Source Port**, enter **443**
3. In **Destination**, enter **<NOAM-Control-IP>:443**
4. Click **Add**



You should now see a display similar to the following in the text box at the center of this dialog.

5. Click **Apply**
6. **Connect** to the PMAC, and login as **admusr**

**Appendix M.1. Accessing the NOAM GUI using SSH Tunneling with Putty**


<p>3</p> <p><input type="checkbox"/></p>	<p>Use Local Web Browser to <b>Connect</b> to GUI</p>	<p>Using your web browser, navigate to the following URL:</p> <p><input type="text" value="https://localhost/"/></p>  <p>You should arrive at the login screen for the NOAM GUI.</p> <p><b>Note:</b> If using windows 7 and a blank screen is displayed, enable <b>Compatibility Mode</b> in IE, or use a different browser (Firefox or Chrome)</p>
--	---	--

**Appendix N: Accessing the NOAM GUI using SSH Tunneling with OpenSSH for Windows**

**Appendix N.1. Accessing the NOAM GUI using SSH Tunneling with OpenSSH for Windows**

<p><b>S</b></p> <p><b>T</b></p> <p><b>E</b></p> <p><b>P</b></p> <p><b>#</b></p>	<p><b>Note:</b> This procedure assumes that the NOAM server you wish to create a tunnel to has been IPM'd with the DSR application ISO</p> <p><b>Note:</b> This procedure assumes that you have exchanged SSH keys between the PMAC and the first NOAM server.</p> <p><b>Note:</b> This procedure assumes that you have obtained the control network IP address for the first NOAM server. You can get this from the PMAC GUI's Software Inventory screen. That variable will be referred to as &lt;NOAM-Control-IP&gt; in these instructions.</p> <p><b>Note:</b> This is the recommended tunneling method if you are using Windows 7.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1</p> <p><input type="checkbox"/></p>	<p>If Needed, Download and Install <b>OpenSSH</b> for Windows</p> <p>Download <b>OpenSSH for Windows</b> from <a href="#">here</a>.</p> <p>Extract the installer from the ZIP file, then run the installer. <b>openssh</b> is now installed on your PC.</p>

Appendix N.1. Accessing the NOAM GUI using SSH Tunneling with OpenSSH for Windows

<p>2</p> <p><input type="checkbox"/></p>	<p><b>Create SSH Tunnel Through the PMAC</b></p>	<p>Open up a Command Prompt shell</p> <p>Within the command shell, enter the following to create the SSH tunnel to the 1st NO, through the PMAC:</p> <pre data-bbox="456 426 1349 516" style="border: 1px solid black; padding: 5px;"> &gt; ssh -L 443:&lt;1st_NO_Control_IP_Address&gt;:443 admusr@&lt;PMAC_Management_IP_Address&gt; </pre> <p>(Answer <b>Yes</b> if it asks if you want to continue connecting)</p> <p>The tunnel to the 1<sup>st</sup> NOAM is now established.</p>
<p>3</p> <p><input type="checkbox"/></p>	<p><b>Use Local Web Browser to Connect to GUI</b></p>	<p>Using your web browser, navigate to the following URL:</p> <pre data-bbox="456 720 824 751" style="border: 1px solid black; padding: 2px;"> https://localhost/ </pre>  <p>You should arrive at the login screen for the NOAM GUI.</p>

## Appendix O: 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 RMS	Includes Hardware Type and ILO address of the Rack Mount Server.
TVOE Configuration (Up to 3)	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

### TVOE RMS

The TVOE RMS section contains the ILO ip address and Hardware profile. If the ILO IP address is incorrect the PMAC will not be able to discover the Rack Mount Server, server discovery must occur before the installation can begin.

## 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.

## 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.

**Note:** Although the network for the iDIH 'int' network can be changed to a unique value, the IP scheme must follow the below rules:

- db-guest int ip = x.y.z.n
- Mediation-guest int ip = x.y.z.n+1
- Appserver-guest int ip = x.y.z.n+2

**Note:** this network is a non-routable network, so if the IP range of this network is not required; it is recommended that these values are left unchanged from the fast deployment template.

Below is FDC configuration template included on the mediation ISO:

IPv4 Configuration shown:

**Note:** IPv6 addresses should be entered into the <address> field in the FDC template. IPv6 prefix should be configured in the '<netmask>' field in the FDC template as only the number of the prefix (i.e 64)

**Note:** The hostname in the <serverinfo><hostname> stanza in the Oracle Server can be anything except uppercase "ORA". The example below is **NOT** allowed:

```
<serverinfo>
<!--Specify Oracle server hostname -->
<hostname>ORA</hostname>
</serverinfo>
```

```
<?xml version="1.0"?>
<fdc>
  <infrastructures>
    <infrastructure name="localPMAC">
      <interfaces>
        <interface>
          <ipaddress>127.0.0.1</ipaddress>
        </interface>
      </interfaces>
      <software>
        <image id="tpd">
          <!--Target TPD release Image here -->
          <name>TPD.install-7.0.2.0.0 86.28.0-OracleLinux6.6-x86 64</name>
        </image>
        <image id="ora">
          <!--Target oracle release image name here -->
          <name>oracle-7.1.0.0.0_71.20.1-x86_64</name>
        </image>
        <image id="med">
          <!--Target mediation release image name here -->
          <name>mediation-7.1.0.0.0 71.21.0-x86 64</name>
        </image>
        <image id="app">
          <!--Target application release image name here -->
          <name>apps-7.1.0.0.0 71.20.1-x86 64</name>
        </image>
      </software>
      <hardware>
        <cabinet id="1">
```



```

    <cabid>1</cabid>
  </cabinet>
  <rms id="mgmtrsrvr1">
    <!-- RMS #1 iLO/iLOM address -->
    <rmsOOBIP>10.250.56.201</rmsOOBIP>
    <!-- RMS #1 hostname can be changed here -->
    <rmsname>Sterling-TVOE-3</rmsname>
    <!--iLO login user/pass -->
    <rmsuser>root</rmsuser>
    <rmpassword>changeme</rmpassword>
  </rms>
  <rms id="mgmtrsrvr2">
    <!-- RMS #2 iLO/iLOM address -->
    <rmsOOBIP>10.250.56.202</rmsOOBIP>
    <!-- RMS #2 hostname can be changed here -->
    <rmsname>Sterling-TVOE-4</rmsname>
    <!--iLO login user/pass -->
    <rmsuser>root</rmsuser>
    <rmpassword>changeme</rmpassword>
  </rms>
  <rms id="mgmtrsrvr3">
    <!-- RMS #3 iLO/iLOM address -->
    <rmsOOBIP>10.250.56.203</rmsOOBIP>
    <!-- RMS #3 hostname can be changed here -->
    <rmsname>Sterling-TVOE-5</rmsname>
    <!--iLO login user/pass -->
    <rmsuser>root</rmsuser>
    <rmpassword>changeme</rmpassword>
  </rms>
</hardware>
<tvoehost id="mgmtrsrvrtvoe1">
  <hardware>
    <!--rmshwid must match rms id above -->
    <rmshwid>mgmtrsrvr1</rmshwid>
  </hardware>
</tvoehost>
<tvoehost id="mgmtrsrvrtvoe2">
  <hardware>
    <!--rmshwid must match rms id above -->
    <rmshwid>mgmtrsrvr2</rmshwid>
  </hardware>
</tvoehost>
<tvoehost id="mgmtrsrvrtvoe3">
  <hardware>
    <!--rmshwid must match rms id above -->
    <rmshwid>mgmtrsrvr3</rmshwid>
  </hardware>
</tvoehost>
</infrastructure>
</infrastructures>
<servers>
  <tvoeguest id="ORA">
    <infrastructure>localPMAC</infrastructure>
    <!--Specify which Rack Mount Server TVOE Host the Oracle server will be placed -->
    <tvoehost>mgmtrsrvrtvoe1</tvoehost>
    <name>ORA</name>
    <cpus>4</cpus>
    <memory>8192</memory>
    <watchdog>ON</watchdog>
    <vnics>
      <vnic>
        <hostbridge>control</hostbridge>
        <guestdevname>control</guestdevname>
      </vnic>
      <vnic>
        <hostbridge>int</hostbridge>
        <guestdevname>int</guestdevname>
      </vnic>
      <vnic>
        <hostbridge>xmi</hostbridge>
        <guestdevname>xmi</guestdevname>
      </vnic>
    </vnics>
    <vdisks>
      <vdisk>
        <hostvolname>ORA.img</hostvolname>
        <hostpool>vgguests</hostpool>
        <size>65536</size>
        <primary>yes</primary>
        <guestdevname>PRIMARY</guestdevname>
      </vdisk>
    </vdisks>
  </tvoeguest>
</servers>

```

```

<vdisk>
  <hostvolname>ORA_sdb.img</hostvolname>
  <hostpool>vgguests</hostpool>
  <size>51200</size>
  <primary>no</primary>
  <guestdevname>sdb</guestdevname>
</vdisk>
<vdisk>
  <hostvolname>ORA_sdc.img</hostvolname>
  <hostpool>vgguests</hostpool>
  <size>51200</size>
  <primary>no</primary>
  <guestdevname>sdc</guestdevname>
</vdisk>
</vdisks>
<software>
  <baseimage>tpd</baseimage>
  <appimage>ora</appimage>
</software>
<tpdnetworking>
  <tpdinterfaces>
    <tpdinterface id="int">
      <device>int</device>
      <type>Ethernet</type>
      <onboot>yes</onboot>
      <bootproto>none</bootproto>
      <address>10.254.254.2</address>
      <netmask>255.255.255.224</netmask>
    </tpdinterface>
    <tpdinterface id="xmi">
      <device>xmi</device>
      <type>Ethernet</type>
      <onboot>yes</onboot>
      <bootproto>none</bootproto>
      <!--Specify xmi IP address -->
      <address>10.240.30.204</address>
      <!--Specify xmi subnet -->
      <netmask>255.255.255.128</netmask>
    </tpdinterface>
  </tpdinterfaces>
  <tpdroutes>
    <tpdroute id="xmi_default">
      <type>default</type>
      <device>xmi</device>
      <!--Specify default gateway of xmi network-->
      <gateway>10.240.30.129</gateway>
    </tpdroute>
  </tpdroutes>
</tpdnetworking>
<serverinfo>
  <!--Specify Oracle server hostname-->
  <hostname>Sterling-IDIH-ora</hostname>
</serverinfo>
<scripts>
  <postsrvapp>
    <scriptfile id="oracleConfig">
      <filename>/usr/bin/sudo</filename>
      <arguments>/opt/xIH/oracle/configureOracle.sh</arguments>
      <timeout>4100</timeout>
    </scriptfile>
  </postsrvapp>
  <postdeploy>
    <scriptfile id="oraHealthcheck">
      <filename>/usr/bin/sudo</filename>
      <arguments>/usr/TKLC/xIH/plat/bin/analyze_server.sh -i</arguments>
    </scriptfile>
  </postdeploy>
</scripts>
</tvoeguest>
<tvoeguest id="MED">
  <infrastructure>localPMAC</infrastructure>
  <!--Specify which Rack Mount Server TVOE Host the Mediation server will be placed -->
  <tvoehost>mgmtsrvrtvoe2</tvoehost>
  <name>MED</name>
  <cpus>4</cpus>
  <memory>8192</memory>
  <watchdog>ON</watchdog>
  <vnics>
    <vnic>
      <hostbridge>control</hostbridge>
      <guestdevname>control</guestdevname>
    </vnic>
  </vnics>

```

```

</vnic>
<vnic>
  <hostbridge>int</hostbridge>
  <guestdevname>int</guestdevname>
</vnic>
<vnic>
  <hostbridge>xmi</hostbridge>
  <guestdevname>xmi</guestdevname>
</vnic>
<vnic>
  <hostbridge>imi</hostbridge>
  <guestdevname>imi</guestdevname>
</vnic>
</vnics>
<vdisk>
  <vdisk>
    <hostvolname>MED.img</hostvolname>
    <hostpool>vgguests</hostpool>
    <size>65536</size>
    <primary>yes</primary>
    <guestdevname>PRIMARY</guestdevname>
  </vdisk>
</vdisk>
<software>
  <baseimage>tpd</baseimage>
  <appimage>med</appimage>
</software>
<tpdnetworking>
  <tpdinterfaces>
    <tpdinterface id="imi">
      <device>imi</device>
      <type>Ethernet</type>
      <onboot>yes</onboot>
      <bootproto>none</bootproto>
      <!--Specify imi IP address -->
      <address>192.168.201.139</address>
      <!--Specify imi subnet mask -->
      <netmask>255.255.255.0</netmask>
    </tpdinterface>
    <tpdinterface id="int">
      <device>int</device>
      <type>Ethernet</type>
      <onboot>yes</onboot>
      <bootproto>none</bootproto>
      <address>10.254.254.3</address>
      <netmask>255.255.255.224</netmask>
    </tpdinterface>
    <tpdinterface id="xmi">
      <device>xmi</device>
      <type>Ethernet</type>
      <onboot>yes</onboot>
      <bootproto>none</bootproto>
      <!--Specify xmi IP address -->
      <address>10.240.30.203</address>
      <!--Specify xmi subnet mask -->
      <netmask>255.255.255.128</netmask>
    </tpdinterface>
  </tpdinterfaces>
  <tpdroutes>
    <tpdroute id="xmi_default">
      <type>default</type>
      <device>xmi</device>
      <!--Specify default gateway of xmi network-->
      <gateway>10.240.30.129</gateway>
    </tpdroute>
  </tpdroutes>
</tpdnetworking>
<serverinfo>
  <!--Specify Mediation server hostname-->
  <hostname>Sterling-IDIH-med</hostname>
</serverinfo>
<scripts>
  <postdeploy>
    <scriptfile id="medConfig">
      <filename>/usr/bin/sudo</filename>
      <arguments>/opt/xIH/mediation/install.sh</arguments>
    </scriptfile>
    <scriptfile id="medHealthcheck">
      <filename>/usr/bin/sudo</filename>
      <arguments>/usr/TKLC/xIH/plat/bin/analyze_server.sh -i</arguments>
    </scriptfile>
  </postdeploy>
</scripts>

```

```

    </postdeploy>
</scripts>
</tvoeguest>
<tvoeguest id="APP">
  <infrastructure>localPMAC</infrastructure>
  <!--Specify which Rack Mount Server TVOE Host the Application server will be placed -->
  <tvoehost>mgmtsvrtvoe3</tvoehost>
  <name>APP</name>
  <cpus>4</cpus>
  <memory>8192</memory>
  <watchdog>ON</watchdog>
  <vnics>
    <vnic>
      <hostbridge>control</hostbridge>
      <guestdevname>control</guestdevname>
    </vnic>
    <vnic>
      <hostbridge>int</hostbridge>
      <guestdevname>int</guestdevname>
    </vnic>
    <vnic>
      <hostbridge>xmi</hostbridge>
      <guestdevname>xmi</guestdevname>
    </vnic>
  </vnics>
  <vdisk>
    <hostvolname>APP.img</hostvolname>
    <hostpool>vgguests</hostpool>
    <size>65536</size>
    <primary>yes</primary>
    <guestdevname>PRIMARY</guestdevname>
  </vdisk>
</vdisks>
<software>
  <baseimage>tpd</baseimage>
  <appimage>app</appimage>
</software>
<tpdnetworking>
  <tpdinterfaces>
    <tpdinterface id="int">
      <device>int</device>
      <type>Ethernet</type>
      <onboot>yes</onboot>
      <bootproto>none</bootproto>
      <address>10.254.254.4</address>
      <netmask>255.255.255.224</netmask>
    </tpdinterface>
    <tpdinterface id="xmi">
      <device>xmi</device>
      <type>Ethernet</type>
      <onboot>yes</onboot>
      <bootproto>none</bootproto>
      <!--Specify xmi IP address -->
      <address>10.240.30.202</address>
      <!--Specify xmi subnet mask -->
      <netmask>255.255.255.128</netmask>
    </tpdinterface>
  </tpdinterfaces>
  <tpdroutes>
    <tpdroute id="xmi_default">
      <type>default</type>
      <device>xmi</device>
      <!--Specify default gateway of xmi network-->
      <gateway>10.240.30.129</gateway>
    </tpdroute>
  </tpdroutes>
</tpdnetworking>
<serverinfo>
  <!--Specify Application server hostname-->
  <hostname>Sterling-IDIH-app</hostname>
</serverinfo>
<scripts>
  <postdeploy>
    <scriptfile id="appSleep">
      <filename>/bin/sleep</filename>
      <arguments>60</arguments>
    </scriptfile>
    <scriptfile id="appConfig">
      <filename>/usr/bin/sudo</filename>
      <arguments>/opt/xIH/apps/install.sh</arguments>
    </scriptfile>
  </postdeploy>
</scripts>

```

```

        <timeout>7000</timeout>
    </scriptfile>
    <scriptfile id="appHealthcheck">
        <filename>/usr/bin/sudo</filename>
        <arguments>/usr/TKLC/xIH/plat/bin/analyze_server.sh -i</arguments>
    </scriptfile>
</postdeploy>
</scripts>
</tvoeguest>
</servers>
</fdc>

```

## Appendix P: Creating a Bootable USB Drive on Linux


### Appendix P.1. Creating a Bootable USB Drive on Linux

<b>S T E P #</b>	<p>This procedure will create a Bootable USB drive from a .usb file on a Linux Machine</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Insert USB Media</b>	<p>Insert the USB Media into the USB Port. It should automatically be mounted under /media</p> <p>Obtain the path of the USB drive by running:</p> <pre style="border: 1px solid black; padding: 2px;">\$ ls /media</pre> <p>The output should be similar to the following: sdb1</p> <p>Note down the path without the partition number (in this case, it would be /dev/sdb)</p>
	<b>Linux Machine</b>	<p>Obtain the TVOE .usb file and copy it onto the local Linux machine (e.g. under /var/TKLC/upgrade)</p>
	<b>Copy the .USB file onto the USB drive</b>	<p>Use the dd command to copy the .usb file onto the USB drive</p> <p><b>Note:</b> Make sure you <b>do not</b> use the partition number when copying the file</p> <pre style="border: 1px solid black; padding: 2px;">\$ sudo dd if=&lt;path_to_usb_image&gt; of=/dev/sdb bs=4M oflag=direct</pre>

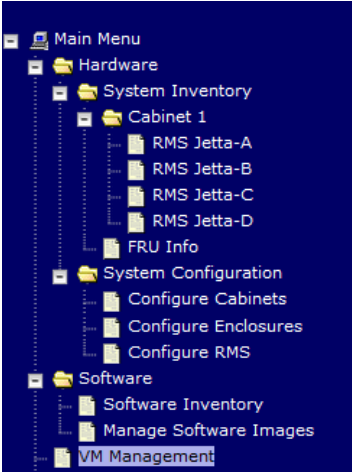
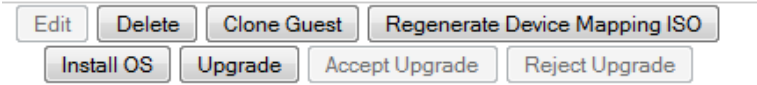
# Appendix Q: IDIH External Drive Removal

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

## Appendix Q.2. IDIH External Drive Removal

<p><b>S T E P #</b></p>	<p>This procedure will destroy 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p><b>https://&lt;PMAC Mgmt Network IP&gt;</b></p> </div> <p>Login as <i>pmacadmin</i> user:</p> <div style="text-align: center;">  <p><b>Oracle System Login</b> <span style="float: right;">Tue Mar 17 13:49:25 2015 UTC</span></p> </div> <div style="border: 1px solid gray; padding: 10px; margin: 10px auto; width: 200px;"> <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" value="pmadmin"/></p> <p>Password: <input type="password" value="*****"/></p> <p><input type="checkbox"/> Change password</p> <p style="text-align: center;"><input type="button" value="Log In"/></p> </div> <p style="font-size: small;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr/> <p style="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="font-size: x-small;">Copyright © 2010, 2015, Oracle and/or its affiliates. All rights reserved.</p>

Appendix Q.2. IDIH External Drive Removal

<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>Navigate to <b>Main Menu -&gt; VM Management</b></p>  <p>Select each of the IDIH VMs and select the <b>Delete</b> button.</p> 
<p>3</p> <p><input type="checkbox"/></p>	<p><b>IDIH TVOE HOST:</b> Login</p>	<p>Establish an SSH session to the TVOE host, login as <b>admusr</b></p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>IDIH TVOE HOST:</b> Verify External Drive Exists</p>	<p>Execute the following command to verify the external drive exists:</p> <p>HP DL380:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo hpssacli ctrl slot=2 Id all show</pre> <p>Oracle X5-2/Netra X5-2</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo storcli -ldinfo -l1 -a0   head</pre> <p>The following information should be displayed:</p> <pre style="border: 1px solid black; padding: 5px;">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>

Appendix Q.2. IDIH External Drive Removal

<p>5</p> <p><input type="checkbox"/></p>	<p><b>IDIH TVOE HOST:</b> Remove the External Drive and Volume Group</p>	<p>Execute the following command to remove the external drive and volume group:</p> <p>HP DL380:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/sbin/storageClean hpdisk --slot=2</pre> <p>Oracle X5-2/Netra X5-2:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/sbin/storageClean pool \ --poolName=external3 --level=pv  \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ --vgName=external3 --level=vg  \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ --poolName=external2 --level=pv  \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ --vgName=external2 --level=vg  \$ sudo /usr/TKLC/plat/sbin/storageClean pool \ --poolName=external1 --level=pv  \$ sudo /usr/TKLC/plat/sbin/storageClean lvm \ --vgName=external1 --level=vg  \$ sudo megacli -cfdl -l3 -a0 \$ sudo megacli -cfdl -l2 -a0 \$ sudo megacli -cfdl -l1 -a0</pre>
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## Appendix R: Growth/De-Growth/Re-Shuffle (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)

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 T.1 will explain how to add individual VMs and add various DSR/SDS servers. Appendix T.2 will explain how to delete individual VMs and move or remove various DSR/SDS servers.

### Appendix R.1: Growth (X5-2/HP DL380 Gen 9 Only)


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

Step	Procedure(s)
Perform Backups	Appendix R.1.1
Perform system health check	Appendix R.1.2
Identify Servers which will be affected by the Growth: <ul style="list-style-type: none"> <li>• DR-NOAM</li> <li>• SOAM Spares</li> <li>• DSR MP (SBR, SS7MP, IPFE)/ SDS DP</li> <li>• Query Server</li> </ul>	
Add new rack mount server	Appendix R.1.3
Create and Configure the VMs on the new Rack Mount Servers	
Configure Servers in new VM locations	NOAM/DR-NOAM (DSR/SDS): Appendix R.1.4 SOAM (DSR/SDS): Appendix R.1.5 MP/DP (DSR/SDS): Appendix R.1.6 Query Server (SDS): Appendix R.1.7
Post Growth Health Check	Appendix R.1.8
Post Growth Backups	Appendix R.1.9

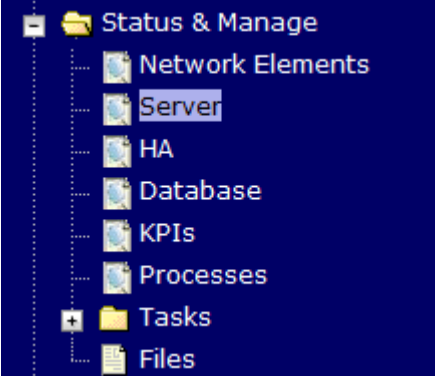
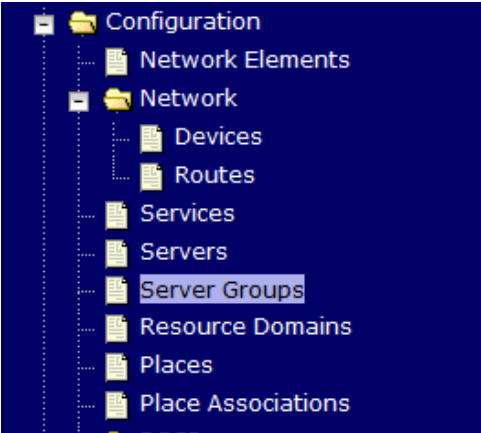
**Appendix R.1.1 Perform Backups**

<b>S T E P #</b>	<p>This procedure will reference steps to backup 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Backup TVOE</b>	Backup all TVOE host configurations by executing <b>Section 4.18.5</b> Backup TVOE Configuration
2 <input type="checkbox"/>	<b>Backup PMAC</b>	Backup the PMAC application by executing <b>Section 4.18.6</b> Backup PMAC Application
3 <input type="checkbox"/>	<b>Backup NOAM/SOAM databases</b>	<p>Backup the NOAM and SOAM Databases by executing <b>Sections 4.18.7</b> Backup NOAM Database and <b>4.18.8</b> Backup SOAM Database</p> <p><b>Note:</b> Database backup on SDS SOAMs not required</p>



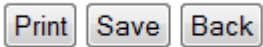
**Appendix R.1.2 Perform Health Check**

<p><b>S T E P #</b></p>	<p>This procedure will provide steps verify system status and log all alarms.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>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><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center; margin: 20px 0;">  <p><b>Oracle System Login</b></p> <hr style="width: 50%; margin: 0 auto;"/> <p style="text-align: right; font-size: small;">Fri Mar 20 12:29:52 2015 EDT</p> <div style="border: 1px solid gray; padding: 10px; width: fit-content; margin: 10px 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" value="guiadmin"/></p> <p>Password: <input type="password" value="••••••"/></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;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 50%; margin: 0 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> </div>

Appendix R.1.2 Perform Health Check

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify Server Status</p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="479 779 1338 903"> <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																							
Enabled	Norm	Norm	Norm	Norm																							
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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>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Verify the configuration data is correct for your network.</p>																									

Appendix R.1.2 Perform Health Check

<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Log Current Alarms</p>	<p>Navigate to <b>Main Menu -&gt; Alarms &amp; Events -&gt; View Active</b></p>  <p>Click on the <b>Report</b> button</p>  <p><b>Save</b> or <b>Print</b> this report, keep copies for future reference.</p> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Repeat For SOAM</p>	<p>Repeat <b>Steps 1-4</b> for the SOAM</p>

Appendix R.1.3 Adding a new TVOE Server/VMs

<p><b>S T E P #</b></p>	<p>This procedure will provide steps to add 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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>Add/Configure Additional Rack Mount Servers</b></p>	<p>Follow the steps in <b>Section 4.7</b>, <b>Section 4.8</b> and <b>Section 4.9</b> to install and configure TVOE on additional rack mount servers.</p>
<p>2</p> <p><input type="checkbox"/></p>	<p><b>Add/Configure New VMs</b></p>	<ol style="list-style-type: none"> <li>1. Determine CPU placement and pinning information by referring to <b>Section 4.10</b></li> <li>2. Create new virtual Machines by following <b>Section 4.12</b></li> <li>3. Perform CPU Pinning by following <b>Section 4.13</b></li> <li>4. Install TPD and DSR/SDS Software by following <b>Section 4.14</b></li> </ol>

