

Oracle® Communications User Data Repository Cloud Installation and Configuration Guide

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1. INTRODUCTION

1.1 Purpose and Scope

This document describes the application-related installation procedures for a VMware User Data Repository 12.2 system.

This document assumes that platform-related configuration has already been done.

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.

1.2 References

- [1] Oracle Communications User Data Repository Cloud Resource Profile, E67495-01, latest revision
- [2] Oracle Communications User Data Repository Installation and Configuration Guide, E72453-01, latest revision
- [3] Oracle Communications User Data Repository Cloud Disaster Recovery Guide, E72458-01, latest revision

1.3 Acronyms

An alphabetized list of acronyms used in the document

Table 1. Acronyms

Acronym	Definition
BIOS	Basic Input Output System
CD	Compact Disk
UDR	User Data Repository
ESXi	Elastic Sky X Integrated
FABR	Full Address Based Resolution
iDIH	Integrated Diameter Intelligence Hub
IPFE	IP Front End
IPM	Initial Product Manufacture—the process of installing TPD
IWF	Inter Working Function
NAPD	Network Architecture Planning Diagram
OS	Operating System (for example, TPD)
OVA	Open Virtualization Appliance
PDRA	Policy Diameter Routing Agent
PCA	Policy and Charging Application
RBAR	Range Based Address Resolution
SAN	Storage Area Network
SFTP	Secure File Transfer Protocol
SNMP	Simple Network Management Protocol
TPD	Tekelec Platform Distribution
VM	Virtual Machine

1.4 Terminology

Multiple server types are 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.

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.

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

Figure 1. Example of an Instruction that Indicates the Server to Which it Applies

Table 2 Terminology

Term	Description
Site	Applicable for various applications, a Site is type of Place. A Place is configured object that allows servers to be associated with a physical location. A Site place allows servers to be associated with a physical site. For example, Sites may be configured for Atlanta, Charlotte, and Chicago. Every server is associated with exactly one Site when the server is configured. For the Policy and Charging DRA application, when configuring a Site only put DAMPs and SBR MP servers in the site. Do not add NOAMP, SOAM or IPFE MPs to a Site
Place Association	Applicable for various applications, a Place Association is a configured object that allows Places to be grouped together. A Place can be a member of more than one Place Association. The Policy and Charging DRA application defines two Place Association Types: Policy Binding Region and Policy and Charging Mated Sites.
Two Site Redundancy	Two Site Redundancy is a data durability configuration in which Policy and Charging data is unaffected by the loss of one site in a Policy and Charging Mated Sites Place Association containing two sites. Two Site Redundancy is a feature provided by Server Group configuration. This feature provides geographic redundancy. Some Server Groups can be configured with servers located in two geographically separate Sites (Locations). This feature ensures that there is always a functioning Active server in a Server Group even if all the servers in a single site fail.
Server Group Primary Site	A Server Group Primary Site is a term used to represent the principle location within a SOAM. SOAM Server groups are intended to span several Sites (Places). The Primary Site may be in a different Site (Place) for each configured SOAM. 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 Server Groups have a Primary Site.

Term	Description
Server Group Secondary Site	<p>A Server Group Secondary Site is a term used to represent location in addition to the Primary Site within a SOAM Server Group. SOAM Server groups are intended to span several Sites(Places)</p> <p>The Secondary Site may be in a different Site (Place) for each configured SOAM.</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 Site Redundancy is wanted, a Secondary Site is required for all SOAM Server Groups.</p>

1.5 Assumptions

This procedure assumes the following:

- You have the assigned values from the network and have used them to compile XML files (see [Appendix C](#) for each NE for the NOAMP and SOAM site before performing procedure).
- You have at least an intermediate skill set with command prompt activities on an Open Systems computing environment such as Linux or TPD.

1.6 XML Files (for installing NE)

The XML files compiled for installation of the NE for each NOAMP and SOAM site must be maintained and accessible for use in Disaster Recovery procedures. The Professional Services Engineer (PSE) provides a copy of the XML files used for installation to the designated Customer Operations POC. The customer is ultimately responsible for maintaining and providing the XML files to My Oracle Support if needed for use in Disaster Recovery operations. For more details on Disaster Recovery refer to [\[3\]](#).

1.7 How to use this Document

Although this document is primarily to be used as an initial installation guide, its secondary purpose is to be used as a reference for Disaster Recovery procedures [\[3\]](#). When executing this document for either purpose, there are a few points which help to clarify the intent of the author. These points are as follows:

1. Before beginning a procedure, completely read the instructional text (it is after the section heading for each procedure) and all associated procedural WARNINGS or NOTES.
2. Before performing a step within a procedure, completely read the left and right columns including any step specific WARNINGS or NOTES.

If a procedural step fails to run successfully, stop and contact My Oracle Support for assistance before attempting to continue.

2. GENERAL DESCRIPTION

This document defines the steps required to perform the initial installation of the Oracle Communications User Data Repository application on a VMware hypervisor.

Oracle Communications User Data Repository installation paths are illustrated in the [Figure 2](#). The general timeline for all processes to perform a software installation/configuration and upgrade is also included.

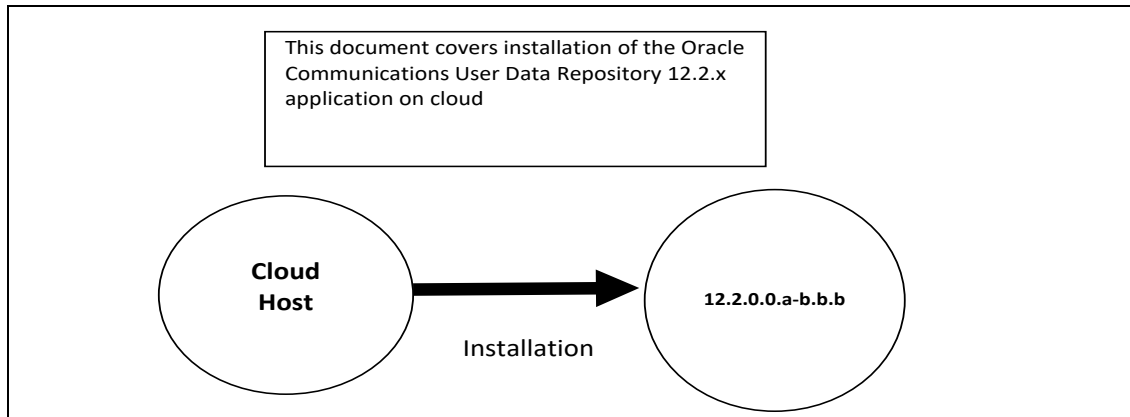


Figure 2. Initial Application Installation Path–Example

2.1 Required Materials

The following materials are required to complete Oracle Communications User Data Repository installation:

1. Target release Oracle Communications User Data Repository OVA Media
2. Target release Oracle Communications User Data Repository ISO Media only for ISO installs
3. Target release TPD Media only for ISO installs

The software media referenced here may be acquired online from the Oracle e-Delivery service at edelivery.oracle.com

This document and others referenced here can be acquired online from the Oracle Document Repository at the following URL:

<http://docs.oracle.com/en/industries/communications/user-data-repository/index.html>

2.2 Installation Overview

This section describes the overall strategy to be employed for a single or multi-site installation. It also lists the procedures required for installation and estimated times. Section [2.4](#) discusses the overall install strategy and includes an installation flow chart that can be used to determine the procedures to run for an installation. Section [2.4](#) lists the steps required to install an Oracle Communications User Data Repository system. These latter sections expand on the information from the matrix and provide a general timeline for the installation.

2.3 SNMP Configuration

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

SNMP traps can originate from the following entities in an Oracle Communications User Data Repository installation:

- Oracle Communications User Data Repository Application Servers (NOAMP, SOAM, MP)

Oracle Communications User Data Repository application servers can be configured to:

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

Application server SNMP configuration performed from the NOAMP GUI, near the end of installation. See the procedure list for details.

2.4 Installation List of Procedures

[Table 3. Installation Overview](#) 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 procedures outlined in [Table 3](#) must be performed in the order they are listed.

Table 3. Installation Overview

Procedure	Phase	Elapsed Time (Minutes)	
		For This Step	Cumulative.
Procedure 1	Verify Deployment Options and Cloud Resources	5	5
Error! Reference source not found.	Deploy Oracle Communications User Data Repository Virtual Machines on VMWare	20	25
Procedure 3	Deploy Oracle User Data Repository Virtual Machines on OpenStack (Only for OpenStack deployments)	20	25
Procedure 4	Deploy Oracle User Data Repository Virtual Machines on Oracle Linux/KVM	20	25
Procedure 5	Configure NOAMP-A Server (1st NOAMP only)	25	50
Procedure 6	Create Configuration for Remaining Servers	15	65
Procedure 7	Apply Configuration to Remaining Servers	15	80
Error! Reference source not found.	Configure XSI Networks (All SOAM Sites)	10	90
Error! Reference source not found.	OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)	10	100
Procedure 10	OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)	15	115
Procedure 11	OAM Pairing for MP Server Groups (All SOAM sites)	5	120
Error! Reference source not found.	Configure Signaling Routes	5	125
Error! Reference source not found.	Configure SPR Application on MP (All SOAM Sites)	10	135
Procedure 14	Configure NOAMP Signaling Routes (All NOAM Sites)	10	145
Procedure 15	Configure Services on Signaling Network	5	150
Error! Reference source not found.	Accept Installation	5	155

3. PRE-INSTALLATION PROCEDURE

3.1 Verify Deployment Options and Cloud Resources

This procedure determines appropriate HA Configurations and VM Profiles for the deployment, as well as verifies the environment.

Procedure 1: Verify Deployment Options and Cloud Resources

Step	Procedure	Details
1. <input type="checkbox"/>	Decide which profile to deploy	<p>The first step in deploying Oracle Communications User Data Repository for cloud is to review the Resource Profiles stated in [1]. A choice of HA configuration and resource profile must be driven by the available resources and expected use of the Oracle Communications User Data Repository deployment.</p> <ul style="list-style-type: none"> • For demo purposes an OVA lab profile is the best option. • For support of larger datasets, ISO installation may be required.
2. <input type="checkbox"/>	Ensure availability of cloud resources	<p>If you are using vCloud Director or vSphere as a non-privileged user, contact your cloud administrator to ensure the availability of sufficient process, memory, storage and network resources to meet the requirements of your chosen configuration and profile in step Error! Reference source not found.</p> <p>NOTE: If you are a privileged user with VMWare vSphere, you can leverage procedures in Appendix A to configure storage and host networking for hosting Oracle Communications User Data Repository.</p>
THIS PROCEDURE IS COMPLETE		

4. CLOUD CREATION

4.1 Deploy Oracle Communications User Data Repository Virtual Machines on VMware

This procedure creates Oracle Communications User Data Repository virtual machines (guests) on VMware infrastructure.

Requirements:

- [Section 3.1 Verify Deployment Options and Cloud Resources](#) has been completed

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

Procedure 2: Deploy Oracle Communications User Data Repository Virtual Machines on VMware

Step	Procedure	Details
1. <input type="checkbox"/>	Ready Installation media	<ul style="list-style-type: none"> • If using vSphere client, place installation media (OVA, or ISO) onto your local machine. • If using vCloud Director, upload installation media using Appendix C.1: vCloud Director Oracle Communications User Data Repository Media Upload.
2. <input type="checkbox"/>	Create vApp	<ul style="list-style-type: none"> • If using vCloud Director, go to Appendix Error! Reference source not found.: Error! Reference source not found. • If using vSphere client proceed to the next step.
3. <input type="checkbox"/>	Create Oracle Communications User Data Repository guests	<ul style="list-style-type: none"> • If using vSphere client, follow: <ul style="list-style-type: none"> - B.1: Create Guests from OVA • If using vCloud Director, follow: <ul style="list-style-type: none"> - Error! Reference source not found. Error! Reference source not found. for large database NOAMP - C.3 Create Guests from OVA for all other server types <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
4. <input type="checkbox"/>	Configure guest resources (Only OVA installs)	<ul style="list-style-type: none"> • If using vSphere client to install by OVA, follow: <ul style="list-style-type: none"> - B.2: Configure Guest Resources • If using vCloud Director to install by OVA, follow: <ul style="list-style-type: none"> - Error! Reference source not found.: Error! Reference source not found. • If installing by ISO proceed to the next step. <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
5. <input type="checkbox"/>	Install guest OS (Only ISO installs)	<p>Only for ISO installs using vCloud Director, follow Appendix Error! Reference source not found.: Error! Reference source not found.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B </p>

Step	Procedure	Details
6. <input type="checkbox"/>	Configure guest OAM network	<ul style="list-style-type: none"> If using vSphere client, follow Appendix B.3: Configure Guest Network: Create Guests from OVA If using vCloud Director, follow Appendix Error! Reference source not found.: Error! Reference source not found. <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
THIS PROCEDURE IS COMPLETE		

4.2 Deploy Oracle User Data Repository Virtual Machines on OpenStack

This procedure creates User Data Repository virtual machines (guests) on OpenStack.

Requirements:

- Section [3.1 Verify Deployment Options and Cloud Resources](#) has been completed

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

Procedure 3: Deploy User Data Repository Virtual Machines on OpenStack

Step	Procedure	Details
1. <input type="checkbox"/>	Ready Installation media	Create and import OVA image file to OpenStack using: Appendix D.1: OpenStack Image Creation from OVA
2. <input type="checkbox"/>	Create Resource Profile	Create Resource Profile (Flavor) on OpenStack using: Appendix D.2: Create Resource Profiles (Flavors)
3. <input type="checkbox"/>	Create Key Pair	Create Key Pair on OpenStack using: Appendix D.3: Create Key Pair
4. <input type="checkbox"/>	Update the YAML File	Update the UDR Stack YAML file using: Appendix D.4: Update UDR Stack YAML File
5. <input type="checkbox"/>	Create VM Instances	On OpenStack, create VM instances using: Appendix D.5: Create VM Instances Using YAML File
6. <input type="checkbox"/>	Configure guest OAM network	<p>Configure OAM network for VM instances: using Appendix Error! Reference source not found.: Error! Reference source not found.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
7. <input type="checkbox"/>	Extend Volumes	<p>Extend volumes for various VM Instances depending on flavor following: Appendix D.6: Extend VM Instance Volume Size</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>

Step	Procedure	Details
8. <input type="checkbox"/>	Clobber database on VM Instances	<p>Clobber database on VM Instances following:</p> <p>Appendix Error! Reference source not found.: Error! Reference source not found.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
9. <input type="checkbox"/>	Associate Floating IP	<p>Associate Floating IPs to the VM Instances if Floating IPs are available in cloud following:</p> <p>Appendix Error! Reference source not found.: Error! Reference source not found.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p> <p>NOTE: This step is only needed if none of the networks assigned to VM Instances is a Public Network.</p>
10. <input type="checkbox"/>	Create Virtual IPs	<p>Create Virtual IP addresses following:</p> <p>Appendix Error! Reference source not found.: Error! Reference source not found.</p> <p>NOTE: This step is only needed if none of the networks assigned to VM Instances is a Public Network.</p>
THIS PROCEDURE IS COMPLETE		

4.3 Deploy Oracle User Data Repository Virtual Machines on Oracle Linux/KVM

This procedure creates User Data Repository virtual machines (guests) on Oracle Linux/KVM.

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

Procedure 4: Deploy User Data Repository Virtual Machines on Oracle Linux/KVM

Step	Procedure	Details
1. <input type="checkbox"/>	Install Oracle Linux/KVM and create VMs	<p>Install Oracle Linux/KVM on the host and create VMs using Virtual Machine Manager by following the below procedure:</p> <p>8. Appendix J Install UDR on Oracle Linux OS via KVM</p>
THIS PROCEDURE IS COMPLETE		

5. ORACLE COMMUNICATIONS USER DATA REPOSITORY SERVER CONFIGURATION

5.1 Configure NOAMP-A Server (1st NOAMP only)

This procedure does all steps that are necessary for configuring the first NOAMP server. This includes creating the NOAMP Network Element, configuring Services and creating/configuring the first NOAMP-A server.

Requirements:

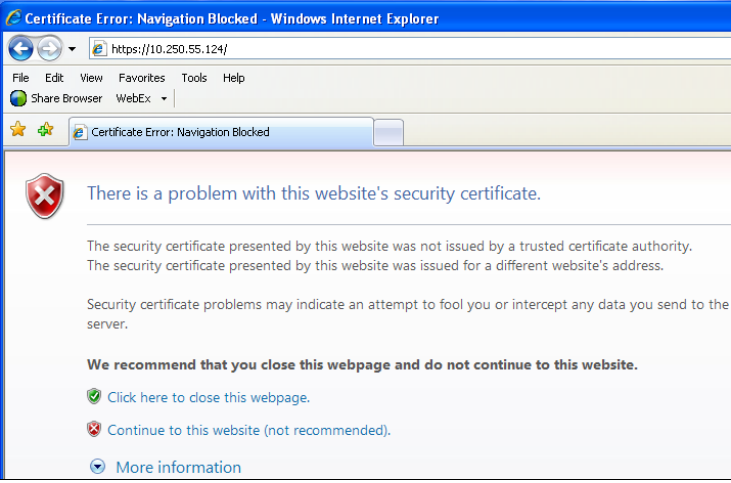

- [Section 4 Cloud Creation](#) has been completed

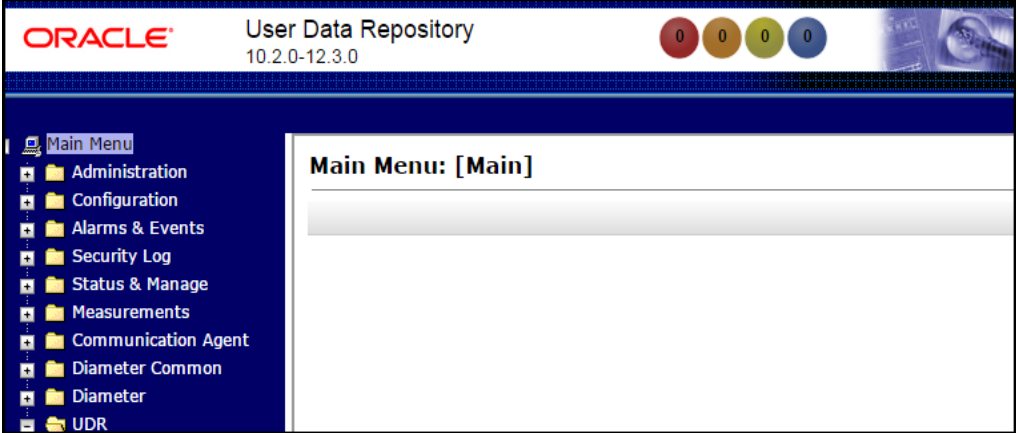
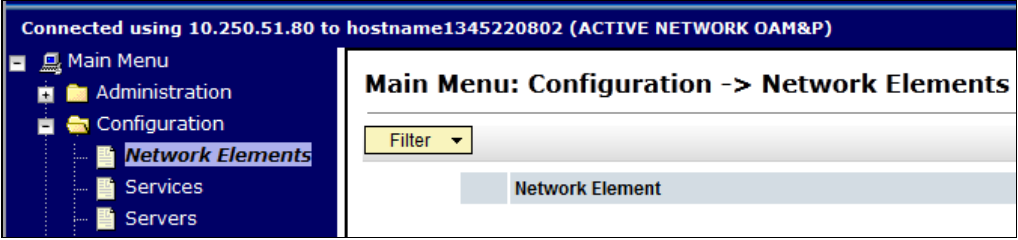
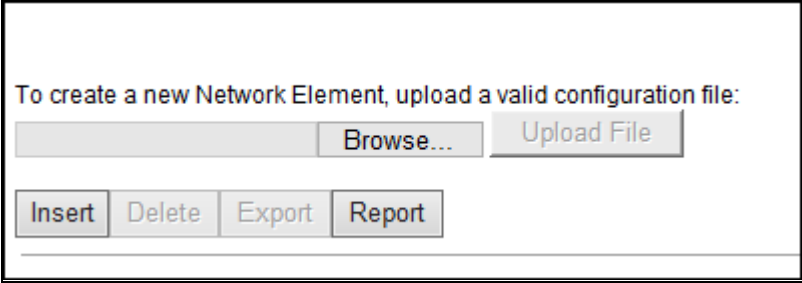
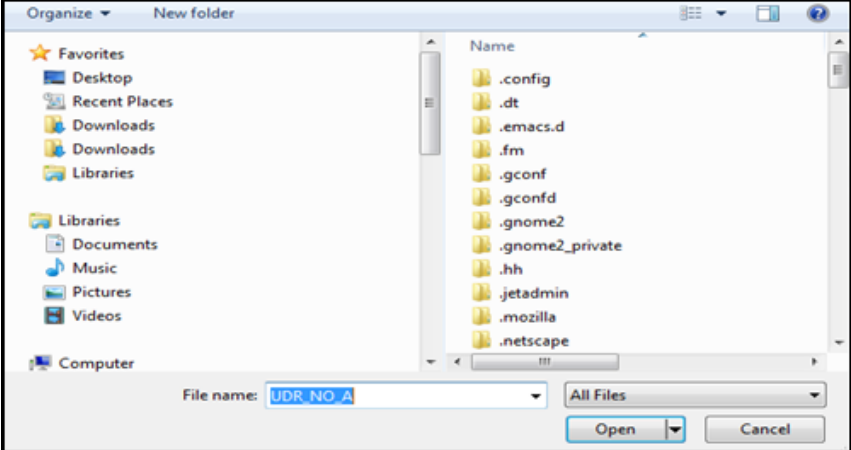
Assumptions:

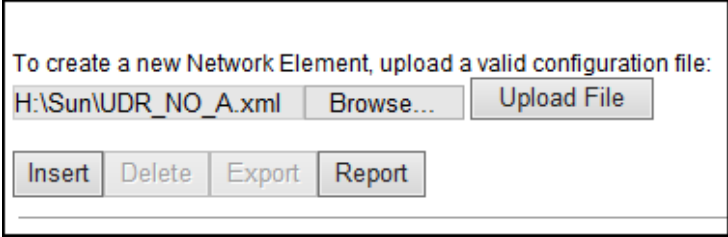
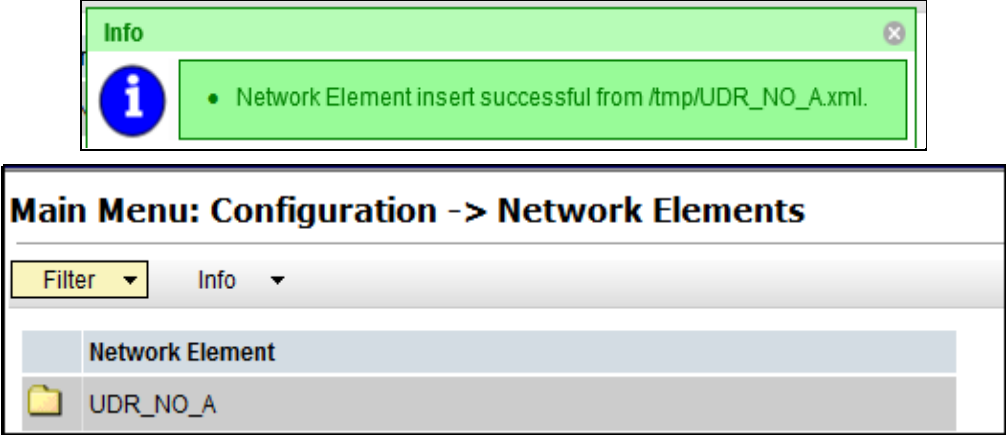
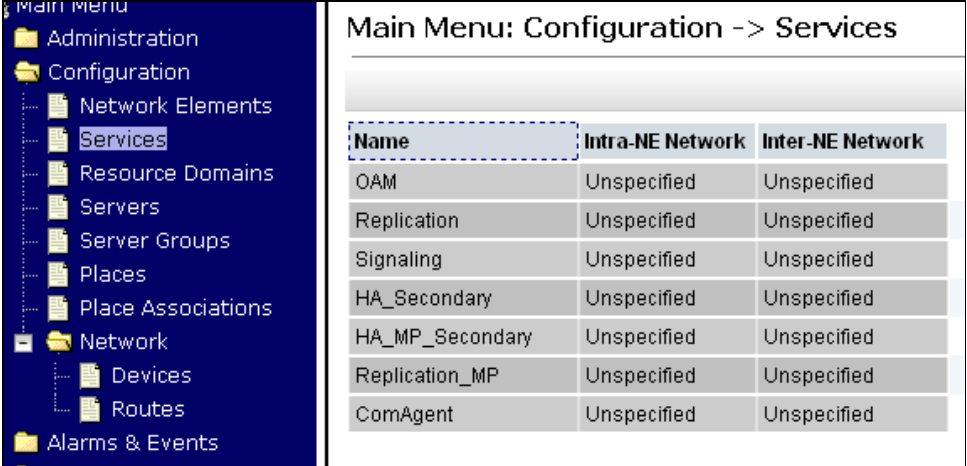
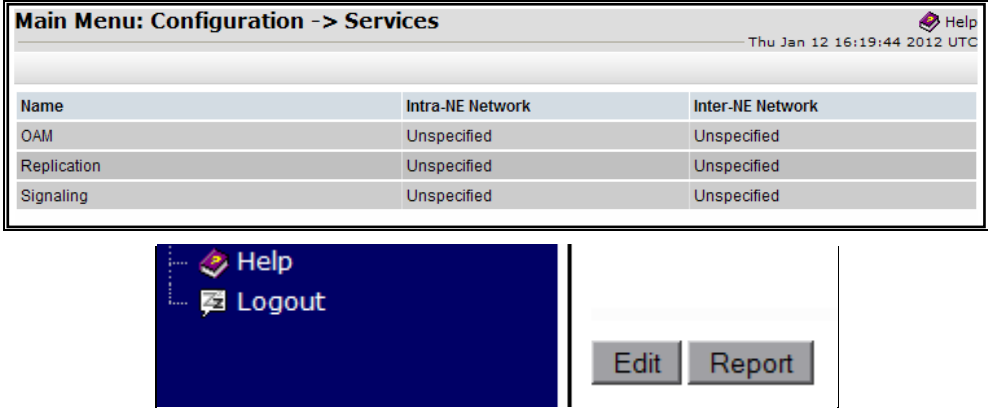
- This procedure assumes that the Oracle Communications User Data Repository Network Element XML file for the Primary Provisioning NOAMP site has previously been created, as described in [Appendix E](#).
- This procedure assumes that the Network Element XML files are either on a USB flash drive or the hard drive of the laptop. The steps are written as if the XML files are on a USB flash drive, but the files can exist on any accessible drive.