Appendix R.1.4 Growth: DR-NOAM

<p><b>S T E P #</b></p>	<p>This procedure will reference steps to configure a DR-NOAM on the new virtual machine for VM Growth scenarios.</p> <p><b>Prerequisites:</b></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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure the DR-NOAM</p>	<p>Configure the DR-NOAM by executing the steps referenced in the following procedures:</p> <p><u>DSR DR-NOAM:</u> <b>Section 4.15.3</b> DSR Configuration: Disaster Recovery NOAM (Optional)</p> <p><u>SDS DR-NOAM:</u> <b>Section 4.16.3</b> SDS Configuration: Disaster Recovery SDS NOAM (Optional)</p>
<p>2 <input type="checkbox"/></p>	<p><b>DR-NOAM:</b> Activate Optional Features (DSR Only)</p>	<p><b>DSR DR-NOAMs ONLY, SDS DR-NOAMs SKIP THIS STEP</b></p> <p>If there are any optional features currently activated, the feature activation procedures will need to be run again. Refer to <b>Section 3.3</b>.</p>
<p>3 <input type="checkbox"/></p>	<p><b>DR-NOAM VIP:</b> Login</p>	<p>Establish an SSH to the DR-NOAM VIP address, login as <b>admusr</b>.</p>
<p>4 <input type="checkbox"/></p>	<p><b>DR-NOAM VIP:</b> Transfer Optimization Script from the Primary NOAM</p>	<p>Execute the following commands to transfer and set permissions of the optimization script from the primary NOAM:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo scp -r admusr@&lt;Primary NOAM XMI VIP&gt;:/usr/TKLC/dsr/bin/rmsNoamConfig.sh /usr/TKLC/dsr/bin \$ sudo chmod 777 /usr/TKLC/dsr/bin/rmsNoamConfig.sh</pre>
<p>5 <input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Execute the Optimization Script on the Active NOAM</p>	<p>Execute the following commands to execute the performance optimization script on the active NOAM:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /usr/TKLC/dsr/bin/ \$ sudo ./rmsNoamConfig.sh</pre> <p><b>Note:</b> Configuration Successful output should be given.</p>

Appendix R.1.4 Growth: DR-NOAM

<p>6 <input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Execute the key revocation Script on the Active NOAM (RADIUS)</p>	<p><b>If the RADIUS key has never been revoked, skip this step (If RADIUS was never configured on any site in the network, the RADIUS key would have most likely never been revoked. Check with your system administrator)</b></p> <p>Execute the following commands to execute the key revocation script on active NOAM server to copy key file to new NOAM server created:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /usr/TKLC/dsr/bin/ \$ ./sharedKrevo -synchronize -server &lt;new_NOAM_hostname&gt;</pre> <p><b>Note:</b> Key transfer successful output should be given.</p>
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Appendix R.1.5 Growth: SOAM spare (DSR/PCA Only)

<p><b>S T E P #</b></p>	<p>This procedure will reference steps to configure an SOAM spare on the new virtual machine for VM growth scenarios.</p> <p><b>Prerequisites:</b></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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure the SOAM spare</p>	<p>Configure the SOAM spare by executing the steps referenced in the following procedures:</p> <p><u>DSR SOAM spare:</u></p> <ul style="list-style-type: none"> <li>• Procedure 30</li> <li>• Procedure 31</li> <li>• Procedure 32 (Steps 1,4,6, and 9)</li> </ul>
<p>2 <input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Activate Optional Features</p>	<p>If there are any optional features currently activated, the feature activation procedures will need to be run again. Refer to <b>Section 3.3</b>.</p>

Appendix R.1.5 Growth: SOAM spare (DSR/PCA Only)

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Execute the key revocation Script on the Active NOAM (RADIUS)</p>	<p><b>If the RADIUS key has never been revoked, skip this step (If RADIUS was never configured on any site in the network, the RADIUS key would have most likely never been revoked. Check with your system administrator)</b></p> <p>Execute the following commands to execute the key revocation script on active NOAM server to copy key file to new SOAM server created:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /usr/TKLC/dsr/bin/ \$ ./sharedKrevo -synchronize -server &lt;new_SOAM_hostname&gt;</pre> <p><b>Note:</b> Key transfer successful output should be given.</p>
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Appendix R.1.6 Growth: MP/DP

<p><b>S</b></p> <p><b>T</b></p> <p><b>E</b></p> <p><b>P</b></p> <p><b>#</b></p>	<p>This procedure will reference steps to configure an MP/DP on the new virtual machine for growth scenarios.</p> <p><b>Prerequisites:</b></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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure the MP/DP</p>	<p>Configure the MP/DP by executing the steps referenced in the following procedures:</p> <ul style="list-style-type: none"> <li>• <u>DSR MP</u>: <b>Procedure 35 (Steps 1-2, 7-14, 15-16(Optional), 17)</b></li> <li>• <u>SDS DP</u>: <b>Procedure 54</b></li> </ul>
<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Execute the key revocation Script on the Active NOAM (RADIUS)</p>	<p><b>If the RADIUS key has never been revoked, skip this step (If RADIUS was never configured on any site in the network, the RADIUS key would have most likely never been revoked. Check with your system administrator)</b></p> <p>Execute the following commands to execute the key revocation script on active NOAM server to copy key file to new MP server created:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /usr/TKLC/dsr/bin/ \$ ./sharedKrevo -synchronize -server &lt;new_MP_hostname&gt;</pre> <p><b>Note:</b> Key transfer successful output should be given.</p>



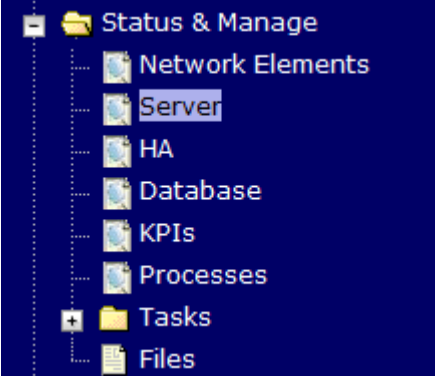
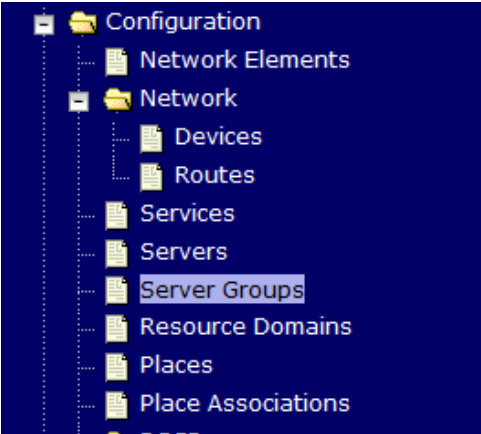
**Appendix R.1.7 Growth: Query Server (SDS Only)**

<p><b>S T E P #</b></p>	<p>This procedure will reference steps to configure a query server on the new virtual machine for growth scenarios.</p> <p><b>Prerequisites:</b></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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Configure the query server</p>	<p>Configure the query server by executing the steps referenced in the following procedures:</p> <p><u>SDS query server:</u> <b>Section 4.16.3</b></p>



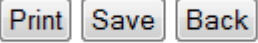
**Appendix R.1.8 Post Growth Health Check**

<p><b>S T E P #</b></p>	<p>This procedure will provide steps verify system status and log all alarms after Growth/De-growth.</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>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="480 705 1334 747" style="border: 1px solid black; padding: 2px;"> <p><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="480 779 1334 1430" style="text-align: center;">  </div>

Appendix R.1.8 Post Growth Health Check

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify Server Status</p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="479 779 1338 905"> <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
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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>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Verify the configuration data is correct for your network.</p>																									

Appendix R.1.8 Post Growth Health Check

<p>4 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Log Current Alarms</p>	<p>Navigate to <b>Main Menu -&gt; Alarms &amp; Events -&gt; View Active</b></p>  <p>Click on the <b>Report</b> button</p>  <p><b>Save</b> or <b>Print</b> this report, keep copies for future reference.</p>  <p>Compare this alarm report with those gathered in procedure <b>Appendix S.3</b></p>
<p>4 <input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Repeat</p>	<p>Repeat <b>Steps 1-3</b> for the SOAM</p>

Appendix R.1.9 Post Growth Backups

<p><b>S T E P #</b></p>	<p>This procedure will reference steps to backup 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>Backup TVOE</b></p>	<p>Backup all TVOE host configurations by executing <b>Section 4.18.5</b> Backup TVOE Configuration</p>
<p>2 <input type="checkbox"/></p>	<p><b>Backup PMAC</b></p>	<p>Backup the PMAC application by executing <b>Section 4.18.5</b></p>
<p>3 <input type="checkbox"/></p>	<p><b>Backup NOAM/SOAM databases</b></p>	<p>Backup the NOAM and SOAM Databases by executing <b>Sections 4.18.6 and 4.18.7</b></p> <p><b>Note:</b> Database backup on SDS SOAMs not required</p>

## Appendix R.2: De-Growth (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)


For De-growth scenarios where it is necessary to remove/delete DSR/SDS MP(SBR, SS7, IPFE)/DP servers, the following sequence of steps should be followed:

Step	Procedure(s)
Perform Backups	Appendix R.2.1
Perform system health check	Appendix R.2.2
Identify Servers which will be affected by the De-growth: <ul style="list-style-type: none"> <li>DSR MP (SBR, SS7MP, IPFE)/ SDS DP</li> </ul>	
Remove identified servers from Server Group	Appendix R.2.3
Shutdown and remove the identified server's VM.	Appendix R.2.4
Post De-Growth Health Check	Appendix R.2.5
Post De-Growth Backups	Appendix R.2.6

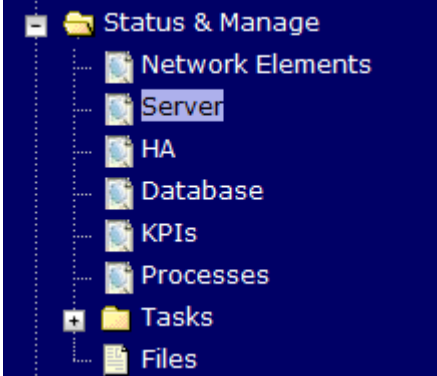
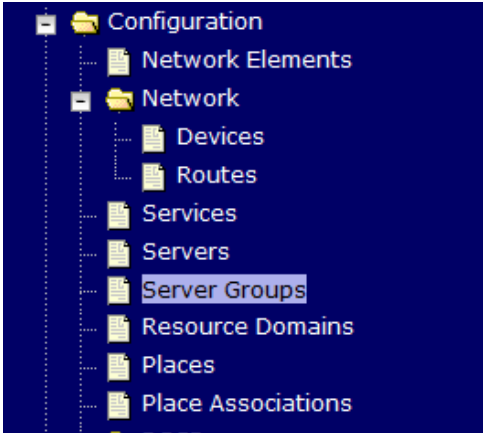
### Appendix R.2.1 Perform Backups

<b>S T E P #</b>	This procedure will reference steps to backup 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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.	
1 <input type="checkbox"/>	<b>Backup TVOE</b>	Backup all TVOE host configurations by executing <b>Section 4.18.5</b> Backup TVOE Configuration
2 <input type="checkbox"/>	<b>Backup PMAC</b>	Backup the PMAC application by executing <b>Section 4.18.5</b>
3 <input type="checkbox"/>	<b>Backup NOAM/SOAM databases</b>	Backup the NOAM and SOAM Databases by executing <b>Sections 4.18.6 and 4.18.7</b> <b>Note:</b> Database backup on SDS SOAMs not required



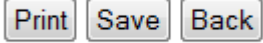
**Appendix R.2.2 Perform Health Check**

<p><b>S T E P #</b></p>	<p>This procedure will provide steps verify system status and log all alarms.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>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><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> 

Appendix R.2.2 Perform Health Check


<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify Server Status</p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="477 779 1338 903"> <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																							
Enabled	Norm	Norm	Norm	Norm																							
Enabled	Norm	Norm	Norm	Norm																							
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>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Verify the configuration data is correct for your network.</p>																									

Appendix R.2.2 Perform Health Check

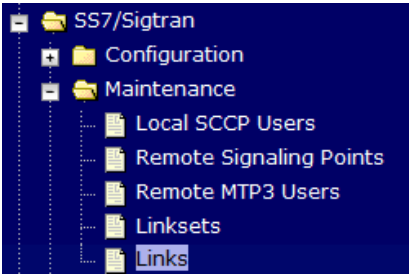
4 <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Log Current Alarms	Navigate to <b>Main Menu -&gt; Alarms &amp; Events -&gt; View Active</b>  Click on the <b>Report</b> button  <b>Save</b> or <b>Print</b> this report, keep copies for future reference. 
5 <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Repeat For SOAM	Repeat <b>Steps 1-4</b> for the SOAM



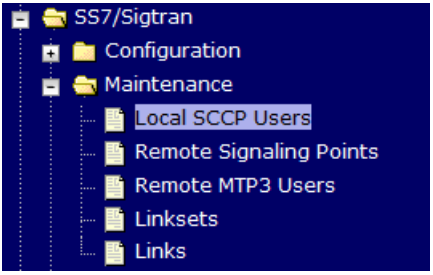
**Appendix R.2.3 Removing Server from Server Group**

<p><b>S T E P #</b></p>	<p>Once the server's that will be deleted have been identified, the server will first need to be removed from its server group.</p> <p>The following procedure will provide steps to remove 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1</p> <p><input type="checkbox"/></p>	<p style="text-align: center;"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p><b>SOAM VIP GUI: Login</b></p> <p>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; width: fit-content; margin: 10px auto;"> <p><code>http://&lt;Primary_SOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center; margin: 20px 0;">  <p>The screenshot shows the Oracle System Login page. At the top is the Oracle logo in red. Below it is the text 'Oracle System Login' and the date 'Fri Mar 20 12:29:52 2015 EDT'. In the center is a 'Log In' box with the text 'Enter your username and password to log in'. Inside this box are fields for 'Username: guiadmin' and 'Password: ●●●●●●', a 'Change password' checkbox, and a 'Log In' button. Below the box is the text 'Welcome to the Oracle System Login.' At the bottom, there is a disclaimer: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p> </div>

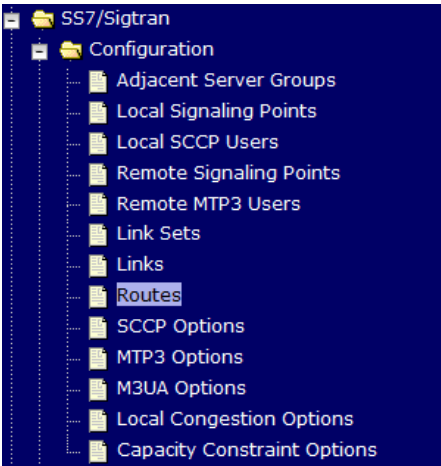
Appendix R.2.3 Removing Server from Server Group

<p>2</p> <p><input type="checkbox"/></p> <p><b>SOAM VIP GUI:</b> Disable SS7-MP Links</p>	<p style="text-align: center;"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; SS7/Sigtran -&gt; Maintenance -&gt; Links</b></p> <div style="border: 1px solid black; background-color: #000080; color: white; padding: 5px; margin: 5px 0;">  <p>SS7/Sigtran</p> <ul style="list-style-type: none"> <li>Configuration</li> <li>Maintenance                     <ul style="list-style-type: none"> <li>Local SCCP Users</li> <li>Remote Signaling Points</li> <li>Remote MTP3 Users</li> <li>Linksets</li> <li>Links</li> </ul> </li> </ul> </div> <p><b>Disable</b> the associated links of the identified SS7-MP:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr><td>NE_IWF1_SOAMP</td><td>L13</td><td>LS13</td><td>IWF1-SS7-MP3</td><td>Disabled</td><td>Down</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>L14</td><td>LS14</td><td>IWF1-SS7-MP4</td><td>Disabled</td><td>Down</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>L15</td><td>LS15</td><td>IWF1-SS7-MP3</td><td>Disabled</td><td>Down</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>L16</td><td>LS16</td><td>IWF1-SS7-MP4</td><td>Disabled</td><td>Down</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>L17</td><td>LS17</td><td>IWF1-SS7-MP3</td><td>Disabled</td><td>Down</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>L18</td><td>LS18</td><td>IWF1-SS7-MP3</td><td>Disabled</td><td>Down</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>L19</td><td>LS19</td><td>IWF1-SS7-MP3</td><td>Disabled</td><td>Down</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>L2</td><td>LS2</td><td>IWF1-SS7-MP2</td><td>Enabled</td><td>Up</td></tr> <tr style="background-color: #90EE90;"><td>NE_IWF1_SOAMP</td><td>L20</td><td>LS20</td><td>IWF1-SS7-MP3</td><td>Disabled</td><td>Down</td></tr> </tbody> </table> <p style="margin-top: 5px;"> <input type="button" value="Enable"/> <input type="button" value="Disable"/> </p>	NE_IWF1_SOAMP	L13	LS13	IWF1-SS7-MP3	Disabled	Down	NE_IWF1_SOAMP	L14	LS14	IWF1-SS7-MP4	Disabled	Down	NE_IWF1_SOAMP	L15	LS15	IWF1-SS7-MP3	Disabled	Down	NE_IWF1_SOAMP	L16	LS16	IWF1-SS7-MP4	Disabled	Down	NE_IWF1_SOAMP	L17	LS17	IWF1-SS7-MP3	Disabled	Down	NE_IWF1_SOAMP	L18	LS18	IWF1-SS7-MP3	Disabled	Down	NE_IWF1_SOAMP	L19	LS19	IWF1-SS7-MP3	Disabled	Down	NE_IWF1_SOAMP	L2	LS2	IWF1-SS7-MP2	Enabled	Up	NE_IWF1_SOAMP	L20	LS20	IWF1-SS7-MP3	Disabled	Down
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NE_IWF1_SOAMP	L15	LS15	IWF1-SS7-MP3	Disabled	Down																																																		
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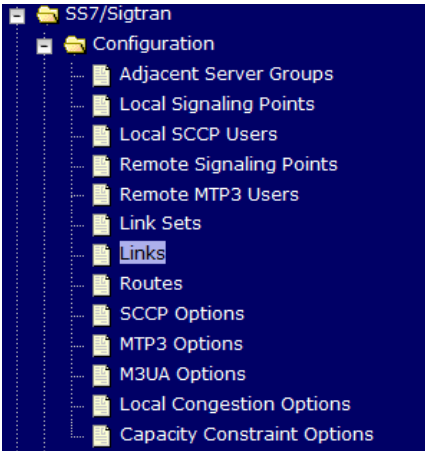
Appendix R.2.3 Removing Server from Server Group

<p>3</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Disable SS7-MP SCCP Users</p>	<p style="text-align: center;"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; SS7/Sigtran -&gt; Maintenance -&gt; Local SCCP Users</b></p>  <p><b>Disable</b> the associated local SCCP users of the identified SS7-MP:</p> <table border="1" data-bbox="422 724 1339 1060"> <tbody> <tr> <td>NE_IWF1_SOAMP</td> <td>10</td> <td>1-103-1</td> <td>ITUI</td> <td>MAPIWF</td> <td>Disabled</td> <td>20:18</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>8</td> <td>1-100-1</td> <td>ITUI</td> <td>MAPIWF</td> <td>Enabled</td> <td>20:14</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>7</td> <td>1-102-1</td> <td>ITUI</td> <td>MAPIWF</td> <td>Disabled</td> <td>20:18</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>7</td> <td>1-101-1</td> <td>ITUI</td> <td>MAPIWF</td> <td>Enabled</td> <td>20:15</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>11</td> <td>1-103-1</td> <td>ITUI</td> <td>MAPIWF</td> <td>Disabled</td> <td>20:18</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>5</td> <td>1-100-1</td> <td>ITUI</td> <td>MAPIWF</td> <td>Enabled</td> <td>20:14</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>8</td> <td>1-102-1</td> <td>ITUI</td> <td>MAPIWF</td> <td>Disabled</td> <td>20:18</td> </tr> </tbody> </table> <p><input type="button" value="Enable"/> <input type="button" value="Disable"/></p>	NE_IWF1_SOAMP	10	1-103-1	ITUI	MAPIWF	Disabled	20:18	NE_IWF1_SOAMP	8	1-100-1	ITUI	MAPIWF	Enabled	20:14	NE_IWF1_SOAMP	7	1-102-1	ITUI	MAPIWF	Disabled	20:18	NE_IWF1_SOAMP	7	1-101-1	ITUI	MAPIWF	Enabled	20:15	NE_IWF1_SOAMP	11	1-103-1	ITUI	MAPIWF	Disabled	20:18	NE_IWF1_SOAMP	5	1-100-1	ITUI	MAPIWF	Enabled	20:14	NE_IWF1_SOAMP	8	1-102-1	ITUI	MAPIWF	Disabled	20:18
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NE_IWF1_SOAMP	7	1-102-1	ITUI	MAPIWF	Disabled	20:18																																													
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NE_IWF1_SOAMP	8	1-102-1	ITUI	MAPIWF	Disabled	20:18																																													

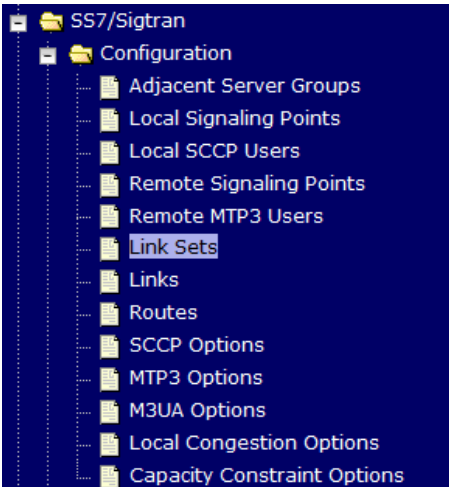
Appendix R.2.3 Removing Server from Server Group

<p>4</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Delete SS7-MP Routes</p>	<p align="center"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; SS7/Sigtran -&gt; Configuration -&gt; Routes</b></p>  <p><b>Delete</b> the associated routes of the identified SS7-MP:</p> <table border="1" data-bbox="414 924 1421 1302"> <tr><td>NE_IWF1_SOAMP</td><td>ITUI</td><td>2-201-2</td><td>LS12</td><td>2-201-2</td></tr> <tr style="background-color: #90EE90;"><td>NE_IWF1_SOAMP</td><td>ITUI</td><td>2-202-2</td><td>LS14</td><td>2-202-2</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ITUI</td><td>2-203-2</td><td>LS15</td><td>2-203-2</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ITUI</td><td>2-203-2</td><td>LS16</td><td>2-203-2</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ANSI</td><td>201-201-201</td><td>LS17</td><td>201-201-201</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ANSI</td><td>202-202-202</td><td>LS18</td><td>202-202-202</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ANSI</td><td>200-200-200</td><td>LS19</td><td>200-200-200</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ANSI</td><td>203-203-203</td><td>LS20</td><td>203-203-203</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ANSI</td><td>201-201-201</td><td>LS21</td><td>201-201-201</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ANSI</td><td>202-202-202</td><td>LS22</td><td>202-202-202</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>ANSI</td><td>200-200-200</td><td>LS23</td><td>200-200-200</td></tr> </table> <p> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Status"/> <input type="button" value="Report"/> </p>	NE_IWF1_SOAMP	ITUI	2-201-2	LS12	2-201-2	NE_IWF1_SOAMP	ITUI	2-202-2	LS14	2-202-2	NE_IWF1_SOAMP	ITUI	2-203-2	LS15	2-203-2	NE_IWF1_SOAMP	ITUI	2-203-2	LS16	2-203-2	NE_IWF1_SOAMP	ANSI	201-201-201	LS17	201-201-201	NE_IWF1_SOAMP	ANSI	202-202-202	LS18	202-202-202	NE_IWF1_SOAMP	ANSI	200-200-200	LS19	200-200-200	NE_IWF1_SOAMP	ANSI	203-203-203	LS20	203-203-203	NE_IWF1_SOAMP	ANSI	201-201-201	LS21	201-201-201	NE_IWF1_SOAMP	ANSI	202-202-202	LS22	202-202-202	NE_IWF1_SOAMP	ANSI	200-200-200	LS23	200-200-200
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NE_IWF1_SOAMP	ITUI	2-203-2	LS15	2-203-2																																																					
NE_IWF1_SOAMP	ITUI	2-203-2	LS16	2-203-2																																																					
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NE_IWF1_SOAMP	ANSI	200-200-200	LS19	200-200-200																																																					
NE_IWF1_SOAMP	ANSI	203-203-203	LS20	203-203-203																																																					
NE_IWF1_SOAMP	ANSI	201-201-201	LS21	201-201-201																																																					
NE_IWF1_SOAMP	ANSI	202-202-202	LS22	202-202-202																																																					
NE_IWF1_SOAMP	ANSI	200-200-200	LS23	200-200-200																																																					

Appendix R.2.3 Removing Server from Server Group

<p>5</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Delete SS7-MP Links</p>	<p style="text-align: center;"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; SS7/Sigtran -&gt; Configuration -&gt; Links</b></p>  <p><b>Delete</b> the associated links of the identified SS7-MP:</p> <table border="1" data-bbox="430 898 1396 1276"> <tr> <td>NE_IWF1_SOAMP</td> <td>L12</td> <td>LS12</td> <td>P</td> </tr> <tr style="background-color: #90EE90;"> <td>NE_IWF1_SOAMP</td> <td>L13</td> <td>LS13</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L14</td> <td>LS14</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L15</td> <td>LS15</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L16</td> <td>LS16</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L17</td> <td>LS17</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L18</td> <td>LS18</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L19</td> <td>LS19</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L20</td> <td>LS20</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L21</td> <td>LS21</td> <td>P</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>L22</td> <td>LS22</td> <td>P</td> </tr> </table> <p> <input type="button" value="Insert"/> <input type="button" value="Delete"/> <input type="button" value="Status"/> <input type="button" value="Report"/> </p>	NE_IWF1_SOAMP	L12	LS12	P	NE_IWF1_SOAMP	L13	LS13	P	NE_IWF1_SOAMP	L14	LS14	P	NE_IWF1_SOAMP	L15	LS15	P	NE_IWF1_SOAMP	L16	LS16	P	NE_IWF1_SOAMP	L17	LS17	P	NE_IWF1_SOAMP	L18	LS18	P	NE_IWF1_SOAMP	L19	LS19	P	NE_IWF1_SOAMP	L20	LS20	P	NE_IWF1_SOAMP	L21	LS21	P	NE_IWF1_SOAMP	L22	LS22	P
NE_IWF1_SOAMP	L12	LS12	P																																											
NE_IWF1_SOAMP	L13	LS13	P																																											
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NE_IWF1_SOAMP	L21	LS21	P																																											
NE_IWF1_SOAMP	L22	LS22	P																																											

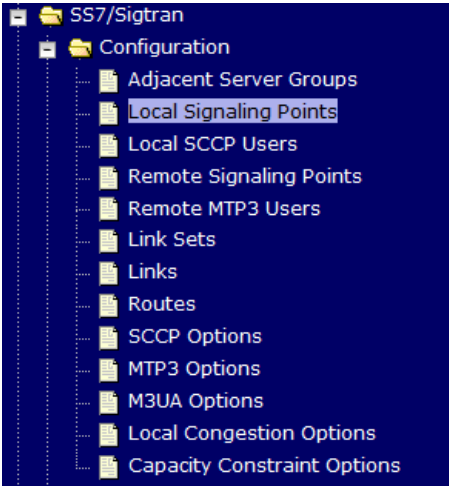
Appendix R.2.3 Removing Server from Server Group

<p>6</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Delete SS7-MP Link Sets</p>	<p style="text-align: center;"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; SS7/Sigtran -&gt; Configuration -&gt; Link Sets</b></p>  <p><b>Delete</b> the associated link sets of the identified SS7-MP:</p> <table border="1" data-bbox="414 945 1404 1060"> <tr> <td>NE_IWF1_SOAMP</td> <td>LS20</td> <td>AS-&gt;SG</td> <td>ANSI_101_101_101</td> <td>ANSI</td> <td>All</td> <td>203-203-203</td> <td>----</td> </tr> <tr style="background-color: #e0ffe0;"> <td>NE_IWF1_SOAMP</td> <td>LS21</td> <td>AS-&gt;SG</td> <td>ANSI_112_112_112</td> <td>ANSI</td> <td>All</td> <td>201-201-201</td> <td>----</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>LS22</td> <td>AS-&gt;SG</td> <td>ANSI_112_112_112</td> <td>ANSI</td> <td>All</td> <td>202-202-202</td> <td>----</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>LS23</td> <td>AS-&gt;SG</td> <td>ANSI_112_112_112</td> <td>ANSI</td> <td>All</td> <td>200-200-200</td> <td>----</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>LS24</td> <td>AS-&gt;SG</td> <td>ANSI_112_112_112</td> <td>ANSI</td> <td>All</td> <td>203-203-203</td> <td>----</td> </tr> </table> <p style="text-align: center;"> <input type="button" value="Insert"/> <input type="button" value="Delete"/> <input type="button" value="Status"/> <input type="button" value="Report"/> </p>	NE_IWF1_SOAMP	LS20	AS->SG	ANSI_101_101_101	ANSI	All	203-203-203	----	NE_IWF1_SOAMP	LS21	AS->SG	ANSI_112_112_112	ANSI	All	201-201-201	----	NE_IWF1_SOAMP	LS22	AS->SG	ANSI_112_112_112	ANSI	All	202-202-202	----	NE_IWF1_SOAMP	LS23	AS->SG	ANSI_112_112_112	ANSI	All	200-200-200	----	NE_IWF1_SOAMP	LS24	AS->SG	ANSI_112_112_112	ANSI	All	203-203-203	----
NE_IWF1_SOAMP	LS20	AS->SG	ANSI_101_101_101	ANSI	All	203-203-203	----																																			
NE_IWF1_SOAMP	LS21	AS->SG	ANSI_112_112_112	ANSI	All	201-201-201	----																																			
NE_IWF1_SOAMP	LS22	AS->SG	ANSI_112_112_112	ANSI	All	202-202-202	----																																			
NE_IWF1_SOAMP	LS23	AS->SG	ANSI_112_112_112	ANSI	All	200-200-200	----																																			
NE_IWF1_SOAMP	LS24	AS->SG	ANSI_112_112_112	ANSI	All	203-203-203	----																																			

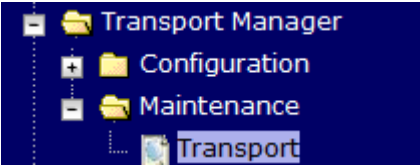
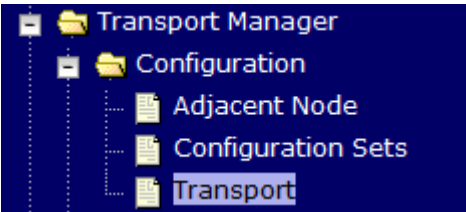
Appendix R.2.3 Removing Server from Server Group

<p>7</p> <p><input type="checkbox"/></p> <p><b>SOAM VIP GUI:</b> Delete SS7-MP Local SCCP Users</p>	<p style="text-align: center;"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; SS7/Sigtran -&gt; Configuration -&gt; Local SCCP Users</b></p> <div style="border: 1px solid black; background-color: #000080; color: white; padding: 5px; margin: 5px 0;"> <p>SS7/Sigtran</p> <ul style="list-style-type: none"> <li>Configuration           <ul style="list-style-type: none"> <li>Adjacent Server Groups</li> <li>Local Signaling Points</li> <li><b>Local SCCP Users</b></li> <li>Remote Signaling Points</li> <li>Remote MTP3 Users</li> <li>Link Sets</li> <li>Links</li> <li>Routes</li> <li>SCCP Options</li> <li>MTP3 Options</li> <li>M3UA Options</li> <li>Local Congestion Options</li> <li>Capacity Constraint Options</li> </ul> </li> </ul> </div> <p><b>Delete</b> the associated Local SCCP Users from the identified SS7-MP:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr><td>NE_IWF1_SOAMP</td><td>11</td><td>ITUI</td><td>1-101-1</td><td>MAPIWF</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>251</td><td>ITUI</td><td>1-101-1</td><td>MAPIWF</td></tr> <tr style="background-color: #90EE90;"><td>NE_IWF1_SOAMP</td><td>245</td><td>ANSI</td><td>101-101-101</td><td>MAPIWF</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>246</td><td>ANSI</td><td>112-112-112</td><td>MAPIWF</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>5</td><td>ITUI</td><td>1-102-1</td><td>MAPIWF</td></tr> <tr><td>NE_IWF1_SOAMP</td><td>6</td><td>ITUI</td><td>1-102-1</td><td>MAPIWF</td></tr> </tbody> </table> <p style="text-align: center;"> <input type="button" value="Insert"/> <input type="button" value="Delete"/> <input type="button" value="Status"/> <input type="button" value="Report"/> </p>	NE_IWF1_SOAMP	11	ITUI	1-101-1	MAPIWF	NE_IWF1_SOAMP	251	ITUI	1-101-1	MAPIWF	NE_IWF1_SOAMP	245	ANSI	101-101-101	MAPIWF	NE_IWF1_SOAMP	246	ANSI	112-112-112	MAPIWF	NE_IWF1_SOAMP	5	ITUI	1-102-1	MAPIWF	NE_IWF1_SOAMP	6	ITUI	1-102-1	MAPIWF
NE_IWF1_SOAMP	11	ITUI	1-101-1	MAPIWF																											
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NE_IWF1_SOAMP	5	ITUI	1-102-1	MAPIWF																											
NE_IWF1_SOAMP	6	ITUI	1-102-1	MAPIWF																											


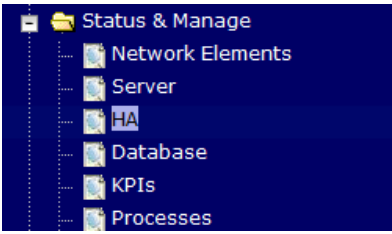
Appendix R.2.3 Removing Server from Server Group

<p>8</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Delete SS7-MP Local Signaling Points</p>	<p align="center"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; SS7/Sigtran -&gt; Configuration -&gt; Local Signaling Points</b></p>  <p><b>Delete</b> the associated Local signaling points from the identified SS7-MP:</p> <table border="1" data-bbox="414 934 1258 987"> <tr> <td>NE_IWF1_SOAMP</td> <td>ITUL_1_102_1</td> <td>ITUI</td> <td>1-102-1</td> <td>----</td> <td>IWF1_SS7MP4</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>ITUL_1_103_1</td> <td>ITUI</td> <td>1-103-1</td> <td>----</td> <td>IWF1_SS7MP3</td> </tr> </table> <p align="center"> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/> </p>	NE_IWF1_SOAMP	ITUL_1_102_1	ITUI	1-102-1	----	IWF1_SS7MP4	NE_IWF1_SOAMP	ITUL_1_103_1	ITUI	1-103-1	----	IWF1_SS7MP3
NE_IWF1_SOAMP	ITUL_1_102_1	ITUI	1-102-1	----	IWF1_SS7MP4									
NE_IWF1_SOAMP	ITUL_1_103_1	ITUI	1-103-1	----	IWF1_SS7MP3									



<p>9</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Disable SS7-MP transports</p>	<p align="center"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; Transport Manager -&gt; Maintenance -&gt; Transport</b></p>  <p><b>Disable</b> the associated transports from the identified SS7-MP:</p> <table border="1" data-bbox="602 625 1419 852"> <tr> <td>NE_IWF1_SOAMP</td> <td>IWF1-SS7-MP3</td> <td>M3UA</td> <td>pc1110916_VM1_5</td> <td>SCTP</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>IWF1-SS7-MP4</td> <td>M3UA</td> <td>pc1110916_VM1_6</td> <td>SCTP</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>IWF1-SS7-MP3</td> <td>M3UA</td> <td>pc1110916_VM1_7</td> <td>SCTP</td> </tr> </table> <p> <input type="button" value="Enable"/> <input type="button" value="Disable"/> <input type="button" value="Block"/> </p>	NE_IWF1_SOAMP	IWF1-SS7-MP3	M3UA	pc1110916_VM1_5	SCTP	NE_IWF1_SOAMP	IWF1-SS7-MP4	M3UA	pc1110916_VM1_6	SCTP	NE_IWF1_SOAMP	IWF1-SS7-MP3	M3UA	pc1110916_VM1_7	SCTP
NE_IWF1_SOAMP	IWF1-SS7-MP3	M3UA	pc1110916_VM1_5	SCTP													
NE_IWF1_SOAMP	IWF1-SS7-MP4	M3UA	pc1110916_VM1_6	SCTP													
NE_IWF1_SOAMP	IWF1-SS7-MP3	M3UA	pc1110916_VM1_7	SCTP													
<p>10</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Delete SS7-MP transports</p>	<p align="center"><b>Execute this step if Removing SS7MP, otherwise skip to step 11</b></p> <p>Navigate to <b>Main Menu -&gt; Transport Manager -&gt; Configuration -&gt; Transport</b></p>  <p><b>Delete</b> the associated transports from the identified SS7-MP:</p> <table border="1" data-bbox="418 1360 1430 1499"> <tr> <td>NE_IWF1_SOAMP</td> <td>M3UA</td> <td>pc1110916_VM1_4</td> <td>SCTP</td> <td>Initiator</td> <td>IWF1-SS7-MP2</td> <td>10.196.229.70</td> </tr> <tr> <td>NE_IWF1_SOAMP</td> <td>M3UA</td> <td>pc1110916_VM1_4</td> <td>SCTP</td> <td>Initiator</td> <td>IWF1-SS7-MP3</td> <td>10.196.229.71</td> </tr> </table> <p> <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/> <input type="button" value="Status"/> </p>	NE_IWF1_SOAMP	M3UA	pc1110916_VM1_4	SCTP	Initiator	IWF1-SS7-MP2	10.196.229.70	NE_IWF1_SOAMP	M3UA	pc1110916_VM1_4	SCTP	Initiator	IWF1-SS7-MP3	10.196.229.71	
NE_IWF1_SOAMP	M3UA	pc1110916_VM1_4	SCTP	Initiator	IWF1-SS7-MP2	10.196.229.70											
NE_IWF1_SOAMP	M3UA	pc1110916_VM1_4	SCTP	Initiator	IWF1-SS7-MP3	10.196.229.71											

Appendix R.2.3 Removing Server from Server Group

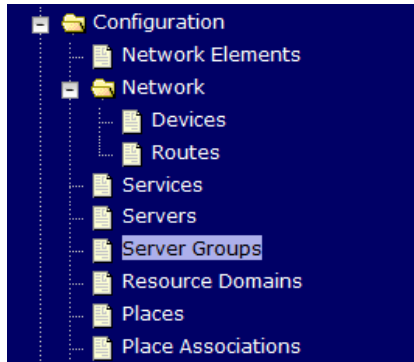
<p>11</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>Establish a GUI session on the NOAM server by using the VIP IP address of the NOAM server. Open the web browser and enter a URL of:</p> <div style="border: 1px solid black; padding: 2px; margin: 10px 0;"> <p><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  <p>The image shows the Oracle System Login page. At the top is the Oracle logo. Below it is the title 'Oracle System Login' and the date 'Fri Mar 20 12:29:52 2015 EDT'. A central box titled 'Log In' contains the text 'Enter your username and password to log in'. There are two input fields: 'Username: guiadmin' and 'Password: [masked]'. Below the password field is a checkbox for 'Change password' and a 'Log In' button. Below the login box, it says 'Welcome to the Oracle System Login.' and a warning: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.' At the bottom, it states 'Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p> </div>																
<p>12</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Set Server to OOS</p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; HA</b></p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">  <p>The image shows a tree view of the 'Status &amp; Manage' menu. The 'HA' item is selected and highlighted in blue. Other items include Network Elements, Server, Database, KPIs, and Processes.</p> </div> <p>Click <b>Edit</b></p> <p>Set the server's <i>Max Allowed HA Role</i> to <b>OOS</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">ime</th> <th style="text-align: left;">Max Allowed HA Role</th> </tr> </thead> <tbody> <tr> <td>NOAM-1</td> <td>Active</td> </tr> <tr> <td>NOAM-2</td> <td>Active</td> </tr> <tr> <td>SOAM-1</td> <td>Standby</td> </tr> <tr> <td>SOAM-2</td> <td>Spare</td> </tr> <tr> <td></td> <td>Observer</td> </tr> <tr> <td></td> <td><b>OOS</b></td> </tr> <tr> <td></td> <td>ACTIVE</td> </tr> </tbody> </table> <p>Click <b>Ok</b></p>	ime	Max Allowed HA Role	NOAM-1	Active	NOAM-2	Active	SOAM-1	Standby	SOAM-2	Spare		Observer		<b>OOS</b>		ACTIVE
ime	Max Allowed HA Role																	
NOAM-1	Active																	
NOAM-2	Active																	
SOAM-1	Standby																	
SOAM-2	Spare																	
	Observer																	
	<b>OOS</b>																	
	ACTIVE																	

Appendix R.2.3 Removing Server from Server Group

13

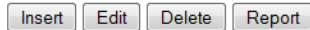
**NOAM  
VIP GUI:**  
Remove  
Server  
From  
Server  
Group

Navigate to **Main Menu -> Configuration -> Server Groups**



Select the server group for which the server from **step 2** that was placed OOS.

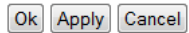
Click **Edit**




Uncheck the server from **step 2** from the *SG Inclusion* column:

	Value	Description
Group Name	DAMP	Unique identifier used to identify the server group and must not start with a c
	C	Select one of the Levels s
	Oahu_SOAM	Select an existing Server C
on	DSR (multi-active cluster)	Select one of the Function
Replication Connection Count	1	Specify the number of TCP [8.]
<b>SG Inclusion</b>		
DAMP-1	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
DAMP-2	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
<b>segment</b>		
VIP Address		Add

Click **Ok**



Appendix R.2.4 Deleting Server/Server Group

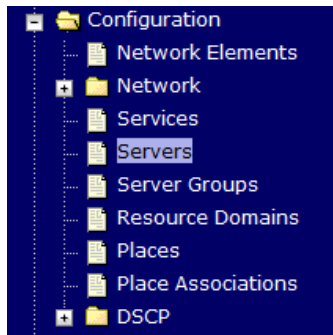
<p><b>S T E P #</b></p>	<p>Once the server has been removed from the server group, it is now safe to delete the server. The server group can also be deleted if there are no more servers associated with it.</p> <p>The following procedure will provide steps to delete a server, and delete a server group .</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI: Login</b></p>	<p>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: 10px 0;"> <p><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> 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;">Fri Mar 20 12:29:52 2015 EDT</span></p> <hr style="width: 50%; margin: 0 auto;"/> </div> <div style="text-align: center; margin: 20px 0;"> <div style="border: 1px solid gray; padding: 10px; width: fit-content; margin: 0 auto;"> <p><b>Log In</b></p> <p>Enter your username and password to log in</p> <p>Username: <input type="text" value="guiadmin"/></p> <p>Password: <input type="password" value="••••••"/></p> <p><input type="checkbox"/> Change password</p> <p><input type="button" value="Log In"/></p> </div> </div> <p style="text-align: center; margin: 10px 0;">Welcome to the Oracle System Login.</p> <p style="text-align: center; margin: 10px 0; font-size: small;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 50%; margin: 0 auto;"/> <p style="text-align: center; margin: 10px 0; 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>

Appendix R.2.4 Deleting Server/Server Group

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**NOAM  
VIP GUI:**  
Delete the  
Server

Navigate to **Main Menu -> Configuration -> Servers**

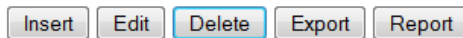


Select the server that has been previously removed from the server group

Main Menu: Configuration -> Servers

Hostname	Role	System ID	Server Group	Network Element	Location
Oahu-DSR-NOAM-1	Network OAM&P	Oahu-DSR-NOAM-1	OahuNOAM	Oahu1	Oahu-3
Oahu-DSR-NOAM-2	Network OAM&P	Oahu-DSR-NOAM-2	OahuNOAM	Oahu1	
Oahu-DSR-SOAM-1	System OAM	Oahu-DSR-SOAM-1	OahuSOAM	Oahu1	Oahu-3
Oahu-DSR-SOAM-2	System OAM	Oahu-DSR-SOAM-2	OahuSOAM	Oahu1	Oahu-1
Oahu-DSR-DAMP-1	MP		OahuDAMP	Oahu1	Oahu-2
Oahu-DSR-DAMP-2	MP		OahuDAMP	Oahu1	Oahu-2
Oahu-DSR-IPFE-1	MP			Oahu1	Oahu-2
Oahu-DSR-DR-NOAM-1	Network OAM&P	Oahu-DSR-DR-NOAM-1	OahuDRNOAM	Oahu1	
Oahu-DSR-DR-NOAM-2	Network OAM&P	Oahu-DSR-DR-NOAM-2	OahuDRNOAM	Oahu1	
Oahu-DSR-SOAM-Sp	System OAM	Oahu-DSR-SOAM-Sp	OahuSOAM	Oahu1	

Select **Delete**



Confirm Deletion

Delete Server(s) : Oahu-DSR-IPFE-1?

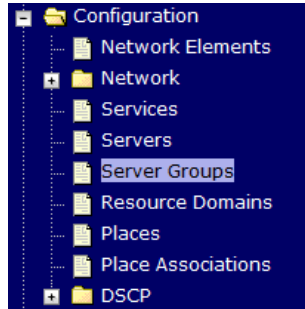


3

**NOAM  
VIP GUI:**  
Delete  
Server  
Group

If all servers have been removed from a server group, it is now safe to delete the server group.

Navigate to **Main Menu -> Configuration -> Server Groups**



Select the empty server group

Main Menu: Configuration -> Server Groups

Server Group Name	Level	Parent	Function	Connection Count	Servers																
OahuDAMP	C	OahuSOAM	DSR (multi-active cluster)	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>Oahu1</td> <td>Oahu-DSR-DAMP-1</td> <td></td> <td></td> </tr> <tr> <td>Oahu1</td> <td>Oahu-DSR-DAMP-2</td> <td></td> <td></td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	Oahu1	Oahu-DSR-DAMP-1			Oahu1	Oahu-DSR-DAMP-2						
NE	Server	HA Role Pref	VIPs																		
Oahu1	Oahu-DSR-DAMP-1																				
Oahu1	Oahu-DSR-DAMP-2																				
OahuDRNOAM	A	NONE	DSR (active/standby pair)	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>Oahu1</td> <td>Oahu-DSR-DR-NOAM-1</td> <td></td> <td>10.240.108.15</td> </tr> <tr> <td>Oahu1</td> <td>Oahu-DSR-DR-NOAM-2</td> <td></td> <td>10.240.108.15</td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	Oahu1	Oahu-DSR-DR-NOAM-1		10.240.108.15	Oahu1	Oahu-DSR-DR-NOAM-2		10.240.108.15				
NE	Server	HA Role Pref	VIPs																		
Oahu1	Oahu-DSR-DR-NOAM-1		10.240.108.15																		
Oahu1	Oahu-DSR-DR-NOAM-2		10.240.108.15																		
OahuPFPE	C	OahuSOAM	IP Front End	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs												
NE	Server	HA Role Pref	VIPs																		
OahuNOAM	A	NONE	DSR (active/standby pair)	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>Oahu1</td> <td>Oahu-DSR-NOAM-1</td> <td></td> <td>10.240.108.12</td> </tr> <tr> <td>Oahu1</td> <td>Oahu-DSR-NOAM-2</td> <td></td> <td>10.240.108.12</td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	Oahu1	Oahu-DSR-NOAM-1		10.240.108.12	Oahu1	Oahu-DSR-NOAM-2		10.240.108.12				
NE	Server	HA Role Pref	VIPs																		
Oahu1	Oahu-DSR-NOAM-1		10.240.108.12																		
Oahu1	Oahu-DSR-NOAM-2		10.240.108.12																		
OahuSOAM	B	OahuNOAM	DSR (active/standby pair)	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>Oahu1</td> <td>Oahu-DSR-SOAM-1</td> <td></td> <td>10.240.108.22</td> </tr> <tr> <td>Oahu1</td> <td>Oahu-DSR-SOAM-2</td> <td></td> <td>10.240.108.22</td> </tr> <tr> <td>Oahu1</td> <td>Oahu-DSR-SOAM-Sp</td> <td>SPARE</td> <td>10.240.108.22</td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	Oahu1	Oahu-DSR-SOAM-1		10.240.108.22	Oahu1	Oahu-DSR-SOAM-2		10.240.108.22	Oahu1	Oahu-DSR-SOAM-Sp	SPARE	10.240.108.22
NE	Server	HA Role Pref	VIPs																		
Oahu1	Oahu-DSR-SOAM-1		10.240.108.22																		
Oahu1	Oahu-DSR-SOAM-2		10.240.108.22																		
Oahu1	Oahu-DSR-SOAM-Sp	SPARE	10.240.108.22																		

Select **Delete**




Confirm Deletion

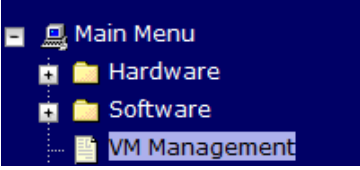
Delete Server Group : OahuPFPE?



**Appendix R.2.5 Deleting the server VM**

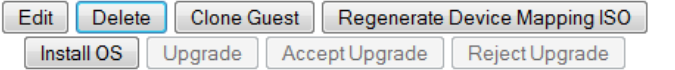
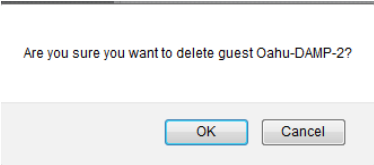
<p><b>S T E P #</b></p>	<p>Once the server's that are being deleted have been identified, placed in OOS, and removed the from the server group. It is now safe to shut down and delete the VM for which the server is located.</p> <p>The following procedure will provide steps to remove a VM from a TVOE Host</p> <p><b>Warning:</b> It is recommended that a careful approach be taken with this procedure and that the server to VM mapping be confirmed before proceeding.</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user:</p> <p><input type="text" value="https://&lt;pmac_network_ip&gt;"/></p> 

Appendix R.2.5 Deleting the server VM

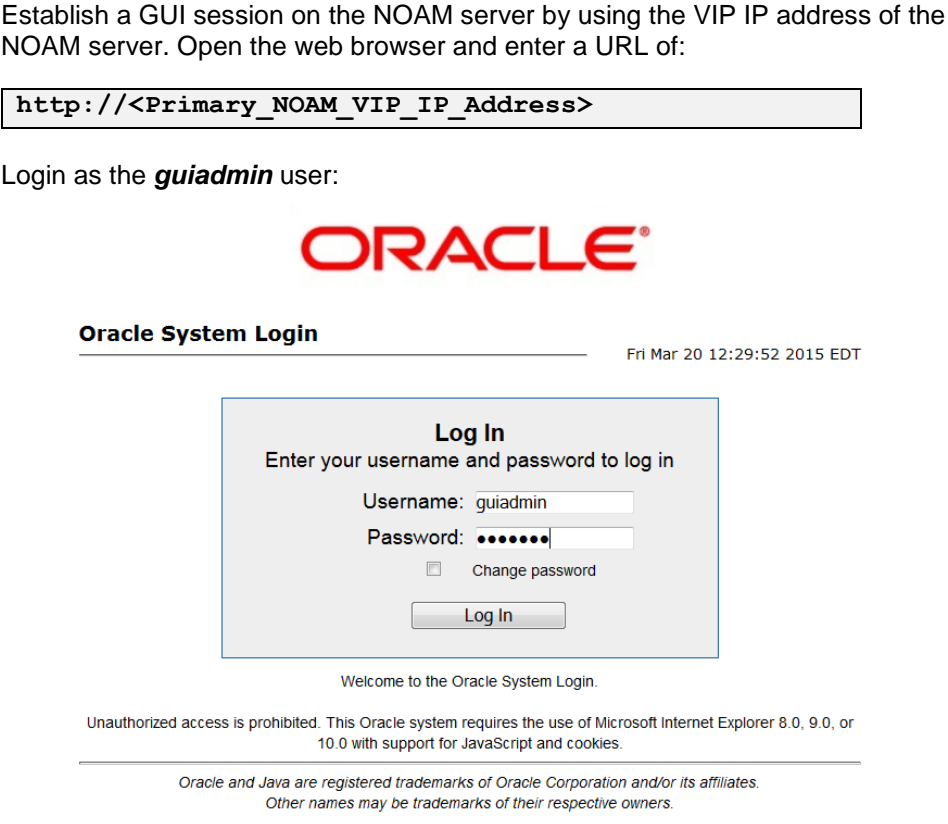
2 <input type="checkbox"/>	<b>PMAC GUI:</b> Shutdown the VM	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p>  <p>Expand the view (<i>if needed</i>) of the Rack Mount Server for which the server you are moving/deleting is located.</p> <p>Shutdown the VM by setting the <i>Current Power State</i> to <b>Shutdown</b>:</p> <p>Current Power State: <b>Running</b></p> <p>On <input type="button" value="Change"/></p> <p>On Shutdown Destroy</p> <p>Click <b>Change</b></p> <p>Select <b>OK</b> for the following prompt:</p> <div data-bbox="479 940 1161 1134"><p>It may not always be possible to shutdown a guest or to do so in a timely manner. You may monitor the power state and opt to destroy the guest rather than shut it down. Are you sure you want to attempt to shutdown this guest?</p><p><input type="button" value="OK"/> <input type="button" value="Cancel"/></p></div> <p>The <i>Current Power State</i> should now display Shutdown:</p> <p>Current Power State: <b>Shut Down</b></p> <p>On <input type="button" value="Change"/></p>
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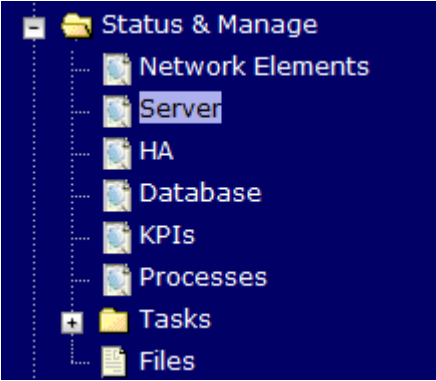
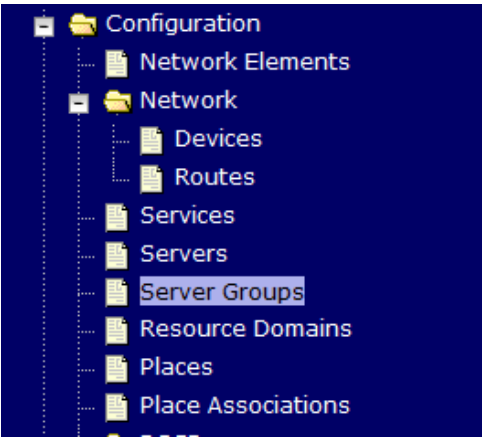
Appendix R.2.5 Deleting the server VM