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

Procedure 5: Configure NOAMP-A Server (1st NOAMP only)

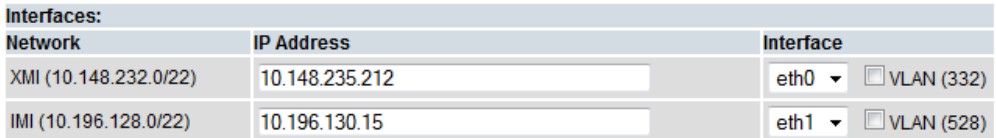
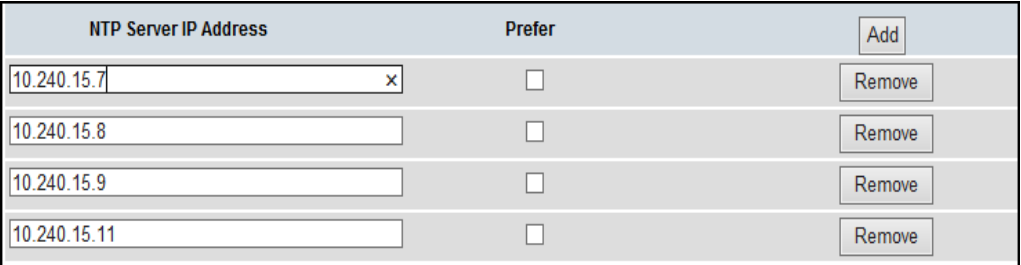

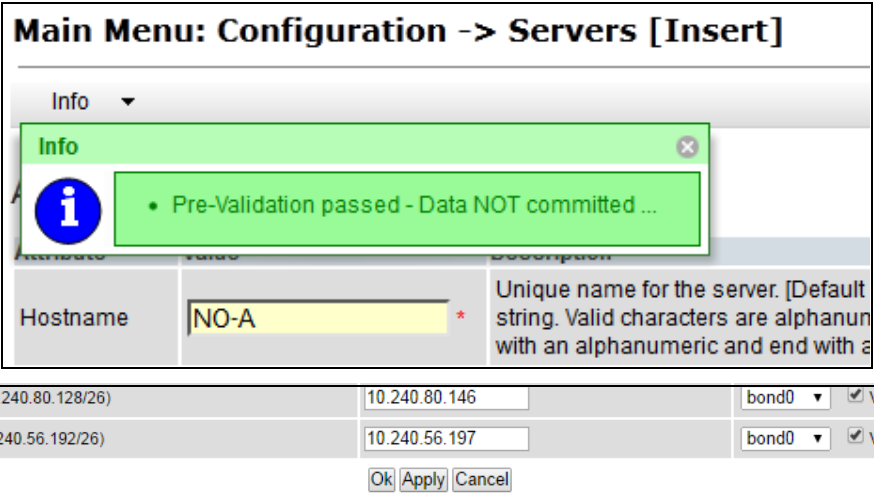
Step	Procedure	Details
1. <input type="checkbox"/>	<p>NOAMP Server A: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: If the security certificate warning screen displays, select Continue to this website (not recommended).</p>	
2. <input type="checkbox"/>	<p>NOAMP Server A: The login screen displays.</p> <p>Login to the GUI using the default user and password.</p>	

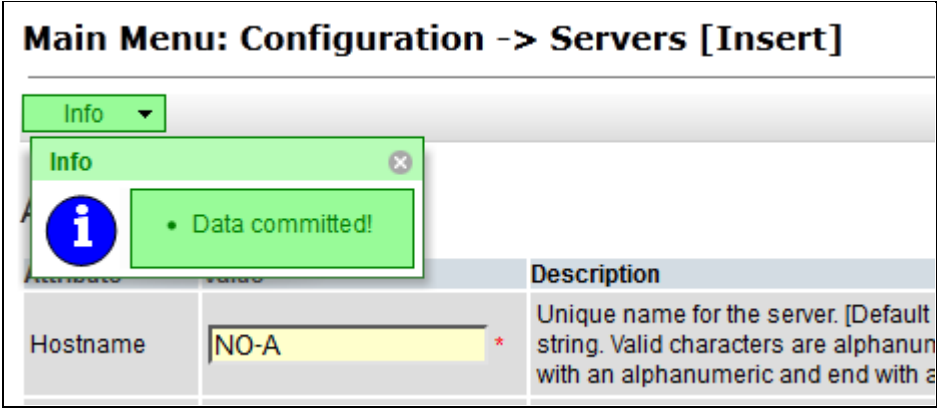
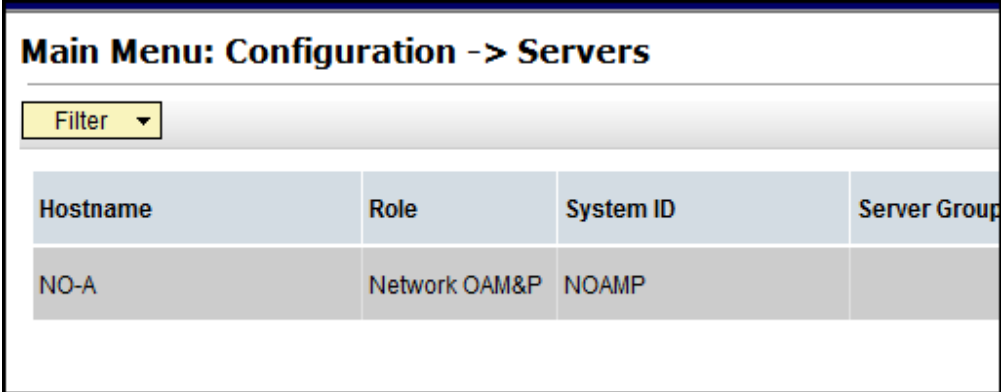
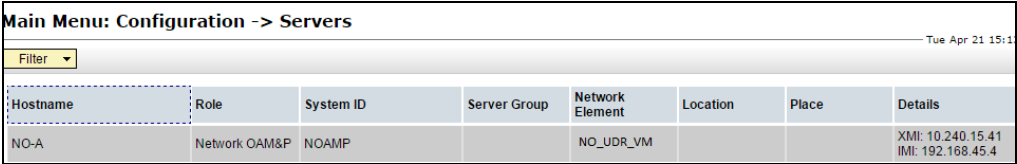
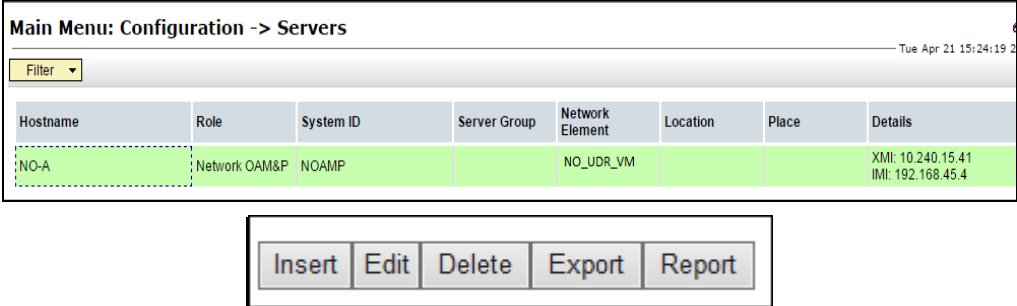
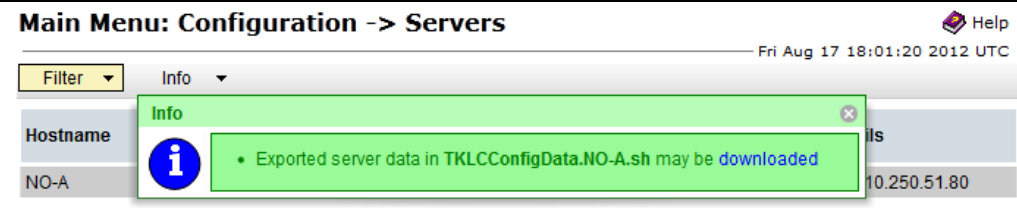
Step	Procedure	Details
3. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>The Oracle Communications User Data Repository Main Menu opens.</p>	
4. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Configuring Network Element</p> <p>Navigate to Main Menu → Configuration → Network Elements</p>	
5. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>From the Configuration Network Elements screen, click Browse (scroll to bottom left corner of screen).</p>	
6. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>NOTE: This step assumes that the XML files were previously prepared, as described in Appendix C.</p> <ol style="list-style-type: none"> 1. Select the location containing the site XML file. 2. Select the XML file 3. Click Open. 	

Step	Procedure	Details																								
7. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Upload File in the bottom left corner of screen.</p>	 <p>To create a new Network Element, upload a valid configuration file: H:\Sun\UDR_NO_A.xml <input type="button" value="Browse..."/> <input type="button" value="Upload File"/> <input type="button" value="Insert"/> <input type="button" value="Delete"/> <input type="button" value="Export"/> <input type="button" value="Report"/></p>																								
8. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>If the values in the XML file pass validation rules, you can see a banner information message showing that the data has been successfully committed to the DB.</p> <p>NOTE: Click Info to see the informational message.</p>	 <p>Info</p> <ul style="list-style-type: none"> Network Element insert successful from #tmp/UDR_NO_A.xml. <p>Main Menu: Configuration -> Network Elements</p> <p>Filter Info</p> <table border="1"> <thead> <tr> <th>Network Element</th> </tr> </thead> <tbody> <tr> <td>UDR_NO_A</td> </tr> </tbody> </table>	Network Element	UDR_NO_A																						
Network Element																										
UDR_NO_A																										
9. <input type="checkbox"/>	<p>Navigate to Main Menu → Configuration → Services</p>	 <p>Main Menu</p> <ul style="list-style-type: none"> Administration Configuration <ul style="list-style-type: none"> Network Elements Services Resource Domains Servers Server Groups Places Place Associations Network <ul style="list-style-type: none"> Devices Routes Alarms & Events <p>Main Menu: Configuration -> Services</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>Replication</td> <td>Unspecified</td> <td>Unspecified</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>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>ComAgent</td> <td>Unspecified</td> <td>Unspecified</td> </tr> </tbody> </table>	Name	Intra-NE Network	Inter-NE Network	OAM	Unspecified	Unspecified	Replication	Unspecified	Unspecified	Signaling	Unspecified	Unspecified	HA_Secondary	Unspecified	Unspecified	HA_MP_Secondary	Unspecified	Unspecified	Replication_MP	Unspecified	Unspecified	ComAgent	Unspecified	Unspecified
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HA_MP_Secondary	Unspecified	Unspecified																								
Replication_MP	Unspecified	Unspecified																								
ComAgent	Unspecified	Unspecified																								
10. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Edit.</p>	 <p>Main Menu: Configuration -> Services</p> <p>Help Thu Jan 12 16:19:44 2012 UTC</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>Replication</td> <td>Unspecified</td> <td>Unspecified</td> </tr> <tr> <td>Signaling</td> <td>Unspecified</td> <td>Unspecified</td> </tr> </tbody> </table> <p>Help Logout</p> <p><input type="button" value="Edit"/> <input type="button" value="Report"/></p>	Name	Intra-NE Network	Inter-NE Network	OAM	Unspecified	Unspecified	Replication	Unspecified	Unspecified	Signaling	Unspecified	Unspecified												
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Step	Procedure	Details																								
11. <input type="checkbox"/>	<p>NOAMP Server A:</p> <ol style="list-style-type: none"> Set the services values (see the notes). Click Apply. Click OK. 	<div> <p>Services</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>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>IMI</td> <td>XMI</td> </tr> <tr> <td>HA_MP_Secondary</td> <td>IMI</td> <td>XMI</td> </tr> <tr> <td>Replication_MP</td> <td>IMI</td> <td>XMI</td> </tr> <tr> <td>ComAgent</td> <td>IMI</td> <td>XMI</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p> </div> <p>NOTES:</p> <ul style="list-style-type: none"> Servers do not need to be restarted if this is a fresh installation. ComAgent Service is used for NOAMP to MP and MP to MP communication. 	Name	Intra-NE Network	Inter-NE Network	OAM	IMI	XMI	Replication	IMI	XMI	Signaling	Unspecified	Unspecified	HA_Secondary	IMI	XMI	HA_MP_Secondary	IMI	XMI	Replication_MP	IMI	XMI	ComAgent	IMI	XMI
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12. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>The Services configuration screen opens.</p>	<table border="1"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>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>IMI</td> <td>XMI</td> </tr> <tr> <td>HA_MP_Secondary</td> <td>IMI</td> <td>XMI</td> </tr> <tr> <td>Replication_MP</td> <td>IMI</td> <td>XMI</td> </tr> <tr> <td>ComAgent</td> <td>IMI</td> <td>XMI</td> </tr> </tbody> </table>	Name	Intra-NE Network	Inter-NE Network	OAM	IMI	XMI	Replication	IMI	XMI	Signaling	Unspecified	Unspecified	HA_Secondary	IMI	XMI	HA_MP_Secondary	IMI	XMI	Replication_MP	IMI	XMI	ComAgent	IMI	XMI
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13. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Configuring Oracle Communications User Data Repository Server</p> <p>Navigate to Main Menu → Configuration → Servers</p>	<div> </div>																								
14. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Insert.</p>	<div> <p>Insert Edit Delete Export Report</p> </div>																								

Step	Procedure	Details
15. <input type="checkbox"/>	<p>NOAMP Server A: The Adding a new server configuration screen opens.</p>	
16. <input type="checkbox"/>	<p>NOAMP Server A: Enter the hostname for the NOAMP-A Server.</p>	
17. <input type="checkbox"/>	<p>NOAMP Server A: Select NETWORK OAM&P for the server Role from the list.</p>	
18. <input type="checkbox"/>	<p>NOAMP Server A: Enter the System ID for the NOAMP Server.</p>	
19. <input type="checkbox"/>	<p>NOAMP Server A: Select the Hardware Profile from the list.</p>	<p>Select Hardware Profile: Cloud UDR NOAMP</p>
20. <input type="checkbox"/>	<p>NOAMP Server A: Select the Network Element Name from the list. NOTE: After the Network Element Name is selected, the Interfaces fields are displayed.</p>	
21. <input type="checkbox"/>	<p>NOAMP Server A: Enter the site location. NOTE: Location is an optional field.</p>	

Step	Procedure	Details																			
22. <input type="checkbox"/>	<p>NOAMP Server A:</p> <ol style="list-style-type: none"> 1. Enter the IP Addresses for the Server. 2. Set the Interface parameters according to to deployment type. 	 <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>XMI (10.148.232.0/22)</td> <td>10.148.235.212</td> <td>eth0 <input type="checkbox"/> VLAN (332)</td> </tr> <tr> <td>IMI (10.196.128.0/22)</td> <td>10.196.130.15</td> <td>eth1 <input type="checkbox"/> VLAN (528)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 1. Enter the IP Addresses for XMI and IMI networks. 2. Set the Interface device for XMI and IMI networks according to the network adapter assignment for the VM guest as viewable. See Appendix B.3 step Error! Reference source not found. or Appendix Error! Reference source not found. step Error! Reference source not found. 3. Leave the VLAN boxes unselected. 	Interfaces:			Network	IP Address	Interface	XMI (10.148.232.0/22)	10.148.235.212	eth0 <input type="checkbox"/> VLAN (332)	IMI (10.196.128.0/22)	10.196.130.15	eth1 <input type="checkbox"/> VLAN (528)							
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Network	IP Address	Interface																			
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IMI (10.196.128.0/22)	10.196.130.15	eth1 <input type="checkbox"/> VLAN (528)																			
23. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Add under NTP Servers and add the address of the supplied NTP server.</p>	 <table border="1"> <thead> <tr> <th>NTP Server IP Address</th> <th>Prefer</th> <th></th> </tr> </thead> <tbody> <tr> <td>10.240.15.7</td> <td><input type="checkbox"/></td> <td>Remove</td> </tr> <tr> <td>10.240.15.8</td> <td><input type="checkbox"/></td> <td>Remove</td> </tr> <tr> <td>10.240.15.9</td> <td><input type="checkbox"/></td> <td>Remove</td> </tr> <tr> <td>10.240.15.11</td> <td><input type="checkbox"/></td> <td>Remove</td> </tr> </tbody> </table> <p>Set one or more NTP Server IP Addresses to the supplied NTP servers. It is recommended to have minimum of 3 and up to 4 external NTP servers for reliable functioning of NTP service.</p>  <p>NTP Servers:</p> <table border="1"> <thead> <tr> <th>NTP Server IP Address</th> <th>Prefer</th> </tr> </thead> <tbody> <tr> <td><input type="text"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	NTP Server IP Address	Prefer		10.240.15.7	<input type="checkbox"/>	Remove	10.240.15.8	<input type="checkbox"/>	Remove	10.240.15.9	<input type="checkbox"/>	Remove	10.240.15.11	<input type="checkbox"/>	Remove	NTP Server IP Address	Prefer	<input type="text"/>	<input type="checkbox"/>
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10.240.15.9	<input type="checkbox"/>	Remove																			
10.240.15.11	<input type="checkbox"/>	Remove																			
NTP Server IP Address	Prefer																				
<input type="text"/>	<input type="checkbox"/>																				
24. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Info to see a message stating Pre-Validation passed.</p> <p>Click Apply.</p>	 <p>Main Menu: Configuration -> Servers [Insert]</p> <p>Info <input type="button" value="Info"/> <input type="button" value="Close"/></p> <p>Info</p> <ul style="list-style-type: none"> • Pre-Validation passed - Data NOT committed ... <p>Hostname <input type="text" value="NO-A"/> * Unique name for the server. [Default string. Valid characters are alphanumeric with an alphanumeric and end with a</p> <table border="1"> <tbody> <tr> <td>XMI (10.240.80.128/26)</td> <td>10.240.80.146</td> <td>bond0 <input checked="" type="checkbox"/> VLAN (3)</td> </tr> <tr> <td>IMI (10.240.56.192/26)</td> <td>10.240.56.197</td> <td>bond0 <input checked="" type="checkbox"/> VLAN (4)</td> </tr> </tbody> </table> <p><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></p>	XMI (10.240.80.128/26)	10.240.80.146	bond0 <input checked="" type="checkbox"/> VLAN (3)	IMI (10.240.56.192/26)	10.240.56.197	bond0 <input checked="" type="checkbox"/> VLAN (4)													
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Step	Procedure	Details
25. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>If the values provided match the network ranges assigned to the NOAMP NE, the banner information message shows that the data has been validated and committed to the DB.</p>	
26. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Applying the Server Configuration File</p> <p>Navigate to Main Menu → Configuration → Servers.</p>	
27. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>The Configuration → Servers screen shows the added server in the list.</p>	
28. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>1. Use the cursor to select the server just inserted.</p> <p>The row containing the server is highlighted in GREEN.</p> <p>2. Click Export.</p>	
29. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Info to see a message showing a download link for the server configuration data.</p>	 <p>The configuration file is created and stored in the /var/TKLC/db/filemgmt directory. The configuration file has file name like TKLCConfigData.<hostname>.sh.</p>

Step	Procedure	Details
30. <input type="checkbox"/>	NOAMP Server A: 1. Access the command prompt. 2. Log into the NOAMP-A server as the admusr user.	<pre>Login as: admusr root@10.250.xx.yy's password: <admusr_password> Last login: Mon Jul 30 10:33:19 2012 from 10.25.80.199 [root@pc9040833-no-a ~]#</pre>
31. <input type="checkbox"/>	NOAMP Server A: Switch to root user.	<pre>[admusr@ pc9040833-no-a ~]\$ su - password: <root_password></pre>
32. <input type="checkbox"/>	NOAMP Server A: Copy the server configuration file to the /var/tmp directory on the server, making sure to rename the file by omitting the server hostname from the file name.	<p>Example:</p> <pre>TKLCConfigData<.server_hostname>.sh translates to TKLCConfigData.sh # cp -p /var/TKLC/db/filemgmt/TKLCConfigData.NO-A.sh /var/tmp/TKLCConfigData.sh</pre> <p>NOTE: The server polls the /var/tmp directory for the presence of the configuration file and automatically runs it when the file is found.</p>
33. <input type="checkbox"/>	NOAMP Server A: After the script completes, a broadcast message is sent to the terminal. Ignore the output and press ENTER to return to the command prompt. NOTE: The time to complete this step varies by server and may take from 3 to 20 minutes to complete.	<p>*** NO OUTPUT FOR ≈ 3-20 MINUTES ***</p> <pre>Broadcast message from root (Thu Dec 1 09:41:24 2011): Server configuration completed successfully! See /var/TKLC/appw/logs/Process/install.log for details. Please remove the USB flash drive if connected and reboot the server. <ENTER></pre>
34. <input type="checkbox"/>	NOAMP Server A: Configure the time zone	<pre># set_ini_tz.pl <time zone></pre> <p>NOTE: The following command example uses America/New_York time zone. Replace, as appropriate, with the time zone you have selected for this installation. For UTC, use Etc/UTC.</p> <pre># set_ini_tz.pl "America/New_York"</pre>
35. <input type="checkbox"/>	NOAMP Server A: Initiate a reboot of the NOAMP Server.	<pre># reboot</pre>
36. <input type="checkbox"/>	NOAMP Server A: Wait until the server reboot is complete. Then, SSH into the NOAMP-A server.	<p>Wait approximately 9 minutes until the server reboot is complete.</p> <p>Using an SSH client such as putty, ssh to the NOAMP-A server.</p> <pre>login as: admusr root@10.250.xx.yy's password: <admusr_password> Last login: Mon Jul 30 10:33:19 2012 from 10.25.80.199</pre> <p>NOTE: If the server is not up, wait a few minutes and re-enter the ssh command. You can also try running the ping command to see if the server is up.</p>

Step	Procedure	Details
37. <input type="checkbox"/>	NOAMP Server A: Verify that the XMI and IMI IP addresses entered in step Error! Reference source not found. have been applied	<pre>\$ ifconfig grep in grep -v inet6</pre> <p>Example:</p> <pre>eth0 Link encap:Ethernet HWaddr F0:92:1C:18:59:10 inet addr:10.240.80.146 Bcast:10.240.xxx.xxx Mask:255.255.xxx.xxx eth1 Link encap:Ethernet HWaddr F0:92:1C:18:59:10 inet addr:10.240.56.197 Bcast:10.240.xxx.xxx Mask:255.255.xxx.xxx</pre> <p>NOTE: The XMI and IMI addresses for the server can be verified by reviewing the server configuration through the Oracle Communications User Data Repository GUI.</p> <p>Navigate to Main Menu → Configuration → Servers</p> <p>Scroll to the line entry containing the hostname for the server.</p>
38. <input type="checkbox"/>	NOAMP Server A: Use the <code>ntpq</code> command to verify that the server has connectivity to the assigned Primary (and Secondary if one was provided) NTP servers.	<pre>\$ ntpq -np remote refid st t when poll reach delay offset jitter ===== *10.250.32.10 192.5.41.209 2 u 651 1024 377 0.339 0.583 0.048 +10.250.32.51 192.5.41.209 2 u 656 1024 377 0.416 0.641 0.086</pre>
	<p><i>IF CONNECTIVITY TO THE NTP SERVERS CANNOT BE ESTABLISHED, STOP AND HAVE THE IT GROUP PROVIDE A NETWORK PATH FROM THE OAM SERVER IP TO THE ASSIGNED NTP IP ADDRESSES.</i></p> <p><i>AFTER THE NETWORK CONNECTIVITY IS ESTABLISHED TO THE ASSIGNED NTP IP ADDRESSES, THEN RESTART THIS PROCEDURE BEGINNING WITH STEP Error! Reference source not found.</i></p>	
39. <input type="checkbox"/>	NOAMP Server A: Run the <code>alarmMgr</code> to verify the current health of the server	<pre>\$ alarmMgr --alarmStatus</pre> <p>NOTE: This command should return no output on a healthy system.</p>
40. <input type="checkbox"/>	NOAMP Server A: Exit the SSH session for the NOAMP-A server	<pre>\$ exit</pre>
THIS PROCEDURE IS COMPLETE		

5.2 Create Configuration for Remaining Servers


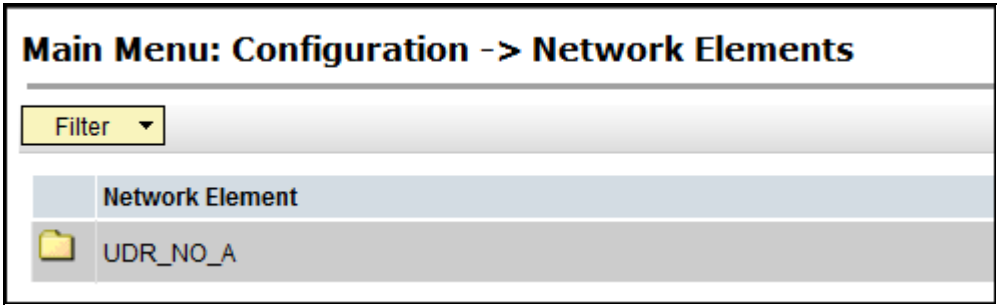
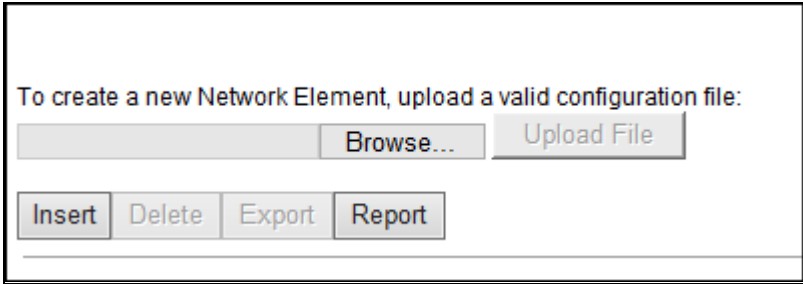
This procedure creates and configures all Oracle Communications User Data Repository Servers (Primary and DR Servers) except the first NOAMP-A server.

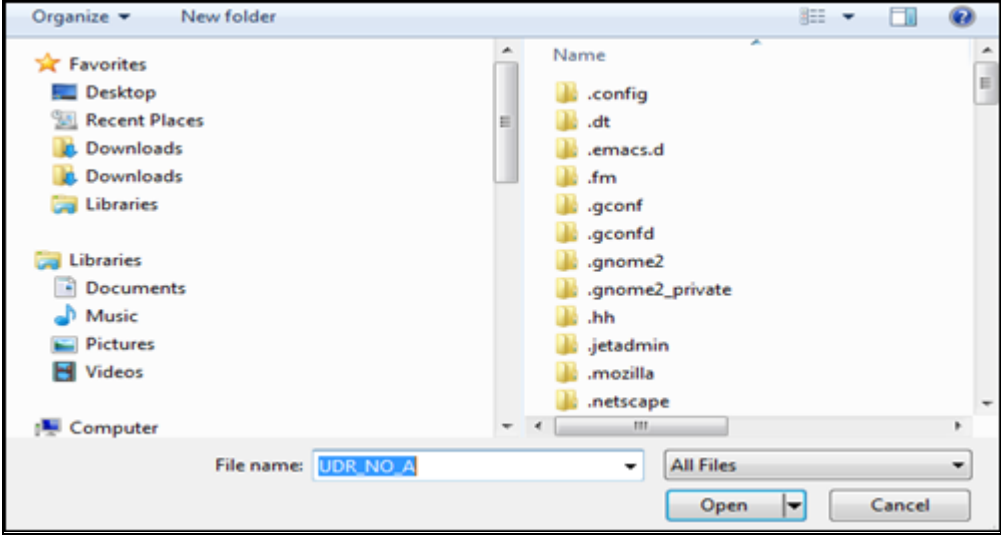
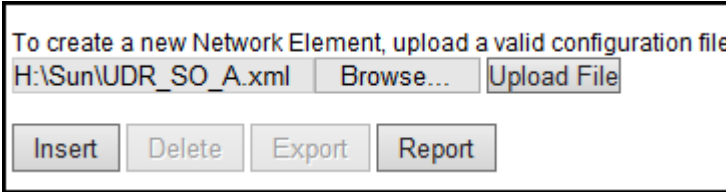
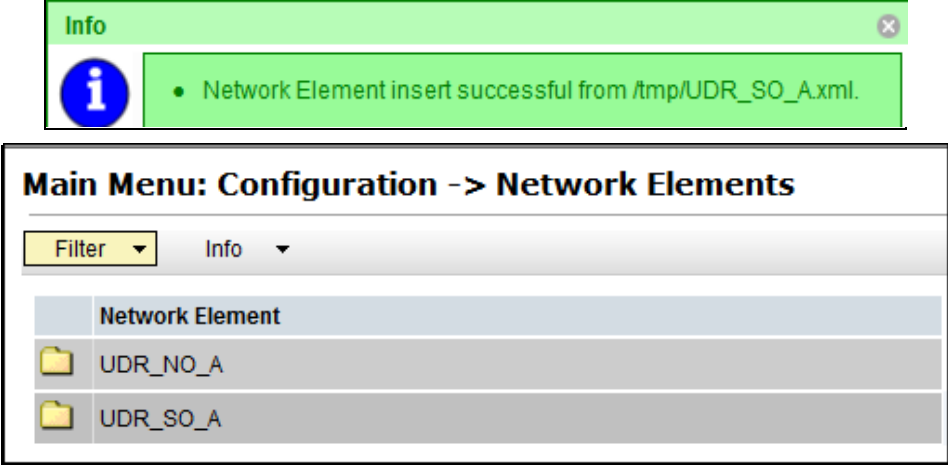
Requirements:

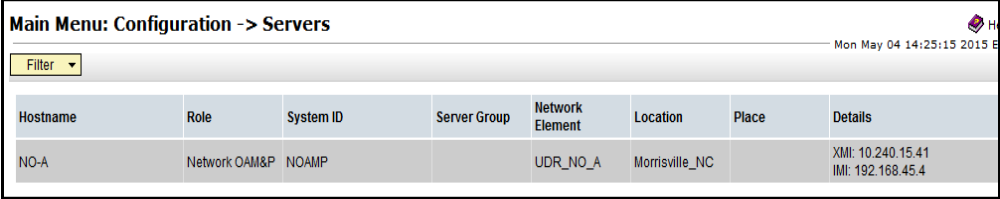
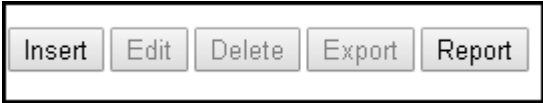
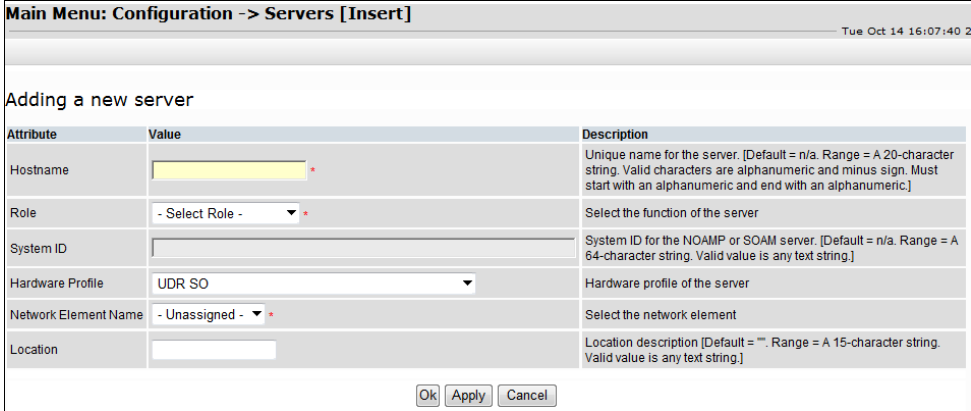
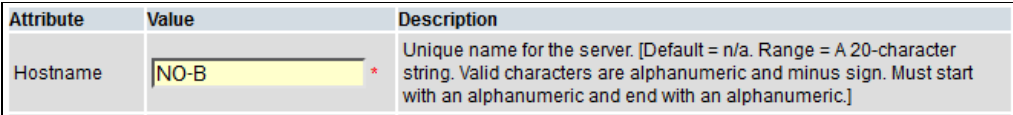
- [Section 5.1 Configure NOAMP-A Server \(1st NOAMP only\)](#) has been completed

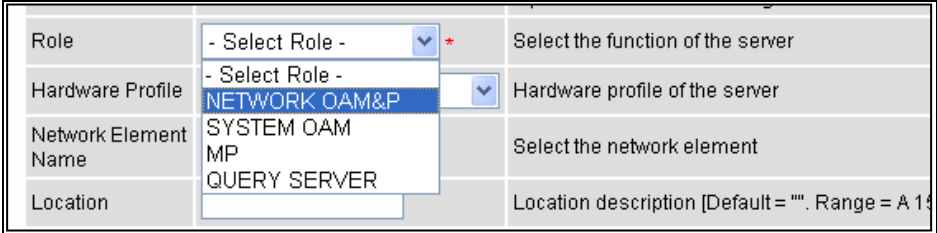
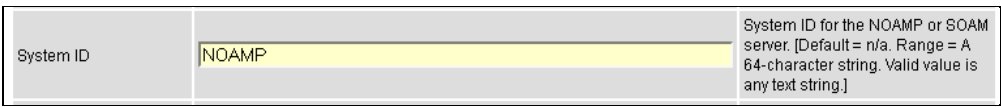
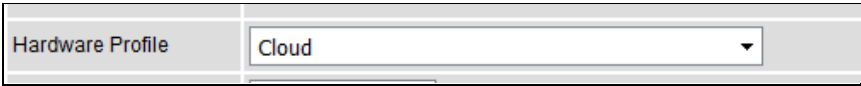

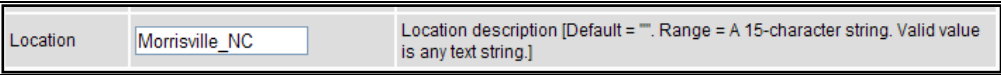
Check (✓) each step as it is completed. Boxes have been provided for this purpose.

Procedure 6: Create Configuration for Remaining Servers

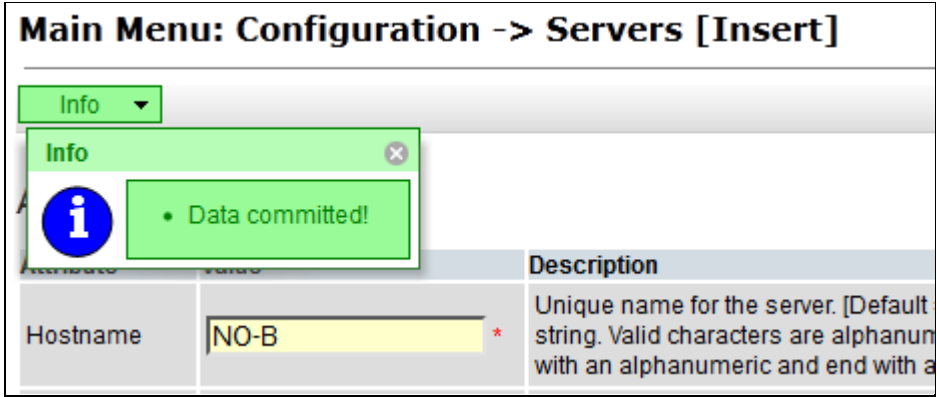
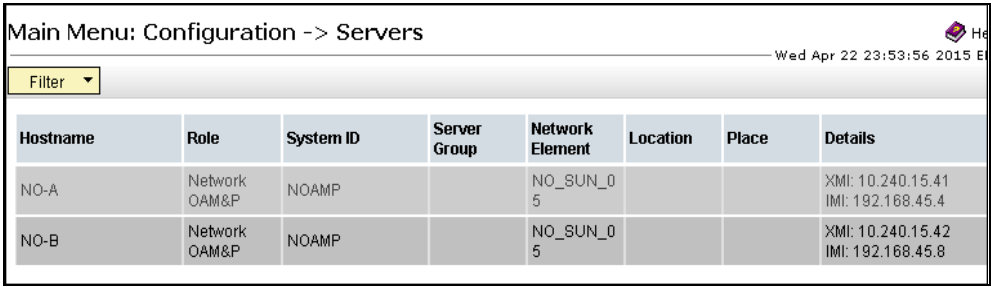
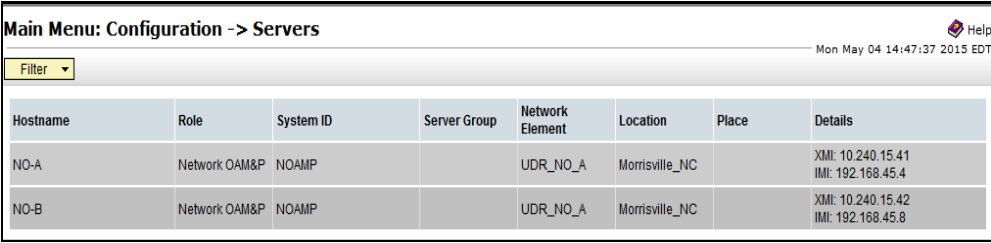
Step	Procedure	Details
1. <input type="checkbox"/>	<p>NOAMP Server A: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Select Continue to this website (not recommended) if the security certificate warning displays.</p> <p>Login to the GUI using the default user and password.</p>	
<p>For steps 4 through 8 add the remaining Network Elements one at a time. This includes the SO network Element for the Primary site and the DR elements (NO and SO) if present. (DR elements can be uploaded during DR install)</p>		
2. <input type="checkbox"/>	<p>NOAMP Server A: Configuring Network Element</p> <p>Navigate to Main Menu → Configuration → Network Elements</p>	
3. <input type="checkbox"/>	<p>NOAMP Server A: From the Configuration Network Elements screen, click Browse</p>	

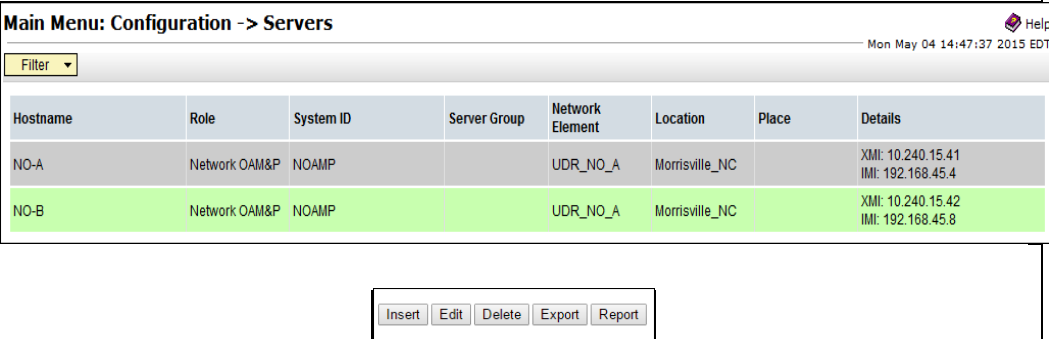
Step	Procedure	Details
4. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>NOTE: This step assumes that the xml files were previously prepared, as described in Appendix C.</p> <ol style="list-style-type: none"> 1. Select the location containing the site .XML file. 2. Select the .XML file. 3. Click Open. 	
5. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Upload File in the bottom left corner of screen.</p>	
6. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>If the values in the XML file pass validation rules, the banner information message shows that the data has been successfully committed to the DB.</p> <p>NOTE: You may have to left mouse click the Info banner option in order to see the banner output.</p>	
<p>NOTE: Steps 7 through 23 must be performed for all servers EXCEPT the first NOAMP-A server. These steps include a check box for NOAMP-A server. That check box is only referring to NOAMP-A servers that are not at the primary provisioning site, such as the NOAMP-A server at the disaster recovery (DR) site.</p>		

Step	Procedure	Details
7. <input type="checkbox"/>	<p>NOAMP Server A: Navigate to Main Menu → Configuration → Servers</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
8. <input type="checkbox"/>	<p>NOAMP Server A: Click Insert at the bottom left.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
9. <input type="checkbox"/>	<p>NOAMP Server A: The Adding a new server configuration page opens.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
10. <input type="checkbox"/>	<p>NOAMP Server A: Enter the hostname for the server.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>

Step	Procedure	Details
11. <input type="checkbox"/>	<p>NOAMP Server A: Select the server Role from the list.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
12. <input type="checkbox"/>	<p>NOAMP Server A: Enter the System ID for the server.</p> <p>NOTE: System ID is not required for MP.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
13. <input type="checkbox"/>	<p>NOAMP Server A: Select the Hardware Profile from the list.</p>	<ul style="list-style-type: none"> SOAM Select Hardware Profile: Cloud UDR SOAM MP Select Hardware Profile: Cloud UDR MP  <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
14. <input type="checkbox"/>	<p>NOAMP Server A: Select the Network Element name from the list.</p> <p>NOTE: After the Network Element name is selected, the Interfaces fields are displayed.</p>	 <p>NOTE: NO and DR pairs have their own Network element. SO pairs also have their own Network Element which they share with their associated MP.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
15. <input type="checkbox"/>	<p>NOAMP Server A: Enter the site location.</p> <p>NOTE: Location is an optional field.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>

Step	Procedure	Details															
16. <input type="checkbox"/>	<p>NOAMP Server A:</p> <ol style="list-style-type: none"> 1. Enter the IP Addresses for the Server. 2. Set the Interface parameters according to to deployment type. 	<div> <p>Interfaces:</p> <table border="1"> <thead> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>XMI (10.148.232.0/22)</td> <td>10.148.235.212</td> <td>eth0 <input type="checkbox"/> VLAN (332)</td> </tr> <tr> <td>IMI (10.196.128.0/22)</td> <td>10.196.130.15</td> <td>eth1 <input type="checkbox"/> VLAN (528)</td> </tr> </tbody> </table> </div> <ol style="list-style-type: none"> 1. Enter the IP Addresses for XMI and IMI networks. 2. Set the Interface device for XMI and IMI networks according to the network adapter assignment for the VM guest as viewable. See Appendix B.3 step Error! Reference source not found. or Appendix Error! Reference source not found. step Error! Reference source not found.. 3. Leave the VLAN boxes unselected. <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>	Network	IP Address	Interface	XMI (10.148.232.0/22)	10.148.235.212	eth0 <input type="checkbox"/> VLAN (332)	IMI (10.196.128.0/22)	10.196.130.15	eth1 <input type="checkbox"/> VLAN (528)						
Network	IP Address	Interface															
XMI (10.148.232.0/22)	10.148.235.212	eth0 <input type="checkbox"/> VLAN (332)															
IMI (10.196.128.0/22)	10.196.130.15	eth1 <input type="checkbox"/> VLAN (528)															
17. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Add in the NTP Servers section and add the addresses of the NTP servers.</p>	<div> <table border="1"> <thead> <tr> <th>NTP Server IP Address</th> <th>Prefer</th> <th></th> </tr> </thead> <tbody> <tr> <td>10.240.15.7</td> <td><input type="checkbox"/></td> <td><input type="button" value="Add"/> <input type="button" value="Remove"/></td> </tr> <tr> <td>10.240.15.8</td> <td><input type="checkbox"/></td> <td><input type="button" value="Remove"/></td> </tr> <tr> <td>10.240.15.9</td> <td><input type="checkbox"/></td> <td><input type="button" value="Remove"/></td> </tr> <tr> <td>10.240.15.11</td> <td><input type="checkbox"/></td> <td><input type="button" value="Remove"/></td> </tr> </tbody> </table> </div> <p>Set one or more NTP Server IP Addresses to the supplied NTP servers. It is recommended to have a minimum of 3 and up to 4 external NTP servers for reliable functioning of NTP service.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>	NTP Server IP Address	Prefer		10.240.15.7	<input type="checkbox"/>	<input type="button" value="Add"/> <input type="button" value="Remove"/>	10.240.15.8	<input type="checkbox"/>	<input type="button" value="Remove"/>	10.240.15.9	<input type="checkbox"/>	<input type="button" value="Remove"/>	10.240.15.11	<input type="checkbox"/>	<input type="button" value="Remove"/>
NTP Server IP Address	Prefer																
10.240.15.7	<input type="checkbox"/>	<input type="button" value="Add"/> <input type="button" value="Remove"/>															
10.240.15.8	<input type="checkbox"/>	<input type="button" value="Remove"/>															
10.240.15.9	<input type="checkbox"/>	<input type="button" value="Remove"/>															
10.240.15.11	<input type="checkbox"/>	<input type="button" value="Remove"/>															
18. <input type="checkbox"/>	<p>NOAMP Server A:</p> <ol style="list-style-type: none"> 1. Click Info to see a message stating Pre-Validation passed. 2. Click Apply. 	<div> <p>Main Menu: Configuration -> Servers [Insert]</p> <p>Info ▾</p> <div style="border: 1px solid green; background-color: #e0ffe0; padding: 5px;"> <p>Info <input type="button" value="x"/></p> <ul style="list-style-type: none"> • Pre-Validation passed - Data NOT committed ... </div> </div> <div> <p>Interfaces:</p> <table border="1"> <thead> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>XMI (10.240.80.128/26)</td> <td>10.240.80.165</td> <td>xmi ▾</td> </tr> <tr> <td>IMI (10.240.56.192/26)</td> <td>10.240.56.212</td> <td>imi ▾</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> </div> <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>	Network	IP Address	Interface	XMI (10.240.80.128/26)	10.240.80.165	xmi ▾	IMI (10.240.56.192/26)	10.240.56.212	imi ▾						
Network	IP Address	Interface															
XMI (10.240.80.128/26)	10.240.80.165	xmi ▾															
IMI (10.240.56.192/26)	10.240.56.212	imi ▾															

Step	Procedure	Details
19. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>If the values provided match the network ranges assigned to the NE, click Info to see a message stating that the data has been validated and committed to the DB.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
20. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Applying the Server Configuration File</p> <p>Navigate to Main Menu → Configuration → Servers</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
21. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>The Configuration → Servers screen shows the added Server in the list.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>

Step	Procedure	Details
22. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>1. Use the cursor to select the server inserted.</p> <p>The row containing the server is highlighted in GREEN.</p> <p>2. Click Export.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
23. <input type="checkbox"/>	<p>VMware client:</p> <p>Repeat this procedure to create configuration</p>	<p>Repeat this procedure to create configuration for each remaining server:</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
THIS PROCEDURE IS COMPLETE		

5.3 Apply Configuration to Remaining Servers

This procedure applies the configuration to all Oracle Communications User Data Repository Servers (Primary and DR Servers) except the first NOAMP-A server.

REQUIREMENTS:

- Section 5.2 Create Configuration for Remaining Servers has been completed


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

Procedure 7: Apply Configuration to Remaining Servers

Step	Procedure	Details
1. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Connect to the NOAMP-A Server terminal at the Primary NOAMP site</p>	<p>SSH to the Primary NOAMP-A XMI IP_address.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
2. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>1. Access the command prompt.</p> <p>2. Log into the Primary NOAMP-A server as the admusr user.</p>	<pre>login as: admusr admusr@10.250.xx.yy's password: <admusr_password> Last login: Mon Jul 30 10:33:19 2012 from 10.25.80.199 \$</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>

Step	Procedure	Details
3. <input type="checkbox"/>	<p>NOAMP Server A: Change directory into the file management space</p>	<pre>[admusr@pc9040833-no-a ~]\$ cd /var/TKLC/db/filemgmt</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
4. <input type="checkbox"/>	<p>NOAMP Server A: Get a directory listing and find the servers configuration files.</p>	<pre>[admusr@pc9040833-no-a ~]\$ ls -ltr TKLCConfigData*.sh</pre> <p>*** TRUNCATED OUTPUT ***</p> <pre>-rw-rw-rw- 1 root root 1257 Aug 17 14:01 TKLCConfigData.NOAMP-A.sh -rw-rw-rw- 1 root root 1311 Aug 17 14:30 TKLCConfigData.NO-B.sh</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
5. <input type="checkbox"/>	<p>NOAMP Server A: Copy the configuration files to the target server based on the server name of the configuration file.</p>	<pre>[admusr@pc9040833-no-a ~]\$ scp -p <configuration file-a> <Associated_Server_XMI_IP>:/tmp admusr@10.240.39.4's password: <admusr_password> TKLCConfigData.so-carync-a.sh 100% 1741 1.7KB/s 00:00 [root@no-mrsvnc-a filemgmt]\$</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
6. <input type="checkbox"/>	<p>NOAMP Server A: Connect to the target server which has received a configuration file copy in the previous step</p>	<pre>[admusr@pc9040833-no-a ~]\$ ssh <Associated_Server_XMI_IP> admusr@192.168.1.10's password: <admusr_password></pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
7. <input type="checkbox"/>	<p>Target Server: Copy the server configuration file to the <code>var/tmp</code> directory on the server, making sure to rename the file by omitting the server hostname from the file name.</p>	<p>Example:</p> <pre>TKLCConfigData.<server_hostname>.sh translates to TKLCConfigData.sh</pre> <pre>[admusr@hostname1326744539 ~]\$ sudo cp -p /tmp/TKLCConfigData.NO-B.sh /var/tmp/TKLCConfigData.sh [admusr@hostname1326744539 ~]\$</pre> <p>NOTE: The server polls the <code>/var/tmp</code> directory for the presence of the configuration file and automatically runs the file when it is found.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>

Step	Procedure	Details
8. <input type="checkbox"/>	<p>Target Server: After the script completes, a broadcast message is sent to the terminal.</p> <p>Ignore the output and press ENTER to return to the command prompt.</p> <p>NOTE: The time to complete this step varies by server and can take from 3 to 20 minutes to complete.</p>	<p>*** There is no output for approximately 3 to 20 MINUTES ***</p> <pre>Broadcast message from root (Thu Dec 1 09:41:24 2011): Server configuration completed successfully! See /var/TKLC/appw/logs/Process/install.log for details. Please remove the USB flash drive if connected and reboot the server.</pre> <p>Press ENTER</p> <pre>[admusr@hostname1326744539 ~]\$</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
9. <input type="checkbox"/>	<p>Target Server: Initiate a reboot of the Server.</p>	<pre>[admusr@hostname1326744539 ~]\$ sudo reboot</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
10. <input type="checkbox"/>	<p>NOAMP Server A: The SSH session for the target server was terminated in the previous step.</p>	<p>Step 9 closes the ssh session with the server and returns you to the NOAMP server console prompt.</p> <pre>Connection to 192.168.x.xx closed by remote host. Connection to 192.168.x.xx closed. \$</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
11. <input type="checkbox"/>	<p>NOAMP Server A: Wait until server reboot is complete. Then, SSH into the target server using its XMI address.</p>	<p>Wait approximately 9 minutes until the server reboot is complete.</p> <p>Using an SSH client such as Putty, ssh to the target server using admusr credentials and the <XMI IP Address>.</p> <pre>[admusr@pc9040833-no-a ~]\$ ssh 192.168.1.xx admusr@192.168.x.xx's password: <admusr_password></pre> <p>NOTE: If the server is not up, wait a few minutes and re-enter the ssh command. You can also try running the ping 192.168.1.xx command to see if the server is up.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>

Step	Procedure	Details
12. <input type="checkbox"/>	<p>Target Server: Verify that the XMI and IMI IP addresses entered in Section 5.2 step Error! Reference source not found. have been applied</p>	<pre>\$ ifconfig grep in grep -v inet6 control Link encap:Ethernet HWaddr 52:54:00:6C:3C:B4 inet addr:192.168.xx.xx Bcast:192.168.xx.xxx Mask:255.255.xxx.xxx imi Link encap:Ethernet HWaddr 52:54:00:F6:DC:4A inet addr:169.254.xx.xx Bcast:169.254.x.xxx Mask:255.255.xxx.xx lo Link encap:Local Loopback inet addr:127.0.x.x Mask:255.0.x.x xmi Link encap:Ethernet HWaddr 52:54:00:0F:1F:3B inet addr:10.250.xx.xx Bcast:10.250.39.31 Mask:255.255.xx.xx</pre> <p>NOTE: The XMI and IMI addresses for the server can be verified by reviewing the server configuration through the Oracle Communications User Data Repository GUI.</p> <ol style="list-style-type: none"> 1. Navigate to Main Menu → Configuration → Servers 2. Scroll to line entry containing the hostname for the server. <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
13. <input type="checkbox"/>	<p>Target Server: Use the <code>ntpq</code> command to verify that the server has connectivity to the assigned Primary and Secondary NTP servers.</p>	<pre>\$ ntpq -np remote refid st t when poll reach delay offset jitter ===== *10.250.32.10 192.5.41.209 2 u 651 1024 377 0.339 0.583 0.048 +10.250.32.51 192.5.41.209 2 u 656 1024 377 0.416 0.641 0.086 [root@pc9040725-no-a ~]\$</pre> <p>If the offset value is in excess of five seconds, run these commands to sync time manually:</p> <pre>\$ sudo service ntpd stop Shutting down ntpd: [OK] \$ sudo ntpdate <Remote_NTP_Server_IP> \$ sudo service ntpd start Starting ntpd: [OK]</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
14. <input type="checkbox"/>		<p>IF CONNECTIVITY TO THE NTP SERVERS CANNOT BE ESTABLISHED, STOP AND PERFORM THE STEPS 15 through 17:</p>
15. <input type="checkbox"/>	<p>Target Server: Run the <code>alarmMgr</code> to verify the current health of the server</p>	<pre>\$ alarmMgr --alarmStatus</pre> <p>NOTE: This command should return no output on a healthy system.</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>

Step	Procedure	Details
16. <input type="checkbox"/>	Target Server: Exit the SSH session for the target server	<pre>\$ exit logout Connection to 192.168.1.16 closed. #</pre> <p>Mark the checkbox as the addition of each server is completed.</p> <p> <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B <input type="checkbox"/> SOAM-A <input type="checkbox"/> SOAM-B <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>
17. <input type="checkbox"/>	NOAMP Server A: Exit terminal session	<pre># exit logout Connection to 192.168.1.4 closed. #</pre>
THIS PROCEDURE IS COMPLETE		

5.4 Configure XSI Networks (All SOAM Sites)


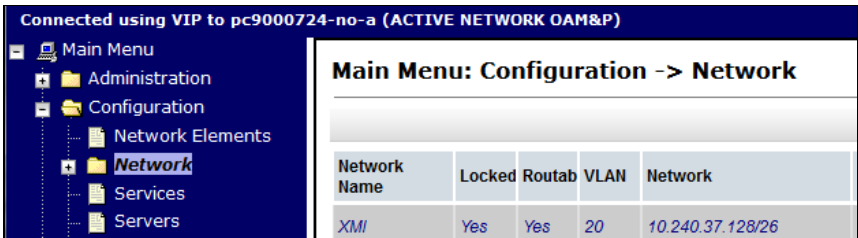
This procedure configures the XSI networks used on MP to support signaling traffic.


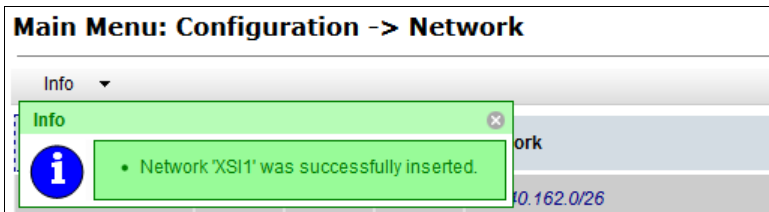
Requirements:

- [Section 5.3 Apply Configuration to Remaining Servers](#) has been completed

NOTE: If deploying two sites use the same name for both XSI networks.

Procedure 8: Configure XSI Networks

Step	Procedure	Details
1. <input type="checkbox"/>	NOAMP Server A: Launch an approved web browser and connect to the NOAMP Server A IP address NOTE: Select Continue to this website (not recommended) if the security certificate warning displays. Login to the GUI using the default user and password.	
2. <input type="checkbox"/>	NOAMP Server A Navigate to Main Menu → Configuration → Network	

Step	Procedure	Details																											
3. <input type="checkbox"/>	<p>NOAMP Server A Add the XSI1 network</p>	<p>Click  (Insert).</p> <div> <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 = Alphanumeric string up to 31 chars, starting with a letter.]</td> </tr> <tr> <td>Network Element</td> <td>- Unassigned - *</td> <td>The network element this network is a part of. If not specified, the network will be available to servers in all network elements.</td> </tr> <tr> <td>VLAN ID</td> <td>17 *</td> <td>The VLAN ID to use for this network. [Default = N/A. Range = 1-4094.]</td> </tr> <tr> <td>Network Address</td> <td>10.240.162.96 *</td> <td>The network address of this network. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]</td> </tr> <tr> <td>Netmask</td> <td>255.255.255.224 *</td> <td>Subnetting to apply to servers within this network. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]</td> </tr> <tr> <td>Router IP</td> <td>10.240.162.97</td> <td>The IP address of a router on this network. If this is a default network, this will be used as the gateway address of the default route on servers with interfaces on this network. If customer router monitoring is enabled, this address will be the one monitored.</td> </tr> <tr> <td>Default Network</td> <td><input type="radio"/> Yes <input checked="" type="radio"/> No</td> <td>A selection indicating whether this is the network with a default gateway.</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 element. If it is not assigned to a network element, it is assumed to be possibly 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> </div> <p>Enter the information for the XSI1 network according to your network parameters. The default values for Network Element (Unassigned), Default Network (No), and Routable (Yes) must be retained.</p> <p>ComAgent Service may be configured to run on XSI1 in Section 7.3. In such case, the XSI1 network is used for MP to NOAMP ComAgent Traffic.</p> <p>This network may or may not be used for MP Signaling Traffic.</p> <p>NOTES</p> <ul style="list-style-type: none"> • Network names can be overloaded to support multiple subnets. When defining network for ComAgent Service, use same network name for Primary and DR Site. • VLANs are not used in the context of this document, though VLAN ID is a required field on this screen. Enter any number in the valid range. 	Field	Value	Description	Network Name	XSI1 *	The name of this network. [Default = N/A. Range = Alphanumeric string up to 31 chars, starting with a letter.]	Network Element	- Unassigned - *	The network element this network is a part of. If not specified, the network will be available to servers in all network elements.	VLAN ID	17 *	The VLAN ID to use for this network. [Default = N/A. Range = 1-4094.]	Network Address	10.240.162.96 *	The network address of this network. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]	Netmask	255.255.255.224 *	Subnetting to apply to servers within this network. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]	Router IP	10.240.162.97	The IP address of a router on this network. If this is a default network, this will be used as the gateway address of the default route on servers with interfaces on this network. If customer router monitoring is enabled, this address will be the one monitored.	Default Network	<input type="radio"/> Yes <input checked="" type="radio"/> No	A selection indicating whether this is the network with a default gateway.	Routable	<input checked="" type="radio"/> Yes <input type="radio"/> No	Whether or not this network is routable outside its network element. If it is not assigned to a network element, it is assumed to be possibly present in all network elements.
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Network Name	XSI1 *	The name of this network. [Default = N/A. Range = Alphanumeric string up to 31 chars, starting with a letter.]																											
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Routable	<input checked="" type="radio"/> Yes <input type="radio"/> No	Whether or not this network is routable outside its network element. If it is not assigned to a network element, it is assumed to be possibly present in all network elements.																											
4. <input type="checkbox"/>	<p>NOAMP Server A Repeat as required</p>	<p>Repeat step 3 of this procedure to Insert additional signaling networks (XSI2, and so on) if applicable.</p>																											
5. <input type="checkbox"/>	<p>NOAMP Server A The new XSI network is displayed along with a success message.</p>	<div> <p>Main Menu: Configuration -> Network</p>  </div>																											
<p>THIS PROCEDURE IS COMPLETE</p>																													

6. OAM PAIRING

6.1 OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)

During the OAM Pairing procedure, various errors may be seen at different stages of the procedure. During the execution of a step, you are directed to ignore errors related to values other than the ones referenced by that step.


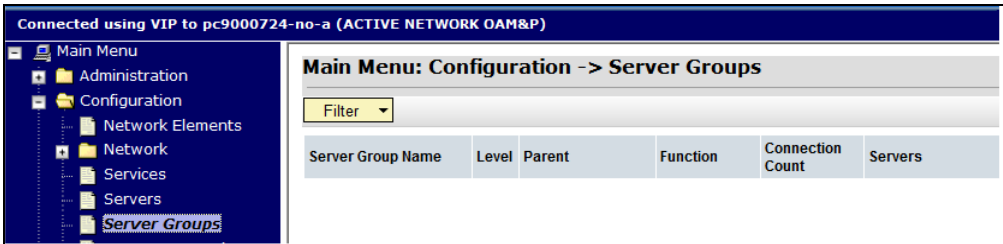
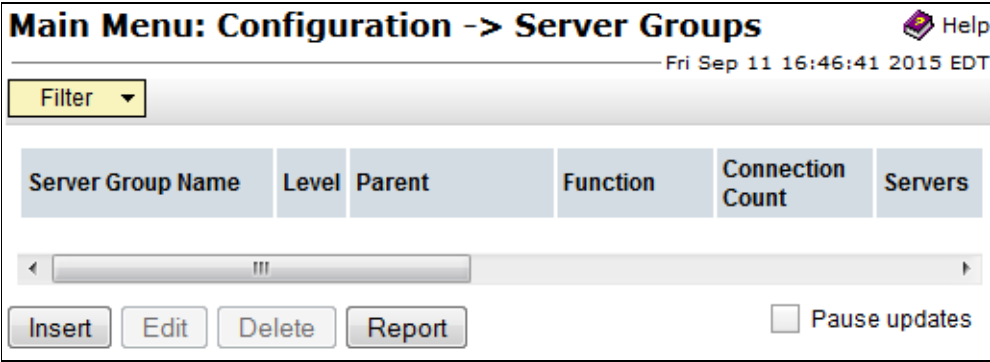
This procedure creates active/standby pair for the NOAMP servers at the Primary Provisioning Site.