3 <input type="checkbox"/>	<b>PMAC GUI:</b> Delete the VM	<p>Once the server has been shutdown, select the VM from <b>step 2</b>. Verify the <i>current power state</i> is Shutdown as listed in <b>step 2</b>.</p> <p>Select <b>Delete</b></p>  <p>Click <b>OK</b> to confirm deletion</p> 
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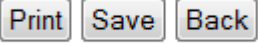
**Appendix R.2.6 Post De-Growth Health Check**

<b>S T E P #</b>	<p>This procedure will provide steps verify system status and log all alarms after De-growth.</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>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><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>

Appendix R.2.6 Post De-Growth Health Check

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify Server Status</p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="479 777 1339 903"> <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																							
Enabled	Norm	Norm	Norm	Norm																							
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>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Verify the configuration data is correct for your network.</p>																									

Appendix R.2.6 Post De-Growth Health Check

<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Log Current Alarms</p>	<p>Navigate to <b>Main Menu -&gt; Alarms &amp; Events -&gt; View Active</b></p>  <p>Click on the <b>Report</b> button</p>  <p><b>Save</b> or <b>Print</b> this report, keep copies for future reference.</p>  <p>Compare this alarm report with those gathered in procedure <b>Appendix S.3</b></p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Repeat</p>	<p>Repeat <b>Steps 1-4</b> for the SOAM</p>

Appendix R.2.7 Post De-Growth Backups

<p><b>S</b></p> <p><b>T</b></p> <p><b>E</b></p> <p><b>P</b></p> <p><b>#</b></p>	<p>This procedure will reference steps to backup all necessary items after a De-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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>Backup TVOE</b></p>	<p>Backup all TVOE host configurations by executing <b>Section 4.18.5</b> Backup TVOE Configuration</p>
<p>2</p> <p><input type="checkbox"/></p>	<p><b>Backup PMAC</b></p>	<p>Backup the PMAC application by executing <b>Section 4.18.5</b></p>
<p>3</p> <p><input type="checkbox"/></p>	<p><b>Backup NOAM/SOAM databases</b></p>	<p>Backup the NOAM and SOAM Databases by executing <b>Sections 4.18.6 and 4.18.7</b></p> <p><b>Note:</b> Database backup on SDS SOAMs not required</p>

### Appendix R.3: Re-Shuffle (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)


For Growth/De-growth scenarios where it is necessary to move or re-shuffle DSR/SDS servers to different TVOE hosts, the following sequence of steps should be followed:

Step	Procedure(s)
Perform Backups	Appendix R.3.1
Perform system health check	Appendix R.3.2
Add new rack mount server if necessary (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)	Appendix R.3.3
Identify Servers which will be affected by the Growth: <ul style="list-style-type: none"> <li>• NOAM</li> <li>• SOAM</li> <li>• DSR MP (SBR, SS7MP, IPFE)/ SDS DP</li> <li>• Query Server</li> <li>• PMAC</li> </ul>	
Remove identified servers from Server Group	Appendix R.3.4
Shutdown and remove the identified server's VM.	Appendix R.3.5
Identify the new Rack Mount Server for which the previously removed server will be placed.	
Create and Configure the VMs on the new Rack Mount Servers	Appendix R.3.6
Configure Servers in new VM locations	NOAM/DR-NOAM (DSR/SDS): Appendix R.3.7 SOAM (DSR/SDS): Appendix R.3.8 MP/DP (DSR/SDS): Appendix R.3.9 Query Server (SDS): Appendix R.3.10 iDIH: Appendix R.3.11 PMAC: Appendix R.3.12 Redundant PMAC: Appendix R.3.13
Post Move/Re-Shuffle Health Check	Appendix R.3.14
Post Move/Re-Shuffle Backups	Appendix R.3.15

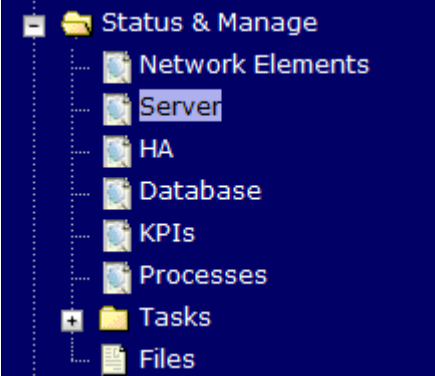
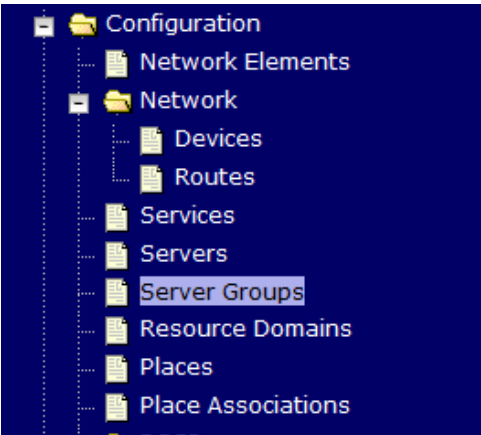
**Appendix R.3.1 Perform Backups**

<b>S T E P #</b>	<p>This procedure will reference steps to backup all necessary items before a Re-Shuffle 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Backup TVOE</b>	Backup all TVOE host configurations by executing <b>Section 4.18.5</b> Backup TVOE Configuration
2 <input type="checkbox"/>	<b>Backup PMAC</b>	Backup the PMAC application by executing <b>Section 4.18.6</b> Backup PMAC Application
3 <input type="checkbox"/>	<b>Backup NOAM/SOAM databases</b>	<p>Backup the NOAM and SOAM Databases by executing <b>Sections 4.18.7</b> Backup NOAM Database and <b>4.18.8</b> Backup SOAM Database</p> <p><b>Note:</b> Database backup on SDS SOAMs not required</p>

**Appendix R.3.2 Perform Health Check**



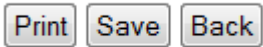
<p><b>S T E P #</b></p>	<p>This procedure will provide steps verify system status and log all alarms.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>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="480 613 1334 655" style="border: 1px solid black; padding: 2px;"> <p><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div data-bbox="480 743 1334 1339" style="text-align: center;">  </div>

Appendix R.3.2 Perform Health Check

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify Server Status</p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="479 779 1338 903"> <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																							
Enabled	Norm	Norm	Norm	Norm																							
Enabled	Norm	Norm	Norm	Norm																							
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>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Verify the configuration data is correct for your network.</p>																									




Appendix R.3.2 Perform Health Check

<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Log Current Alarms</p>	<p>Navigate to <b>Main Menu -&gt; Alarms &amp; Events -&gt; View Active</b></p>  <p>Click on the <b>Report</b> button</p>  <p><b>Save</b> or <b>Print</b> this report, keep copies for future reference.</p> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>SOAM VIP GUI:</b> Repeat For SOAM</p>	<p>Repeat <b>Steps 1-4</b> for the SOAM</p>

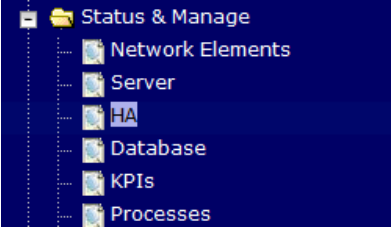
**Appendix R.3.3 Adding a new TVOE Server**

<b>S T E P #</b>	This procedure will provide steps to add a new rack mount server if necessary.  Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.  If this procedure fails, contact <b>Appendix T: My Oracle Support (MOS)</b> , and ask for assistance.	
1 <input type="checkbox"/>	<b>Add/Configure Additional Rack Mount Servers</b>	Follow the steps in <b>Section 4.8</b> and <b>Section 4.9</b> to install and configure TVOE on additional rack mount servers.


Appendix R.3.4 Placing Server in OOS

<p><b>S T E P #</b></p>	<p>Once the server's that will be moved has been identified, the server will first need to be placed in HA OOS.</p> <p>This procedure will provide steps to place the server in OOS HA state.</p> <p><b>Warning:</b> It is recommended that no more than one server from each server be placed in OOS at a time.</p> <p><b>Warning:</b> For NOAM and SOAM servers, during the process of moving/"Re-Shuffling"; these servers are done one 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>
<p>1 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p> <p>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><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> <div style="text-align: center;">  </div>

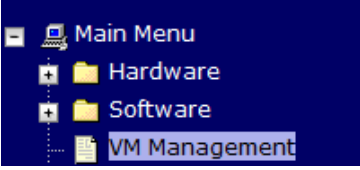
Appendix R.3.4 Placing Server in OOS

2 <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Set Server to OOS	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; HA</b></p>  <p>Click <b>Edit</b></p> <p>Set the server's <i>Max Allowed HA Role</i> to <b>OOS</b></p> <table border="1" data-bbox="479 682 917 850"><thead><tr><th>ime</th><th>Max Allowed HA Role</th></tr></thead><tbody><tr><td>NOAM-1</td><td>Active</td></tr><tr><td>NOAM-2</td><td>Active</td></tr><tr><td>SOAM-1</td><td>Spare</td></tr><tr><td>SOAM-2</td><td>Observer</td></tr></tbody></table> <p>Click <b>Ok</b></p> <p><input type="button" value="Ok"/> <input type="button" value="Cancel"/></p>	ime	Max Allowed HA Role	NOAM-1	Active	NOAM-2	Active	SOAM-1	Spare	SOAM-2	Observer
ime	Max Allowed HA Role											
NOAM-1	Active											
NOAM-2	Active											
SOAM-1	Spare											
SOAM-2	Observer											


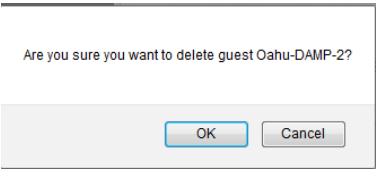
**Appendix R.3.5 Deleting the server VM**

<p><b>S T E P #</b></p>	<p>Once the server's that are being deleted or moved have been identified, and placed in OOS. It is now safe to shut down and delete the VM for which the server is located.</p> <p>The following procedure will provide steps to remove a VM from a TVOE Host</p> <p><b>Warning:</b> It is recommended that a careful approach be taken with this procedure and that the server to VM mapping be confirmed before proceeding.</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user:</p> <p><input type="text" value="https://&lt;pmac_network_ip&gt;"/></p> 

Appendix R.3.5 Deleting the server VM

2 <input type="checkbox"/>	<b>PMAC GUI:</b> Shutdown the VM	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p>  <p>Expand the view (<i>if needed</i>) of the Rack Mount Server for which the server you are moving/deleting is located.</p> <p>Shutdown the VM by setting the <i>Current Power State</i> to <b>Shutdown</b>:</p> <p>Current Power State: <b>Running</b></p> <p>On <input type="button" value="Change"/></p> <p>On Shutdown Destroy</p> <p>Click <b>Change</b></p> <p>Select <b>OK</b> for the following prompt:</p> <div data-bbox="479 945 1161 1134"><p>It may not always be possible to shutdown a guest or to do so in a timely manner. You may monitor the power state and opt to destroy the guest rather than shut it down. Are you sure you want to attempt to shutdown this guest?</p><p><input type="button" value="OK"/> <input type="button" value="Cancel"/></p></div> <p>The <i>Current Power State</i> should now display Shutdown:</p> <p>Current Power State: <b>Shut Down</b></p> <p>On <input type="button" value="Change"/></p>
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Appendix R.3.5 Deleting the server VM


3 <input type="checkbox"/>	<b>PMAC GUI:</b> Delete the VM	<p>Once the server has been shutdown, select the VM from <b>step 2</b>. Verify the <i>current power state</i> is Shutdown as listed in <b>step 2</b>.</p> <p>Select <b>Delete</b></p>  <p>Click <b>OK</b> to confirm deletion</p> 
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**Appendix R.3.6 Moving/Re-Shuffle: Creating/Configuring Virtual Machines**

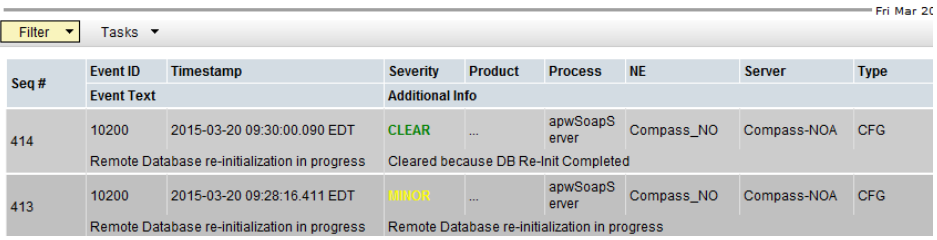
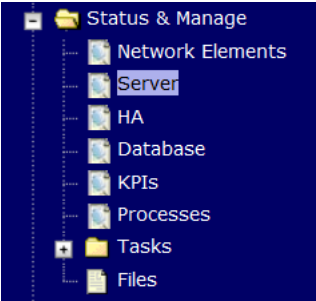
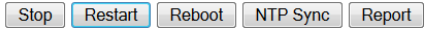
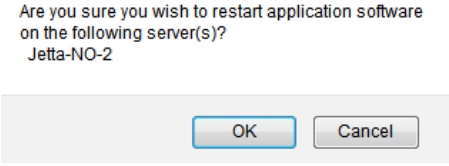
<p><b>S T E P #</b></p>	<p>Before starting this procedure, it is assumed the server has been identified, placed in OOS, and its corresponding VM deleted. This procedure will reference steps to create the new VM, load the software, and configure the server.</p> <p><b>Note:</b> Before beginning this procedure, it is recommended that proper VM mapping has been determined to maintain performance efficiency as mentioned in <b>Section 4.10</b>.</p> <p><b>Note:</b> It is assumed that the PMAC already contains the needed TPD, DSR, and SDS ISO software. If necessary, execute <b>Procedure 15</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Create Virtual Machine</p>	<p>To create a virtual machine for all applicable servers, follow the steps outlined in <b>Section 4.12</b>.</p>
<p>2 <input type="checkbox"/></p>	<p><b>TVOE HOST:</b> Execute CPU Pinning</p>	<p>Execute <b>Section 4.13</b> to allocate CPU resources on each new VM added.</p>
<p>3 <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Install Software</p>	<p>To install TPD and DSR ISOs on all applicable servers, follow the steps outlined in <b>Section 4.14</b></p>




Appendix R.3.7 Moving/Re-Shuffle: NOAM/DR-NOAM

<p><b>S T E P #</b></p>	<p>This procedure will reference steps to configure an NOAM/DR-NOAM on the new virtual machine for VM re-shuffling scenarios.</p> <p><b>Prerequisites:</b></p> <ul style="list-style-type: none"> <li>• NOAM/DR-NOAM has been Identified</li> <li>• Placed in OOS</li> <li>• OLD Virtual Machine Deleted</li> <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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure the 2<sup>nd</sup> NOAM/DR-NOAM</p>	<p>Configure the 2<sup>nd</sup> NOAM/DR-NOAM by executing the steps referenced in the following procedures:</p> <p><u>DSR NOAM: Procedure 25. 4:</u> Steps 1-2, 4-7, 8(<i>Optional-NetBackup</i>), 9</p> <p><u>DSR DR-NOAM: Procedure 27:</u> Steps 4-8, 9(<i>Optional-NetBackup</i>), 10</p> <p><u>SDS NOAM: Procedure 43:</u> Steps 1-2, 4-7, 8(<i>Optional-NetBackup</i>), 9</p> <p><u>SDS DR-NOAM: Procedure 46:</u> Steps 4-8, 9(<i>Optional-NetBackup</i>), 10</p>
<p>2 <input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Establish GUI Session</p>	<p>Establish a GUI session on the NOAM by using the XMI VIP address:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><code>https://&lt;NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as user <b>guiadmin</b>.</p> <div style="text-align: center;">  <p>The screenshot shows the Oracle System Login interface. At the top is the Oracle logo. Below it, the text 'Oracle System Login' is followed by a horizontal line and the date 'Fri Mar 20 12:29:52 2015 EDT'. A central box titled 'Log In' contains the instruction 'Enter your username and password to log in'. There are input fields for 'Username: guiadmin' and 'Password: ●●●●●●'. A checkbox for 'Change password' is present below the password field. A 'Log In' button is at the bottom of the box. Below the box, it says 'Welcome to the Oracle System Login.' At the very bottom, a disclaimer states: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies. Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'</p> </div>

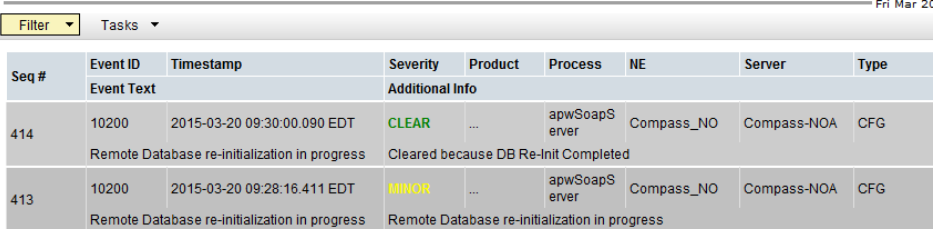
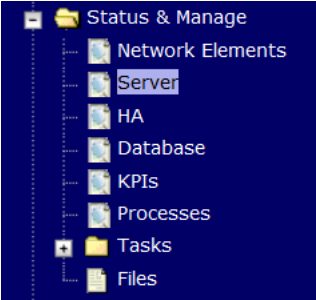
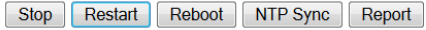
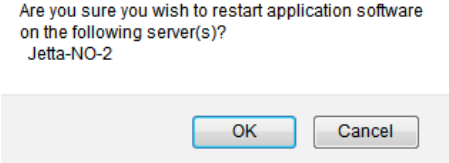
Appendix R.3.7 Moving/Re-Shuffle: NOAM/DR-NOAM

<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> 
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Restart 2<sup>nd</sup> NOAM/DR-NOAM Server</p>	<p>Navigate to <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Select the 2<sup>nd</sup> NOAM/DR-NOAM server.</p> <p>Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup.</p>  <p>Wait for restart to complete. Wait approximately 3-5 minutes before proceeding.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Activate Optional Features</p>	<p>If there are any optional features currently activated, the feature activation procedures will need to be run again. Refer to <b>Section 3.3</b>.</p>


Appendix R.3.8 Moving/Re-Shuffle: SOAM

<p><b>S T E P #</b></p>	<p>This procedure will reference steps to configure an SOAM on the new virtual machine for VM re-shuffling scenarios.</p> <p><b>Prerequisites:</b></p> <ul style="list-style-type: none"> <li>• SOAM has been Identified</li> <li>• Placed in OOS</li> <li>• OLD Virtual Machine Deleted</li> <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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure the SOAM</p>	<p>Configure the SOAM by executing the steps referenced in the following procedures:</p> <p><u>DSR SOAM:</u> <b>Procedure 30:</b> Steps 1-3, 5-9, 11 (<i>Optional-NetBackup</i>)</p> <p><u>SDS DP SOAM:</u> <b>Procedure 49. 52:</b> Steps 1-3, 5-9</p>
<p>2 <input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Establish GUI Session</p>	<p>Establish a GUI session on the NOAM by using the XMI VIP address:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><a href="https://&lt;NOAM_VIP_IP_Address&gt;">https://&lt;NOAM_VIP_IP_Address&gt;</a></p> </div> <p>Login as user <b>guiadmin</b>.</p> <div style="text-align: center; margin: 20px 0;">  </div> <div style="text-align: center;"> <p><b>Oracle System Login</b> <span style="float: right;">Fri Mar 20 12:29:52 2015 EDT</span></p> <hr style="width: 60%; margin: auto;"/> </div> <div style="text-align: center; border: 1px solid gray; padding: 10px; width: fit-content; margin: 10px auto;"> <p><b>Log In</b> Enter your username and password to log in</p> <p>Username: <input type="text" value="guiadmin"/></p> <p>Password: <input type="password" value="••••••"/></p> <p><input type="checkbox"/> Change password</p> <p><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;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 60%; margin: 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>

Appendix R.3.8 Moving/Re-Shuffle: SOAM


<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> 
<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Restart the SOAM Server</p>	<p>Navigate to <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Select the SOAM server.</p> <p>Select the <b>Restart</b> button.</p>  <p>Answer <b>OK</b> to the confirmation popup.</p>  <p>Wait for restart to complete. Wait approximately 3-5 minutes before proceeding.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>NOAM GUI:</b> Activate Optional Features</p>	<p>If there are any optional features currently activated, the feature activation procedures will need to be run again. Refer to <b>Section 3.3</b>.</p>

Appendix R.3.9 Moving/Re-Shuffle: MP/DP

<p><b>S T E P #</b></p>	<p>This procedure will reference steps to configure an MP/DP on the new virtual machine for VM re-shuffling scenarios.</p> <p><b>Prerequisites:</b></p> <ul style="list-style-type: none"> <li>• MP/DP has been Identified</li> <li>• Placed in OOS</li> <li>• OLD Virtual Machine Deleted</li> <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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Configure the MP/DP</p>	<p>Configure the MP/DP by executing the steps referenced in the following procedures:</p> <p><u>DSR MP: Procedure 33:</u> Steps 1-2, 7, 9, 10-12, 13-14(Optional), 15</p> <p><u>SDS DP: Procedure 51:</u> Steps 1-2, 5-9</p>
<p>2 <input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Establish GUI Session</p>	<p>Establish a GUI session on the NOAM by using the XMI VIP address:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><a href="https://&lt;NOAM_VIP_IP_Address&gt;">https://&lt;NOAM_VIP_IP_Address&gt;</a></p> </div> <p>Login as user <b>guiadmin</b>.</p> <div style="text-align: center; margin: 20px 0;">  </div> <div style="text-align: center;"> <p><b>Oracle System Login</b></p> <hr style="width: 60%; margin: 0 auto;"/> <p style="font-size: small;">Fri Mar 20 12:29:52 2015 EDT</p> </div> <div style="text-align: center; margin: 20px 0;"> <div style="border: 1px solid gray; padding: 10px; width: 80%; margin: 0 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 style="text-align: center;">Username: <input type="text" value="guiadmin"/></p> <p style="text-align: center;">Password: <input type="password" value="••••••"/></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> </div> <p style="text-align: center; font-size: x-small;">Welcome to the Oracle System Login.</p> <p style="text-align: center; font-size: x-small;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr style="width: 60%; margin: 0 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>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> [PCA ONLY] Edit the MP Server Group and add Preferred Spares for Site Redundancy (Optional)</p>	<p>If Two Site Redundancy for the Policy and Charging SBR Server Group is wanted, add a MP server that is physically located in a separate site (<i>location</i>) to the Server Group by clicking the <b>Include in SG</b> checkbox and also check the <b>Preferred Spare</b> checkbox.</p> <table border="1" data-bbox="480 432 1138 516"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>LabF123SBRsp1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>If Three Site Redundancy for the SBR MP Server Group is wanted, add two SBR MP servers that are both physically located in separate sites (<i>location</i>) to the Server Group by clicking the <b>Include in SG</b> checkbox and also check 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 (<i>locations</i>).</p> <table border="1" data-bbox="480 825 1024 930"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>LabF123SBRsp1</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>LabF123SBRsp2</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input checked="" type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>For more information about Site Redundancy for Policy and Charging SBR Server Groups, see the <b>Terminology</b> section.</p> <p>Select <b>OK</b> to save</p>	Server	SG Inclusion	Preferred HA Role	LabF123SBRsp1	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Preferred Spare	Server	SG Inclusion	Preferred HA Role	LabF123SBRsp1	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Preferred Spare	LabF123SBRsp2	<input checked="" type="checkbox"/> Include in SG	<input checked="" type="checkbox"/> Preferred Spare																														
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<p>4</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> <p style="text-align: right;">Fri Mar 20</p> <table border="1" data-bbox="480 1251 1320 1444"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td>CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td colspan="6">Cleared because DB Re-Init Completed</td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td>MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td colspan="6">Remote Database re-initialization in progress</td> </tr> </tbody> </table>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type	414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress	Cleared because DB Re-Init Completed						413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress	Remote Database re-initialization in progress					
Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type																																							
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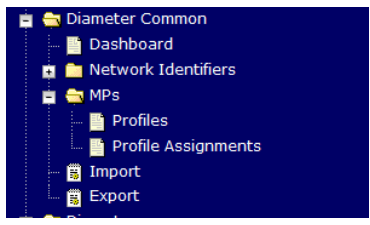
Appendix R.3.9 Moving/Re-Shuffle: MP/DP

5 <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Login	<p>If not already done, establish a GUI session on the SOAM server by using the VIP IP address of the SOAM server.</p> <p>Open the web browser and enter a URL of:</p> <div data-bbox="483 369 1239 411" style="border: 1px solid black; padding: 2px;"><code>https://&lt;Primary_SOAM_VIP_IP_Address&gt;</code></div> <p>Login to the SOAM GUI as the <i>guiadmin</i> user:</p> <div data-bbox="548 531 1274 1077" style="text-align: center;"></div>
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6

**SOAM VIP GUI:**  
Assign Profiles to DA-MPs from SOAM GUI.

Navigate to **Main Menu -> Diameter Common ->MPs -> Profiles Assignments**



Refer to the **DA-MP** section. (If the site has both DSR and MAP-IWF server groups, you will see both a DA-MP section and an SS7-MP section)

DA-MP	MP Profile
MultiApp3-DA-MP1	VM:10K_MPS
MultiApp3-DA-MP10	VM:10K_MPS
MultiApp3-DA-MP2	VM:10K_MPS
MultiApp3-DA-MP3	VM:10K_MPS
MultiApp3-DA-MP4	VM:10K_MPS
MultiApp3-DA-MP5	VM:10K_MPS
MultiApp3-DA-MP6	VM:10K_MPS
MultiApp3-DA-MP7	VM:10K_MPS
MultiApp3-DA-MP8	VM:10K_MPS
MultiApp3-DA-MP9	VM:10K_MPS
SS7-MP	MP Profile
MultiApp3-SS7-MP1	VM:MD-IWF

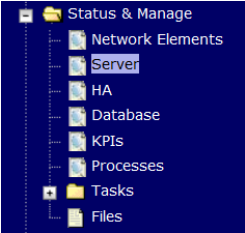
For each MP, select the proper profile assignment based on the function each MP will serve:

Profile Name	Description
<b>VM:10K_MPS (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Only)</b>	Virtualized DA-MP on TVOE Guest running relay, session, and database applications
<b>VM:MD-IWF</b>	Virtualized SS7-MP on TVOE Guest running MD-IWF applications


When finished, press the **Assign** button



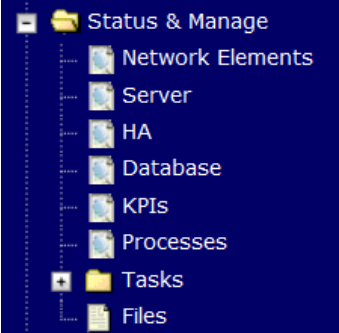
Appendix R.3.9 Moving/Re-Shuffle: MP/DP

7 <input type="checkbox"/>	<b>NOAM GUI:</b> Restart the MP/DP Server	<p>Navigate to <b>Main menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Select the MP/DP server.</p> <p>Select the <b>Restart</b> button.</p> <p><input type="button" value="Stop"/> <input type="button" value="Restart"/> <input type="button" value="Reboot"/> <input type="button" value="NTP Sync"/> <input type="button" value="Report"/></p> <p>Answer <b>OK</b> to the confirmation popup.</p> <p>Are you sure you wish to restart application software on the following server(s)? Jetta-NO-2</p> <p><input type="button" value="OK"/> <input type="button" value="Cancel"/></p> <p>Wait for restart to complete. Wait approximately 3-5 minutes before proceeding.</p>
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Appendix R.3.10 Moving/Re-Shuffle: Query Server (SDS Only)

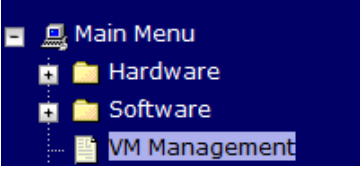
<p><b>S T E P #</b></p>	<p>This procedure will reference steps to configure a query server on the new virtual machine for VM re-shuffling scenarios.</p> <p><b>Prerequisites:</b></p> <ul style="list-style-type: none"> <li>• Query server has been Identified</li> <li>• Placed in OOS</li> <li>• OLD Virtual Machine Deleted</li> <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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>SDS NOAM VIP GUI:</b> Configure the query server</p>	<p>Configure the query server by executing the steps referenced in the following procedures:</p> <p><u>SDS query server: Procedure 49.</u> : Steps 1-2, 4-8</p>
<p>2 <input type="checkbox"/></p>	<p><b>SDS NOAM VIP:</b> Establish GUI Session</p>	<p>Establish a GUI session on the NOAM by using the XMI VIP address:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;NOAM_VIP_IP_Address&gt;">https://&lt;NOAM_VIP_IP_Address&gt;</a></p> </div> <p>Login as user <b>guiadmin</b>.</p> <div style="text-align: center;">  <p><b>Oracle System Login</b> <span style="float: right;">Fri Mar 20 12:29:52 2015 EDT</span></p> <hr/> <div style="border: 1px solid gray; padding: 10px; width: fit-content; margin: 0 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" value="guiadmin"/></p> <p>Password: <input type="password" value="••••••"/></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; font-size: small;">Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 8.0, 9.0, or 10.0 with support for JavaScript and cookies.</p> <hr/> <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> </div>

Appendix R.3.10 Moving/Re-Shuffle: Query Server (SDS Only)

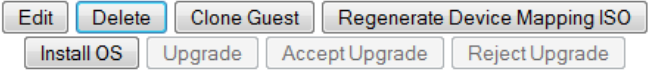
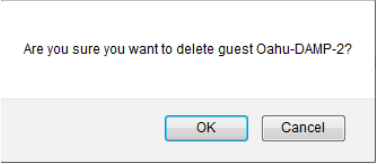
<p>3</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP</b>  <b>GUI:</b> Wait for Remote Database Alarm to Clear</p>	<p>Wait for the alarm <b>Remote Database re-initialization in progress</b> to be cleared before proceeding.</p> <p>Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b></p> <p><b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b></p> <p style="text-align: right;">Fri Mar 20</p> <p>Filter Tasks</p> <table border="1"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> <th>NE</th> <th>Server</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>414</td> <td>10200</td> <td>2015-03-20 09:30:00.090 EDT</td> <td>CLEAR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Cleared because DB Re-Init Completed</td> </tr> <tr> <td>413</td> <td>10200</td> <td>2015-03-20 09:28:16.411 EDT</td> <td>MINOR</td> <td>...</td> <td>apwSoapServer</td> <td>Compass_NO</td> <td>Compass-NOA</td> <td>CFG</td> </tr> <tr> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Remote Database re-initialization in progress</td> </tr> </tbody> </table>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type	414	10200	2015-03-20 09:30:00.090 EDT	CLEAR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress						Cleared because DB Re-Init Completed	413	10200	2015-03-20 09:28:16.411 EDT	MINOR	...	apwSoapServer	Compass_NO	Compass-NOA	CFG			Remote Database re-initialization in progress						Remote Database re-initialization in progress
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		Remote Database re-initialization in progress						Remote Database re-initialization in progress																																							
<p>4</p> <p><input type="checkbox"/></p>	<p><b>SDS NOAM VIP</b>  <b>GUI:</b> Restart query server</p>	<p>Navigate to <b>Main menu-&gt;Status &amp; Manage-&gt;Server.</b></p>  <p>Select the query server.</p> <p>Select the <b>Restart</b> button.</p> <p> <input type="button" value="Stop"/> <input type="button" value="Restart"/> <input type="button" value="Reboot"/> <input type="button" value="NTP Sync"/> <input type="button" value="Report"/> </p> <p>Answer <b>OK</b> to the confirmation popup. Wait for restart to complete.</p>																																													

Appendix R.3.11 Moving/Re-Shuffle: iDIH

<p><b>S</b> <b>T</b> <b>E</b> <b>P</b> <b>#</b></p>	<p>This procedure will reference steps to configure/Re-deploy iDIH on a set of new virtual machines for VM re-shuffling sceneries.</p> <p><b>IMPORTANT:</b> If moving/Re-shuffling the Oracle VM/Server, it is important to note that doing so will remove all historical trace data. However, moving/Re-Shuffling of the Application and mediation VMs can be done without affecting historical trace data.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user:</p> <p><input type="text" value="https://&lt;pmac_network_ip&gt;"/></p> 

<p>2</p> <p>☐</p>	<p><b>PMAC GUI:</b> Shutdown the VM</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p>  <p>Expand the view (<i>if needed</i>) of the Rack Mount Server for which the server you are moving/deleting is located.</p> <p>Shutdown the VM by setting the <i>Current Power State</i> to <b>Shutdown</b>:</p> <p>Current Power State: <b>Running</b></p> <p>On <input type="button" value="Change"/></p> <p>On Shutdown Destroy</p> <p>Click <b>Change</b></p> <p>Select <b>OK</b> for the following prompt:</p> <div data-bbox="479 940 1161 1134"> <p>It may not always be possible to shutdown a guest or to do so in a timely manner. You may monitor the power state and opt to destroy the guest rather than shut it down. Are you sure you want to attempt to shutdown this guest?</p> <p><input type="button" value="OK"/> <input type="button" value="Cancel"/></p> </div> <p>The <i>Current Power State</i> should now display Shutdown:</p> <p>Current Power State: <b>Shut Down</b></p> <p>On <input type="button" value="Change"/></p>
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Appendix R.3.11 Moving/Re-Shuffle: iDIH

<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Delete the VM</p>	<p>Once the server has been shutdown, select the VM from <b>step 2</b>. Verify the <i>current power state</i> is Shutdown as listed in <b>step 2</b>.</p> <p>Select <b>Delete</b></p>  <p>Click <b>OK</b> to confirm deletion</p> 
<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC Server:</b> Navigate to guest-dropin directory</p>	<pre>\$ cd /var/TKLC/smac/guest-dropin/</pre>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC Server:</b> Edit the IDIH fdc file</p>	<p>Edit the existing <code>idih_fdc_file_name.xml</code> (or create a new) file configured in <b>procedure 57 step 7</b></p> <p>Change the Rack Mount Server to which the VM being Moved/Re-shuffled will be placed by changing the <code>&lt;tvoehost&gt;</code> item for the applicable VM (<code>&lt;tvoeguest id&gt;</code>).</p> <p><b>Note:</b> It may also be necessary to change the XMI, IMI, and default route IP addresses depending on the location of the rack mount server.</p> <p><b>IMPORTANT:</b> If moving/Re-shuffling the Oracle VM/Server, it is important to note that doing so will remove all historical trace data. However, moving/Re-Shuffling of the Application and mediation VMs can be done without affecting historical trace data.</p>


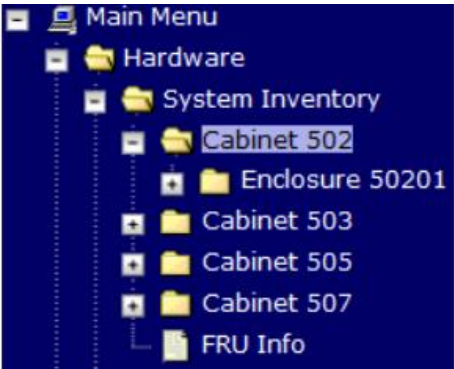
Appendix R.3.12 Moving/Re-Shuffle: PMAC

<b>S T E P #</b>	<p>This procedure will reference steps to configure the PMAC on a new virtual machine for VM re-shuffling scenarios.</p> <p><b>Prerequisites:</b> Database backup of the PMAC server is available</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>PMAC:</b> Backup PMAC Database	Backup the PMAC database by following <b>Section 4.18.6</b> Backup PMAC Application
2 <input type="checkbox"/>	<b>PMAC TVOE HOST:</b> Login	Establish an SSH session to the PMAC's TVOE host, login as <b>admusr</b> .
3 <input type="checkbox"/>	<b>PMAC TVOE HOST:</b> Verify PMAC location	<p>Verify the location of the PMAC VM using <b>virsh</b>:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/virsh list  Id Name State ----- 2 PM&amp;C running</pre>
4 <input type="checkbox"/>	<b>PMAC TVOE HOST:</b> Remove Existing PMAC Guest	<p>Delete the PMAC Guest:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo guestMgr -remove &lt;PMAC_Name&gt;</pre>
5 <input type="checkbox"/>	<b>New PMAC TVOE HOST:</b> Deploy PMAC on new TVOE Host	Once the TVOE host for the new PMAC location has been identified, execute <b>Section 4.3</b> to deploy the new PMAC
6 <input type="checkbox"/>	<b>PMAC:</b> Login	Establish an SSH session to the PMAC server, login as <b>admusr</b> .

<p>7</p> <p><input type="checkbox"/></p>	<p><b>Restore PMAC Backup image to the TVOE host</b></p>	<p>From the remote backup location, copy the backup file to the deployed PMAC. There are too many possible backup scenarios to cover them all here.</p> <p>The example below is a simple scp from a redundant PM&amp;C backup location. If using IPv6 addresses, command requires shell escapes, e.g.          admusr@[&lt;ipV6addr&gt;]:/&lt;file&gt;</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/scp -p \ admsur@&lt;remoteserver&gt;:/var/TKLC/smac/backup/*.pef \ /var/TKLC/smac/backup/</pre> <p><b>Note:</b> It is important to copy the correct backup file to use in the restore. The latest backup may not be the backup which contains the system data of interest. This could be the case if the automatic backup, which is scheduled in the morning, is performed on the newly installed PMAC prior to the restoration of the data.</p>
<p>8</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Verify no Alarms are present</p>	<p>Verify no alarms are present by executing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/alarmMgr --alarmStatus</pre>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>Restore the PMAC Data from Backup</b></p>	<p>Restore the PMAC data from backup by executing the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/pmacadm restore</pre> <pre style="border: 1px solid black; padding: 5px;">PM&amp;C Restore been successfully initiated as task ID 1</pre> <p><b>Note:</b> By default, PMAC restore used the most recent file in /var/TKLC/smac/backup that starts with 'backupPmac'. If the name of the file copied to the system uses a different name or is not the most recent, then provide the name using the <b>--fileName</b> parameter</p> <p>To check the status of the background task, issue the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks</pre> <p><b>Note:</b> The result will eventually display <i>PMAC Restore successful</i>.</p>



Appendix R.3.12 Moving/Re-Shuffle: PMAC

<p>10</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and navigate to the PMAC GUI, Login as <b>PMACadmin</b> user:</p> <p><code>https://&lt;pmac_network_ip&gt;</code></p> 
<p>11</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Restore Task completed</p>	<p>Navigate to <b>Task Monitoring</b></p> <p>Verify the restore background task completed successfully.</p> <p><b>Note:</b> After the restore is complete, you should see “Add Enclosure” tasks start for all previously provisioning servers. These should be allowed to complete before continuing.</p> <p><b>Note:</b> After the restore is complete, you may see some tasks mentioning ISO images being deleted. This is normal behavior, ISO images will be added in the next step.</p>
<p>12</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify System Inventory</p>	<p>Navigate to <b>Main Menu -&gt; System Inventory</b></p>  <p>Verify previously provisioned enclosures are present</p>


Appendix R.3.12 Moving/Re-Shuffle: PMAC

<p>13</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Verify PMAC</p>	<p>Perform a system health check on the PMAC</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/plat/bin/alarmMgr --alarmStatus</pre> <p>This command should return no output on a healthy system.</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/TKLC/smac/bin/sentry status</pre> <p>All Processes should be running, displaying output similar to the following:</p> <pre>PM&amp;C Sentry Status ----- sentryd started: Mon Jul 23 17:50:49 2012 Current activity mode: ACTIVE Process PID Status StartTS NumR ----- smacTalk 9039 running Tue Jul 24 12:50:29 2012 2 smacMon 9094 running Tue Jul 24 12:50:29 2012 2 hpiPortAudit 9137 running Tue Jul 24 12:50:29 2012 2 snmpEventHandler 9176 running Tue Jul 24 12:50:29 2012 2 Fri Aug 3 13:16:35 2012 Command Complete.</pre>
<p>14</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Add ISO images to the PMAC</p>	<p>Re-add any needed ISO images to the PMAC by executing procedure <i>“Install TVOE on Additional Rack Mount Servers”</i> Steps 2-3</p>

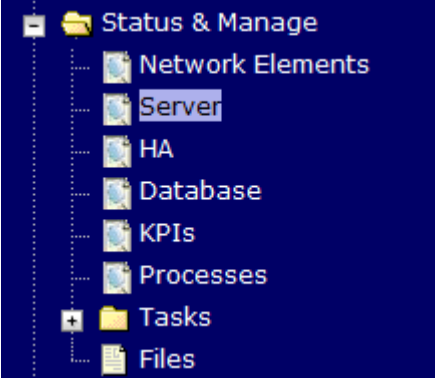
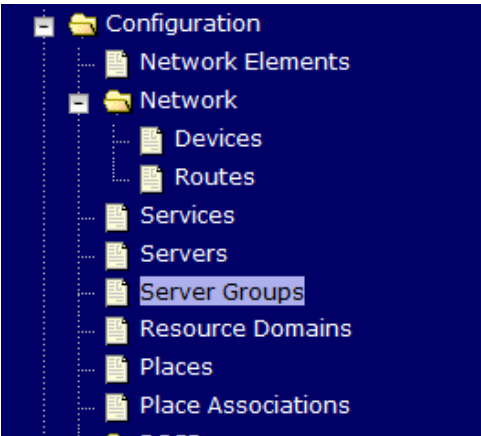
**Appendix R.3.13 Moving/Re-Shuffle: Redundant PMAC**

<p><b>S T E P #</b></p>	<p>This procedure will reference steps to configure the redundant PMAC on a new virtual machine for VM re-shuffling scenarios.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>2 <input type="checkbox"/></p>	<p><b>Redundant PMAC TVOE HOST:</b> Login</p>	<p>Establish an SSH session to the redundant PMAC's TVOE host, login as <b>admusr</b>.</p>
<p>3 <input type="checkbox"/></p>	<p><b>Redundant PMAC TVOE HOST:</b> Verify PMAC location</p>	<p>Verify the location of the redundant PMAC VM using <b>virsh</b>:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo /usr/bin/virsh list  Id Name State ----- 2 Redundant-PM&amp;C running</pre>
<p>4 <input type="checkbox"/></p>	<p><b>Redundant PMAC TVOE HOST:</b> Remove Existing PMAC Guest</p>	<p>If an error was made use the following command to delete the PMAC Guest and then re-deploy the guest again:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo guestMgr -remove &lt;PMAC_Name&gt;</pre>
<p>5 <input type="checkbox"/></p>	<p><b>New Redundant PMAC TVOE HOST:</b> Deploy Redundant PMAC on new TVOE Host</p>	<p>Once the TVOE host for the redundant PMAC location has been identified, execute <b>Section 4.11</b> to deploy the redundant PMAC</p>



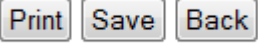
**Appendix R.3.14 Post Moving/Re-Shuffle Health Check**

<p><b>S T E P #</b></p>	<p>This procedure will provide steps verify system status and log all alarms after Growth/De-growth.</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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Login</p>	<p>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; width: fit-content; margin: 10px auto;"> <p><code>http://&lt;Primary_NOAM_VIP_IP_Address&gt;</code></p> </div> <p>Login as the <i>guiadmin</i> user:</p> 

Appendix R.3.14 Post Moving/Re-Shuffle Health Check

<p>2</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify Server Status</p>	<p>Navigate to <b>Main Menu -&gt; Status &amp; Manage -&gt; Server</b></p>  <p>Verify all Server Status is Normal (Norm) for: Alarm (Alm), Database (DB), Replication Status, and Processes (Proc).</p> <table border="1" data-bbox="479 779 1339 905"> <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																							
Enabled	Norm	Norm	Norm	Norm																							
<p>3</p> <p><input type="checkbox"/></p>	<p><b>NOAM VIP GUI:</b> Verify Server Configuration</p>	<p>Navigate to <b>Main Menu -&gt; Configuration -&gt; Server Groups</b></p>  <p>Verify the configuration data is correct for your network.</p>																									

Appendix R.3.14 Post Moving/Re-Shuffle Health Check

4 <input type="checkbox"/>	<b>NOAM VIP GUI:</b> Log Current Alarms	<p>Navigate to <b>Main Menu -&gt; Alarms &amp; Events -&gt; View Active</b></p>  <p>Click on the <b>Report</b> button</p>  <p><b>Save</b> or <b>Print</b> this report, keep copies for future reference.</p>  <p>Compare this alarm report with those gathered in procedure <b>Appendix S.3</b></p>
5 <input type="checkbox"/>	<b>SOAM VIP GUI:</b> Repeat	Repeat <b>Steps 1-4</b> for the SOAM

**Appendix R.3.15 Post Move/Re-Shuffle Backups**

<b>S T E P #</b>	<p>This procedure will reference steps to backup all necessary items after a Re-Shuffle 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 <b>Appendix T: My Oracle Support (MOS)</b>, and ask for assistance.</p>	
1 <input type="checkbox"/>	<b>Backup TVOE</b>	Backup all TVOE host configurations by executing <b>Section 4.18.5</b> Backup TVOE Configuration
2 <input type="checkbox"/>	<b>Backup PMAC</b>	Backup the PMAC application by executing <b>Section 4.18.5</b>
3 <input type="checkbox"/>	<b>Backup NOAM/SOAM databases</b>	<p>Backup the NOAM and SOAM Databases by executing <b>Sections 4.18.6 and 4.18.7</b></p> <p><b>Note:</b> Database backup on SDS SOAMs not required</p>

## Appendix S: Non-HA Lab Node Instructions (Oracle X5-2/Netra X5-2/HP DL380 Gen 9 Non-HA Lab Node Only)

This appendix contains deviations required during Oracle X5-2/Netra X5-2/HP DL380 Gen 9 RMS Non-HA Lab node installation to be followed, and are mainly applicable during VM creation procedures. The rest of the installation steps are similar to “DSR Rack Mount Server” installation mentioned in this document.

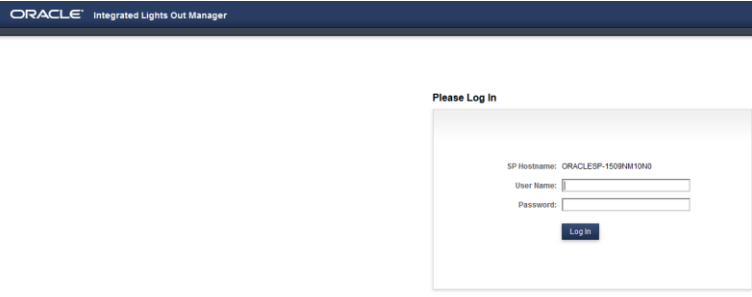
- FUNCTIONALITY ARISING OUT OF OR RELATED TO THE IMPLEMENTATION OR USE OF A MATED PAIR. EXCEPT AS EXPRESSLY STATED HEREIN, ORACLE EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE NON-HA LAB NODE NODE WILL OPERATE OR UNINTERRUPTED OR ERROR-FREE; and
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### Note:

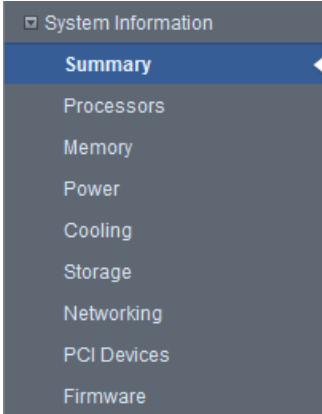
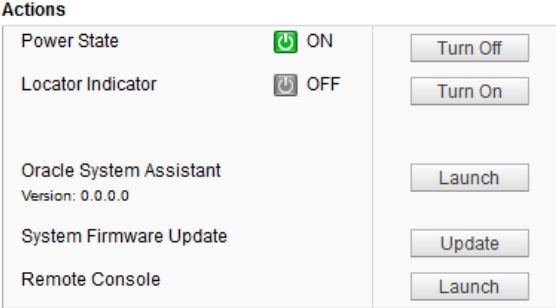
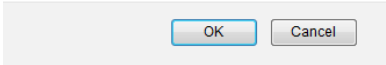
1. Non-HA Lab Node install include NOAM-Active/Standby, SOAM-Active/Standby, 1 IPFE, 1 DAMP, 1 SBR (B), 1 SBR(S), 1-SS7MP, 1-IDIH\_Mediation, 1-IDIH\_Application and 1-IDIH\_Database and for SDS NOAM-Active/Standby, SOAM-Active/Standby, 1 Query Server, 1 DP.
2. Before starting with TVOE installation as per procedure 3, procedure 73 shall be followed to create vgguests logical volume with RAID10 spanning across multiple HDDs.



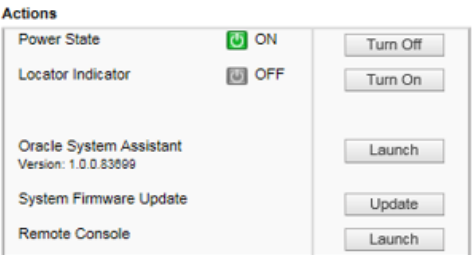
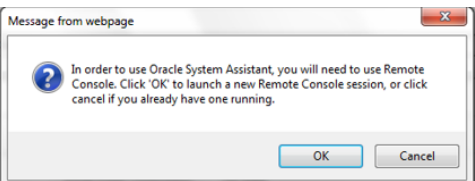
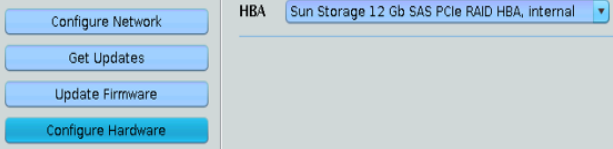
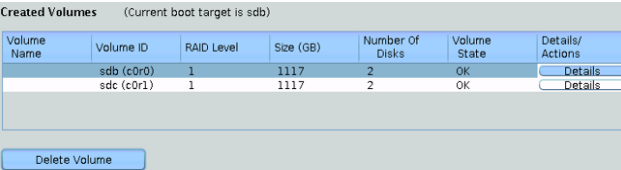

**Appendix S.1 RAID10 Logical Volume Creation Spanning Multiple HDDs (Oracle X5-2/Netra X5-2)**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps needed to create a HD RAID10 volume by combining multiple HDD on Oracle X5-2/Netra X5-2.</p> <p><b>Prerequisite:</b> Multiple HDD must be installed and configured on the target RMS. TVOE ISO USB must be inserted into USB socket.</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1 <input type="checkbox"/></p>	<p><b>Oracle X5-2/Netra X5-2:</b> Login</p>	<p>Login to the Oracle rack mount server ILOM:</p> 

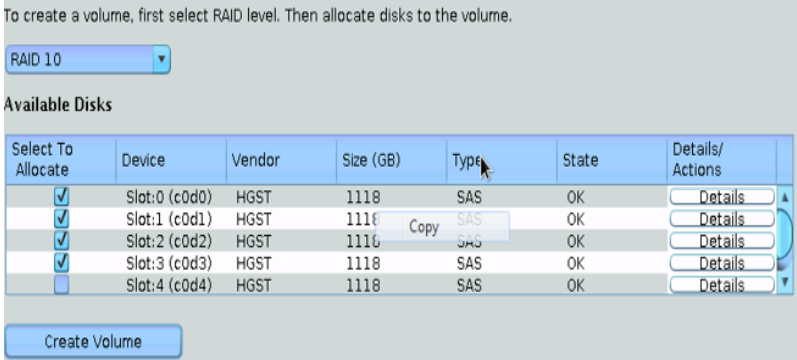
Appendix S.1 RAID10 Logical Volume Creation Spanning Multiple HDDs (Oracle X5-2/Netra X5-2)

2	<b>ILOM GUI :</b>  <input type="checkbox"/> Login to ILOM GUI and Turn Off the Power State	<p>Navigate to <b>System Information-&gt;Summary</b></p>  <p>From the <b>Actions</b> window, click <b>Turn Off</b> for Power State:</p>  <p>Press <b>OK</b> to confirm</p> <p>The host power will be set to off. Click OK to continue.</p> 
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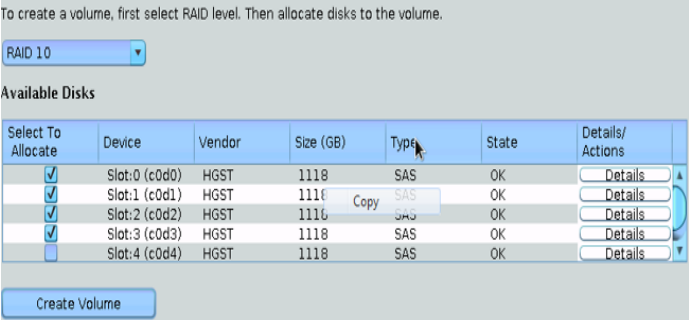
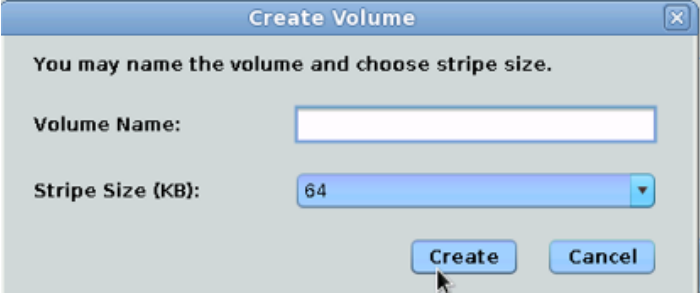
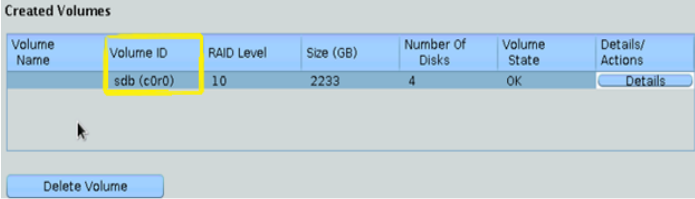