Requirements:

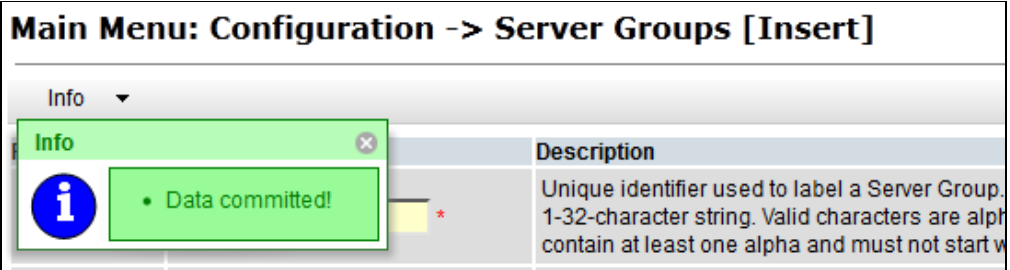
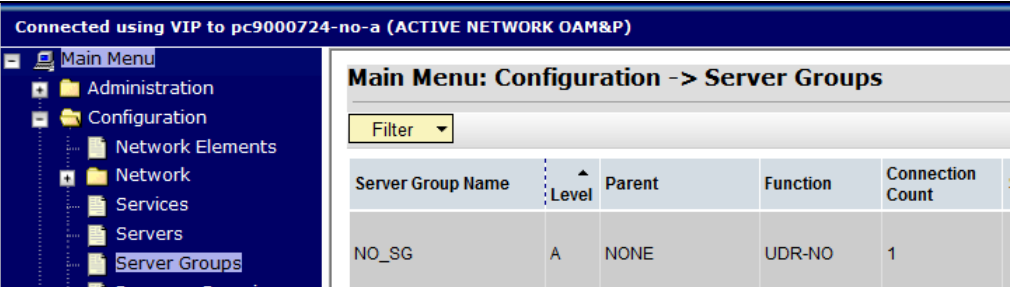
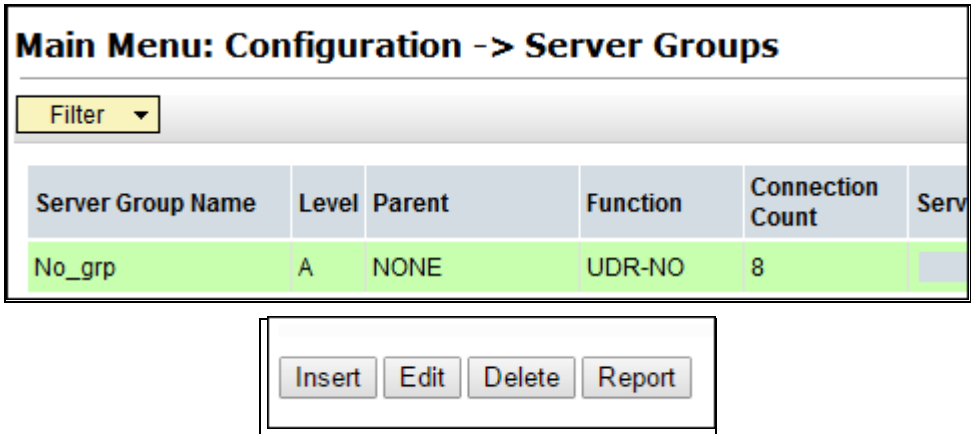
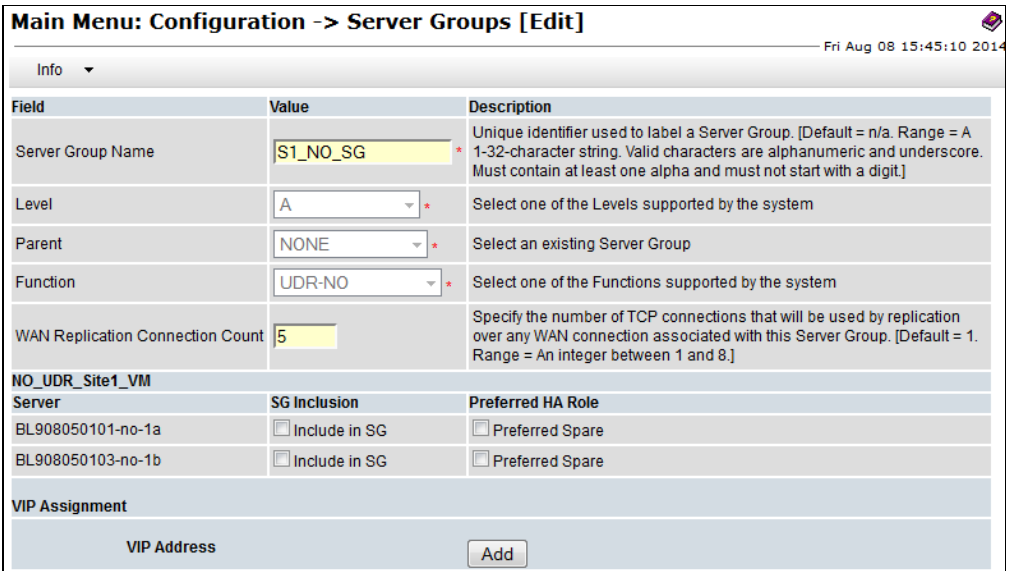
- Section [5.3 Apply Configuration to Remaining Servers](#) has been completed

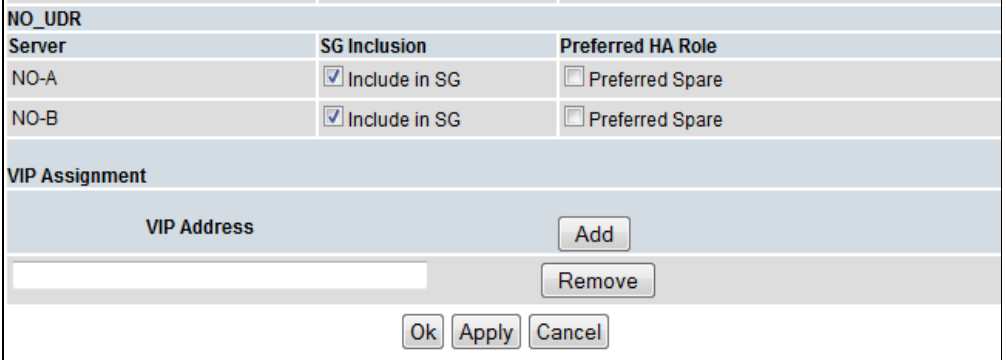
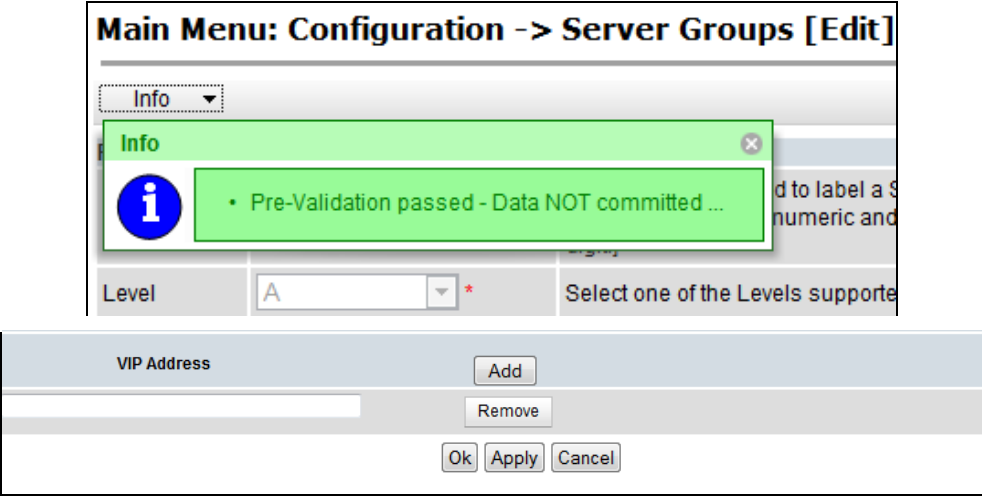
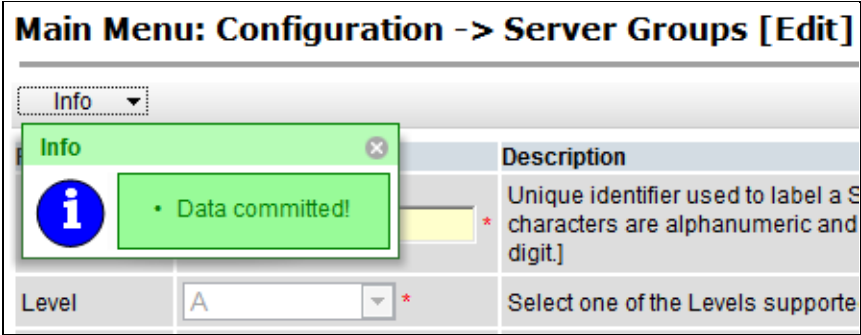
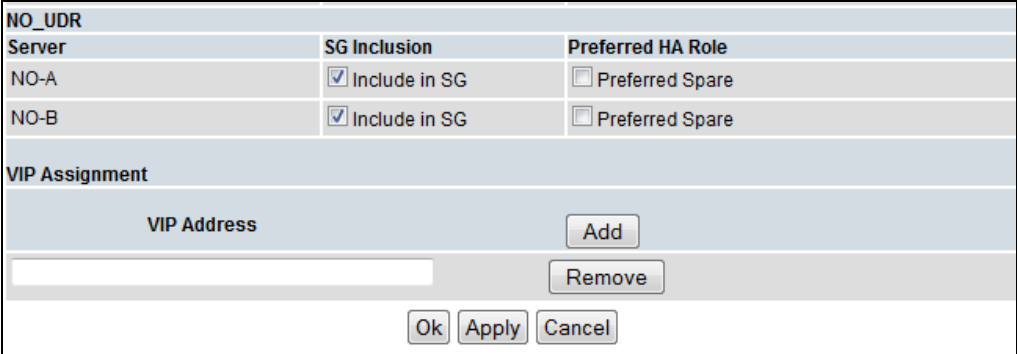
Check (✓) each step as it is completed. Boxes have been provided for this purpose.

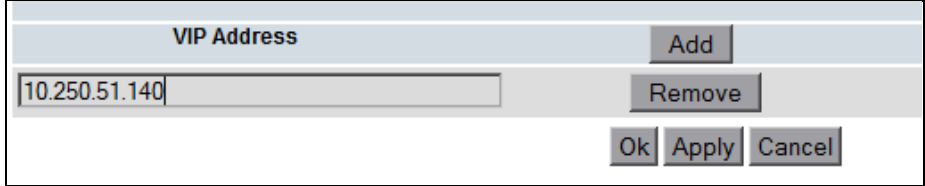
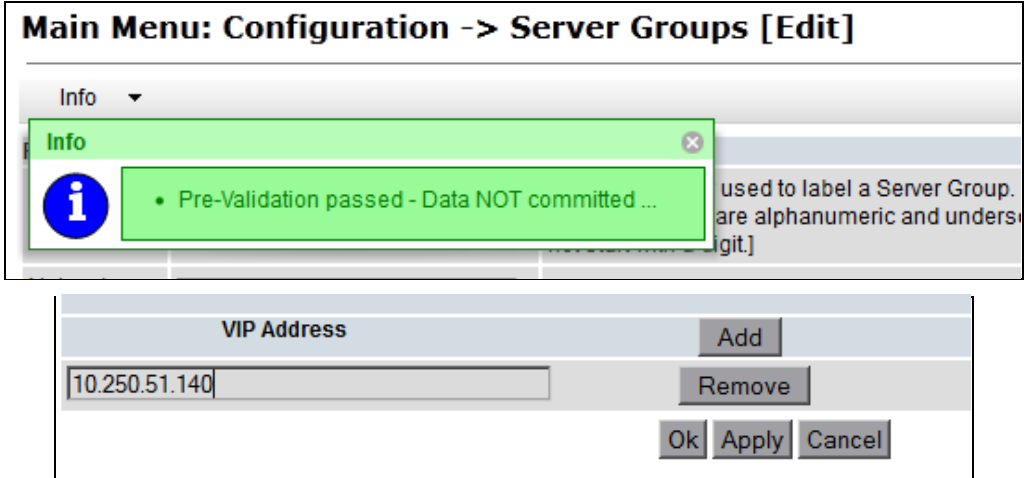
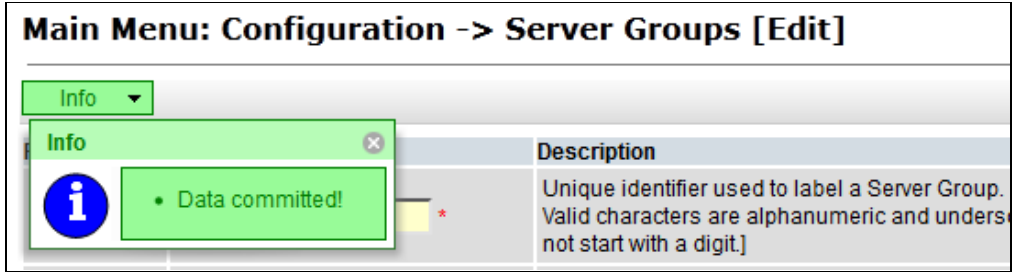
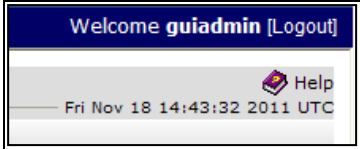
Procedure 9: OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)


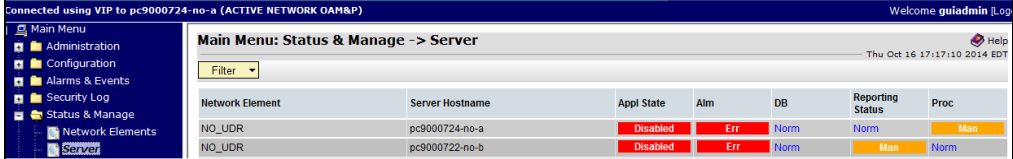

Step	Procedure	Details
1. <input type="checkbox"/>	<p>NOAMP Server A: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Select Continue to this website (not recommended) if the security certificate warning displays.</p> <p>Login to the GUI using the default user and password.</p>	
2. <input type="checkbox"/>	<p>NOAMP Server A: Configuring Server Group</p> <p>Navigate to Main Menu → Configuration → Server Groups</p>	
3. <input type="checkbox"/>	<p>NOAMP Server A: Click Insert from the bottom left corner of the screen.</p> <p>NOTE: You may have to scroll to see Insert</p>	

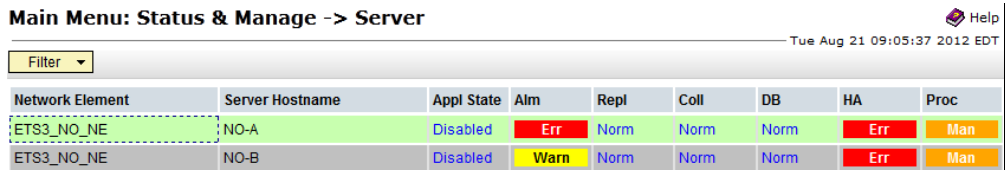
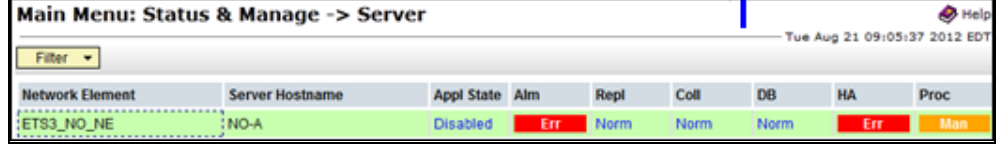

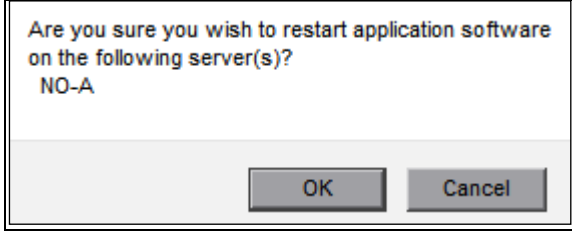
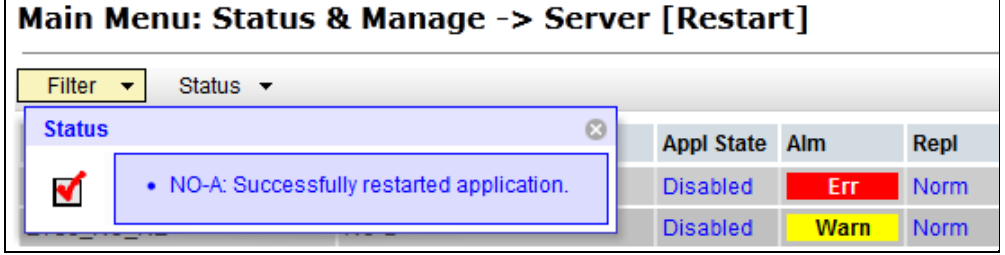
Step	Procedure	Details																		
4. <input type="checkbox"/>	NOAMP Server A: The Server Groups [Insert] screen opens.	<table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Server Group Name</td> <td><input type="text"/></td> <td>Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]</td> </tr> <tr> <td>Level</td> <td>- Select Level - *</td> <td>Select one of the Levels supported by the system. [Level A groups contain NOAMP and Query servers. Level B groups are optional and contain SOAM servers. Level C groups contain MP servers.]</td> </tr> <tr> <td>Parent</td> <td>- Select Parent - *</td> <td>Select an existing Server Group or NONE</td> </tr> <tr> <td>Function</td> <td>- Select Function - *</td> <td>Select one of the Functions supported by the system</td> </tr> <tr> <td>WAN Replication Connection Count</td> <td><input type="text"/></td> <td>Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]</td> </tr> </tbody> </table> <p style="text-align: right;">Ok Apply Cancel</p>	Field	Value	Description	Server Group Name	<input type="text"/>	Unique identifier used to label a Server Group. [Default = n/a. Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]	Level	- Select Level - *	Select one of the Levels supported by the system. [Level A groups contain NOAMP and Query servers. Level B groups are optional and contain SOAM servers. Level C groups contain MP servers.]	Parent	- Select Parent - *	Select an existing Server Group or NONE	Function	- Select Function - *	Select one of the Functions supported by the system	WAN Replication Connection Count	<input type="text"/>	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]
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5. <input type="checkbox"/>	NOAMP Server A: Enter the Server Group Name.	<table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Server Group Name</td> <td>NO_grp *</td> <td>Unique identifier used to label a Server Group. string. Valid characters are alphanumeric and u and must not start with a digit.]</td> </tr> </tbody> </table>	Field	Value	Description	Server Group Name	NO_grp *	Unique identifier used to label a Server Group. string. Valid characters are alphanumeric and u and must not start with a digit.]												
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6. <input type="checkbox"/>	NOAMP Server A: Select A for the Level.	<table border="1"> <tbody> <tr> <td>Level</td> <td>- Select Level - *</td> <td rowspan="2">Select one of the Levels supported by the system. Query servers. Level B groups are optional and co contain MP servers.]</td> </tr> <tr> <td>Parent</td> <td>A - Select Parent - *</td> <td>Select an existing Server Group or NONE</td> </tr> </tbody> </table>	Level	- Select Level - *	Select one of the Levels supported by the system. Query servers. Level B groups are optional and co contain MP servers.]	Parent	A - Select Parent - *	Select an existing Server Group or NONE												
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Parent	A - Select Parent - *		Select an existing Server Group or NONE																	
7. <input type="checkbox"/>	NOAMP Server A: Select None for the Parent.	<table border="1"> <tbody> <tr> <td>Parent</td> <td>- Select Parent - *</td> <td>Select an existing Server Group or NONE</td> </tr> <tr> <td>Function</td> <td>- Select Parent - NONE *</td> <td>Select one of the Functions supported by</td> </tr> </tbody> </table>	Parent	- Select Parent - *	Select an existing Server Group or NONE	Function	- Select Parent - NONE *	Select one of the Functions supported by												
Parent	- Select Parent - *	Select an existing Server Group or NONE																		
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8. <input type="checkbox"/>	NOAMP Server A: Select UDR-NO for Function.	<table border="1"> <tbody> <tr> <td>Function</td> <td>UDR-NO *</td> </tr> </tbody> </table>	Function	UDR-NO *																
Function	UDR-NO *																			
9. <input type="checkbox"/>	NOAMP Server A: Enter 8 for the WAN Replication Connection Count.	<table border="1"> <tbody> <tr> <td>WAN Replication Connection Count</td> <td>8</td> <td>Specify the n associated</td> </tr> </tbody> </table>	WAN Replication Connection Count	8	Specify the n associated															
WAN Replication Connection Count	8	Specify the n associated																		
10. <input type="checkbox"/>	NOAMP Server A: Click Info to see a message stating Pre-Validation passed . Click Apply .	<p>Main Menu: Configuration -> Server Groups [Insert]</p> <p>The screenshot shows the 'Main Menu: Configuration -> Server Groups [Insert]' interface. An 'Info' message box is displayed, indicating that 'Pre-Validation passed - Data NOT committed ...'. Below the message box, there are fields for 'VIP Address' with 'Add' and 'Remove' buttons, and 'Ok', 'Apply', and 'Cancel' buttons at the bottom.</p>																		

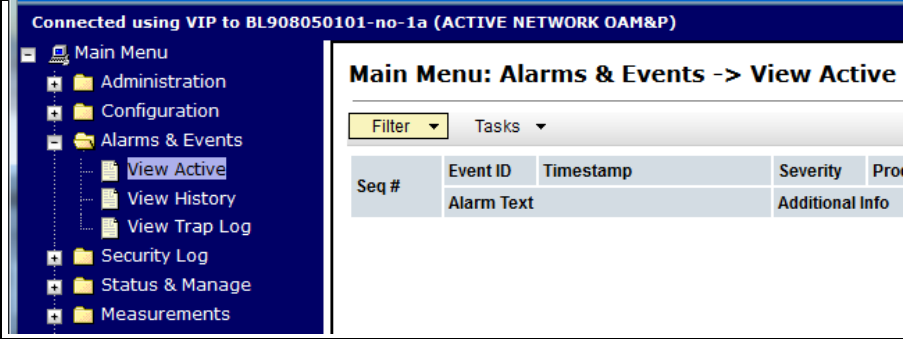
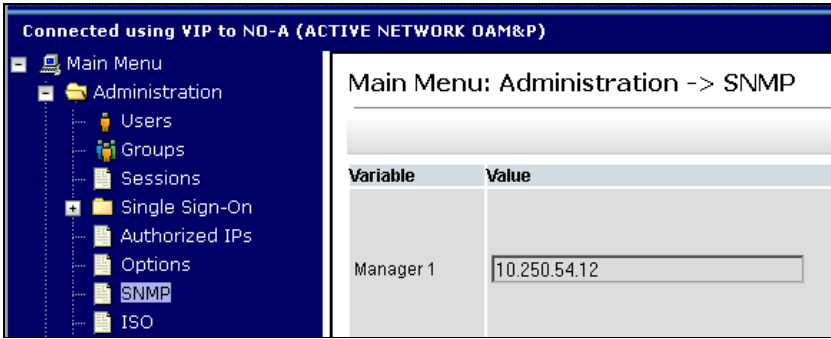
Step	Procedure	Details
11. <input type="checkbox"/>	<p>NOAMP Server A: Click Info to see a message stating Data committed.</p>	
12. <input type="checkbox"/>	<p>NOAMP Server A: Navigate to Main Menu → Configuration → Server Groups</p>	
13. <input type="checkbox"/>	<p>NOAMP Server A:</p> <ol style="list-style-type: none"> Select the Server Group entry that was added. The line entry is highlighted in GREEN. Click Edit from the bottom left corner of the screen. <p>NOTE: You may have to scroll to see Edit</p>	
14. <input type="checkbox"/>	<p>NOAMP Server A: The Server Groups [Edit] screen opens.</p>	


Step	Procedure	Details
15. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Select SG Inclusion to include the A and B servers into the NOAMP Server Group.</p> <p>NOTE: For single server installation, only NO-A is displayed; therefore only one server is selected.</p>	
16. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Info to see a message stating Pre-Validation passed.</p> <p>Click Apply.</p>	
17. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Info to see a message stating Data committed.</p>	
18. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click Add for the VIP Address.</p> <p>NOTE: VIP Address optional for Single Server Configuration.</p>	

Step	Procedure	Details
19. <input type="checkbox"/>	<p>NOAMP Server A: Enter the VIP Address</p>	
20. <input type="checkbox"/>	<p>NOAMP Server A: Click Info to see a message stating Pre-Validation passed. Click Apply.</p>	
21. <input type="checkbox"/>	<p>NOAMP Server A: Click Info to see a message stating Data committed.</p>	
22. <input type="checkbox"/>	<p>NOAMP Server A: Click Logout on the OAM A server GUI.</p>	
23. <input type="checkbox"/>	<p>IMPORTANT: Wait at least 5 minutes before proceeding to step 24.</p>	<p>After the servers are paired within a server group, they establish a master/slave relationship for high availability (HA). It can take several minutes for this process to be completed.</p> <p>NOTE: Single Server Configuration does not have to establish the master/slave relationship for high availability (HA).</p> <p>Allow a minimum of 5 minutes before continuing to the next step.</p>

Step	Procedure	Details																																			
24. <input type="checkbox"/>	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Select Continue to this website (not recommended) if the security certificate warning displays.</p> <p>Login to the GUI using the default user and password.</p>																																				
25. <input type="checkbox"/>	<p>NOAMP VIP: Restarting the NOAMP Server Application</p> <p>Navigate to Main Menu → Status & Manage → Server.</p>	<p>Normal or Low Capacity Configuration:</p>  <p>Single Server Configuration:</p> 																																			
26. <input type="checkbox"/>	<p>NOAMP VIP:</p> <ol style="list-style-type: none"> The A and B servers are listed in the right panel. <p>NOTE: For single server, only the A server is listed.</p> <ol style="list-style-type: none"> Verify that the DB status shows Norm and the Proc status shows Man for the servers before proceeding to the next step. 	<p>Normal or Low Capacity Configuration:</p> <table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>no-b</td> <td>NO_UDR_NE</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table> <p>Single Server Configuration:</p> <table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table>	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	no-a	NO_UDR_NE	Disabled	Err	Norm	Norm	Man	no-b	NO_UDR_NE	Disabled	Err	Norm	Norm	Man	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	no-a	NO_UDR_NE	Disabled	Err	Norm	Norm	Man
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no-a	NO_UDR_NE	Disabled	Err	Norm	Norm	Man																															

Step	Procedure	Details																					
27. <input type="checkbox"/>	<p>NOAMP VIP:</p> <ol style="list-style-type: none"> Select NOAMP Server A. The line entry is highlighted in GREEN. Click Restart from the bottom left corner of the screen. Click OK on the confirmation dialogue. Click Info to see a message for NOAMP Server A stating: Successfully restarted application. <p>NOTE: You may have to scroll to see Restart.</p>	<p>Normal Configuration:</p>  <p>Single Server Configuration:</p>    <p>Main Menu: Status & Manage -> Server [Restart]</p> 																					
28. <input type="checkbox"/>	<p>NOAMP VIP:</p> <p>Verify that the Appl State shows Enabled and that the DB, Reporting Status, and Proc status columns show Norm for NOAMP Server A before proceeding to the next step.</p>	<table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>no-b</td> <td>NO_UDR_NE</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table> <p>NOTE: If you want to refresh the server status screen before the default setting of 15 to 30 seconds. This can be done by reselecting Status & Manage → Server option from the Main menu on the left.</p>	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	no-a	NO_UDR_NE	Enabled	Err	Norm	Norm	Norm	no-b	NO_UDR_NE	Disabled	Err	Norm	Norm	Man
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29. <input type="checkbox"/>	<p>NOAMP VIP:</p> <p>Restart NOAMP Server B.</p>	<p>NOTE: Do not perform this step for single server installations.</p> <p>Repeat steps Error! Reference source not found. and Error! Reference source not found. to restart NOAMP Server B.</p>																					

Step	Procedure	Details																																																																																														
30. <input type="checkbox"/>	<p>NOAMP VIP: Verifying the NOAMP server alarm status</p> <p>Navigate to Main Menu → Alarms & Events → View Active.</p>																																																																																															
31. <input type="checkbox"/>	<p>NOAMP VIP: Verify that the noted Event IDs are the only alarms on the system at this time.</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> <th>Instance</th> </tr> </thead> <tbody> <tr> <td>129</td> <td>19820</td> <td>2015-09-21 15:42:00.187 EDT</td> <td>MAJOR</td> <td>CAF</td> <td>udrbe</td> <td>NO_UDR_NE</td> <td>no-b</td> <td>CAF</td> <td>UDR-RS-Sh-App</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="6">Communication Agent Routed Service Unavailable</td> <td>GN_INFO/WRN ^^ [26801:ComAgentStack.C:2826]</td> </tr> <tr> <td>309</td> <td>19820</td> <td>2015-09-21 15:14:54.295 EDT</td> <td>MAJOR</td> <td>CAF</td> <td>udrbe</td> <td>NO_UDR_NE</td> <td>no-a</td> <td>CAF</td> <td>UDR-RS-Sh-App</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="6">Communication Agent Routed Service Unavailable</td> <td>GN_INFO/WRN ^^ [16353:ComAgentStack.C:2826]</td> </tr> <tr> <td>266</td> <td>13001</td> <td>2015-09-21 15:14:48.842 EDT</td> <td>MAJOR</td> <td>Provisioning</td> <td>udrprov</td> <td>NO_UDR_NE</td> <td>no-a</td> <td>PROV</td> <td>REST</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="6">No Remote RAS Client Connections</td> <td>GN_NOTENAB/WRN No remote provisioning RAS clients are connected. ^^ [16365... More...]</td> </tr> <tr> <td>265</td> <td>13027</td> <td>2015-09-21 15:14:47.841 EDT</td> <td>MAJOR</td> <td>Provisioning</td> <td>udrprov</td> <td>NO_UDR_NE</td> <td>no-a</td> <td>PROV</td> <td>SOAP</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="6">No Remote XSAS Client Connections</td> <td>GN_NOTENAB/WRN No remote provisioning XSAS clients are connected. ^^ [1636... More...]</td> </tr> </tbody> </table> <p>Verify that the following Event IDs are the only alarms:</p> <p>13075 Provisioning Interfaces Disabled 19820 Communication Agent Routed Service Unavailable</p> <p>NOTE: It may take a few minutes for residual process alarms to clear.</p>	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server	Type	Instance	129	19820	2015-09-21 15:42:00.187 EDT	MAJOR	CAF	udrbe	NO_UDR_NE	no-b	CAF	UDR-RS-Sh-App					Communication Agent Routed Service Unavailable						GN_INFO/WRN ^^ [26801:ComAgentStack.C:2826]	309	19820	2015-09-21 15:14:54.295 EDT	MAJOR	CAF	udrbe	NO_UDR_NE	no-a	CAF	UDR-RS-Sh-App					Communication Agent Routed Service Unavailable						GN_INFO/WRN ^^ [16353:ComAgentStack.C:2826]	266	13001	2015-09-21 15:14:48.842 EDT	MAJOR	Provisioning	udrprov	NO_UDR_NE	no-a	PROV	REST					No Remote RAS Client Connections						GN_NOTENAB/WRN No remote provisioning RAS clients are connected. ^^ [16365... More...]	265	13027	2015-09-21 15:14:47.841 EDT	MAJOR	Provisioning	udrprov	NO_UDR_NE	no-a	PROV	SOAP					No Remote XSAS Client Connections						GN_NOTENAB/WRN No remote provisioning XSAS clients are connected. ^^ [1636... More...]
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32. <input type="checkbox"/>	<p>NOAMP VIP: Configuring SNMP for Traps from Individual Servers</p> <p>Navigate to Main Menu → Administration → Remote Servers → SNMP Trapping</p>																																																																																															

Step	Procedure	Details															
33. <input type="checkbox"/>	<ul style="list-style-type: none"> • NOAMP VIP: <ol style="list-style-type: none"> 1. Select Traps from Individual Servers. 2. Click OK located at the bottom of the screen. 3. Verify that a banner message stating Data committed is received. 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 2px;">Traps from Individual Servers</td> <td style="width: 40%; padding: 2px;"><input checked="" type="checkbox"/> Enabled</td> <td style="width: 30%; padding: 2px;">[Default: enabled.]</td> </tr> <tr> <td colspan="2" style="padding: 2px;"></td> <td style="padding: 2px;">Enable or disable SNMP traps from in sent from individual servers, otherwis OAM&P server. [Default: disabled.]</td> </tr> <tr> <td colspan="3" style="padding: 2px;">Configured Community Name (SNMP</td> </tr> </table> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <table style="width: 100%;"> <tr> <td style="width: 30%; padding: 2px;">MPv3 Password</td> <td style="width: 40%; padding: 2px;"> <input style="width: 95%;" type="password" value="....."/> </td> <td style="width: 30%; padding: 2px; font-size: small;"> password must be specified. The length of the password sho between 8 and 64 characters. The password accepts any ch [Default: there is a default password, but must not be shown here.] </td> </tr> <tr> <td colspan="3" style="text-align: right; padding: 2px;"> <input type="button" value="Ok"/> <input type="button" value="Cancel"/> </td> </tr> </table> </div> <div style="text-align: center; margin-bottom: 10px;">  </div>	Traps from Individual Servers	<input checked="" type="checkbox"/> Enabled	[Default: enabled.]			Enable or disable SNMP traps from in sent from individual servers, otherwis OAM&P server. [Default: disabled.]	Configured Community Name (SNMP			MPv3 Password	<input style="width: 95%;" type="password" value="....."/>	password must be specified. The length of the password sho between 8 and 64 characters. The password accepts any ch [Default: there is a default password, but must not be shown here.]	<input type="button" value="Ok"/> <input type="button" value="Cancel"/>		
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<input type="button" value="Ok"/> <input type="button" value="Cancel"/>																	
34. <input type="checkbox"/>	<p>NOAMP VIP:</p> <p>Click Logout on the server GUI.</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p style="background-color: #003366; color: white; padding: 2px;">Welcome guiadmin [Logout]</p> <hr/> <p style="text-align: right; padding: 2px;"> Help </p> <p style="font-size: small; padding: 2px;">Fri Nov 18 14:43:32 2011 UTC</p> </div>															

THIS PROCEDURE IS COMPLETE

6.2 OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)

During the OAM Pairing procedure, various errors may be seen at different stages of the procedure. During the execution of a step, you are directed to ignore errors related to values other than the ones referenced by that step.

The steps in this procedure are for all SOAM servers and the DR NOAMP servers.


This procedure creates active/standby pair for the SOAM servers at any site or the DR NOAMP Servers.

Requirements:

- [Section 5 Oracle Communications User Data Repository Server Configuration](#) has been completed
- [Section 6.1 OAM Pairing for Primary NOAMP Servers \(1st NOAMP site only\)](#) has been completed

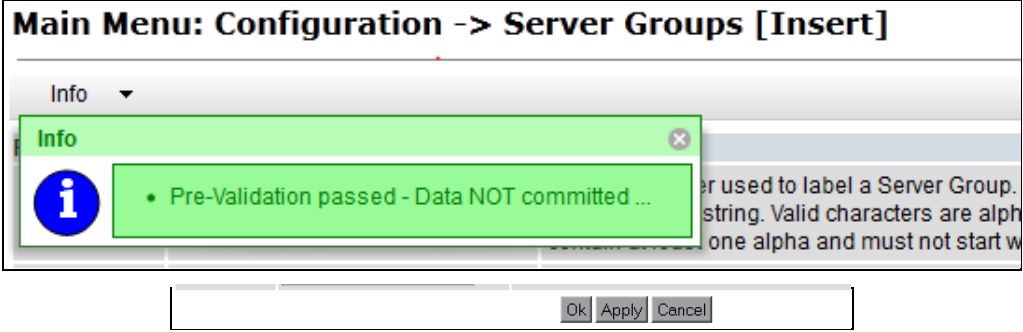
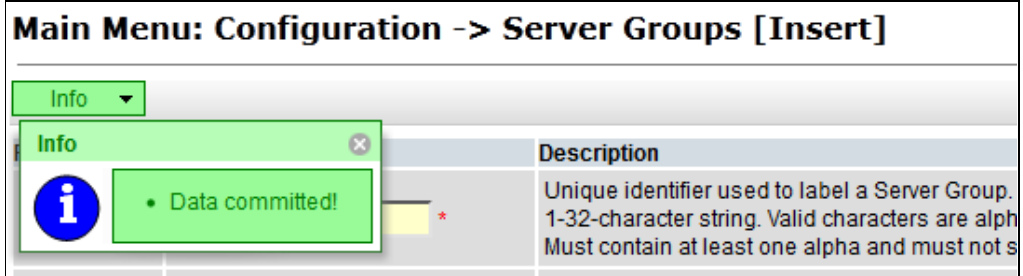
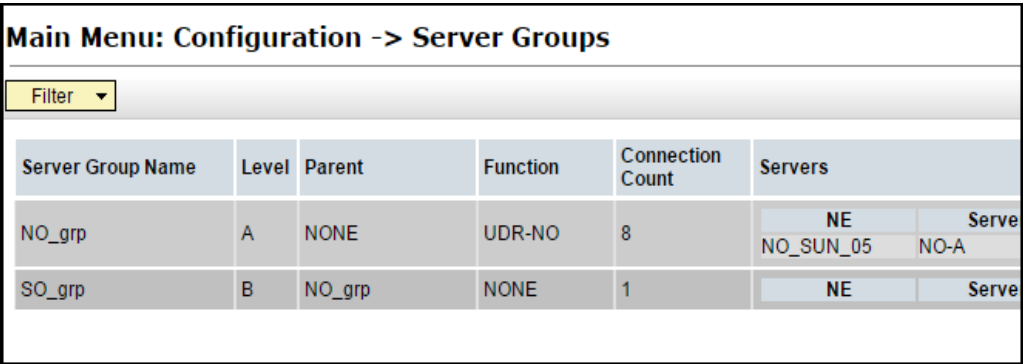
Check (√) each step as it is completed. Boxes have been provided for this purpose.

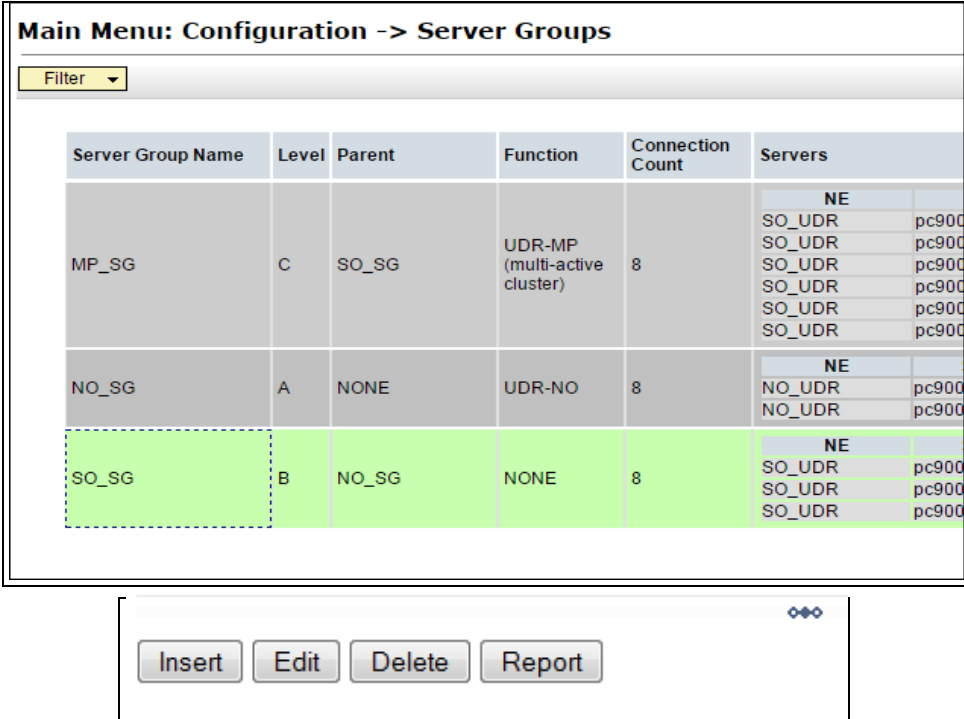
Procedure 10: OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)

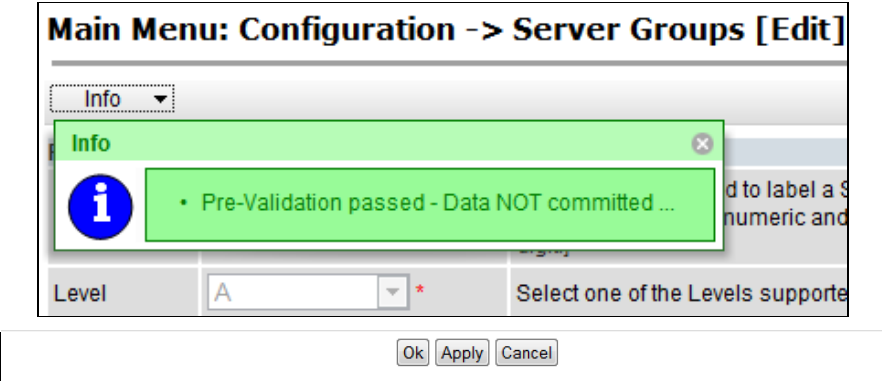
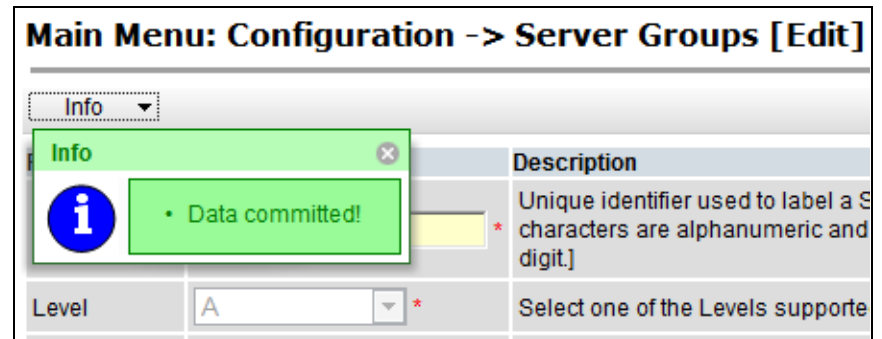

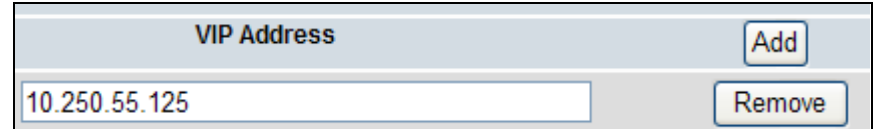
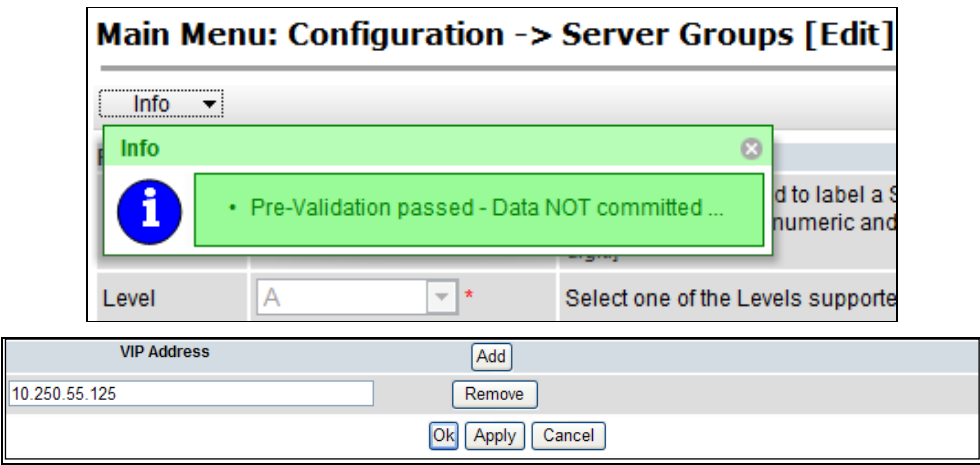
Step	Procedure	Details
1. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> 1. Launch a supported web browser and connect to the NOAMP Server A IP address <p>NOTE: If the security certificate warning displays, click Continue to this website (not recommended).</p> <ol style="list-style-type: none"> 2. Login to the GUI using the default user and password. 	

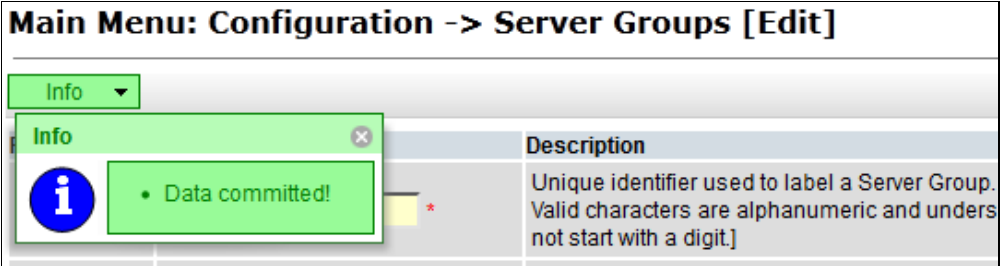
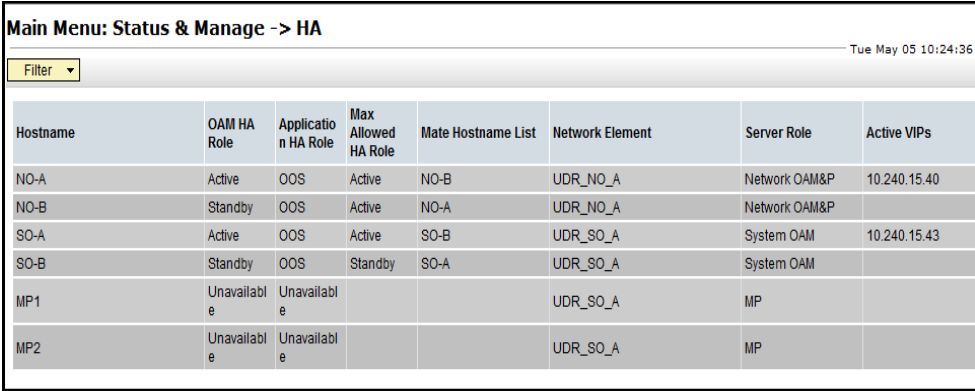
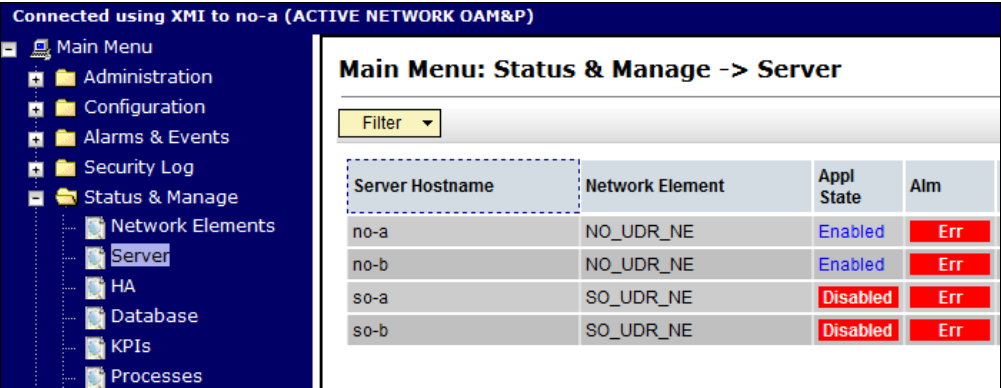
Step	Procedure	Details																																																																	
2. <input type="checkbox"/>	<p>Active NOAMP VIP: For Primary NOAMP Standby server only:</p> <ol style="list-style-type: none"> 1. Select the server forced standby Main Menu → Status & Manage → HA 2. Click Edit on bottom left 3. Locate the row for the Primary NOAMP Standby server and change Max Allowed HA Role to Standby. 	<p>NOTE: Do not perform this step for single server installations.</p> <div> <p>Main Menu: Status & Manage -> HA Tue May 05 10:11</p> <p>Filter</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>OAM HA Role</th> <th>Application HA Role</th> <th>Max Allowed HA Role</th> <th>Mate Hostname List</th> <th>Network Element</th> <th>Server Role</th> <th>Active VIPs</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Active</td> <td>OOS</td> <td>Active</td> <td>NO-B</td> <td>UDR_NO_A</td> <td>Network OAM&P</td> <td>10.240.15.40</td> </tr> <tr> <td>NO-B</td> <td>Standby</td> <td>OOS</td> <td>Active</td> <td>NO-A</td> <td>UDR_NO_A</td> <td>Network OAM&P</td> <td></td> </tr> <tr> <td>SO-A</td> <td>Unavaiable</td> <td>Unavaiable</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>System OAM</td> <td></td> </tr> <tr> <td>SO-B</td> <td>Unavaiable</td> <td>Unavaiable</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>System OAM</td> <td></td> </tr> <tr> <td>MP1</td> <td>Unavaiable</td> <td>Unavaiable</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>MP</td> <td></td> </tr> <tr> <td>MP2</td> <td>Unavaiable</td> <td>Unavaiable</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>MP</td> <td></td> </tr> </tbody> </table> </div> <div> <p>Main Menu: Status & Manage -> HA [Edit]</p> <p>Info</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Max Allowed HA Role</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Active</td> <td>The maximum desired HA Role for NO-A</td> </tr> <tr> <td>NO-B</td> <td>Standby</td> <td>The maximum desired HA Role for NO-B</td> </tr> </tbody> </table> <p>Ok Cancel</p> </div>	Hostname	OAM HA Role	Application HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	Server Role	Active VIPs	NO-A	Active	OOS	Active	NO-B	UDR_NO_A	Network OAM&P	10.240.15.40	NO-B	Standby	OOS	Active	NO-A	UDR_NO_A	Network OAM&P		SO-A	Unavaiable	Unavaiable			UDR_SO_A	System OAM		SO-B	Unavaiable	Unavaiable			UDR_SO_A	System OAM		MP1	Unavaiable	Unavaiable			UDR_SO_A	MP		MP2	Unavaiable	Unavaiable			UDR_SO_A	MP		Hostname	Max Allowed HA Role	Description	NO-A	Active	The maximum desired HA Role for NO-A	NO-B	Standby	The maximum desired HA Role for NO-B
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3. <input type="checkbox"/>	<p>Active NOAMP VIP: Navigate to Main Menu → Configuration → Server Groups</p>	<div> <p>Connected using XMI to no-a (ACTIVE NETWORK OAM&P)</p> <div style="display: flex;"> <div style="flex: 1;"> <ul style="list-style-type: none"> Main Menu Administration Configuration Network Elements Network Services Servers Server Groups Resource Domains </div> <div style="flex: 2;"> <p>Main Menu: Configuration -> Server Groups</p> <p>Filter</p> <table border="1"> <thead> <tr> <th>Server Group Name</th> <th>Level</th> <th>Parent</th> <th>Function</th> <th>Connection Count</th> </tr> </thead> <tbody> <tr> <td>NO_grp</td> <td>A</td> <td>NONE</td> <td>UDR-NO</td> <td>8</td> </tr> </tbody> </table> </div> </div> </div>	Server Group Name	Level	Parent	Function	Connection Count	NO_grp	A	NONE	UDR-NO	8																																																							
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8. <input type="checkbox"/>	<p>Active NOAMP VIP: Select the Parent.</p>	<table border="1"> <tbody> <tr> <td>Parent</td> <td>NO_grp *</td> <td>Select an existing Server Group or NONE</td> </tr> </tbody> </table> <p>NOTE: Use these setting for parent:</p> <ul style="list-style-type: none"> For DR NOAMP server group, select NONE for the Parent. For SOAM server group, select the server group for the first NOAMP site, as entered in Section 6.1 step Error! Reference source not found. 	Parent	NO_grp *	Select an existing Server Group or NONE															
Parent	NO_grp *	Select an existing Server Group or NONE																		
9. <input type="checkbox"/>	<p>Active NOAMP VIP: Select the Function.</p>	<table border="1"> <tbody> <tr> <td>Function</td> <td>NONE *</td> </tr> </tbody> </table> <p>NOTE: Use these setting for function:</p> <ul style="list-style-type: none"> For DR NOAMP server group, select UDR-NO for the Function. For SOAM server group, select NONE for the Function. 	Function	NONE *																
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10. <input type="checkbox"/>	<p>Active NOAMP VIP: (for DR NOAMP only)</p> <p>Enter 8 for WAN Replication Connection Count.</p>	<table border="1"> <tbody> <tr> <td>WAN Replication Connection Count</td> <td>8</td> <td>Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]</td> </tr> </tbody> </table>	WAN Replication Connection Count	8	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 8.]															
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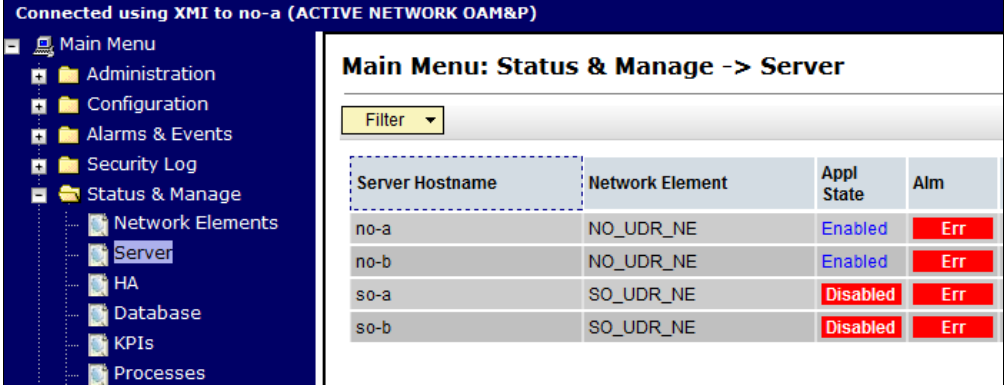
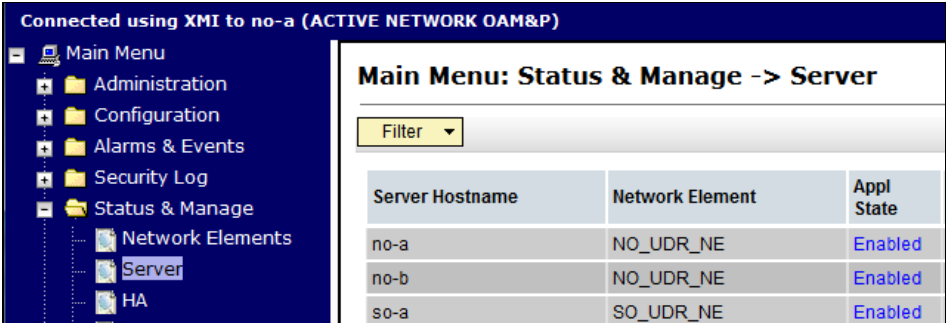
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11. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> 1. Click Info to see the Pre-Validation passed message. 2. Click Apply. 																			
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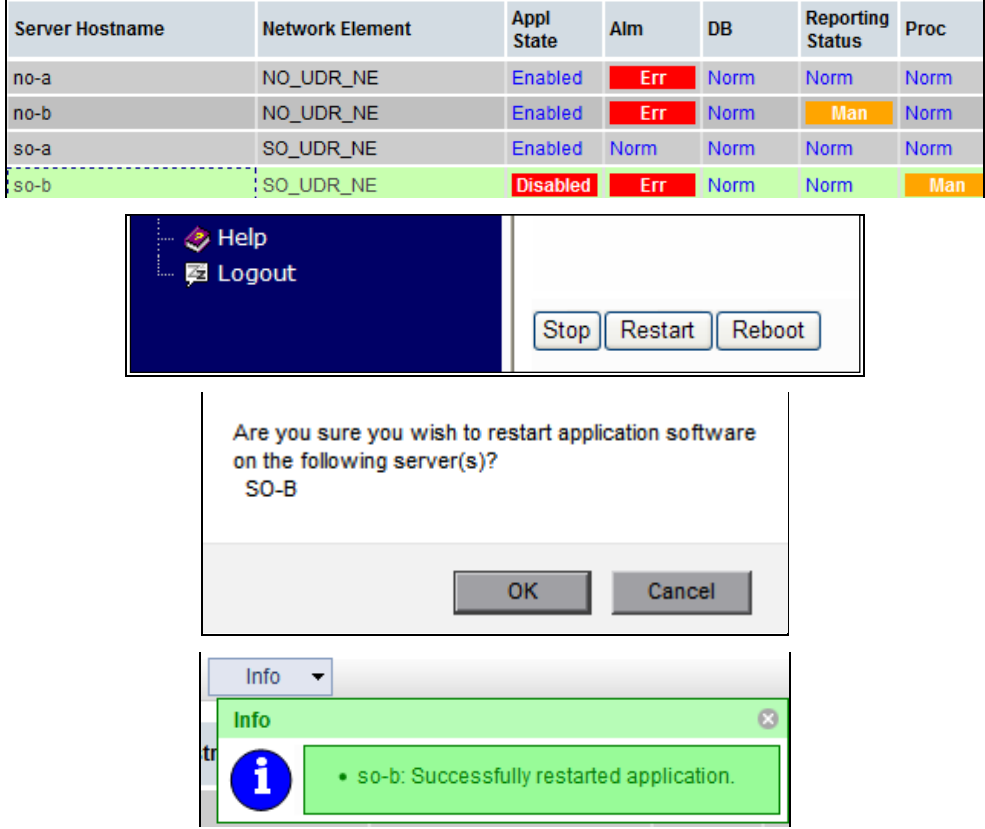
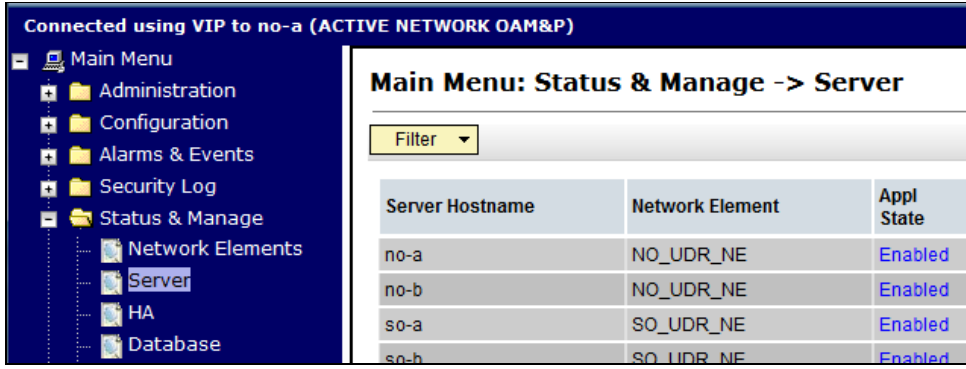
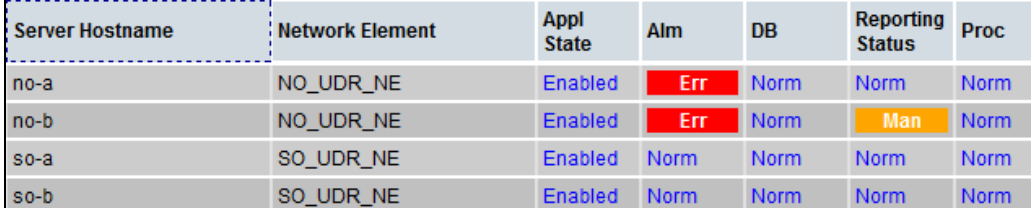
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14. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> Select the Server Group applied in step 7. The line entry is highlighted in GREEN. Click Edit in the bottom left corner of the screen. <p>NOTE: You may have to scroll to see Edit.</p>	 <p>Main Menu: Configuration -> Server Groups</p> <table border="1"> <thead> <tr> <th>Server Group Name</th> <th>Level</th> <th>Parent</th> <th>Function</th> <th>Connection Count</th> <th>Servers</th> </tr> </thead> <tbody> <tr> <td>MP_SG</td> <td>C</td> <td>SO_SG</td> <td>UDR-MP (multi-active cluster)</td> <td>8</td> <td>NE SO_UDR pc900 SO_UDR pc900 SO_UDR pc900 SO_UDR pc900 SO_UDR pc900 SO_UDR pc900</td> </tr> <tr> <td>NO_SG</td> <td>A</td> <td>NONE</td> <td>UDR-NO</td> <td>8</td> <td>NE NO_UDR pc900 NO_UDR pc900</td> </tr> <tr style="background-color: #90EE90;"> <td>SO_SG</td> <td>B</td> <td>NO_SG</td> <td>NONE</td> <td>8</td> <td>NE SO_UDR pc900 SO_UDR pc900 SO_UDR pc900</td> </tr> </tbody> </table> <p>Buttons: Insert, Edit, Delete, Report</p>	Server Group Name	Level	Parent	Function	Connection Count	Servers	MP_SG	C	SO_SG	UDR-MP (multi-active cluster)	8	NE SO_UDR pc900 SO_UDR pc900 SO_UDR pc900 SO_UDR pc900 SO_UDR pc900 SO_UDR pc900	NO_SG	A	NONE	UDR-NO	8	NE NO_UDR pc900 NO_UDR pc900	SO_SG	B	NO_SG	NONE	8	NE SO_UDR pc900 SO_UDR pc900 SO_UDR pc900
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15. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Select the A and B server from the list of servers.</p> <p>NOTE: For single server installation, only SO-A is displayed.</p>	<p>Normal or Low Capacity Configuration:</p> <table border="1"> <thead> <tr> <th>SO_UDR Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>SO-A</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>SO-B</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>VIP Assignment</p> <p>Single Server Configuration:</p> <table border="1"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>SO-A</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>VIP Assignment</p>	SO_UDR Server	SG Inclusion	Preferred HA Role	SO-A	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	SO-B	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	Server	SG Inclusion	Preferred HA Role	SO-A	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare									
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17. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Click Info to see a message stating Pre-Validation passed.</p> <p>Click Apply.</p>	
18. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Click Info to see a message stating Data committed.</p>	
19. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Click Add for the VIP Address.</p>	
20. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Input the VIP Address</p>	
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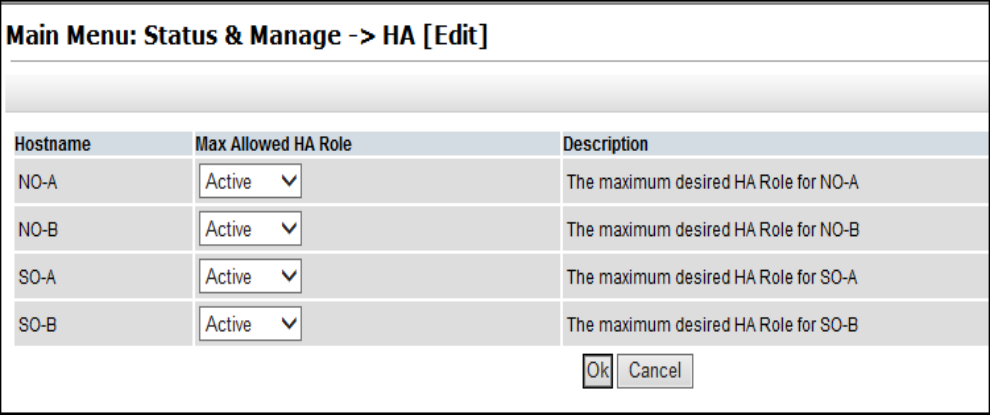
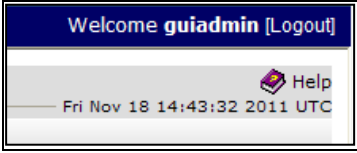
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23. <input type="checkbox"/>	<p>IMPORTANT: Wait at least 5 minutes before proceeding on to the next step.</p>	<p>After the servers are paired within a server group, a master/slave relationship is established for high availability (HA). It may take several minutes for this process to complete.</p> <p>NOTE: Single Server Configurations do not establish master/slave relationship for high availability (HA).</p> <p>Allow a minimum of 5 minutes before continuing to the next step.</p>																																																																								
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25. <input type="checkbox"/>	<p>Active NOAMP VIP: NOTES:</p> <ul style="list-style-type: none"> DR NOAMP servers have OAM MAX HA Role of Spare and no Active VIPs. SOAM servers have OAM MAX HA Role of Active or Standby and an Active VIP. 	<p>Normal or Low Capacity Configuration:</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>OAM Max HA Role</th> <th>Application Max HA Role</th> <th>Max Allowed HA Role</th> <th>Mate Hostname List</th> <th>Network Element</th> <th>Server Role</th> <th>Active VIPs</th> </tr> </thead> <tbody> <tr> <td>BL119122305-SO-1A</td> <td>Active</td> <td>OOS</td> <td>Active</td> <td>BL119122306-SO-1B</td> <td>SO_UDR_Site1_VM</td> <td>System OAM</td> <td>10.240.168.</td> </tr> <tr> <td>BL119122306-SO-1B</td> <td>Standby</td> <td>OOS</td> <td>Active</td> <td>BL119122305-SO-1A</td> <td>SO_UDR_Site1_VM</td> <td>System OAM</td> <td></td> </tr> <tr> <td>BL119121305-SO-2A</td> <td>Active</td> <td>OOS</td> <td>Active</td> <td>BL119121306-SO-2B</td> <td>SO_UDR_Site2_VM</td> <td>System OAM</td> <td>10.240.168.</td> </tr> <tr> <td>BL119121306-SO-2B</td> <td>Standby</td> <td>OOS</td> <td>Active</td> <td>BL119121305-SO-2A</td> <td>SO_UDR_Site2_VM</td> <td>System OAM</td> <td></td> </tr> <tr> <td>BL119122301-NO-1A</td> <td>Standby</td> <td>OOS</td> <td>Active</td> <td>BL119122303-NO-1B</td> <td>NO_UDR_Site1_VM</td> <td>Network OAM&P</td> <td></td> </tr> <tr> <td>BL119122303-NO-1B</td> <td>Active</td> <td>OOS</td> <td>Active</td> <td>BL119122301-NO-1A</td> <td>NO_UDR_Site1_VM</td> <td>Network OAM&P</td> <td>10.240.168.</td> </tr> <tr> <td>BL119121301-NO-2A</td> <td>Spare</td> <td>OOS</td> <td>Active</td> <td>BL119121303-NO-2B</td> <td>NO_UDR_Site2_VM</td> <td>Network OAM&P</td> <td></td> </tr> <tr> <td>BL119121303-NO-2B</td> <td>Spare</td> <td>OOS</td> <td>Active</td> <td>BL119121301-NO-2A</td> <td>NO_UDR_Site2_VM</td> <td>Network OAM&P</td> <td></td> </tr> </tbody> </table>	Hostname	OAM Max HA Role	Application Max HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	Server Role	Active VIPs	BL119122305-SO-1A	Active	OOS	Active	BL119122306-SO-1B	SO_UDR_Site1_VM	System OAM	10.240.168.	BL119122306-SO-1B	Standby	OOS	Active	BL119122305-SO-1A	SO_UDR_Site1_VM	System OAM		BL119121305-SO-2A	Active	OOS	Active	BL119121306-SO-2B	SO_UDR_Site2_VM	System OAM	10.240.168.	BL119121306-SO-2B	Standby	OOS	Active	BL119121305-SO-2A	SO_UDR_Site2_VM	System OAM		BL119122301-NO-1A	Standby	OOS	Active	BL119122303-NO-1B	NO_UDR_Site1_VM	Network OAM&P		BL119122303-NO-1B	Active	OOS	Active	BL119122301-NO-1A	NO_UDR_Site1_VM	Network OAM&P	10.240.168.	BL119121301-NO-2A	Spare	OOS	Active	BL119121303-NO-2B	NO_UDR_Site2_VM	Network OAM&P		BL119121303-NO-2B	Spare	OOS	Active	BL119121301-NO-2A	NO_UDR_Site2_VM	Network OAM&P	
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26. <input type="checkbox"/>	<p>Active NOAMP VIP: Restarting the OAM Server Application</p> <p>Navigate to Main Menu -> Status & Manage -> Server</p>	 <p>Connected using XMI to no-a (ACTIVE NETWORK OAM&P)</p> <p>Main Menu</p> <ul style="list-style-type: none"> Administration Configuration Alarms & Events Security Log Status & Manage <ul style="list-style-type: none"> Network Elements Server HA Database KPIs Processes <p>Main Menu: Status & Manage -> Server</p> <table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> </tr> <tr> <td>no-b</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> </tr> <tr> <td>so-a</td> <td>SO_UDR_NE</td> <td>Disabled</td> <td>Err</td> </tr> <tr> <td>so-b</td> <td>SO_UDR_NE</td> <td>Disabled</td> <td>Err</td> </tr> </tbody> </table>	Server Hostname	Network Element	Appl State	Alm	no-a	NO_UDR_NE	Enabled	Err	no-b	NO_UDR_NE	Enabled	Err	so-a	SO_UDR_NE	Disabled	Err	so-b	SO_UDR_NE	Disabled	Err																																																				
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27. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> The A and B servers are listed in the right panel. (Only A for single server installs) Verify that the DB status shows Norm and the Proc status shows Man for both servers before proceeding to the to step 28. (Only A server for single server configuration) 	<p>Normal or Low Capacity Configuration:</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>SO_UDR</td> <td>pc9000722-so-b</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>SO_UDR</td> <td>pc9000720-so-a</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table> <p>Single Server Configuration:</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>NO_UDR</td> <td>pc9000724-no-a</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SO_UDR</td> <td>pc9000720-so-a</td> <td>Disabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	SO_UDR	pc9000722-so-b	Disabled	Err	Norm	Norm	Man	SO_UDR	pc9000720-so-a	Disabled	Err	Norm	Norm	Man	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	NO_UDR	pc9000724-no-a	Enabled	Err	Norm	Norm	Norm	SO_UDR	pc9000720-so-a	Disabled	Norm	Norm	Norm	Man
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28. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> Select Server A. The line entry is highlighted in GREEN. Click Restart from the bottom left corner of the screen. Click OK on the confirmation dialogue. Click Info to see a message for Server A stating Successfully restarted application. <p>NOTE: You may have to scroll to see Restart</p>	<p>Normal or Low Capacity Configuration:</p> <table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>no-b</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Man</td> <td>Norm</td> </tr> <tr> <td>so-a</td> <td>SO_UDR_NE</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>so-b</td> <td>SO_UDR_NE</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px;">  </div> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Are you sure you wish to restart application software on the following server(s)? SO-A</p> <p style="text-align: center;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> </p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Filter Info</p> <table border="1"> <thead> <tr> <th>Server Hostr</th> <th>Info</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td> <div style="background-color: #e0ffe0; padding: 5px; border: 1px solid #00b050;"> <p>Info</p> <ul style="list-style-type: none"> so-a: Successfully restarted application. </div> </td> </tr> </tbody> </table> </div>	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	no-a	NO_UDR_NE	Enabled	Err	Norm	Norm	Norm	no-b	NO_UDR_NE	Enabled	Err	Norm	Man	Norm	so-a	SO_UDR_NE	Disabled	Err	Norm	Norm	Man	so-b	SO_UDR_NE	Disabled	Err	Norm	Norm	Man	Server Hostr	Info	no-a	<div style="background-color: #e0ffe0; padding: 5px; border: 1px solid #00b050;"> <p>Info</p> <ul style="list-style-type: none"> so-a: Successfully restarted application. </div>			
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29. <input type="checkbox"/>	<p>Active NOAMP VIP: Navigate to Main Menu → Status & Manage → Server</p>																																				
30. <input type="checkbox"/>	<p>Active NOAMP VIP: Verify that the Appl State column shows Enabled and that the Alm, DB, Reporting, and Status and Proc columns show Norm for OAM Server A before proceeding to the next step.</p>	<table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>no-b</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Man</td> <td>Norm</td> </tr> <tr> <td>so-a</td> <td>SO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>so-b</td> <td>SO_UDR_NE</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table> <p>NOTE: You can refresh the server status screen before the default setting of 15 to 30 seconds. This may be done by selecting Status & Manage → Server from the Main menu on the left.</p>	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	no-a	NO_UDR_NE	Enabled	Err	Norm	Norm	Norm	no-b	NO_UDR_NE	Enabled	Err	Norm	Man	Norm	so-a	SO_UDR_NE	Enabled	Norm	Norm	Norm	Norm	so-b	SO_UDR_NE	Disabled	Err	Norm	Norm	Man
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31. <input type="checkbox"/>	<p>Active NOAMP VIP: Navigate to Main Menu → Status & Manage → Server</p>																																				
<p>Perform steps Error! Reference source not found. through Error! Reference source not found. for multiple server configurations only (not single server).</p>																																					