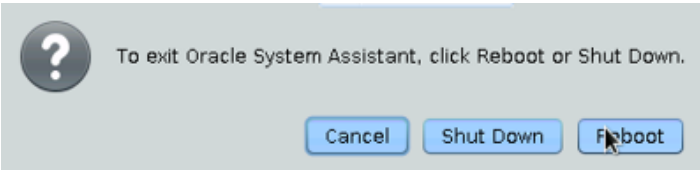
Appendix S.1 RAID10 Logical Volume Creation Spanning Multiple HDDs (Oracle X5-2/Netra X5-2)

<p>3</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Launch Oracle System Assistant and Accept License Agreement.</p>	<p>Press the <b>Launch</b> button next to “Oracle System Assistant” which will launch a remote console</p>  <p>Press <b>Ok</b>. Wait for “Oracle System Assistant”.</p>  <p>Once “Oracle System Assistant” Launches, It will ask for Accepting License Agreement.</p> <p>Press <b>Accept</b> for Accepting License Agreement.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Configure Hardware and select HBA</p>	<p>Click on <b>Configure Hardware</b> on Left side of GUI and select the HBA, there should only be one.</p> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Delete the existing Volume if exists</p>	<p>Look under “Created Volumes”. If there is a volume created that does not match the configuration you want.</p>  <p>Click on <b>Delete Volume</b>. Answer <b>Yes</b> to confirm.</p>  <p>Delete all the volumes.</p>


Appendix S.1 RAID10 Logical Volume Creation Spanning Multiple HDDs (Oracle X5-2/Netra X5-2)

6	<p><b>ILOM GUI:</b> Select RAID Level and Select Disks which needs to be added.</p>	<p>Click on <b>Select RAID Level</b> and choose <b>RAID 10</b>.</p> <p>Under “Available Disks” select each disk to add to the Logical Volume you want to create.</p>  <p>The screenshot shows the ILOM GUI interface for creating a RAID volume. At the top, there is a dropdown menu set to 'RAID 10'. Below it, a section titled 'Available Disks' contains a table with columns: 'Select To Allocate', 'Device', 'Vendor', 'Size (GB)', 'Type', 'State', and 'Details/Actions'. The table lists five disks (Slot:0 to Slot:4) from vendor HGST, each 1118 GB, SAS type, and OK state. The first four disks have their 'Select To Allocate' checkboxes checked. A 'Create Volume' button is located at the bottom of the table.</p>
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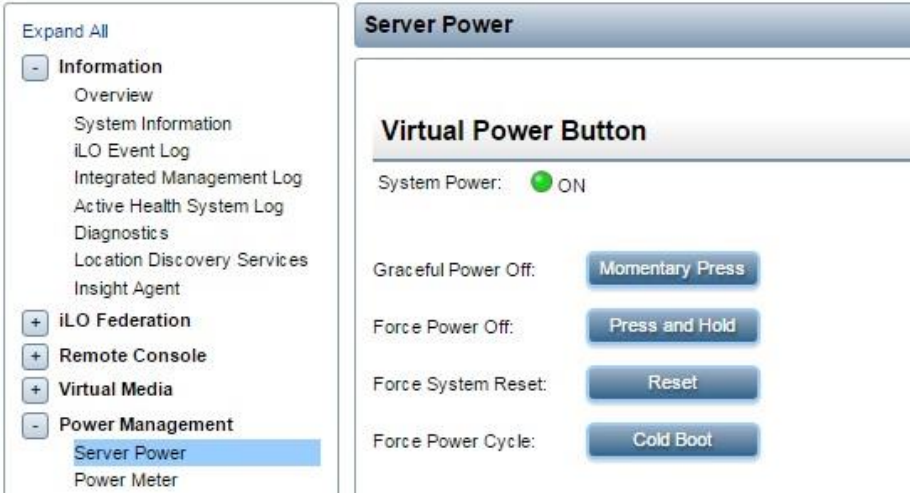
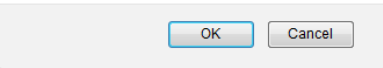
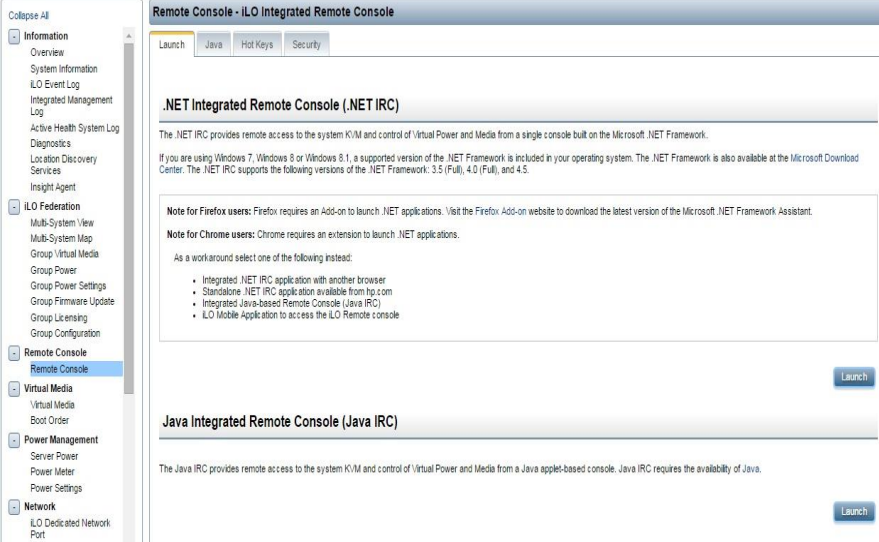
Appendix S.1 RAID10 Logical Volume Creation Spanning Multiple HDDs (Oracle X5-2/Netra X5-2)

<p>7</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Create Volume and note created Volume ID for later use.</p>	<p>Click on <b>Create Volume</b></p>  <p>Click on <b>Create</b> in the popup box to confirm creation. No name is needed.</p>  <p>Under “Created Volumes” note Volume ID, and save for later. In this case Volume ID : <b>sdb</b></p> 
<p>8</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Exit OSA screen UI and Reboot.</p>	<p>Click on <b>Exit</b> in the OSA GUI.</p>  <p>Click <b>Reboot</b> on the warning screen.</p>  <p><b>Note:</b> Please ignore warning messages related to “Primary OS” and storage not being available.</p>

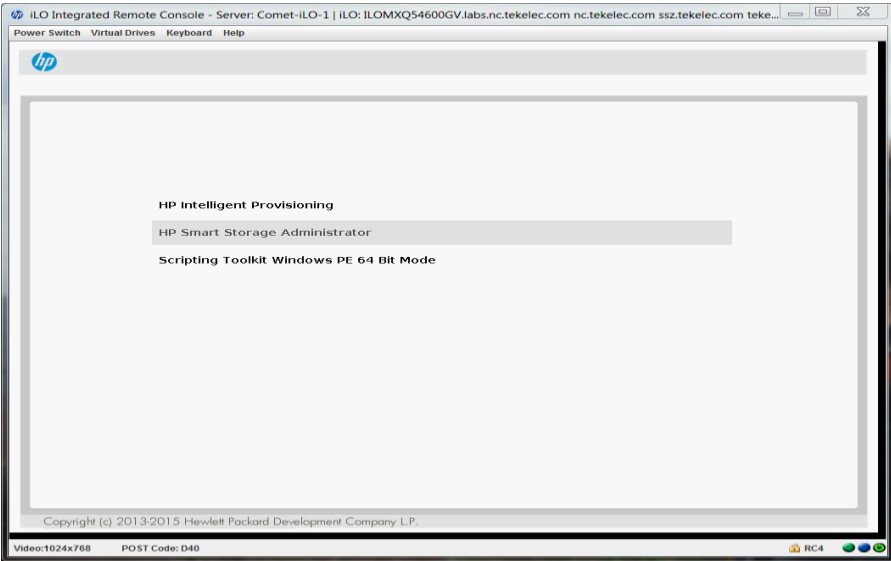
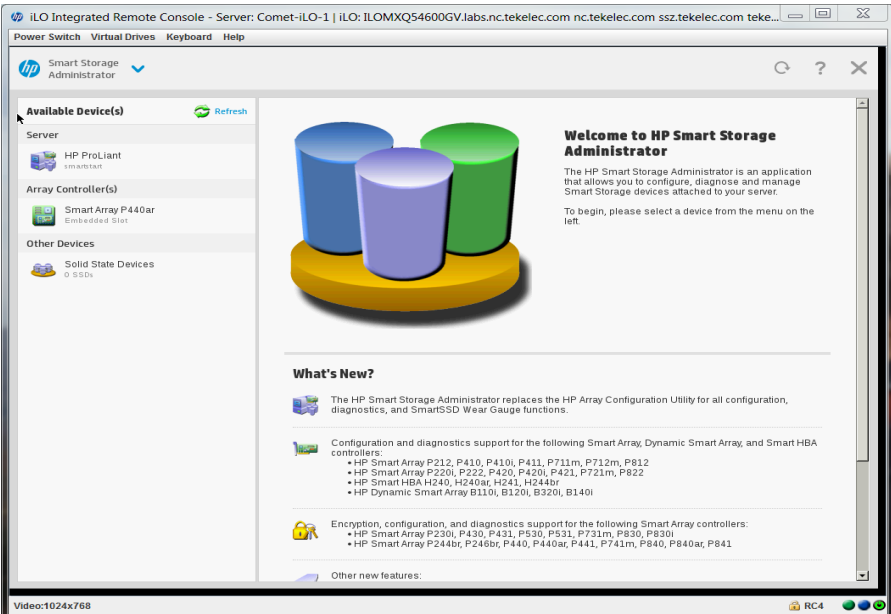
**Appendix S.2 RAID10 Logical Volume Creation Spanning Multiple HDDs (HP DL380 Gen9)**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps needed to create a HD RAID10 volume by combining multiple HDD on HP DL380 Gen 9.</p> <p><b>Prerequisite:</b> Multiple HDD must be installed and configured on the target RMS. TVOE ISO USB must be inserted into USB socket.</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>HP Gen9:</b> Login to ILOM GUI</p>	<p>Login to the HP rack mount server ILOM:</p> 

Appendix S.2 RAID10 Logical Volume Creation Spanning Multiple HDDs (HP DL380 Gen9)

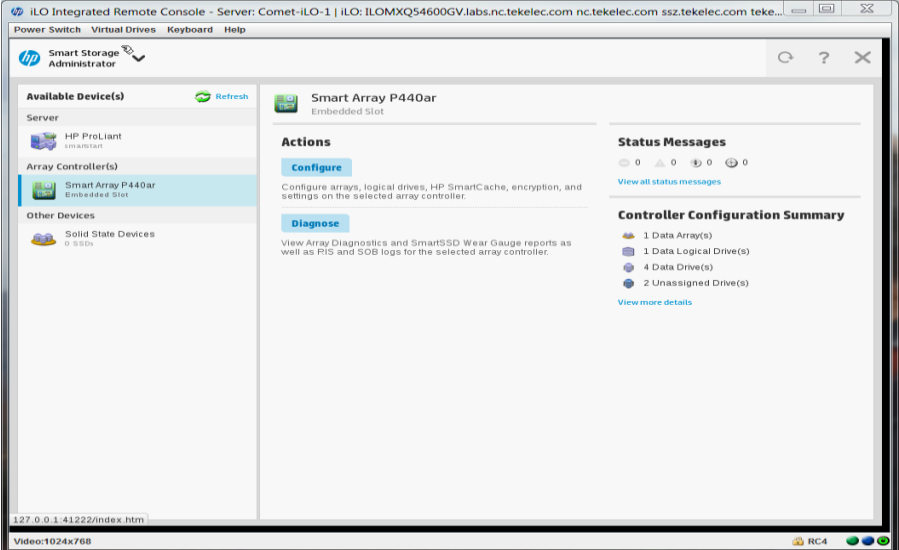
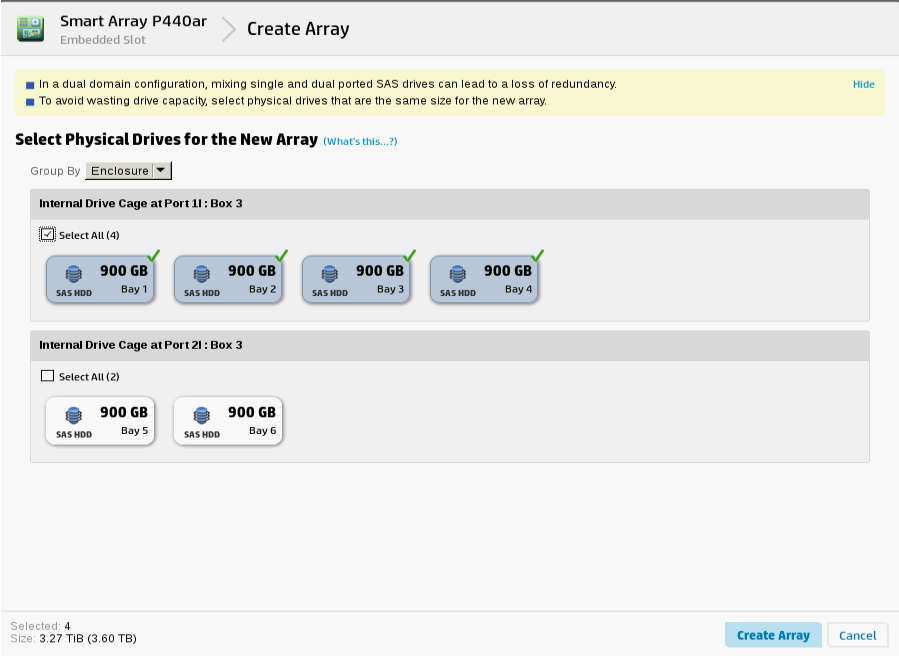
<p>2</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI :</b></p> <p>Turn Off the Power State</p>	<p>Navigate to <b>Power Management-&gt;Server Power</b></p>  <p>From the <b>Virtual Power Button</b>, click <b>Momentary Press</b> for Graceful Power Off Press <b>OK</b> to confirm</p> <p>The host power will be set to off. Click OK to continue.</p> 
<p>3</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b></p> <p>Launch HP iLO Integrated Remote Console.</p>	<p>Press the <b>Launch</b> button from <b>Remote Console -&gt; Remote Console</b></p> 

**Appendix S.2 RAID10 Logical Volume Creation Spanning Multiple HDDs (HP DL380 Gen9)**

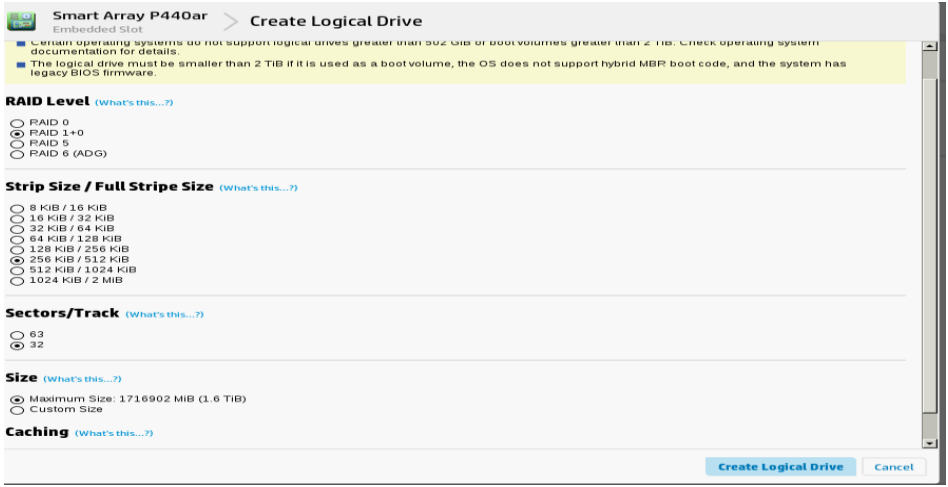
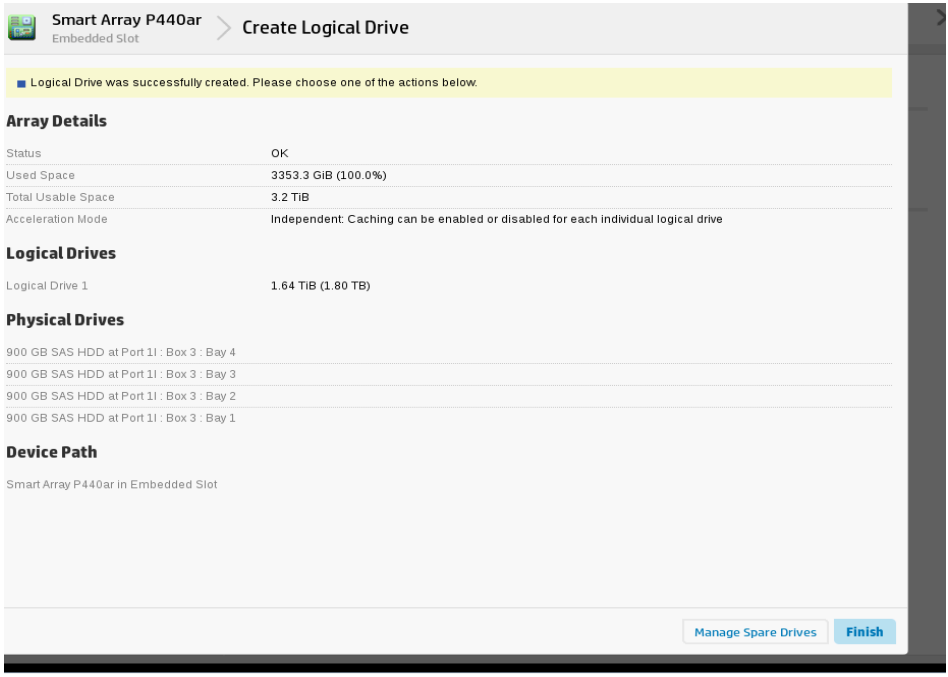

<p>4</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Enter HP Intelligent Provisioning and HP smart storage administrator</p>	<p>Enter into the HP Intelligent Provisioning by pressing F10 during boot up. Enter HP Smart Storage Administrator</p> 
<p>5</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Configure the Array Controllers</p>	<p>Click Smart Array P440ar</p> 



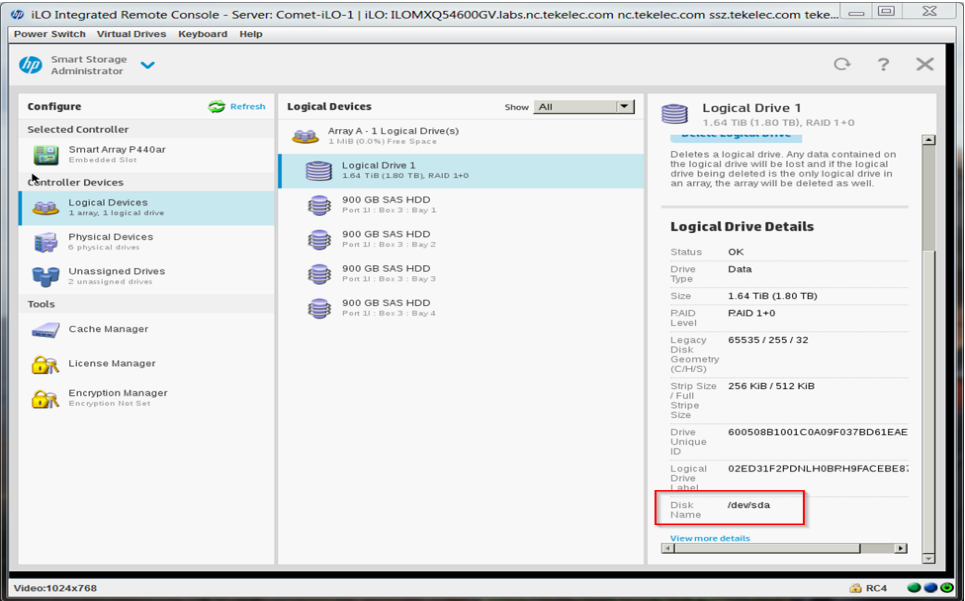

Appendix S.2 RAID10 Logical Volume Creation Spanning Multiple HDDs (HP DL380 Gen9)

<p>6</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Configure the Array Controllers</p>	<p>Click Configure</p> 
<p>7</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Select the physical drives for the new array and click on Create Array:</p>	<p>Select 4 physical drives and Click Create Array.</p> 

Appendix S.2 RAID10 Logical Volume Creation Spanning Multiple HDDs (HP DL380 Gen9)

<p>8</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> RAID 10 Logical Volume creation</p>	<p>Select RAID Level as RAID1+0, leave the rest defaults and click Create Logical Drive.</p> 
<p>9</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> RAID 10 Logical Volume creation</p>	<p>Click Finish</p> 
<p>10</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Restart Server</p>	<p>Restart the server by clicking the power button at the bottom right corner of the window.</p> 

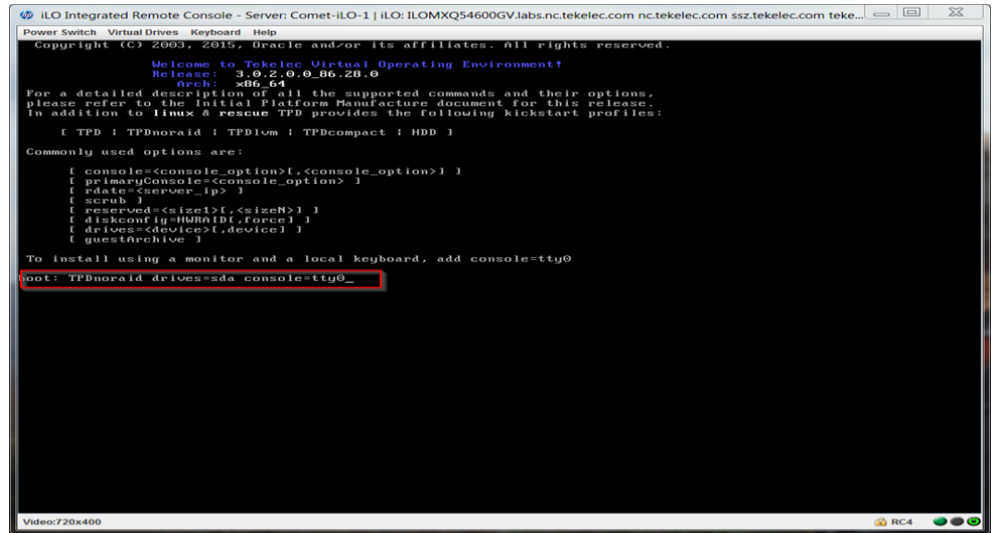
Appendix S.2 RAID10 Logical Volume Creation Spanning Multiple HDDs (HP DL380 Gen9)

<p>11</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b></p>	<p>Repeat step 4 to get into the “Smart Storage Administrator” screen.</p>
<p>12</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Select the created logical drive</p>	<p>Click on the Logical Devices under the Controller Devices and select “<b>Logical Drive 1</b>” and note down the Disk Name. For example, <b>/dev/sda</b>. This will be used in the steps below.</p> 
<p>13</p> <p><input type="checkbox"/></p>	<p><b>ILOM GUI:</b> Reboot Server</p>	<p>Reboot the server by clicking the power button at the bottom right hand corner.</p> 

Appendix S.2 RAID10 Logical Volume Creation Spanning Multiple HDDs (HP DL380 Gen9)

14 ILOM GUI:  
TVOE  
installation

When prompted with the boot: provide the following command and press Enter.  
Note: You need to use the correct "Disk Name" (noted in Step 12) in this command.



TVOE installation would begin and continue normally.

The following steps covers the deviations during PMAC deployment and VM creations and provide the CPU, RAM and Hard Disk information that will override the default values when importing profile during VM creations. These changes are required to place all VMs onto a single Oracle X5-2/Netra X5-2/HP DL380 Gen 9 server.

**Appendix S.3 PMAC Deployment: Procedure 6 Deviation**

<b>S T E P #</b>	<p>This procedure will deploy PMAC on the TVOE Host</p> <p><b>Prerequisite:</b> First RMS Network Configuration (PMAC Host) has been completed.</p> <p><b>Needed material:</b></p> <ul style="list-style-type: none"> <li>- PMAC Media on USB Drive or ISO</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
1 <input type="checkbox"/>	<p><b>1<sup>st</sup> RMS iLO/iLOM:</b> Login and Launch the Integrated Remote Console</p>	<p>Log in to iLO/iLOM; follow <b>Appendix D: TVOE iLO/iLOM GUI Access</b> for instructions on how to access the iLO/iLOM GUI.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> <p><code>https://&lt;management_server_iLO_ip&gt;</code></p> </div>

Appendix S.3 PMAC Deployment: Procedure 6 Deviation

<p>2</p> <p><input type="checkbox"/></p>	<p><b>TVOE iLO/iLOM:</b> Mount the PMAC Media to the TVOE Server</p>	<p>Use one of the following 2 options to mount the PMAC Media:</p> <p><u>Option 1:</u></p> <p>If using a USB media, insert the PMAC USB into a USB port and execute the following to mount the ISO:</p> <pre style="border: 1px solid black; padding: 5px;">\$ ls /media/*/*.iso /media/sdd1/872-2586-101-5.7.0_57.3.0-PM&amp;C-x86_64.iso</pre> <p>Use the output of the previous command to populate the next command</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo mount -o loop /media/sdb1/872-2586-101-5.7.0_57.3.0-PM&amp;C-x86_64.iso /mnt/upgrade</pre> <p><u>Option 2:</u></p> <p>If using an ISO image, run the following to mount it:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo mount -o loop ISO_FILENAME.iso /mnt/upgrade</pre> <p>Next Validate the PMAC media by executing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /mnt/upgrade/upgrade \$ .validate/validate_cd  Validating cdrom... UMVT Validate Utility v2.2.2, (c)Tekelec, June 2012 Validating &lt;device or ISO&gt; Date&amp;Time: 2012-10-25 10:07:01 Volume ID: tklc_872-2441-106_Rev_A_50.11.0 Part Number: 872-2441-106_Rev_A Version: 50.11.0 Disc Label: PM&amp;C Disc description: PM&amp;C The media validation is complete, the result is: PASS CDROM is Valid</pre> <p><b>Note:</b> If the media validation fails, the media is not valid and should not be used.</p>
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Appendix S.3 PMAC Deployment: Procedure 6 Deviation

<p>3</p> <p><input type="checkbox"/></p>	<p><b>TVOE iLO/iLOM:</b> Deploy PMAC</p>	<p>Using the PMAC-deploy script, deploy the PMAC instance using the configuration captured during the site survey.</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd /mnt/upgrade/upgrade</pre> <p>If deploying PMAC without NetBackup feature, run the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo ./pmac-deploy --guest=&lt;PMAC_Name&gt; --hostname=&lt;PMAC_Name&gt; --controlBridge=control --controlIP=&lt;PMAC_Control_ip_address&gt; --controlNM=&lt;PMAC_Control_netmask&gt; --managementBridge=management --managementIP=&lt;PMAC_Management_ip_address&gt; --managementNM=&lt;PMAC_Management_netmask/prefix&gt; --routeGW=&lt;PMAC_Management_gateway_address&gt; --ntpserver=&lt;TVOE_Management_server_ip_address&gt; --imageSizeGB=20 --isoimagesVolSize=20</pre> <p>The PMAC will deploy and boot. The management and control network will come up based on the settings that were provided to the PMAC-deploy script.</p> <p><b>Note:</b> This step takes between <b>5 and 10 minutes</b>.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p><b>TVOE iLO/iLOM:</b> Unmount the Media</p>	<p>The media should auto-unmount, if it does not, unmount the media using the following command:</p> <pre style="border: 1px solid black; padding: 5px;">\$ cd / \$ sudo /bin/umount /mnt/upgrade</pre> <p>Remove the media from the drive.</p>

Appendix S.3 PMAC Deployment: Procedure 6 Deviation

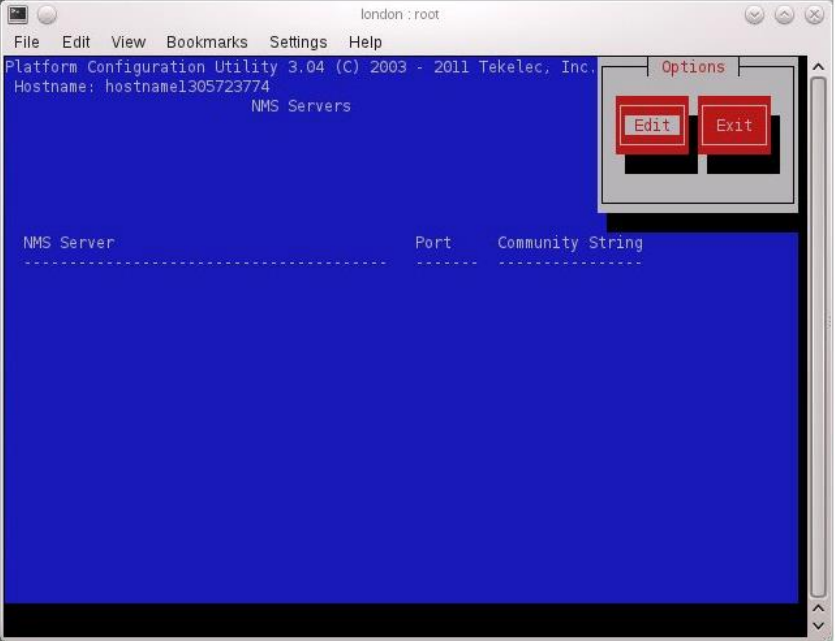
<p>5</p> <p><input type="checkbox"/></p>	<p><b>TVOE iLO/iLOM:</b> SSH into the Management Server</p>	<p>Using an SSH client such as putty, ssh to the TVOE host as <b>admusr</b>.</p> <p>Login using <b>virsh</b>, and wait until you see the login prompt :</p> <pre>\$ sudo /usr/bin/virsh list</pre> <pre>Id Name State ----- 2 PM&amp;C running</pre> <pre>\$ sudo /usr/bin/virsh console &lt;PM&amp;C&gt;</pre> <p>[Output Removed]</p> <pre>Starting ntdMgr: [ OK ] Starting atd: [ OK ] 'TPD Up' notification(s) already sent: [ OK ] upstart: Starting tpdProvd... upstart: tpdProvd started. CentOS release 6.2 (Final) Kernel 2.6.32-220.17.1.el6prere16.0.0_80.14.0.x86_64 on an x86_64 PM&amp;Cdev7 login:</pre>
<p>6</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Verify the PMAC is configured correctly on first boot</p>	<p>Establish an SSH session to the PMAC, login as <b>admusr</b>.</p> <p>Run the following command (there should be no output):</p> <pre>\$ sudo /bin/ls /usr/TKLC/plat/etc/deployment.d/</pre>
<p>7</p> <p><input type="checkbox"/></p>	<p><b>TVOE iLO/iLOM:</b> Error doing verification, if error is outputted</p>	<p>If an error was made use the following command to delete the PMAC Guest and then re-deploy the guest again:</p> <pre>\$ sudo guestMgr --remove &lt;PMAC_Name&gt;</pre>



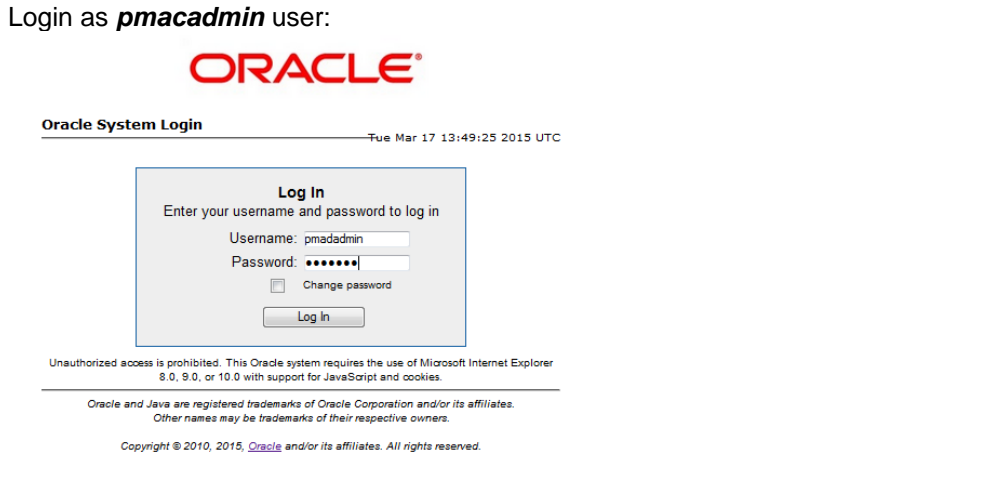
Appendix S.3 PMAC Deployment: Procedure 6 Deviation

8 <input type="checkbox"/>	<b>Virtual PMAC:</b> Set the PMAC time zone	Determine the Time Zone to be used for the PMAC  <b>Note:</b> Valid time zones can be found in <b>Appendix J:</b> List of Frequently used Time Zones  Run  <pre>\$ sudo set_pmac_tz.pl &lt;time zone&gt;</pre> Example: <pre>\$ sudo set_pmac_tz.pl America/New_York</pre> Verify that the time zone has been updated:  <pre>\$ sudo date</pre>
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Appendix S.3 PMAC Deployment: Procedure 6 Deviation

<p>9</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Set SNMP</p>	<p>Set SNMP by running the following:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo su - platcfg</pre> <p>Navigate to <b>Network Configuration -&gt; SNMP Configuration -&gt; NMS Configuration.</b></p>  <p>Select <b>Edit</b> and then choose <b>Add a New NMS Server</b>. The <b>'Add an NMS Server'</b> page will be displayed.</p> <p>Complete the form by entering in all information about the SNMP trap destination. Select <b>OK</b> to finalize the configuration. The <b>'NMS Server Action Menu'</b> will now be displayed. Select <b>Exit</b>. The following dialogue will then be presented.</p> <p>Select <b>Yes</b> and then wait a few seconds while the Alarm Routing Service is restarted. At that time the SNMP Configuration Menu will be presented.</p> <p>Exit platcfg.</p>
<p>10</p> <p><input type="checkbox"/></p>	<p><b>Virtual PMAC:</b> Reboot the server</p>	<p>Reboot the server by running:</p> <pre style="border: 1px solid black; padding: 5px;">\$ sudo init 6</pre>

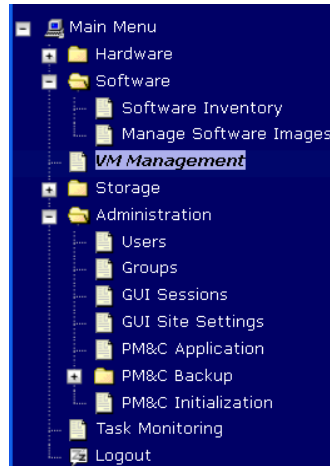
**Appendix S.4 Create DSR/SDS NOAM Guest VMs: Procedure 16 Deviation**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps needed to create a DSR/SDS NOAM virtual machine (referred to as a “guest”) on a TVOE RMS. It must be repeated for every DSR and SDS NOAM server you wish to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>https://&lt;PMAC Mgmt Network IP&gt;</p> </div> <p>Login as <i>pmacadmin</i> user:</p> 

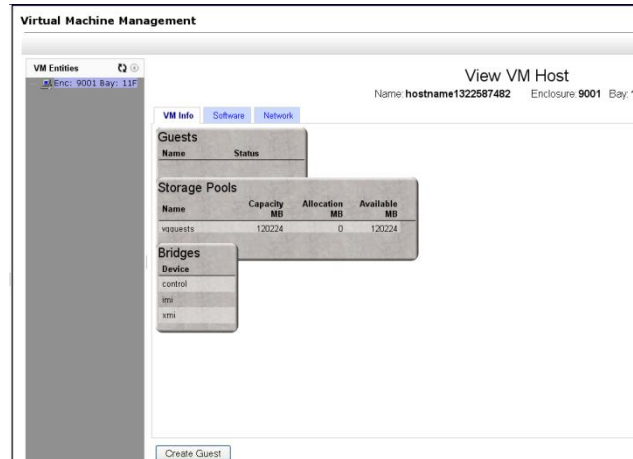
Appendix S.4 Create DSR/SDS NOAM Guest VMs: Procedure 16 Deviation

2 **PMAC GUI:**  
 Navigate to VM Management of the Target Server

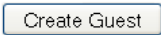
Navigate to **Main Menu -> VM Management**



Select the TVOE rack mounted server from the **VM Entities** listing on the left side of the screen. The selected server's guest machine configuration will then be displayed in the remaining area of the window.



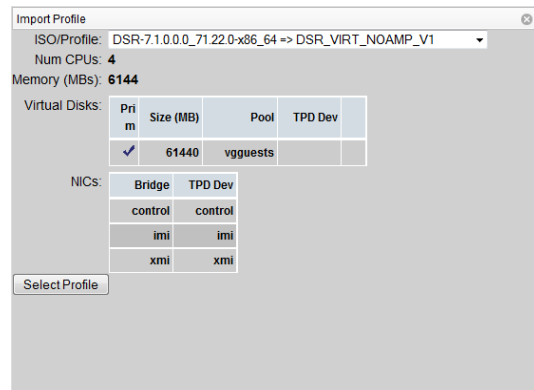
Click **Create Guest**



3

**PMAC GUI:**  
Configure VM  
Guest  
Parameters  
(Part 1)

Select **Import Profile**



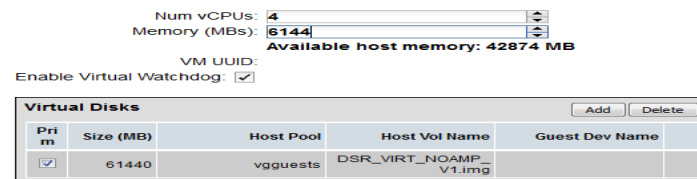
From the **“ISO/Profile”** drop-down box, select the entry that matches depending on the hardware that your NOAM VM TVOE server is running:

DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Choose Profile (<Application ISO NAME>)->
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	DSR_VIRT_NOAMP_V1
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	SDS_VIRT_NOAM_V1

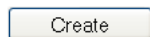
**Note:** Application\_ISO\_NAME is the name of the DSR Application ISO to be installed on this NOAM

Click and Update the Num vCPUs, Memory(MBs) and Virtual Disks->Size (MB) defaults values with below table values :

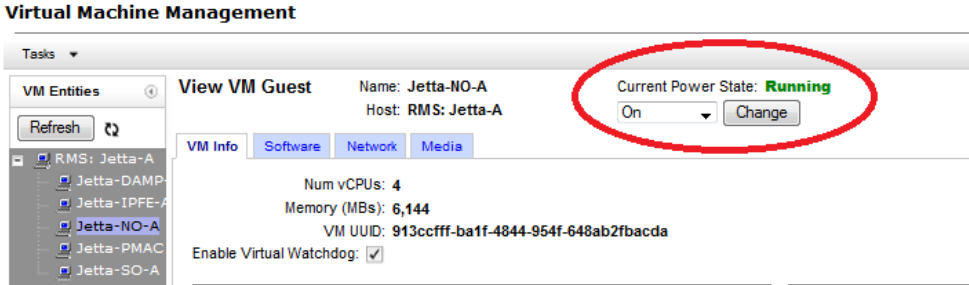
DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Profile Parameters (No. Of CPU, RAM, Virtual Disk)
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	No. of CPUs : 2 Memory (MBs) : 6144 MB Virtual Disks : 61440 MB
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	No. of CPUs : 4 Memory (MBs) : 12288 MB Virtual Disks : 102400 MB



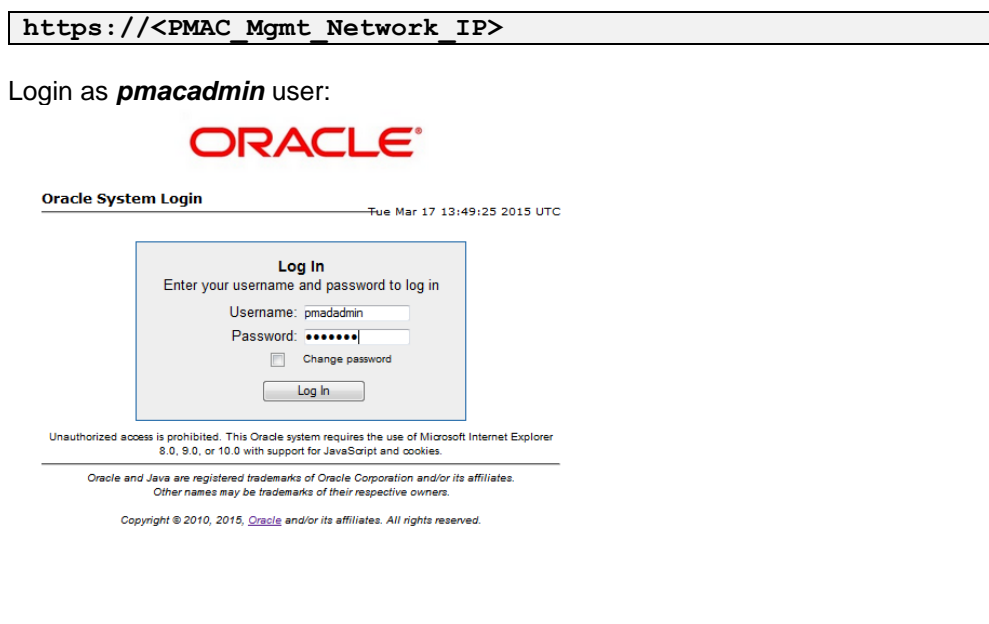
Press **Create**



Appendix S.4 Create DSR/SDS NOAM Guest VMs: Procedure 16 Deviation

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for Guest Creation to Complete</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the guest creation task. A separate task will appear for each guest creation that you have launched.</p> <p>Wait or refresh the screen until you see that the guest creation task has completed successfully.</p> <table border="1" data-bbox="461 510 1344 590"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1739</td> <td>VirtAction: Create</td> <td>Enc:9001 Bay:11F Guest: DSR_NOAMP</td> <td>Guest creation completed (DSR_NOAMP)</td> <td>0:00:04</td> <td>2011-11-29 20:36:11</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%
ID	Task	Target	Status	Running Time	Start Time	Progress										
1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%										
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Guest Machine is Running</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p> <p>Select the TVOE server on which the guest machine was just created.</p> <p>Look at the list of guests present and verify that you see a guest that matches the name you configured and that its status is <b>“Running”</b>.</p>  <p>VM Creation for this guest is complete.</p>														
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for remaining NOAM VMs</p>	<p>Repeat from <b>Steps 2-5</b> for any remaining NOAM VMs (for instance, the standby NOAM) that must be created.</p>														

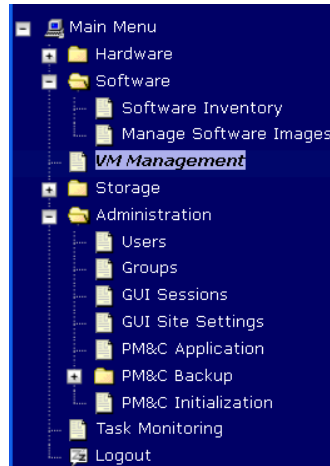
**Appendix S.4 Create DSR/SDS SOAM Guest VMs: Procedure 17 Deviation**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps needed to create a DSR/SDS SOAM virtual machine (referred to as a “guest”) on a TVOE RMS. It must be repeated for every DSR and SDS SOAM server you wish to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>
<p>1 <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p> <p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;PMAC_Mgmt_Network_IP&gt;">https://&lt;PMAC_Mgmt_Network_IP&gt;</a></p> </div> <p>Login as <i>pmacadmin</i> user:</p> 

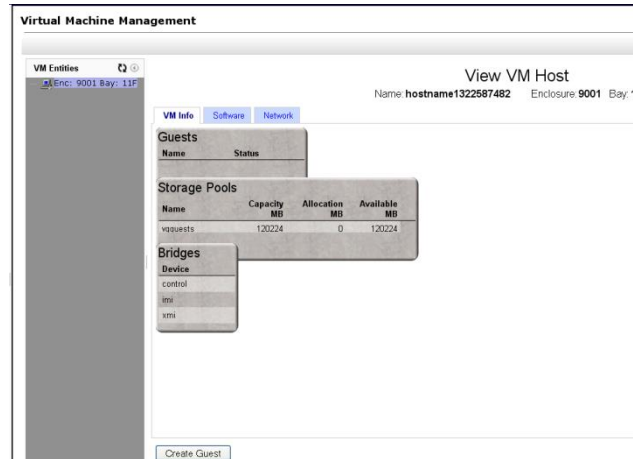
Appendix S.4 Create DSR/SDS SOAM Guest VMs: Procedure 17 Deviation

2 **PMAC GUI:**  
 Navigate to VM Management of the Target Server

Navigate to **Main Menu -> VM Management**



Select the TVOE rack mounted server from the **VM Entities** listing on the left side of the screen. The selected server's guest machine configuration will then be displayed in the remaining area of the window.



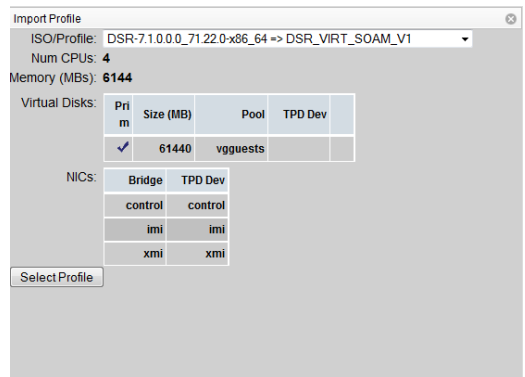
Click **Create Guest**





3 **PMAC GUI:**  
Configure VM  
Guest  
Parameters  
(Part 1)

Select **Import Profile**



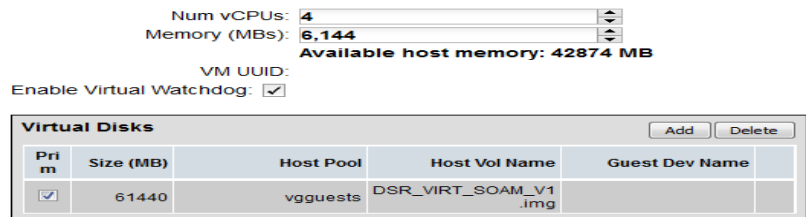
From the **“ISO/Profile”** drop-down box, select the entry that matches depending on the hardware that your SOAM VM TVOE server is running:

DSR or SDS?	SOAM VM TVOE Hardware Type(s)	Choose Profile (<Application ISO NAME>)->
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DSR_VIRT_SOAM_V1</b>
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>SDS_VIRT_DP-SOAM_V1</b>

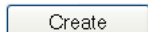
**Note:** Application\_ISO\_NAME is the name of the DSR Application ISO to be installed on this SOAM

Click and Update the Num vCPUs, Memory(MBs) and Virtual Disks->Size (MB) defaults values with below table values :

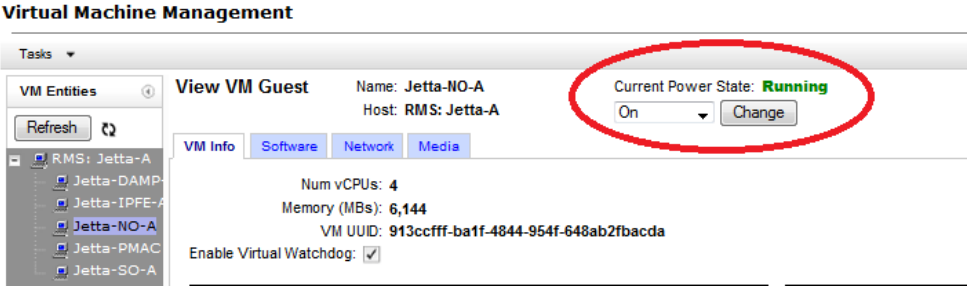
DSR or SDS?	SOAM VM TVOE Hardware Type(s)	Profile Parameters (No. Of CPU, RAM, Virtual Disk)
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Num of CPUs : 2</b> <b>Memory (MBs) : 6144 MB</b> <b>Virtual Disks : 61440 MB</b>
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Num of CPUs : 2</b> <b>Memory (MBs) : 10240 MB</b> <b>Virtual Disks : 61440 MB</b>




Press **Create**



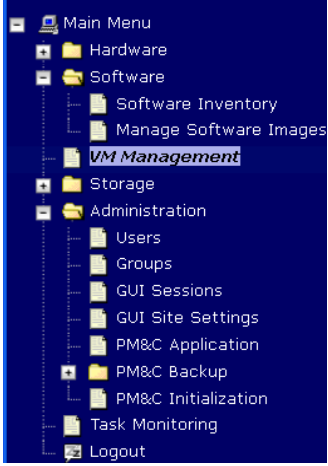
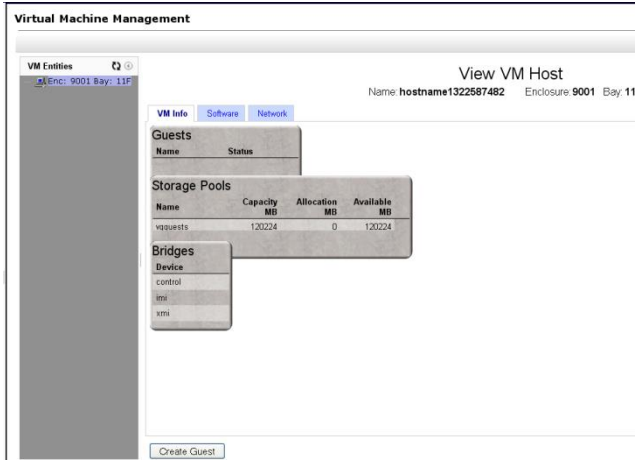
Appendix S.4 Create DSR/SDS SOAM Guest VMs: Procedure 17 Deviation

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for Guest Creation to Complete</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the guest creation task. A separate task will appear for each guest creation that you have launched.</p> <p>Wait or refresh the screen until you see that the guest creation task has completed successfully.</p> <table border="1" data-bbox="459 510 1346 590"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1739</td> <td>VirtAction: Create</td> <td>Enc:9001 Bay:11F Guest: DSR_NOAMP</td> <td>Guest creation completed (DSR_NOAMP)</td> <td>0:00:04</td> <td>2011-11-29 20:36:11</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%
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1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%										
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Guest Machine is Running</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p> <p>Select the TVOE server on which the guest machine was just created.</p> <p>Look at the list of guests present and verify that you see a guest that matches the name you configured and that its status is <b>“Running”</b>.</p>  <p>VM Creation for this guest is complete.</p>														
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for remaining SOAM VMs</p>	<p>Repeat from <b>Steps 2-5</b> for any remaining SOAM VMs (for instance, the standby SOAM) that must be created.</p>														

**Appendix S.5 Create MP/SBR/DP Guest VMs: Procedure 18 Deviation**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps needed to create a DA-MP, SS7-MP, SBR, or IPFE virtual machine (referred to as a “guest”) on a TVOE server. It must be repeated for every server you wish to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>
<p>1 <input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p> <p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><code>https://&lt;PMAC_Mgmt_Network_IP&gt;</code></p> </div> <p>Login as <i>pmacadmin</i> user:</p> 

Appendix S.5 Create MP/SBR/DP Guest VMs: Procedure 18 Deviation

<p>2</p> <p>☐</p>	<p><b>PMAC GUI:</b>          Navigate to VM Management of the Target Server</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p>  <p>Select the TVOE rack mounted server from the <b>VM Entities</b> listing on the left side of the screen. The selected server's guest machine configuration will then be displayed in the remaining area of the window.</p>  <p>Click <b>Create Guest</b></p>
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Appendix S.5 Create MP/SBR/DP Guest VMs: Procedure 18 Deviation

3 <input type="checkbox"/>	<b>PMAC GUI:</b> Configure VM Guest Parameters (Part 1)	<p>For the next step, the DSR/SDS VM profile will need to be configured, use the table below to determine the VM profile based on application, hardware type, and server type.</p> <p>From the <b>“ISO/Profile”</b> drop-down box, select the entry that matches depending on the hardware and function that your MP/ DP VM TVOE server is running</p> <table border="1"> <thead> <tr> <th>DSR or SDS?</th> <th>NOAM VM TVOE Hardware Type(s)</th> <th>Function</th> <th>Choose Profile (&lt;Application ISO NAME&gt;→)</th> </tr> </thead> <tbody> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>DA-MP</b></td> <td><b>DSR_VIRT_DAMP_V1</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>SS7-MP</b></td> <td><b>DSR_VIRT_SS7MP_V1</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>IPFE</b></td> <td><b>DSR_VIRT_IPFE_V1</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>Session SBR (PCA Only)</b></td> <td><b>DSR_VIRT_SBR_SESSSION_V1</b></td> </tr> <tr> <td>DSR</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>Binding SBR (PCA Only)</b></td> <td><b>DSR_VIRT_SBR_BINDING_V1</b></td> </tr> <tr> <td>SDS</td> <td>Oracle X5-2/Netra X5-2 HP DL380 Gen 9</td> <td><b>DP</b></td> <td><b>SDS_VIRT_DP_V1</b></td> </tr> </tbody> </table> <p><b>Note:</b> Application_ISO_NAME is the name of the DSR or SDS Application ISO to be installed on this MP, DP, or SBR</p>	DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Function	Choose Profile (<Application ISO NAME>→)	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DA-MP</b>	<b>DSR_VIRT_DAMP_V1</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>SS7-MP</b>	<b>DSR_VIRT_SS7MP_V1</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>IPFE</b>	<b>DSR_VIRT_IPFE_V1</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Session SBR (PCA Only)</b>	<b>DSR_VIRT_SBR_SESSSION_V1</b>	DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Binding SBR (PCA Only)</b>	<b>DSR_VIRT_SBR_BINDING_V1</b>	SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DP</b>	<b>SDS_VIRT_DP_V1</b>
DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Function	Choose Profile (<Application ISO NAME>→)																											
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DA-MP</b>	<b>DSR_VIRT_DAMP_V1</b>																											
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>SS7-MP</b>	<b>DSR_VIRT_SS7MP_V1</b>																											
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>IPFE</b>	<b>DSR_VIRT_IPFE_V1</b>																											
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Session SBR (PCA Only)</b>	<b>DSR_VIRT_SBR_SESSSION_V1</b>																											
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>Binding SBR (PCA Only)</b>	<b>DSR_VIRT_SBR_BINDING_V1</b>																											
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	<b>DP</b>	<b>SDS_VIRT_DP_V1</b>																											

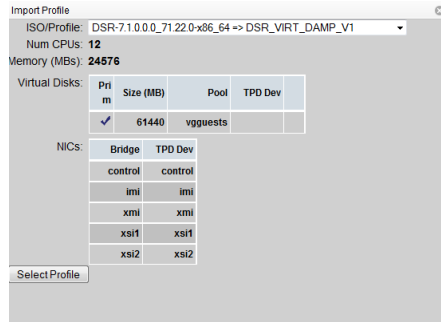
4



**PMAC GUI:**  
Configure VM  
Guest  
Parameters  
(Part 2)

Select **Import Profile**

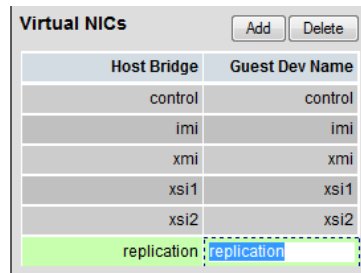
Chose the profile based on the information from **Step 3**



Press **Select Profile**.