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<p>32. <input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> 1. Select Server B. The line entry is highlighted in GREEN. 2. Click Restart in the bottom left corner of the screen. 3. Click OK on the confirmation dialogue. 4. Click Info to see a message for Server B stating Successfully restarted application. <p>NOTE: You may need to scroll- in order to see Restart.</p>	 <table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>no-b</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Man</td> <td>Norm</td> </tr> <tr> <td>so-a</td> <td>SO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr style="background-color: #e0ffe0;"> <td>so-b</td> <td>SO_UDR_NE</td> <td>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table>	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	no-a	NO_UDR_NE	Enabled	Err	Norm	Norm	Norm	no-b	NO_UDR_NE	Enabled	Err	Norm	Man	Norm	so-a	SO_UDR_NE	Enabled	Norm	Norm	Norm	Norm	so-b	SO_UDR_NE	Disabled	Err	Norm	Norm	Man
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<p>34. <input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>Verify that Appl State column shows Enabled and that the Alm, DB, Reporting Status and Proc columns show Norm for Server B before proceeding to the next step.</p>	 <table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>no-b</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Man</td> <td>Norm</td> </tr> <tr> <td>so-a</td> <td>SO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>so-b</td> <td>SO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table> <p>NOTE: You can refresh the server status screen before the default setting of 15 to 30 seconds. This is done by selecting Status & Manage → Server from the Main menu on the left.</p>	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	no-a	NO_UDR_NE	Enabled	Err	Norm	Norm	Norm	no-b	NO_UDR_NE	Enabled	Err	Norm	Man	Norm	so-a	SO_UDR_NE	Enabled	Norm	Norm	Norm	Norm	so-b	SO_UDR_NE	Enabled	Norm	Norm	Norm	Norm
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Repeat all the steps for each DR NOAMP and SOAM site being installed.

Step	Procedure	Details
35. <input type="checkbox"/>	<p>Active NOAMP VIP: (For Primary NOAMP Standby server only)</p> <p>Move the server back to Active</p> <p>Navigate to Main Menu → Status & Manage → HA[Edit]</p> <p>Find the row for the Primary NOAMP Standby server and change Max Allowed HA Role back to Active.</p>	
36. <input type="checkbox"/>	<p>Active NOAMP VIP: Click Logout.</p>	
THIS PROCEDURE IS COMPLETE		

6.3 OAM Pairing for MP Server Groups (All SOAM sites)


During the Message Processor (MP) installation procedure, various errors may be seen at different stages of the procedure. During the execution of a step, you are directed to ignore errors related to values other than the ones referenced by that step.

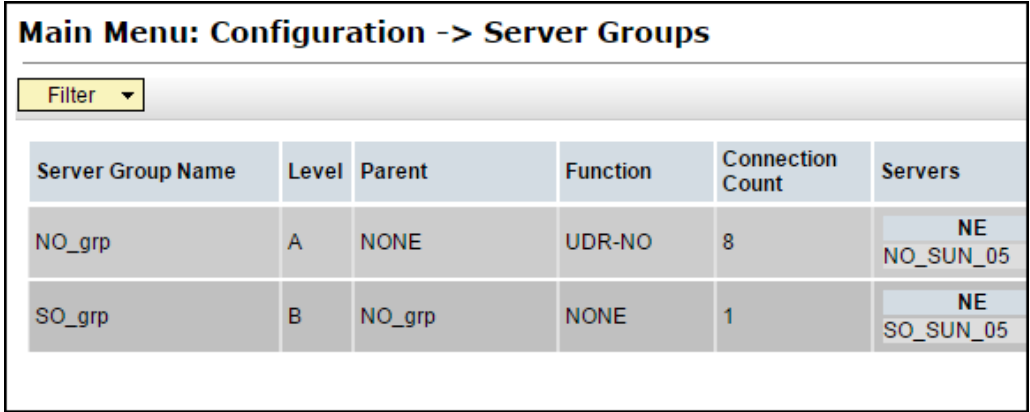
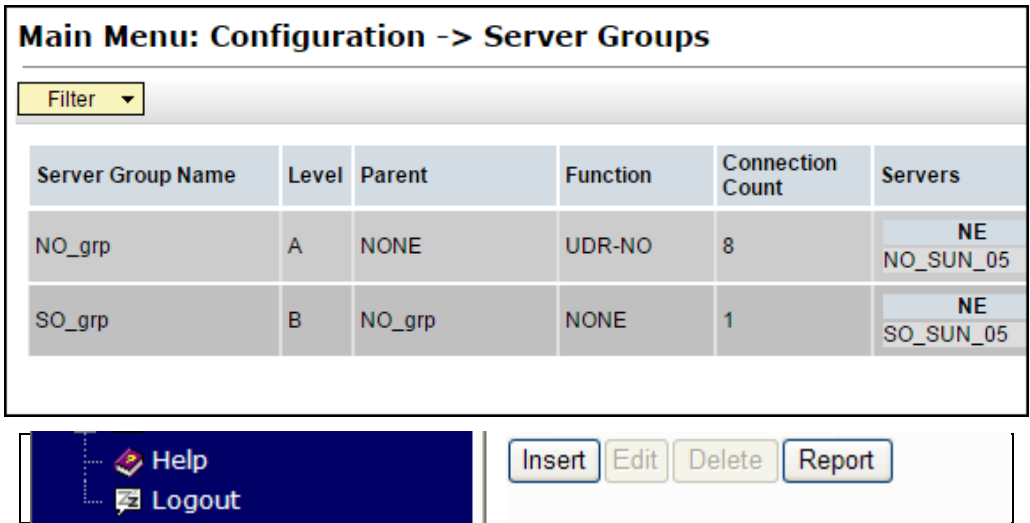
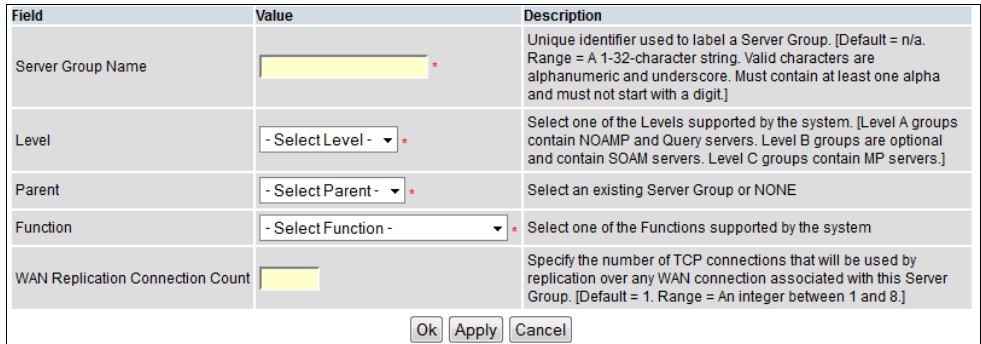

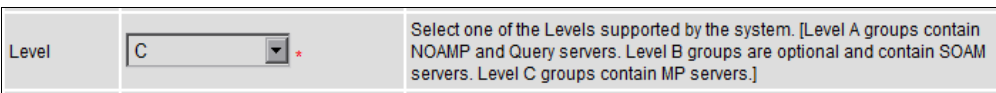
Requirements:



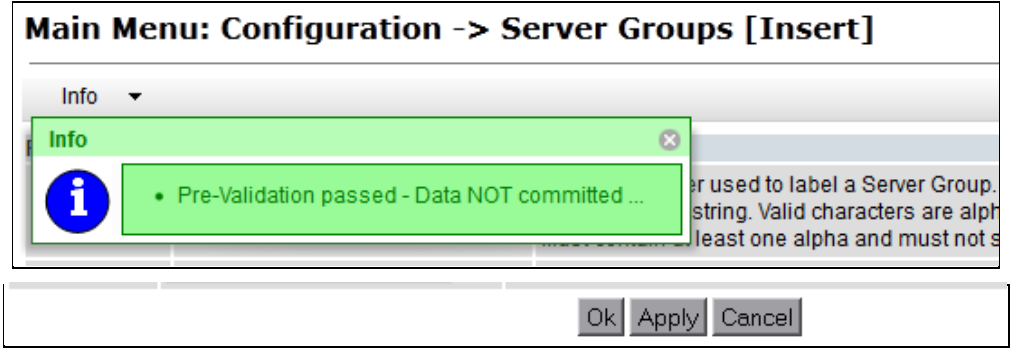
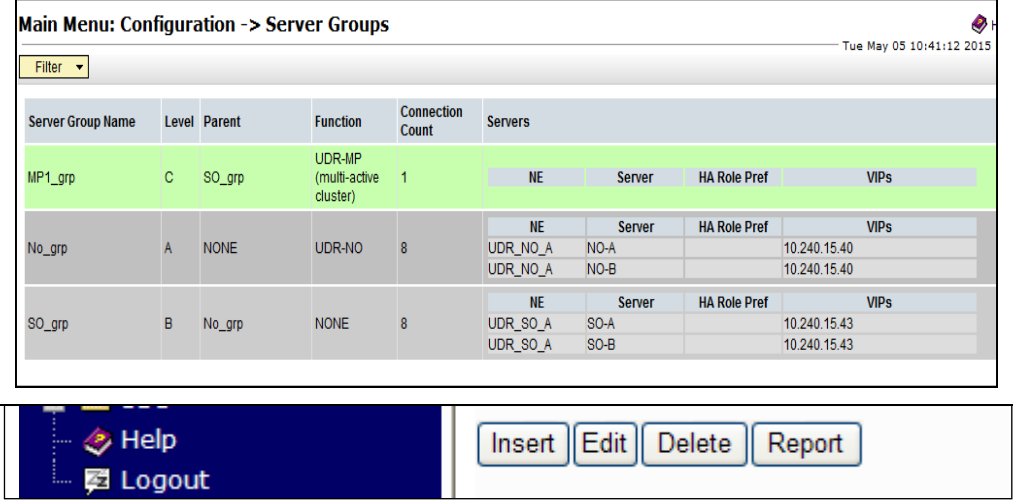
- Section [6.2 OAM Pairing for SOAM and DR Sites \(All SOAM and DR sites\)](#) has been completed

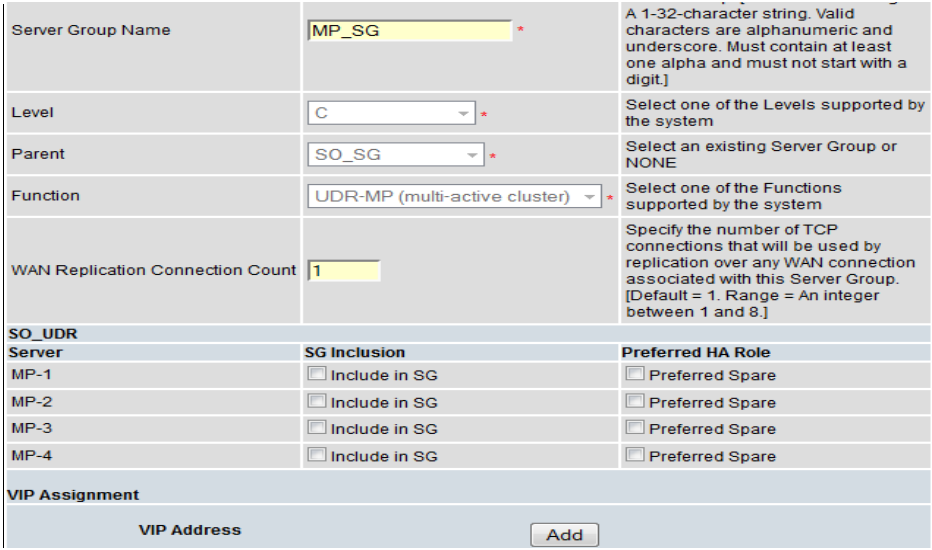
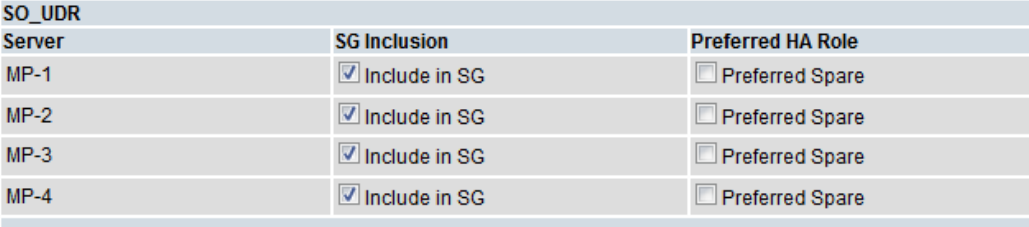
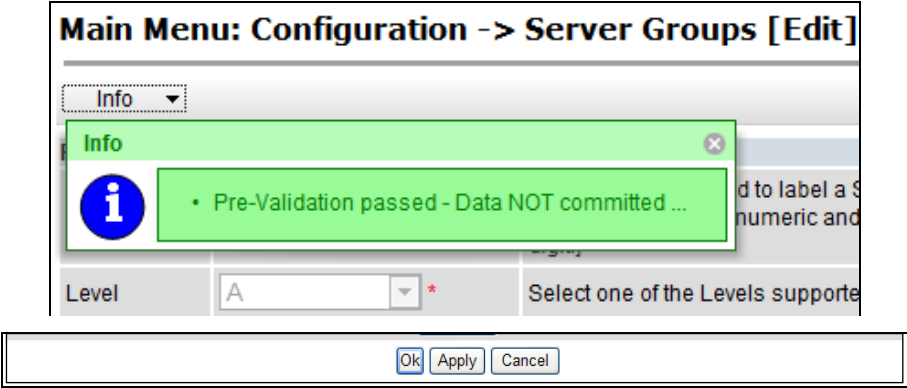
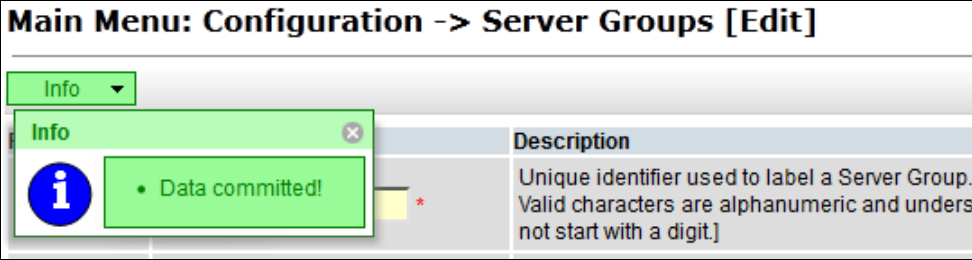
Check (✓) each step as it is completed. Boxes have been provided for this purpose.

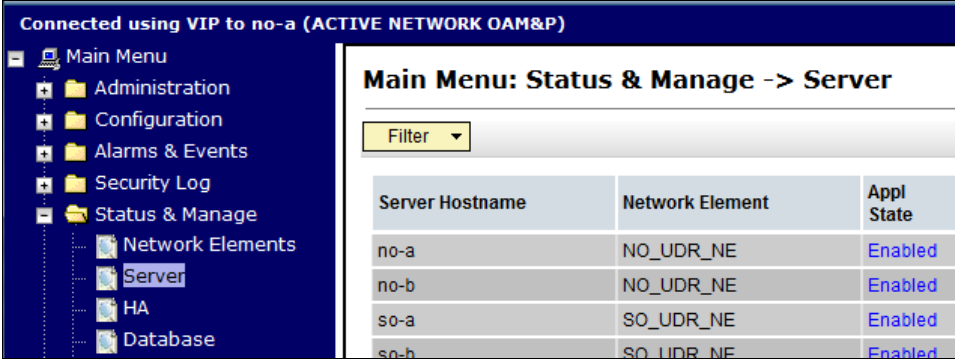
Procedure 11: OAM Pairing for MP Server Groups (All SOAM sites)

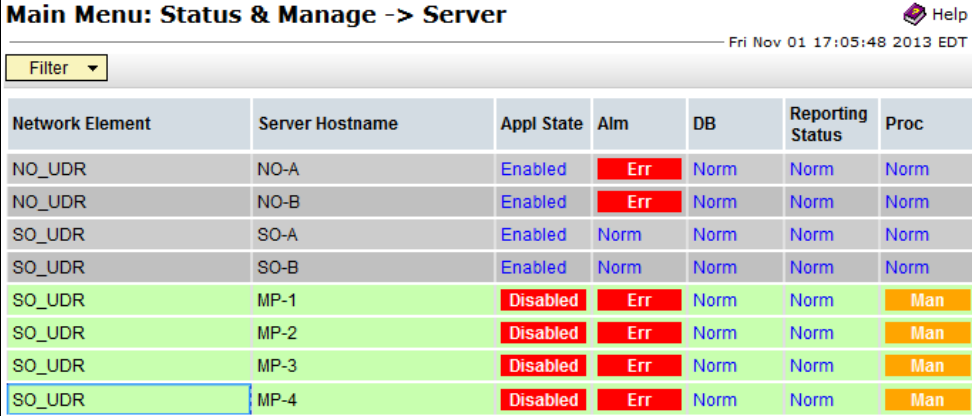

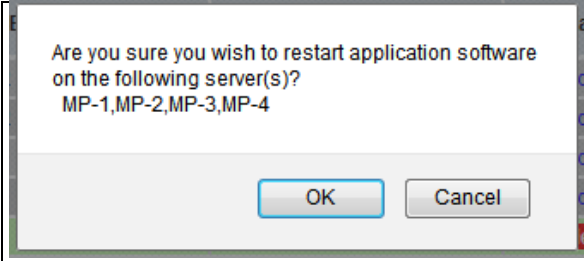
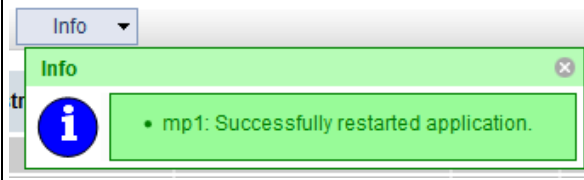
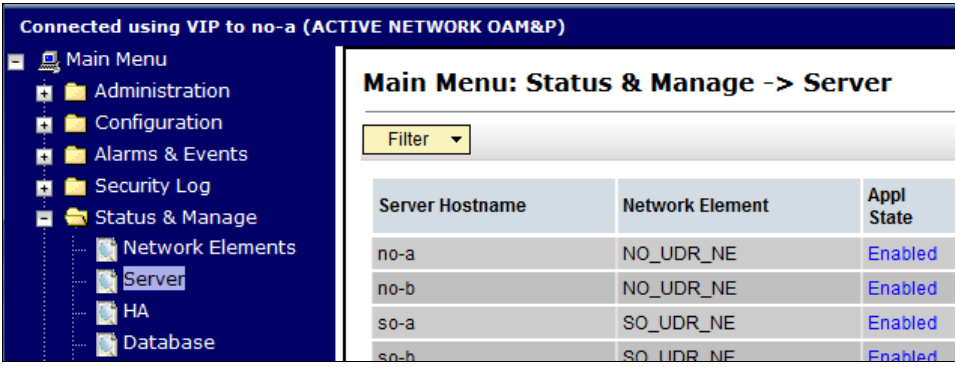
Step	Procedure	Details
1. <input type="checkbox"/>	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Select Continue to this website (not recommended) if the security certificate warning displays.</p> <p>Login to the GUI using the default user and password.</p>	

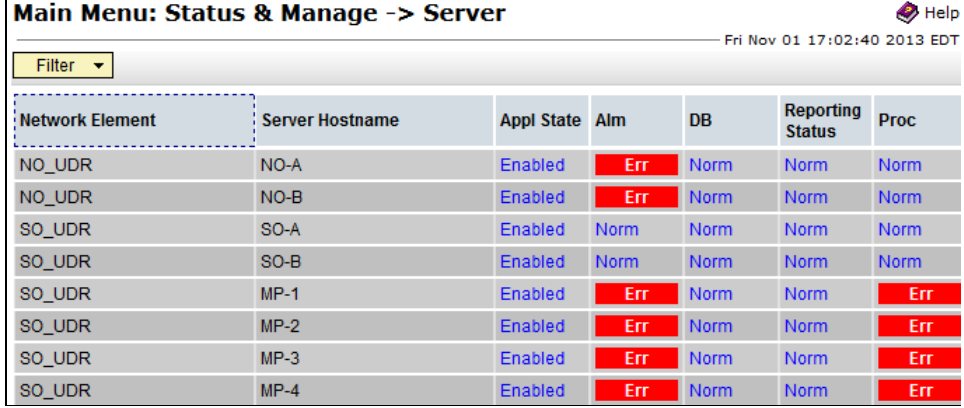
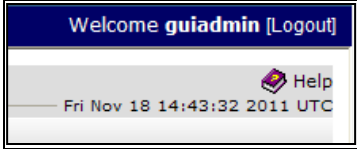
Step	Procedure	Details
2. <input type="checkbox"/>	<p>Active NOAMP VIP: Navigate to Main Menu → Configuration → Server Groups</p>	
3. <input type="checkbox"/>	<p>Active NOAMP VIP: Click Insert in the bottom left corner of the screen. NOTE: You may have to scroll to see Insert</p>	
4. <input type="checkbox"/>	<p>Active NOAMP VIP: The Server Groups [Insert] screen opens.</p>	
5. <input type="checkbox"/>	<p>Active NOAMP VIP: Enter the Server Group Name.</p>	
6. <input type="checkbox"/>	<p>Active NOAMP VIP: Select C for the Level.</p>	

Step	Procedure	Details																								
7. <input type="checkbox"/>	Active NOAMP VIP: Select the SOAM server group for the Parent.																									
8. <input type="checkbox"/>	Active NOAMP VIP: Select UDR-MP (multi-active cluster) for the Function.																									
9. <input type="checkbox"/>	Active NOAMP VIP: 1. Click Info to see a message stating Pre-Validation passed . 2. Click OK .																									
10. <input type="checkbox"/>	Active NOAMP VIP: 1. Select the MP Server Group associated with the MP being installed. 2. Click Edit from the bottom left corner of the screen.	 <table border="1"> <thead> <tr> <th>Server Group Name</th> <th>Level</th> <th>Parent</th> <th>Function</th> <th>Connection Count</th> <th>Servers</th> </tr> </thead> <tbody> <tr> <td>MP1_grp</td> <td>C</td> <td>SO_grp</td> <td>UDR-MP (multi-active cluster)</td> <td>1</td> <td>NE Server HA Role Pref VIPs</td> </tr> <tr> <td>No_grp</td> <td>A</td> <td>NONE</td> <td>UDR-NO</td> <td>8</td> <td>NE Server HA Role Pref VIPs UDR_NO_A NO-A 10.240.15.40 UDR_NO_A NO-B 10.240.15.40</td> </tr> <tr> <td>SO_grp</td> <td>B</td> <td>No_grp</td> <td>NONE</td> <td>8</td> <td>NE Server HA Role Pref VIPs UDR_SO_A SO-A 10.240.15.43 UDR_SO_A SO-B 10.240.15.43</td> </tr> </tbody> </table>	Server Group Name	Level	Parent	Function	Connection Count	Servers	MP1_grp	C	SO_grp	UDR-MP (multi-active cluster)	1	NE Server HA Role Pref VIPs	No_grp	A	NONE	UDR-NO	8	NE Server HA Role Pref VIPs UDR_NO_A NO-A 10.240.15.40 UDR_NO_A NO-B 10.240.15.40	SO_grp	B	No_grp	NONE	8	NE Server HA Role Pref VIPs UDR_SO_A SO-A 10.240.15.43 UDR_SO_A SO-B 10.240.15.43
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SO_grp	B	No_grp	NONE	8	NE Server HA Role Pref VIPs UDR_SO_A SO-A 10.240.15.43 UDR_SO_A SO-B 10.240.15.43																					

Step	Procedure	Details															
11. <input type="checkbox"/>	<p>Active NOAMP VIP: The Configuration → Server Groups [Edit] page opens.</p>	<p>Normal Capacity Configuration:</p> 															
12. <input type="checkbox"/>	<p>Active NOAMP VIP: Select Include in SG for each MP to be included in this Server Group.</p>	 <table border="1"> <thead> <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> <tr> <td>MP-3</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>MP-4</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table>	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	MP-3	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	MP-4	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
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MP-3	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare															
MP-4	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare															
13. <input type="checkbox"/>	<p>Active NOAMP VIP: Click Info to see a message stating Pre-Validation passed. Click Apply.</p>																
14. <input type="checkbox"/>	<p>Active NOAMP VIP: Click Info to see a message stating Data committed.</p>																

Step	Procedure	Details																												
15. <input type="checkbox"/>	IMPORTANT: Wait at least 5 minutes before proceeding on to the next step.	<ul style="list-style-type: none"> After the Message Processors are placed within their server groups, each must establish DB replication with the active SOAM server at the NE. It may take several minutes for this process to be completed. Oracle Communications User Data Repository process alarms may be present until Section 7.2 Configure SPR Application on MP (All SOAM Sites) is completed. <p>Allow a minimum of 5 minutes before continuing to the next step.</p>																												
16. <input type="checkbox"/>	Active NOAMP VIP: Navigate to Main Menu → Status & Manage → Server	 <p>The screenshot shows a web interface titled "Connected using VIP to no-a (ACTIVE NETWORK OAM&P)". On the left is a navigation tree with "Main Menu" expanded to show "Status & Manage" and "Server" selected. On the right, a window titled "Main Menu: Status & Manage -> Server" contains a table with the following data:</p> <table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> </tr> </thead> <tbody> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Enabled</td> </tr> <tr> <td>no-b</td> <td>NO_UDR_NE</td> <td>Enabled</td> </tr> <tr> <td>so-a</td> <td>SO_UDR_NE</td> <td>Enabled</td> </tr> <tr> <td>so-b</td> <td>SO_UDR_NE</td> <td>Enabled</td> </tr> </tbody> </table>	Server Hostname	Network Element	Appl State	no-a	NO_UDR_NE	Enabled	no-b	NO_UDR_NE	Enabled	so-a	SO_UDR_NE	Enabled	so-b	SO_UDR_NE	Enabled													
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so-b	SO_UDR_NE	Enabled																												
17. <input type="checkbox"/>	Active NOAMP VIP: Verify that the DB and Reporting Status columns show Norm for the MPs at this point. The Proc column should show Man.	Normal Capacity Configuration: <table border="1"> <tbody> <tr> <td>SO_UDR</td> <td>MP-1</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>SO_UDR</td> <td>MP-2</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>SO_UDR</td> <td>MP-3</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> <tr> <td>SO_UDR</td> <td>MP-4</td> <td>Disabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table>	SO_UDR	MP-1	Disabled	Warn	Norm	Norm	Man	SO_UDR	MP-2	Disabled	Warn	Norm	Norm	Man	SO_UDR	MP-3	Disabled	Warn	Norm	Norm	Man	SO_UDR	MP-4	Disabled	Warn	Norm	Norm	Man
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SO_UDR	MP-4	Disabled	Warn	Norm	Norm	Man																								

Step	Procedure	Details																																																															
<p>18. <input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> 1. Select each MP with Man status using the mouse and holding the Ctrl. The line entries are highlighted in GREEN. 2. Click Restart from the bottom left corner of the screen. 3. Click OK on the confirmation dialogue. 4. Click infor to see the message stating Successfully restarted application. <p>NOTE: You may need to use the vertical scrollbar to see Restart.</p>	 <p>Main Menu: Status & Manage -> Server</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr><td>NO_UDR</td><td>NO-A</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>NO_UDR</td><td>NO-B</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>SO_UDR</td><td>SO-A</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>SO_UDR</td><td>SO-B</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr> <tr><td>SO_UDR</td><td>MP-1</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr> <tr><td>SO_UDR</td><td>MP-2</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr> <tr><td>SO_UDR</td><td>MP-3</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr> <tr><td>SO_UDR</td><td>MP-4</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr> </tbody> </table>   	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	NO_UDR	NO-A	Enabled	Err	Norm	Norm	Norm	NO_UDR	NO-B	Enabled	Err	Norm	Norm	Norm	SO_UDR	SO-A	Enabled	Norm	Norm	Norm	Norm	SO_UDR	SO-B	Enabled	Norm	Norm	Norm	Norm	SO_UDR	MP-1	Disabled	Err	Norm	Norm	Man	SO_UDR	MP-2	Disabled	Err	Norm	Norm	Man	SO_UDR	MP-3	Disabled	Err	Norm	Norm	Man	SO_UDR	MP-4	Disabled	Err	Norm	Norm	Man
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SO_UDR	MP-4	Disabled	Err	Norm	Norm	Man																																																											
<p>19. <input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>Navigate to Main Menu -> Status & Manage -> Server</p>	 <p>Connected using VIP to no-a (ACTIVE NETWORK OAM&P)</p> <ul style="list-style-type: none"> Main Menu <ul style="list-style-type: none"> Administration Configuration Alarms & Events Security Log Status & Manage <ul style="list-style-type: none"> Network Elements Server HA Database <p>Main Menu: Status & Manage -> Server</p> <table border="1"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> </tr> </thead> <tbody> <tr><td>no-a</td><td>NO_UDR_NE</td><td>Enabled</td></tr> <tr><td>no-b</td><td>NO_UDR_NE</td><td>Enabled</td></tr> <tr><td>so-a</td><td>SO_UDR_NE</td><td>Enabled</td></tr> <tr><td>so-b</td><td>SO_UDR_NE</td><td>Enabled</td></tr> </tbody> </table>	Server Hostname	Network Element	Appl State	no-a	NO_UDR_NE	Enabled	no-b	NO_UDR_NE	Enabled	so-a	SO_UDR_NE	Enabled	so-b	SO_UDR_NE	Enabled																																																
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20. <input type="checkbox"/>	<p>Active NOAMP VIP: Verify that the Appl State shows Enabled and that the DB and Reporting Status columns show Norm for the MPs. The Alm and Proc columns may show Err at this point.</p>	 <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>NO_UDR</td> <td>NO-A</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>NO_UDR</td> <td>NO-B</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SO_UDR</td> <td>SO-A</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SO_UDR</td> <td>SO-B</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>SO_UDR</td> <td>MP-1</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Err</td> </tr> <tr> <td>SO_UDR</td> <td>MP-2</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Err</td> </tr> <tr> <td>SO_UDR</td> <td>MP-3</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Err</td> </tr> <tr> <td>SO_UDR</td> <td>MP-4</td> <td>Enabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Err</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	NO_UDR	NO-A	Enabled	Err	Norm	Norm	Norm	NO_UDR	NO-B	Enabled	Err	Norm	Norm	Norm	SO_UDR	SO-A	Enabled	Norm	Norm	Norm	Norm	SO_UDR	SO-B	Enabled	Norm	Norm	Norm	Norm	SO_UDR	MP-1	Enabled	Err	Norm	Norm	Err	SO_UDR	MP-2	Enabled	Err	Norm	Norm	Err	SO_UDR	MP-3	Enabled	Err	Norm	Norm	Err	SO_UDR	MP-4	Enabled	Err	Norm	Norm	Err
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SO_UDR	MP-4	Enabled	Err	Norm	Norm	Err																																																											
21. <input type="checkbox"/>	<p>Active NOAMP VIP: Click Logout.</p>																																																																

THIS PROCEDURE IS COMPLETE

7. APPLICATION CONFIGURATION

7.1 Configure Signaling Routes


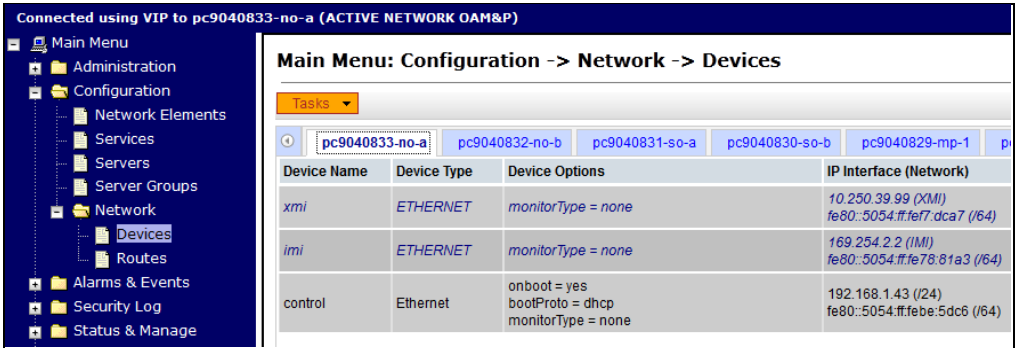
This procedure configures the XSI signaling route for all MP Servers.

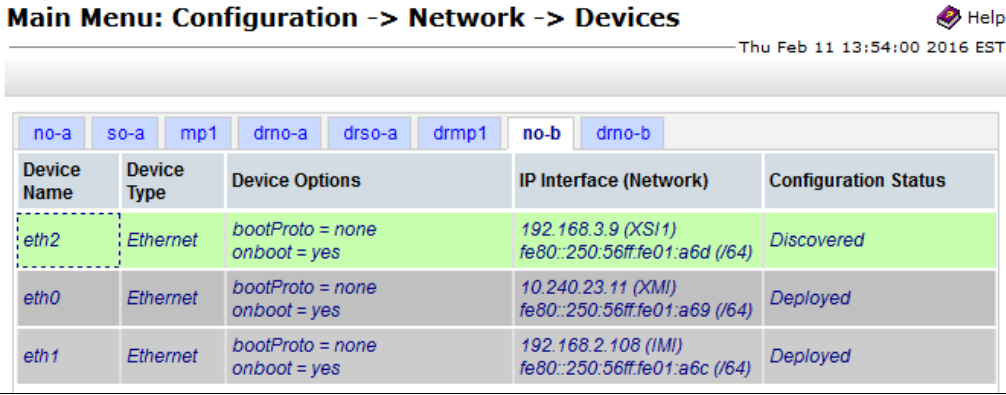
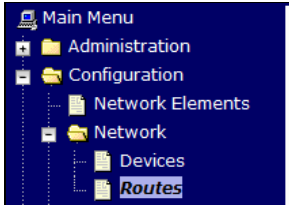
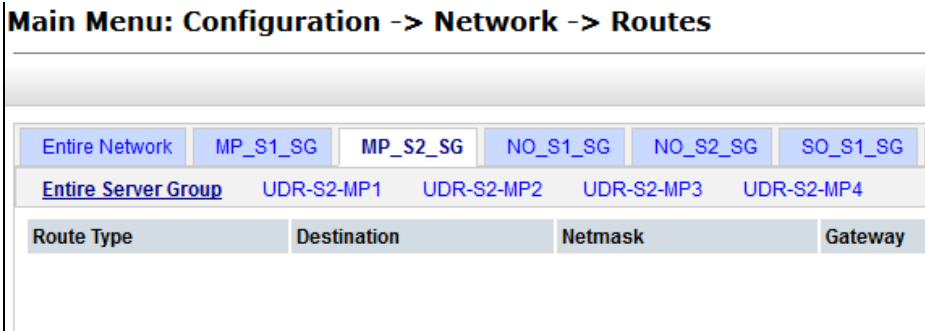
Requirements:


- [Section 6 OAM Pairing](#) has been completed

Check (√) each step as it is completed. Boxes have been provided for this purpose.

Procedure 12: Configure Signaling Routes

Step	Procedure	Details																
1. <input type="checkbox"/>	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Select Continue to this website (not recommended) if the security certificate warning displays.</p> <p>Login to the GUI using the default user and password.</p>																	
2. <input type="checkbox"/>	<p>Active NOAMP VIP Navigate to Main Menu → Configuration → Network → Devices</p>	 <table border="1"> <thead> <tr> <th>Device Name</th> <th>Device Type</th> <th>Device Options</th> <th>IP Interface (Network)</th> </tr> </thead> <tbody> <tr> <td>xmi</td> <td>ETHERNET</td> <td>monitorType = none</td> <td>10.250.39.99 (XMI) fe80::5054:ff:fe7:aca7 (/64)</td> </tr> <tr> <td>imi</td> <td>ETHERNET</td> <td>monitorType = none</td> <td>169.254.2.2 (IMI) fe80::5054:ff:fe78:81a3 (/64)</td> </tr> <tr> <td>control</td> <td>Ethernet</td> <td>onboot = yes bootProto = dhcp monitorType = none</td> <td>192.168.1.43 (/24) fe80::5054:ff:febe:5dc6 (/64)</td> </tr> </tbody> </table>	Device Name	Device Type	Device Options	IP Interface (Network)	xmi	ETHERNET	monitorType = none	10.250.39.99 (XMI) fe80::5054:ff:fe7:aca7 (/64)	imi	ETHERNET	monitorType = none	169.254.2.2 (IMI) fe80::5054:ff:fe78:81a3 (/64)	control	Ethernet	onboot = yes bootProto = dhcp monitorType = none	192.168.1.43 (/24) fe80::5054:ff:febe:5dc6 (/64)
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control	Ethernet	onboot = yes bootProto = dhcp monitorType = none	192.168.1.43 (/24) fe80::5054:ff:febe:5dc6 (/64)															

Step	Procedure	Details																				
3. <input type="checkbox"/>	<p>Active NOAMP VIP Select the XSI device for the MP</p>	<p>1. Select the MP tab.</p> <p>2. Set Device to XSI-1 device (recorded in B.3 step 3 or Error! Reference source not found. step 5).</p>  <p>Main Menu: Configuration -> Network -> Devices</p> <table border="1"> <thead> <tr> <th>Device Name</th> <th>Device Type</th> <th>Device Options</th> <th>IP Interface (Network)</th> <th>Configuration Status</th> </tr> </thead> <tbody> <tr> <td>eth2</td> <td>Ethernet</td> <td>bootProto = none onboot = yes</td> <td>192.168.3.9 (XSI1) fe80::250:56ff:fe01:a6d (/64)</td> <td>Discovered</td> </tr> <tr> <td>eth0</td> <td>Ethernet</td> <td>bootProto = none onboot = yes</td> <td>10.240.23.11 (XMI) fe80::250:56ff:fe01:a69 (/64)</td> <td>Deployed</td> </tr> <tr> <td>eth1</td> <td>Ethernet</td> <td>bootProto = none onboot = yes</td> <td>192.168.2.108 (IMI) fe80::250:56ff:fe01:a6c (/64)</td> <td>Deployed</td> </tr> </tbody> </table> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> MP-1(XSI-1) <input type="checkbox"/> MP-2(XSI-1) <input type="checkbox"/> MP-3(XSI-1) <input type="checkbox"/> MP-4(XSI-1) <input type="checkbox"/> MP-1(XSI-1) <input type="checkbox"/> MP-2(XSI-1) <input type="checkbox"/> MP-3(XSI-2) <input type="checkbox"/> MP-4(XSI-2)</p>	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration Status	eth2	Ethernet	bootProto = none onboot = yes	192.168.3.9 (XSI1) fe80::250:56ff:fe01:a6d (/64)	Discovered	eth0	Ethernet	bootProto = none onboot = yes	10.240.23.11 (XMI) fe80::250:56ff:fe01:a69 (/64)	Deployed	eth1	Ethernet	bootProto = none onboot = yes	192.168.2.108 (IMI) fe80::250:56ff:fe01:a6c (/64)	Deployed
Device Name	Device Type	Device Options	IP Interface (Network)	Configuration Status																		
eth2	Ethernet	bootProto = none onboot = yes	192.168.3.9 (XSI1) fe80::250:56ff:fe01:a6d (/64)	Discovered																		
eth0	Ethernet	bootProto = none onboot = yes	10.240.23.11 (XMI) fe80::250:56ff:fe01:a69 (/64)	Deployed																		
eth1	Ethernet	bootProto = none onboot = yes	192.168.2.108 (IMI) fe80::250:56ff:fe01:a6c (/64)	Deployed																		
4. <input type="checkbox"/>	<p>Active NOAMP VIP Take ownership of the XSI device for the MP</p>	<p>Click Take Ownership (Take Ownership).</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> MP-1(XSI-1) <input type="checkbox"/> MP-2(XSI-1) <input type="checkbox"/> MP-3(XSI-1) <input type="checkbox"/> MP-4(XSI-1) <input type="checkbox"/> MP-1(XSI-1) <input type="checkbox"/> MP-2(XSI-1) <input type="checkbox"/> MP-3(XSI-2) <input type="checkbox"/> MP-4(XSI-2)</p>																				
5. <input type="checkbox"/>	<p>Active NOAMP VIP: Navigate to Main Menu → Configuration → Network → Routes</p>	 <p>Main Menu: Configuration -> Network -> Routes</p> <p>Warning ▾</p> <p>Entire Network MP_GRP NO_GRP SO_GRP</p> <p>BL908070109-NO-A BL908070110-NO-B BL908070111-SO-A BL908070112-SO-B</p>																				
6. <input type="checkbox"/>	<p>Active NOAMP VIP: Insert a route for the MP server group.</p>	<p>1. Select the MP Server Group tab on the top line.</p> <p>2. Click Entire Server Group on the line below the Server Group line.</p>  <p>Main Menu: Configuration -> Network -> Routes</p> <p>Entire Network MP_S1_SG MP_S2_SG NO_S1_SG NO_S2_SG SO_S1_SG</p> <p>Entire Server Group UDR-S2-MP1 UDR-S2-MP2 UDR-S2-MP3 UDR-S2-MP4</p> <table border="1"> <thead> <tr> <th>Route Type</th> <th>Destination</th> <th>Netmask</th> <th>Gateway</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>3. Click Insert (Insert).</p> <p>4. Mark the checkbox as addition is completed for each network.</p> <p><input type="checkbox"/> XSI-1 <input type="checkbox"/> XSI-2</p>	Route Type	Destination	Netmask	Gateway																
Route Type	Destination	Netmask	Gateway																			

Step	Procedure	Details																		
<p>7. <input type="checkbox"/></p>	<p>Active NOAMP VIP: Add XSI signaling route to MP</p>	<div> <p>Main Menu: Configuration -> Network -> Routes [Insert] Thu Mar 20 19:09:27 2014</p> <p>Info ▾</p> <p>Insert Route on MP_S2_SG</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>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. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPv4 default route and one IPv6 default route on a given target machine.]</td> </tr> <tr> <td>Device</td> <td>xsi1 ▾ *</td> <td>Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]</td> </tr> <tr> <td>Destination</td> <td>10.240.37.224</td> <td>The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]</td> </tr> <tr> <td>Netmask</td> <td>255.255.255.240</td> <td>A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]</td> </tr> <tr> <td>Gateway IP</td> <td>10.240.162.161 *</td> <td>The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) 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> </div> <ol style="list-style-type: none"> 1. Select the route type. 2. Select the signaling device name (eth2 or eth3). 3. Enter the destination. This is the network address of the diameter Sh clients that connect to Oracle Communications User Data Repository on the signaling network. 4. Enter Netmask for the Diameter Sh client network. 5. Enter Gateway IP. This is the gateway for signaling network of the Oracle Communications User Data Repository. 6. Click Apply. 7. Mark the checkbox as addition is completed for each network. <p style="text-align: center;"> <input type="checkbox"/> XSI-1 (eth2) <input type="checkbox"/> XSI-2 (eth3) </p>	Field	Value	Description	Route Type	<input checked="" type="radio"/> Net <input 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 and one IPv6 default route on a given target machine.]	Device	xsi1 ▾ *	Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]	Destination	10.240.37.224	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]	Netmask	255.255.255.240	A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]	Gateway IP	10.240.162.161 *	The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]
Field	Value	Description																		
Route Type	<input checked="" type="radio"/> Net <input 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 and one IPv6 default route on a given target machine.]																		
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Destination	10.240.37.224	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]																		
Netmask	255.255.255.240	A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]																		
Gateway IP	10.240.162.161 *	The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]																		
<p>8. <input type="checkbox"/></p>	<p>Repeat steps 1 through 8 for each signaling network.</p>																			
<p>9. <input type="checkbox"/></p>	<p>Active NOAMP VIP: Click Logout on the server GUI.</p>																			
<p>THIS PROCEDURE IS COMPLETE</p>																				

7.2 Configure SPR Application on MP (All SOAM Sites)

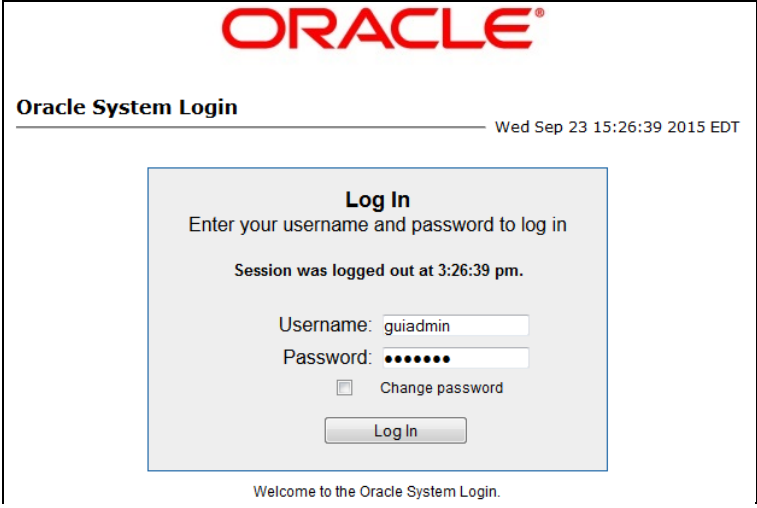
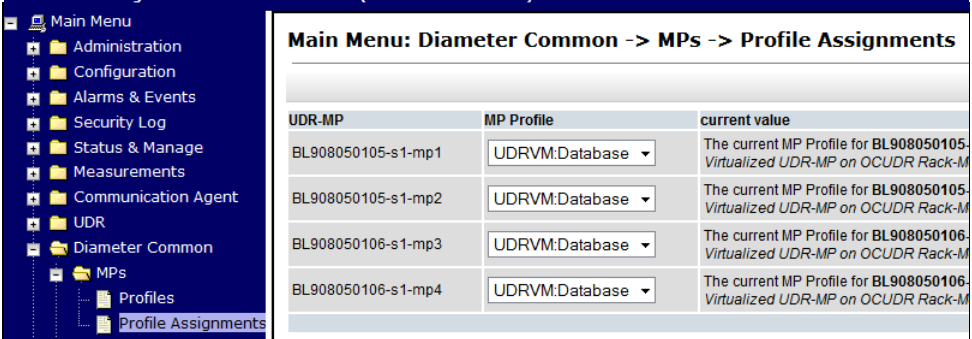
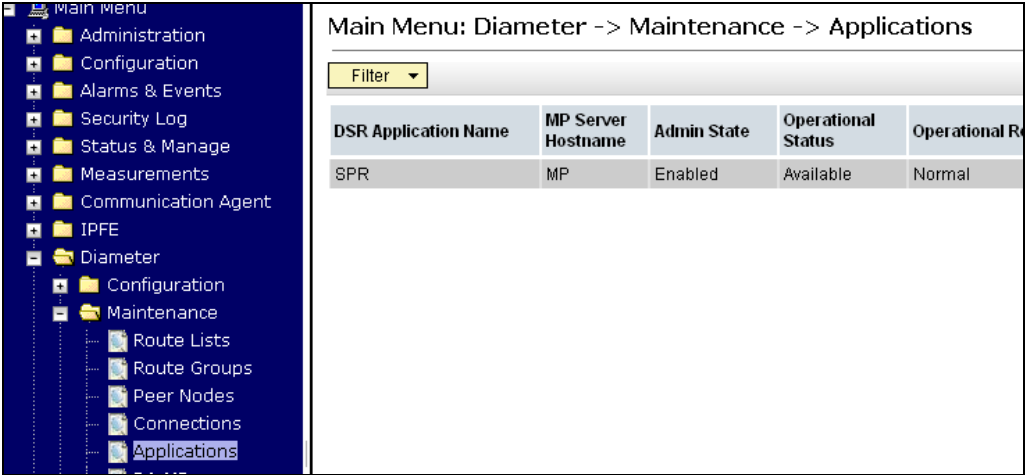
This procedure configures the SPR application for MP Servers on each SOAM site.

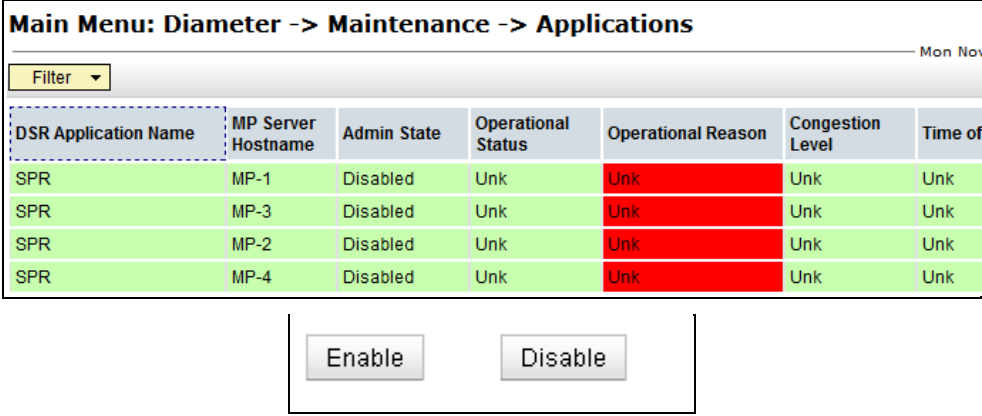
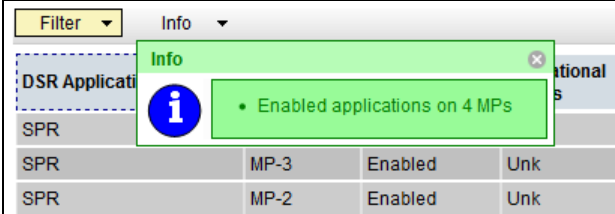
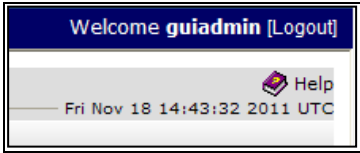

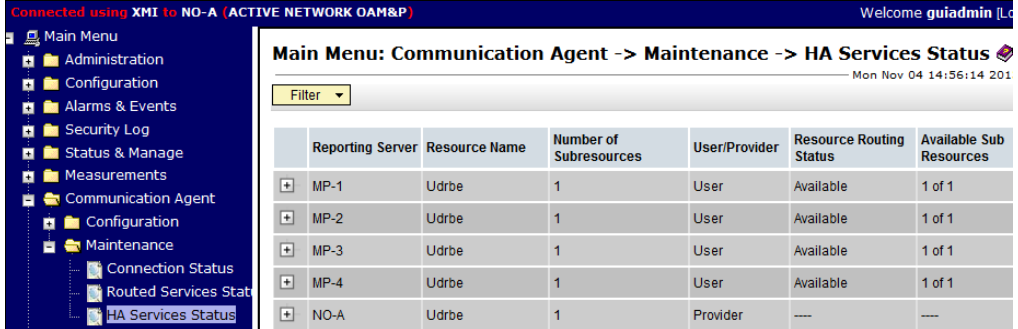
Requirements:

- [Section 7.1 Configure Signaling Routes](#) has been completed

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

Procedure 13: Configure SPR Application on MP (All SOAM Sites)

Step	Procedure	Details
1. <input type="checkbox"/>	<p>SOAM VIP:</p> <p>Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Select Continue to this website (not recommended) if the security certificate warning displays.</p> <p>Login to the GUI using the default user and password.</p>	
2. <input type="checkbox"/>	<p>SOAM VIP:</p> <p>1. Navigate to Main Menu → Diameter Common → MPs → Profile Assignments</p> <p>2. Select profile as UDRVM:Database and click Assign</p>	<p>Normal Capacity Configuration:</p> 
3. <input type="checkbox"/>	<p>SOAM VIP:</p> <p>Navigate to Main Menu → Diameter → Maintenance → Applications</p>	

Step	Procedure	Details																																										
4. <input type="checkbox"/>	<p>SOAM VIP:</p> <p>1. Select the SPR Application on each MP using the mouse and holding Ctrl. The line entries are highlighted in GREEN.</p> <p>2. Click Enable.</p>	 <p>Main Menu: Diameter -> Maintenance -> Applications</p> <p>Mon Nov</p> <p>Filter</p> <table border="1"> <thead> <tr> <th>DSR Application Name</th> <th>MP Server Hostname</th> <th>Admin State</th> <th>Operational Status</th> <th>Operational Reason</th> <th>Congestion Level</th> <th>Time of</th> </tr> </thead> <tbody> <tr> <td>SPR</td> <td>MP-1</td> <td>Disabled</td> <td>Unk</td> <td>Unk</td> <td>Unk</td> <td>Unk</td> </tr> <tr> <td>SPR</td> <td>MP-3</td> <td>Disabled</td> <td>Unk</td> <td>Unk</td> <td>Unk</td> <td>Unk</td> </tr> <tr> <td>SPR</td> <td>MP-2</td> <td>Disabled</td> <td>Unk</td> <td>Unk</td> <td>Unk</td> <td>Unk</td> </tr> <tr> <td>SPR</td> <td>MP-4</td> <td>Disabled</td> <td>Unk</td> <td>Unk</td> <td>Unk</td> <td>Unk</td> </tr> </tbody> </table> <p>Enable Disable</p>	DSR Application Name	MP Server Hostname	Admin State	Operational Status	Operational Reason	Congestion Level	Time of	SPR	MP-1	Disabled	Unk	Unk	Unk	Unk	SPR	MP-3	Disabled	Unk	Unk	Unk	Unk	SPR	MP-2	Disabled	Unk	Unk	Unk	Unk	SPR	MP-4	Disabled	Unk	Unk	Unk	Unk							
DSR Application Name	MP Server Hostname	Admin State	Operational Status	Operational Reason	Congestion Level	Time of																																						
SPR	MP-1	Disabled	Unk	Unk	Unk	Unk																																						
SPR	MP-3	Disabled	Unk	Unk	Unk	Unk																																						
SPR	MP-2	Disabled	Unk	Unk	Unk	Unk																																						
SPR	MP-4	Disabled	Unk	Unk	Unk	Unk																																						
5. <input type="checkbox"/>	<p>SOAM VIP:</p> <p>Click Info to see a message stating Enabled application.</p>	 <p>Filter Info</p> <p>Info</p> <ul style="list-style-type: none"> Enabled applications on 4 MPs <table border="1"> <thead> <tr> <th>DSR Application Name</th> <th>MP Server Hostname</th> <th>Admin State</th> <th>Operational Status</th> <th>Operational Reason</th> </tr> </thead> <tbody> <tr> <td>SPR</td> <td>MP-3</td> <td>Enabled</td> <td>Unk</td> <td></td> </tr> <tr> <td>SPR</td> <td>MP-2</td> <td>Enabled</td> <td>Unk</td> <td></td> </tr> </tbody> </table>	DSR Application Name	MP Server Hostname	Admin State	Operational Status	Operational Reason	SPR	MP-3	Enabled	Unk		SPR	MP-2	Enabled	Unk																												
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SPR	MP-3	Enabled	Unk																																									
SPR	MP-2	Enabled	Unk																																									
6. <input type="checkbox"/>	<p>SOAM VIP:</p> <p>Click Logout.</p>	 <p>Welcome guidadmin [Logout]</p> <p>Help</p> <p>Fri Nov 18 14:43:32 2011 UTC</p>																																										
7. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>The login screen opens.</p> <p>Login to the GUI using the default user and password.</p>	 <p>ORACLE</p> <p>Oracle System Login</p> <p>Wed Sep 23 15:26:39 2015 EDT</p> <p>Log In</p> <p>Enter your username and password to log in</p> <p>Session was logged out at 3:26:39 pm.</p> <p>Username: guidadmin</p> <p>Password: ••••••</p> <p><input type="checkbox"/> Change password</p> <p>Log In</p> <p>Welcome to the Oracle System Login.</p>																																										
8. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Verify that the service is listed on NOAMP GUI page.</p> <p>Navigate to Main Menu -> Communication Agent -> Maintenance -> HA Services Status</p>	 <p>Connected using XMI to NO-A (ACTIVE NETWORK OAM&P)</p> <p>Welcome guidadmin [Logout]</p> <p>Main Menu: Communication Agent -> Maintenance -> HA Services Status</p> <p>Mon Nov 04 14:56:14 201</p> <p>Filter</p> <table border="1"> <thead> <tr> <th></th> <th>Reporting Server</th> <th>Resource Name</th> <th>Number of Subresources</th> <th>User/Provider</th> <th>Resource Routing Status</th> <th>Available Sub Resources</th> </tr> </thead> <tbody> <tr> <td>+</td> <td>MP-1</td> <td>Udrbe</td> <td>1</td> <td>User</td> <td>Available</td> <td>1 of 1</td> </tr> <tr> <td>+</td> <td>MP-2</td> <td>Udrbe</td> <td>1</td> <td>User</td> <td>Available</td> <td>1 of 1</td> </tr> <tr> <td>+</td> <td>MP-3</td> <td>Udrbe</td> <td>1</td> <td>User</td> <td>Available</td> <td>1 of 1</td> </tr> <tr> <td>+</td> <td>MP-4</td> <td>Udrbe</td> <td>1</td> <td>User</td> <td>Available</td> <td>1 of 1</td> </tr> <tr> <td>+</td> <td>NO-A</td> <td>Udrbe</td> <td>1</td> <td>Provider</td> <td>---</td> <td>---</td> </tr> </tbody> </table>		Reporting Server	Resource Name	Number of Subresources	User/Provider	Resource Routing Status	Available Sub Resources	+	MP-1	Udrbe	1	User	Available	1 of 1	+	MP-2	Udrbe	1	User	Available	1 of 1	+	MP-3	Udrbe	1	User	Available	1 of 1	+	MP-4	Udrbe	1	User	Available	1 of 1	+	NO-A	Udrbe	1	Provider	---	---
	Reporting Server	Resource Name	Number of Subresources	User/Provider	Resource Routing Status	Available Sub Resources																																						
+	MP-1	Udrbe	1	User	Available	1 of 1																																						
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Step	Procedure	Details																																				
9. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Verify that the service is listed on the NOAMP GUI page</p> <p>Navigate to Main Menu → Communication Agent → Maintenance → HA Services Status</p>	<table border="1"> <thead> <tr> <th>Reporting Server</th> <th>Resource Name</th> <th>Number of Subresources</th> <th>User/Provider</th> <th>Resource Routing Status</th> <th>Available Sub Resources</th> </tr> </thead> <tbody> <tr> <td>MP-1</td> <td>Udrbe</td> <td>1</td> <td>User</td> <td>Available</td> <td>1 of 1</td> </tr> <tr> <td>MP-2</td> <td>Udrbe</td> <td>1</td> <td>User</td> <td>Available</td> <td>1 of 1</td> </tr> <tr> <td>MP-3</td> <td>Udrbe</td> <td>1</td> <td>User</td> <td>Available</td> <td>1 of 1</td> </tr> <tr> <td>MP-4</td> <td>Udrbe</td> <td>1</td> <td>User</td> <td>Available</td> <td>1 of 1</td> </tr> <tr> <td>NO-A</td> <td>Udrbe</td> <td>1</td> <td>Provider</td> <td>---</td> <td>---</td> </tr> </tbody> </table>	Reporting Server	Resource Name	Number of Subresources	User/Provider	Resource Routing Status	Available Sub Resources	MP-1	Udrbe	1	User	Available	1 of 1	MP-2	Udrbe	1	User	Available	1 of 1	MP-3	Udrbe	1	User	Available	1 of 1	MP-4	Udrbe	1	User	Available	1 of 1	NO-A	Udrbe	1	Provider	---	---
Reporting Server	Resource Name	Number of Subresources	User/Provider	Resource Routing Status	Available Sub Resources																																	
MP-1	Udrbe	1	User	Available	1 of 1																																	
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MP-3	Udrbe	1	User	Available	1 of 1																																	
MP-4	Udrbe	1	User	Available	1 of 1																																	
NO-A	Udrbe	1	Provider	---	---																																	
10. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Click Logout.</p>																																					
THIS PROCEDURE IS COMPLETE																																						

7.3 Configure NOAMP Signaling Routes (All NOAM Sites)

This procedure configures the XSI signaling route for the NOAMP and DR NOAMP Server Groups.


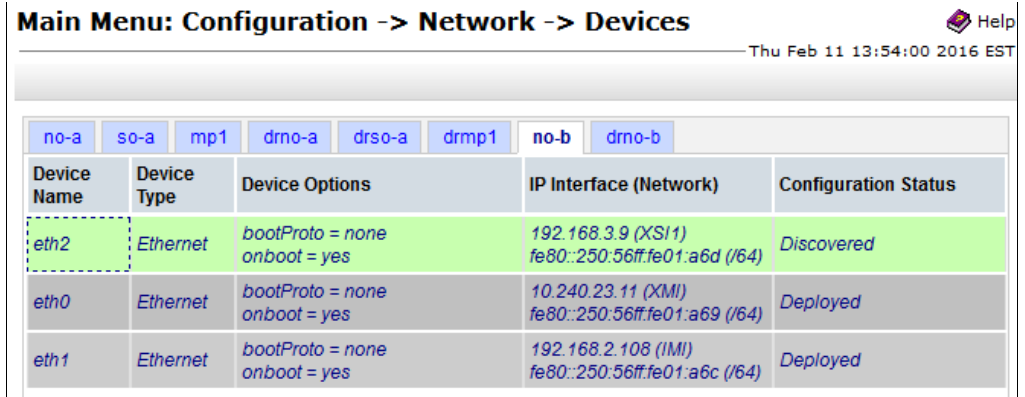
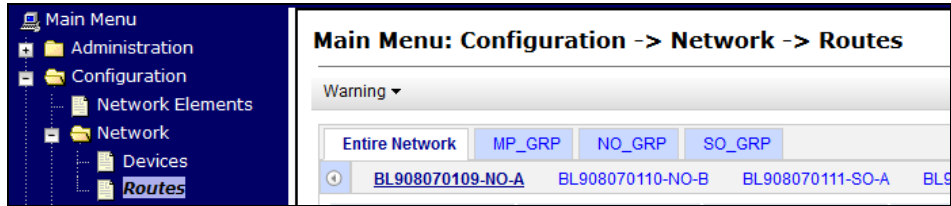
Requirements:


- Section [7.2 Configure SPR Application on MP \(All SOAM Sites\)](#) has been completed


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

Procedure 14: Configure NOAMP Signaling Routes

Step	Procedure	Details
1. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> 1. Launch an approved web browser and connect to the NOAMP Server A IP address 2. Select Continue to this website (not recommended) if the security certificate warning displays. 3. Login to the GUI using the default user and password. 	

Step	Procedure	Details
2. <input type="checkbox"/>	<p>Active NOAMP VIP: Select Main Menu → Configuration → Network → Devices.</p>	 <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A (XSI-1) <input type="checkbox"/> NOAMP-B (XSI-1)</p>
3. <input type="checkbox"/>	<p>Active NOAMP VIP Select the XSI device for the NOAMP</p>	<p>1. Select a NOAMP tab. 2. Select the XSI-1 device (recorded in B.3 step 3 or Error! Reference source not found. step 5).</p>  <p>3. Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A (XSI-1) <input type="checkbox"/> NOAMP-B (XSI-1)</p>
4. <input type="checkbox"/>	<p>Active NOAMP VIP Edit the XSI device for the NOAMP</p>	<p>1. Click Take Ownership (Take Ownership). 2. Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP-A (XSI-1) <input type="checkbox"/> NOAMP-B (XSI-1)</p>
5. <input type="checkbox"/>	<p>Active NOAMP VIP Repeat as required.</p>	<p>Repeat steps 3 and 4 for each NOAMP and its Signaling networks. NOTE: Steps 6 through 8 are only needed for geo-redundant systems.</p>
6. <input type="checkbox"/>	<p>Active NOAMP VIP Navigate to Main Menu → Configuration → Network → Routes</p>	

Step	Procedure	Details																		
7. <input type="checkbox"/>	<p>Active NOAMP VIP</p> <p>Insert a route for the NOAMP or DR NOAMP Server group.</p>	<p>1. Select a Server Group tab on the top line.</p> <p>2. Click Entire Server Group on the line below the Server Group.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Main Menu: Configuration -> Network -> Routes</p> <hr/> <p>Entire Network MP_grp NO_grp SO_grp</p> <p>Entire Server Group no-a no-b</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Route Type</th> <th style="width: 33%;">Destination</th> <th style="width: 33%;">Netmask</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> </div> <p>3. Click  (Insert).</p>	Route Type	Destination	Netmask															
Route Type	Destination	Netmask																		
8. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Add signaling route</p>	<div style="border: 1px solid black; padding: 5px;"> <p>Main Menu: Configuration -> Network -> Routes [Insert] Wed Sep 23 17:18:48 2015</p> <hr/> <p>Insert Route on NO_grp</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Field</th> <th style="width: 25%;">Value</th> <th style="width: 60%;">Description</th> </tr> </thead> <tbody> <tr> <td>Route Type</td> <td> <input type="radio"/> Net <input type="radio"/> Default <input checked="" 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 and one IPv6 default route on a given target machine.]</td> </tr> <tr> <td>Device</td> <td>- Select Device - * *</td> <td>Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]</td> </tr> <tr> <td>Destination</td> <td><input type="text"/></td> <td>The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]</td> </tr> <tr> <td>Netmask</td> <td><input type="text"/></td> <td>A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]</td> </tr> <tr> <td>Gateway IP</td> <td><input type="text"/></td> <td>The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) 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> </div> <p>1. Select Net for the Route Type.</p> <p>2. Select XSI-1 for the Device (recorded in B.3 step 3 or Error! Reference source not found. step 5).</p> <p>3. Enter the destination. This is the network address of the remote MP server group that connects to Oracle Communications User Data Repository NOAMP for ComAgent service.</p> <p>4. Enter Netmask for the remote network.</p> <p>5. Enter Gateway IP. This is the gateway for the signaling network of the Oracle Communications User Data Repository.</p> <p>6. Click Apply.</p>	Field	Value	Description	Route Type	<input type="radio"/> Net <input type="radio"/> Default <input checked="" type="radio"/> Host *	Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPv4 default route and one IPv6 default route on a given target machine.]	Device	- Select Device - * *	Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]	Destination	<input type="text"/>	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]	Netmask	<input type="text"/>	A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]	Gateway IP	<input type="text"/>	The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]
Field	Value	Description																		
Route Type	<input type="radio"/> Net <input type="radio"/> Default <input checked="" type="radio"/> Host *	Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPv4 default route and one IPv6 default route on a given target machine.]																		
Device	- Select Device - * *	Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]																		
Destination	<input type="text"/>	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]																		
Netmask	<input type="text"/>	A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]																		
Gateway IP	<input type="text"/>	The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]																		
9. <input type="checkbox"/>	<p>Repeat steps 6 through 8 to configure MP ComAgent communication on XSI1.</p> <p>NOTES:</p> <ul style="list-style-type: none"> • Destination would be DR Site XSI1 Address if configuring Primary Site and vice-versa. • Netmask would be DR Site XSI1 Address if configuring Primary Site and vice-versa. • Gateway IP would be Primary Site XSI1 Gateway if configuring Primary Site and vice-versa. 																			

Step	Procedure	Details
10. <input type="checkbox"/>	Active NOAMP VIP: Click Logout .	
THIS PROCEDURE IS COMPLETE		

7.4 Configure Services on Signaling Network


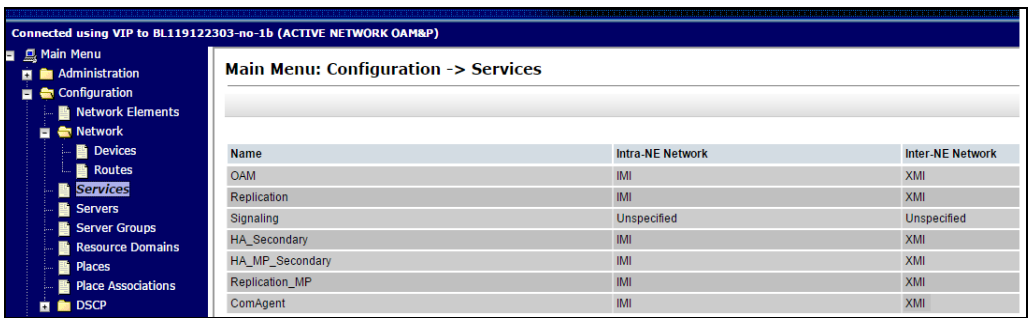
This procedure configures ComAgent communication between NOAMP and MP to use Signaling Network. This procedure also configures dual path HA heartbeat to use the XSI network.

Requirements:

- Section [7.3 Configure NOAMP Signaling Routes \(All NOAM Sites\)](#) has been completed

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

Procedure 15: Configure Services on Signaling Network

Step	Procedure	Details
1. <input type="checkbox"/>	Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address NOTE: Select Continue to this website (not recommended) if the security certificate warning displays. Login to the GUI using the default user and password.	
2. <input type="checkbox"/>	Active NOAMP VIP: Navigate to Main Menu → Configuration → Services .	

Step	Procedure	Details																								
<p>3. <input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> Set two services values: Set Inter-NE HA_Secondary to XSI1 Set Inter-NE ComAgent to XSI1 Click Apply. Click OK. 	<table border="1"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>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>IMI</td> <td>XSI1</td> </tr> <tr> <td>HA_MP_Secondary</td> <td>IMI</td> <td>XMI</td> </tr> <tr> <td>Replication_MP</td> <td>IMI</td> <td>XMI</td> </tr> <tr> <td>ComAgent</td> <td>IMI</td> <td>XSI1</td> </tr> </tbody> </table> <div style="border: 1px solid gray; padding: 10px; margin: 10px auto; width: fit-content;"> <p>You must restart all Servers to apply any services changes, ComAgent</p> <p style="text-align: right;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> </p> </div> <p>NOAMP and MP Servers must be restarted.</p>	Name	Intra-NE Network	Inter-NE Network	OAM	IMI	XMI	Replication	IMI	XMI	Signaling	Unspecified	Unspecified	HA_Secondary	IMI	XSI1	HA_MP_Secondary	IMI	XMI	Replication_MP	IMI	XMI	ComAgent	IMI	XSI1
Name	Intra-NE Network	Inter-NE Network																								
OAM	IMI	XMI																								
Replication	IMI	XMI																								
Signaling	Unspecified	Unspecified																								
HA_Secondary	IMI	XSI1																								
HA_MP_Secondary	IMI	XMI																								
Replication_MP	IMI	XMI																								
ComAgent	IMI	XSI1																								
<p>4. <input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>The Services configuration screen opens.</p>	<table border="1"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> <th>Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>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>IMI</td> <td>XSI1</td> </tr> <tr> <td>HA_MP_Secondary</td> <td>IMI</td> <td>XMI</td> </tr> <tr> <td>Replication_MP</td> <td>IMI</td> <td>XMI</td> </tr> <tr> <td>ComAgent</td> <td>IMI</td> <td>XSI1</td> </tr> </tbody> </table>	Name	Intra-NE Network	Inter-NE Network	OAM	IMI	XMI	Replication	IMI	XMI	Signaling	Unspecified	Unspecified	HA_Secondary	IMI	XSI1	HA_MP_Secondary	IMI	XMI	Replication_MP	IMI	XMI	ComAgent	IMI	XSI1
Name	Intra-NE Network	Inter-NE Network																								
OAM	IMI	XMI																								
Replication	IMI	XMI																								
Signaling	Unspecified	Unspecified																								
HA_Secondary	IMI	XSI1																								
HA_MP_Secondary	IMI	XMI																								
Replication_MP	IMI	XMI																								
ComAgent	IMI	XSI1																								

Step	Procedure	Details																																																															
5. <input type="checkbox"/>	Reboot all NOAMP and MP Servers	<p>Reboot all NOAMP and MP servers using the active NOAMP GUI.</p> <p>Go to the Status & Manage -> Server screen with the Reboot button.</p> <div style="border: 1px solid gray; padding: 5px;"> <p>Main Menu: Status & Manage -> Server Help</p> <p style="text-align: right;">Fri Feb 19 18:07:46 2016 EST</p> <p>Filter ▾</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Server Hostname</th> <th>Network Element</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>drmp1</td> <td>DRSO_UDR_NE</td> <td>Enabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>drno-a</td> <td>DRNO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>drno-b</td> <td>DRNO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>drso-a</td> <td>DRSO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>mp1</td> <td>SO_UDR_NE</td> <td>Enabled</td> <td>Warn</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>no-a</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr style="background-color: #e0ffe0;"> <td style="border: 2px dashed gray;">no-b</td> <td style="background-color: #e0ffe0;">NO_UDR_NE</td> <td>Enabled</td> <td style="background-color: #ff0000; color: white;">Err</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> <tr> <td>so-a</td> <td>SO_UDR_NE</td> <td>Enabled</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> <td>Norm</td> </tr> </tbody> </table> <p style="text-align: right;"><input type="checkbox"/> Pause updates</p> <p>Stop Restart Reboot NTP Sync Report</p> </div> <p>Or on the terminal of each server with the reboot command:</p> <pre style="background-color: #f0f0f0; padding: 5px;">\$ sudo reboot</pre> <p>NOTE: Run this command on all NOAMPs and MPs.</p>	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	drmp1	DRSO_UDR_NE	Enabled	Warn	Norm	Norm	Norm	drno-a	DRNO_UDR_NE	Enabled	Norm	Norm	Norm	Norm	drno-b	DRNO_UDR_NE	Enabled	Norm	Norm	Norm	Norm	drso-a	DRSO_UDR_NE	Enabled	Norm	Norm	Norm	Norm	mp1	SO_UDR_NE	Enabled	Warn	Norm	Norm	Norm	no-a	NO_UDR_NE	Enabled	Norm	Norm	Norm	Norm	no-b	NO_UDR_NE	Enabled	Err	Norm	Norm	Norm	so-a	SO_UDR_NE	Enabled	Norm	Norm	Norm	Norm
Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc																																																											
drmp1	DRSO_UDR_NE	Enabled	Warn	Norm	Norm	Norm																																																											
drno-a	DRNO_UDR_NE	Enabled	Norm	Norm	Norm	Norm																																																											
drno-b	DRNO_UDR_NE	Enabled	Norm	Norm	Norm	Norm																																																											
drso-a	DRSO_UDR_NE	Enabled	Norm	Norm	Norm	Norm																																																											
mp1	SO_UDR_NE	Enabled	Warn	Norm	Norm	Norm																																																											
no-a	NO_UDR_NE	Enabled	Norm	Norm	Norm	Norm																																																											
no-b	NO_UDR_NE	Enabled	Err	Norm	Norm	Norm																																																											
so-a	SO_UDR_NE	Enabled	Norm	Norm	Norm	Norm																																																											
THIS PROCEDURE IS COMPLETE																																																																	

7.5 Accept Installation


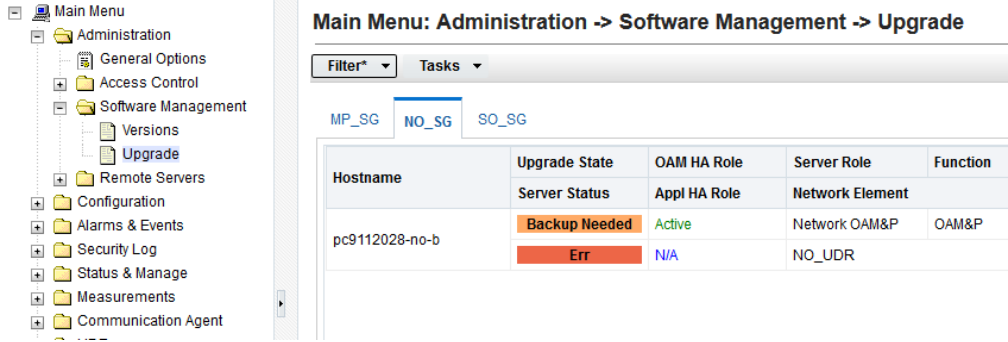
This procedure accepts the installation/upgrade on any servers that have not already been accepted. Depending on the manner of installation, there may be no servers that require acceptance at this point in installation.

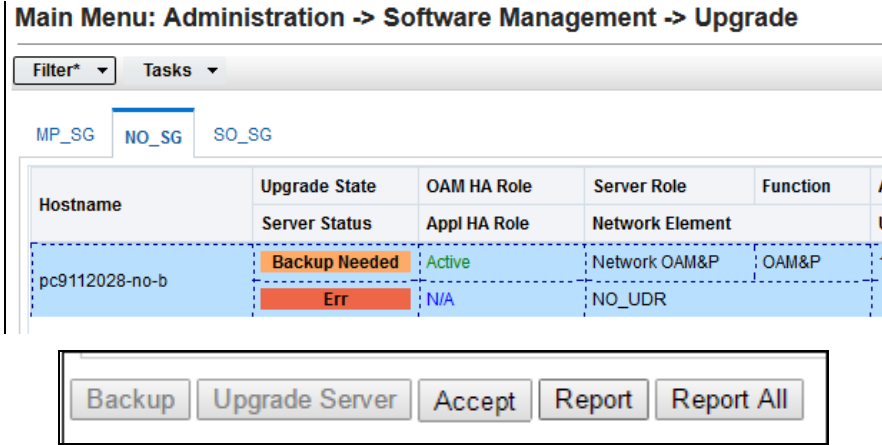
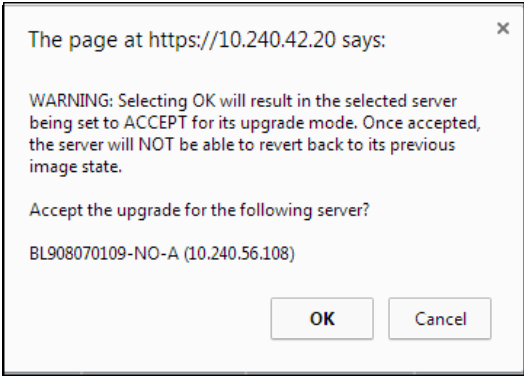
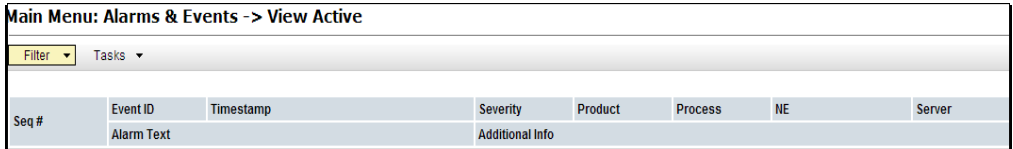
The upgrade needs either to be accepted or rejected before any subsequent upgrades are performed in the future.

Alarm 32532 (Server Upgrade Pending Accept/Reject) displays for each server until either an accept or reject is performed.

Check (√) each step as it is completed. Boxes have been provided for this purpose.

Procedure 16: Accept Installation

Step	Procedure	Details														
1. <input type="checkbox"/>	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Select Continue to this website (not recommended) if the security certificate warning displays.</p> <p>Login to the GUI using the default user and password.</p>															
2. <input type="checkbox"/>	<p>Active NOAMP VIP: Navigate to Main Menu → Administration → Software Management → Upgrade</p>	 <table border="1"> <thead> <tr> <th>Hostname</th> <th>Upgrade State</th> <th>OAM HA Role</th> <th>Server Role</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td rowspan="2">pc9112028-no-b</td> <td>Backup Needed</td> <td>Active</td> <td>Network OAM&P</td> <td>OAM&P</td> </tr> <tr> <td>Err</td> <td>N/A</td> <td>NO_UDR</td> <td></td> </tr> </tbody> </table>	Hostname	Upgrade State	OAM HA Role	Server Role	Function	pc9112028-no-b	Backup Needed	Active	Network OAM&P	OAM&P	Err	N/A	NO_UDR	
Hostname	Upgrade State	OAM HA Role	Server Role	Function												
pc9112028-no-b	Backup Needed	Active	Network OAM&P	OAM&P												
	Err	N/A	NO_UDR													

Step	Procedure	Details
3. <input type="checkbox"/>	<p>Active NOAMP VIP (GUI): Accept upgrade for selected servers</p>	<ol style="list-style-type: none"> Accept upgrade of selected servers Select the servers where the upgrade has not been accepted. Click Accept.  <p>A confirmation dialog warns that after the upgrade is accepted, the servers cannot be reverted back to their previous image states.</p>  <ol style="list-style-type: none"> Click OK. <p>The Upgrade Administration screen displays. An informational message indicates the servers with the accepted upgrade.</p>
4. <input type="checkbox"/>	<p>Active NOAMP VIP: Accept upgrade of the rest of the system</p>	<ol style="list-style-type: none"> Accept upgrade on all remaining servers in the system: Repeat all sub-steps of step 3 of this procedure on remaining servers until the upgrade of all servers in the User Data Repository system has been accepted. <p>NOTE: As the upgrade is accepted on each server, alarm 32532 (Server Upgrade Pending Accept/Reject) is removed.</p>
5. <input type="checkbox"/>	<p>