If an SBR replication interface (DSR ONLY), or additional XSI (xsi3 and/or xsi4) interfaces have been configured, add the virtual NIC by clicking **Add** on the following screen:

**Note:** If an SBR replication network has been defined, and if there are SS7-MPs present, SS7-MPs will also need to be configured with this replication network for ComAgent replication.



You can edit the name, if you wish. For instance: **“DSR\_MP\_A,” or DSR\_MP\_B”**. (This will not become the ultimate hostname. It is just an internal tag for the VM host manager.)

Appendix S.5 Create MP/SBR/DP Guest VMs: Procedure 18 Deviation

5

**PMAC GUI:**  
Configure VM Guest Parameters (Part 3)

Click and Update the Num vCPUs, Memory(MBs) and Virtual Disks->Size (MB) defaults values with below table values :

DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Function	Profile Parameters (No. Of CPU, RAM, Virtual Disk)
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	DA-MP	No. of CPUs : 6 Memory (MBs) : 24576 MB Virtual Disks : 61440 MB
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	SS7-MP	No. of CPUs : 6 Memory (MBs) : 24576 MB Virtual Disks : 61440 MB
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	IPFE	No. of CPUs : 2 Memory (MBs) : 16384 MB Virtual Disks : 61440 MB
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	Session SBR (PCA Only)	No. of CPUs : 6 Memory (MBs) : 16384 MB Virtual Disks : 61440 MB
DSR	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	Binding SBR (PCA Only)	No. of CPUs : 6 Memory (MBs) : 16384 MB Virtual Disks : 61440 MB
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	DP	No. of CPUs : 2 Memory (MBs) : 10240 MB Virtual Disks : 61440 MB

Num vCPUs:

Memory (MBs):

Available host memory: 42874 MB

VM UUID: \_\_\_\_\_

Enable Virtual Watchdog:

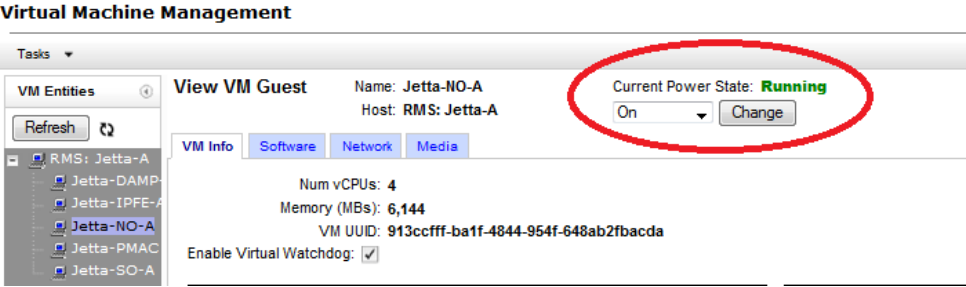
**Virtual Disks**

Pri m	Size (MB)	Host Pool	Host Vol Name	Guest Dev Name
<input checked="" type="checkbox"/>	61440	vsguests	DSR_VIRT_DAMP_V1 .img	


Press Create

Appendix S.5 Create MP/SBR/DP Guest VMs: Procedure 18 Deviation

<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for Guest Creation to Complete</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the guest creation task. A separate task will appear for each guest creation that you have launched.</p> <p>Wait or refresh the screen until you see that the guest creation task has completed successfully.</p> <table border="1" data-bbox="451 508 1338 590"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1739</td> <td>VirtAction: Create</td> <td>Enc:9001 Bay:11E Guest: DSR_NOAMP</td> <td>Guest creation completed (DSR_NOAMP)</td> <td>0:00:04</td> <td>2011-11-29 20:36:11</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	1739	VirtAction: Create	Enc:9001 Bay:11E Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%
ID	Task	Target	Status	Running Time	Start Time	Progress										
1739	VirtAction: Create	Enc:9001 Bay:11E Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%										
<p>7</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Guest Machine is Running</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p> <p>Select the TVOE server on which the guest machine was just created.</p> <p>Look at the list of guests present and verify that you see a guest that matches the name you configured and that its status is <b>“Running”</b>.</p>  <p>VM Creation for this guest is complete.</p>														
<p>8</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for remaining MP VMs</p>	<p>Repeat from <b>Step 2-7</b> for any remaining MP VMs that must be created.</p>														



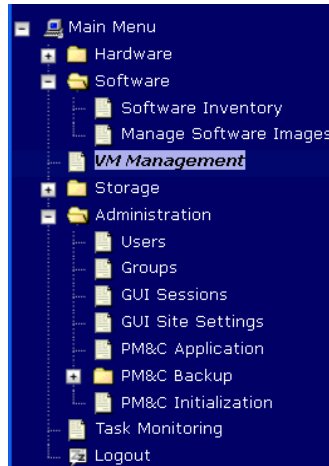
**Appendix S.6 Create SDS Query Server Guest VMs: Procedure 19 Deviation**

<p><b>S T E P #</b></p>	<p>This procedure will provide the steps needed to create an SDS Query Server virtual machine (referred to as a “guest”) on a TVOE server. It must be repeated for every server you wish to install.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>
<p>1 <input type="checkbox"/></p>	<p><b>PMAC GUI: Login</b></p> <p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><code>https://&lt;PMAC_Mgmt_Network_IP&gt;</code></p> </div> <p>Login as <i>pmacadmin</i> user:</p> 

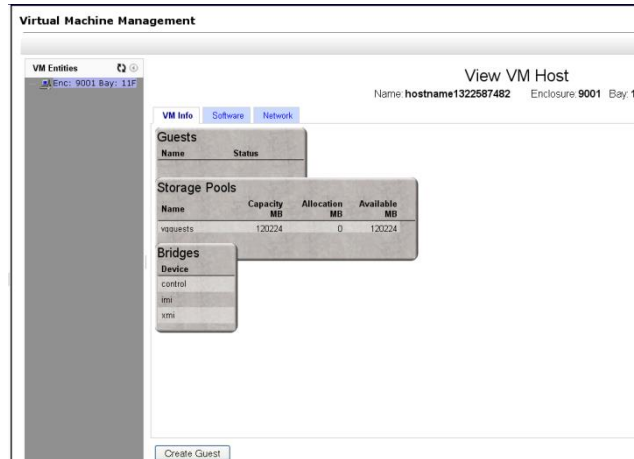
Appendix S.6 Create SDS Query Server Guest VMs: Procedure 19 Deviation

2 **PMAC GUI:**  
 Navigate to VM Management of the Target Server

Navigate to **Main Menu -> VM Management**



Select the TVOE rack mounted server from the **VM Entities** listing on the left side of the screen. The selected server's guest machine configuration will then be displayed in the remaining area of the window.



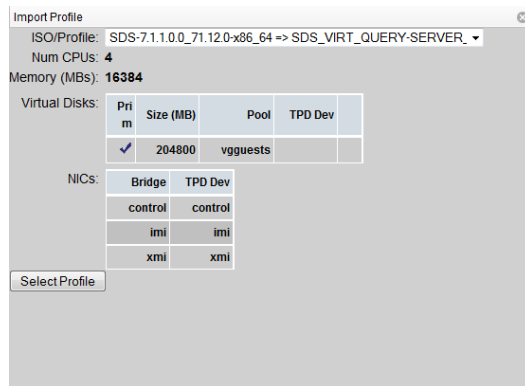
Click **Create Guest**



3

**PMAC GUI:**  
Configure VM  
Guest  
Parameters

Select **Import Profile**



From the **“ISO/Profile”** drop-down box, select the entry that matches depending on the hardware and function that your MP/ DP VM TVOE server is running

DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Function	Choose Profile (<Application ISO NAME>➔)
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	Query Server	SDS_VIRT_QUERY-SERVER_V1

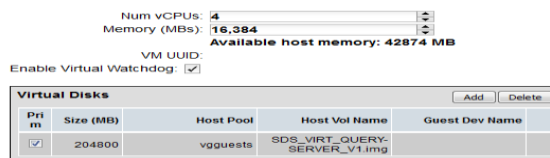
**Note:** Application\_ISO\_NAME is the name of the SDS Application ISO to be installed on this Query Server

Press **Select Profile**.

You can edit the name, if you wish. For instance: **“Query\_Server\_A,” or Query\_Server\_B”**. (This will not become the ultimate hostname. It is just an internal tag for the VM host manager.)

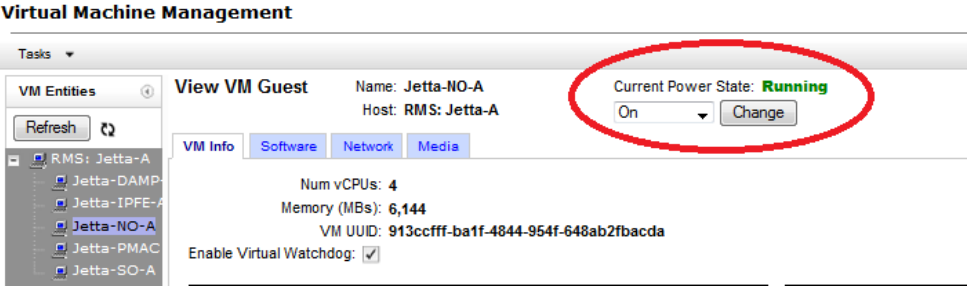
Click and Update the Num vCPUs, Memory(MBs) and Virtual Disks->Size (MB) defaults values with below table values :

DSR or SDS?	NOAM VM TVOE Hardware Type(s)	Function	Profile Parameters (No. Of CPU, RAM, Virtual Disk)
SDS	Oracle X5-2/Netra X5-2 HP DL380 Gen 9	Query Server	No. of CPUs : 2 Memory (MBs) : 16384 MB Virtual Disks : 61440 MB



Press **Create**

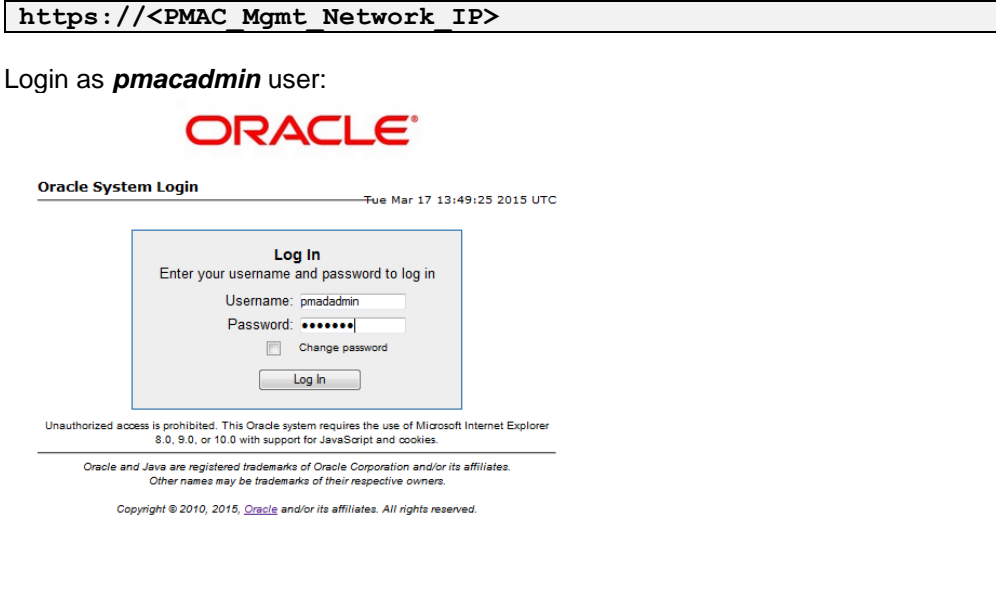
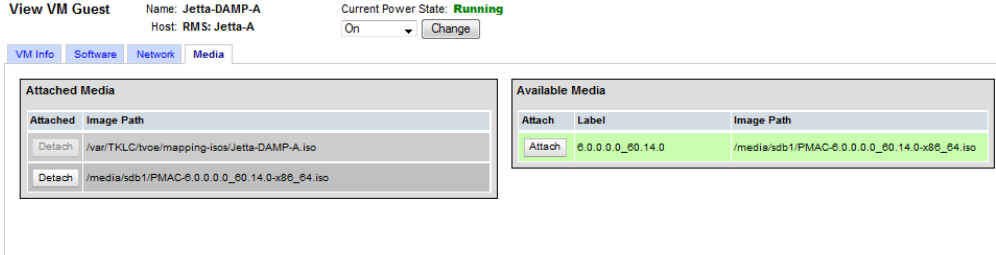
Appendix S.6 Create SDS Query Server Guest VMs: Procedure 19 Deviation


<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Wait for Guest Creation to Complete</p>	<p>Navigate to <b>Main Menu -&gt; Task Monitoring</b> to monitor the progress of the guest creation task. A separate task will appear for each guest creation that you have launched.</p> <p>Wait or refresh the screen until you see that the guest creation task has completed successfully.</p> <table border="1" data-bbox="446 510 1333 590"> <thead> <tr> <th>ID</th> <th>Task</th> <th>Target</th> <th>Status</th> <th>Running Time</th> <th>Start Time</th> <th>Progress</th> </tr> </thead> <tbody> <tr> <td>1739</td> <td>VirtAction: Create</td> <td>Enc:9001 Bay:11F Guest: DSR_NOAMP</td> <td>Guest creation completed (DSR_NOAMP)</td> <td>0:00:04</td> <td>2011-11-29 20:36:11</td> <td>100%</td> </tr> </tbody> </table>	ID	Task	Target	Status	Running Time	Start Time	Progress	1739	VirtAction: Create	Enc:9001 Bay:11F Guest: DSR_NOAMP	Guest creation completed (DSR_NOAMP)	0:00:04	2011-11-29 20:36:11	100%
ID	Task	Target	Status	Running Time	Start Time	Progress										
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<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Verify Guest Machine is Running</p>	<p>Navigate to <b>Main Menu -&gt; VM Management</b></p> <p>Select the TVOE server on which the guest machine was just created.</p> <p>Look at the list of guests present and verify that you see a guest that matches the name you configured and that its status is <b>“Running”</b>.</p>  <p>VM Creation for this guest is complete.</p>														
<p>6</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Repeat for remaining Query Server VMs</p>	<p>Repeat from <b>Steps 2-5</b> for any remaining Query Server VMs that must be created.</p>														

Appendix S.7 IDIH Installation: Procedure 58 Deviation

<b>S T E P #</b>	<p>This procedure will provide the steps to install and configure IDIH.</p> <p><b>Prerequisite:</b> TVOE has been installed and configured on the target RMS</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 <b>Appendix T: My Oracle</b> Support (MOS), and ask for assistance.</p>	
<p>1</p> <input type="checkbox"/>	<p><b>TVOE Host:</b> Load Application ISO</p>	<p><b>Note:</b> If the IDIH ISO images have NOT yet been added to the PMAC, execute steps 1-4</p> <p>Add the Application ISO images (<b>Mediation, Application, and Oracle</b>) to the PMAC, this can be done in one of three ways:</p> <ol style="list-style-type: none"> <li>4. Insert the CD containing the IDIH media into the removable media drive.</li> <li>5. Attach the USB device containing the ISO to a USB port.</li> <li>6. 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</b> (<i>not on the PMAC server</i>)</p> <p>Using sftp, connect to the PMAC server</p> <pre style="border: 1px solid black; padding: 2px;">\$ 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 style="border: 1px solid black; padding: 2px;">\$ quit</pre>

Appendix S.7 IDIH Installation: Procedure 58 Deviation

<p>2</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Login</p>	<p>Open web browser and enter:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><a href="https://&lt;PMAC Mgmt Network IP&gt;">https://&lt;PMAC Mgmt Network IP&gt;</a></p> </div> <p>Login as <i>pmacadmin</i> user:</p> 
<p>3</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Attach the software Image to the PMAC Guest</p>	<p>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. If the image is on a CD or USB device, continue with this step.</p> <p>In the PMAC GUI, navigate to <b>Main Menu -&gt; VM Management</b>. In the "<b>VM Entities</b>" list, select the PMAC guest. On the resulting "<b>View VM Guest</b>" page, select the <b>Media</b> tab.</p> <p>Under the <b>Media</b> tab, find the ISO image in the "<b>Available Media</b>" list, and click its <b>Attach</b> button. After a pause, the image will appear in the "<b>Attached Media</b>" list.</p> 

<p>4</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Add Application Image</p>	<p>Navigate to <b>Main Menu -&gt; Software -&gt; Manage Software Images</b></p> <p>Press <b>Add Image</b> button. Use the drop down to select the image.</p> <div style="text-align: center;">  </div> <p>If the image was supplied on a CD or a USB drive, it will appear 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 will appear in the list as a local file "<b>/var/TKLC/...</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</p> <p>Path: <input type="text" value="/var/TKLC/smac/image/isoimages/home/smacftpusr/mediation-7.2.0.0.0"/></p> <p>Description: <input type="text"/></p> <hr/> <p><b>Add New Image</b></p> <p>Select the appropriate path and Press <b>Add New Image</b> button.</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 IDIH Media from the optical drive of the management server.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Establish Terminal Session</p>	<p>Establish an SSH session to the PMAC. Login as <b>admusr</b>.</p>

Appendix S.7 IDIH Installation: Procedure 58 Deviation

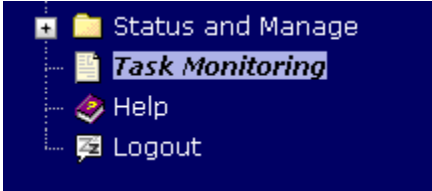
6 <input type="checkbox"/>	<b>PMAC:</b> Copy the fdc.cfg template XML file to the guest-dropin Directory	Copy the vedsr_idih.xml.template XML file to the pmac guest-dropin directory. Execute the following command: <pre>\$ sudo cp /usr/TKLC/smac/html/TPD/mediation-7.1.0.0.0_x.x.x.x/vedsr_idih.xml.template /var/TKLC/smac/guest-dropin  \$ cd /var/TKLC/smac/guest-dropin/  \$ sudo mv vedsr_idih.xml.template &lt;idih_fdc_file_name&gt;.xml</pre>
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Appendix S.7 IDIH Installation: Procedure 58 Deviation

<p>7</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Configure the fdm.cfg file</p>	<p>Configure the &lt;idih_fdc_file_name&gt;.xml template file. See <b>Appendix O: IDIH Fast Deployment Configuration</b> for a breakdown of the parameters and a sample XML configuration file.</p> <p>Update the software versions, hostnames, bond interfaces, network addresses, and network VLAN information for the TVOE host and IDIH guests that you are installing. Also modify CPU, RAM and Virtual Disk information as shown below :</p> <table border="1" data-bbox="443 478 1351 1619"> <thead> <tr> <th data-bbox="443 478 574 590">IDIH</th> <th data-bbox="574 478 813 590">Profile Parameters (No. Of CPU, RAM, Virtual Disk)</th> <th data-bbox="813 478 1351 590">XML Stanzas to Modify</th> </tr> </thead> <tbody> <tr> <td data-bbox="443 590 574 884">IDIH-Mediation</td> <td data-bbox="574 590 813 884">                     No. of CPUs: 2                      Memory (MBs): 8192 MB                      Virtual Disks: 65536 MB                 </td> <td data-bbox="813 590 1351 884"> <pre>                     &lt;cpus&gt;2&lt;/cpus&gt;                     &lt;memory&gt;8192&lt;/memory&gt;                      &lt;vdisk&gt;                     &lt;hostvolname&gt;MED.img&lt;/hostvolname&gt;                     &lt;hostpool&gt;vgguests&lt;/hostpool&gt;                     &lt;size&gt;65536&lt;/size&gt;                     &lt;primary&gt;yes&lt;/primary&gt;                     &lt;guestdevname&gt;PRIMARY&lt;/guestdevname&gt;                     &lt;/vdisk&gt;                 </pre> </td> </tr> <tr> <td data-bbox="443 884 574 1129">IDIH-Application</td> <td data-bbox="574 884 813 1129">                     No. of CPUs: 2                      Memory (MBs): 8192 MB                      Virtual Disks : 65536 MB                 </td> <td data-bbox="813 884 1351 1129"> <pre>                     &lt;cpus&gt;2&lt;/cpus&gt;                     &lt;memory&gt;8192&lt;/memory&gt;                      &lt;vdisk&gt;                     &lt;hostvolname&gt;APP.img&lt;/hostvolname&gt;                     &lt;hostpool&gt;vgguests&lt;/hostpool&gt;                     &lt;size&gt;65536&lt;/size&gt;                     &lt;primary&gt;yes&lt;/primary&gt;                     &lt;guestdevname&gt;PRIMARY&lt;/guestdevname&gt;                     &lt;/vdisk&gt;                 </pre> </td> </tr> <tr> <td data-bbox="443 1129 574 1619">IDIH-Database</td> <td data-bbox="574 1129 813 1619">                     No. of CPUs: 4                      Memory (MBs): 8192 MB                      Virtual Disks:                      166926 MB (102400 MB for ORA_SDB and 65536 MB for ORA)                 </td> <td data-bbox="813 1129 1351 1619"> <pre>                     &lt;cpus&gt;2&lt;/cpus&gt;                     &lt;memory&gt;8192&lt;/memory&gt;                      &lt;vdisk&gt;                     &lt;hostvolname&gt;ORA.img&lt;/hostvolname&gt;                     &lt;hostpool&gt;vgguests&lt;/hostpool&gt;                     &lt;size&gt;65536&lt;/size&gt;                     &lt;primary&gt;yes&lt;/primary&gt;                     &lt;guestdevname&gt;PRIMARY&lt;/guestdevname&gt;                     &lt;/vdisk&gt;                      &lt;vdisk&gt;                     &lt;hostvolname&gt;ORA_sdb.img&lt;/hostvolname&gt;                     &lt;hostpool&gt;vgguests&lt;/hostpool&gt;                     &lt;size&gt;102400&lt;/size&gt;                     &lt;primary&gt;yes&lt;/primary&gt;                     &lt;guestdevname&gt;PRIMARY&lt;/guestdevname&gt;                     &lt;/vdisk&gt;                 </pre> </td> </tr> </tbody> </table>	IDIH	Profile Parameters (No. Of CPU, RAM, Virtual Disk)	XML Stanzas to Modify	IDIH-Mediation	No. of CPUs: 2 Memory (MBs): 8192 MB Virtual Disks: 65536 MB	<pre>                     &lt;cpus&gt;2&lt;/cpus&gt;                     &lt;memory&gt;8192&lt;/memory&gt;                      &lt;vdisk&gt;                     &lt;hostvolname&gt;MED.img&lt;/hostvolname&gt;                     &lt;hostpool&gt;vgguests&lt;/hostpool&gt;                     &lt;size&gt;65536&lt;/size&gt;                     &lt;primary&gt;yes&lt;/primary&gt;                     &lt;guestdevname&gt;PRIMARY&lt;/guestdevname&gt;                     &lt;/vdisk&gt;                 </pre>	IDIH-Application	No. of CPUs: 2 Memory (MBs): 8192 MB Virtual Disks : 65536 MB	<pre>                     &lt;cpus&gt;2&lt;/cpus&gt;                     &lt;memory&gt;8192&lt;/memory&gt;                      &lt;vdisk&gt;                     &lt;hostvolname&gt;APP.img&lt;/hostvolname&gt;                     &lt;hostpool&gt;vgguests&lt;/hostpool&gt;                     &lt;size&gt;65536&lt;/size&gt;                     &lt;primary&gt;yes&lt;/primary&gt;                     &lt;guestdevname&gt;PRIMARY&lt;/guestdevname&gt;                     &lt;/vdisk&gt; 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Appendix S.7 IDIH Installation: Procedure 58 Deviation

<p>8</p> <p><input type="checkbox"/></p>	<p><b>PMAC:</b> Run the fdconfig.</p>	<p>Run the fdconfig configuration by executing the following commands:</p> <pre style="border: 1px solid black; padding: 5px;">\$ screen  \$ sudo fdconfig config --file=&lt;idih_fdc_file_name&gt;.xml Example: \$ sudo fdconfig config --file=tvoc-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 “<i>screen -dr</i>” to resume the screen session in the event of a terminal timeout etc.</p>
<p>9</p> <p><input type="checkbox"/></p>	<p><b>PMAC GUI:</b> Monitor the Configuration</p>	<p>If not already done so, establish a GUI session on the PMAC server.</p> <p>Navigate to <b>Main Menu -&gt; Task Monitoring</b></p>  <p>Monitor the IDIH configuration to completion.</p>

## Appendix T: 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 <https://www.oracle.com/us/support/contact/index.html>.

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

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

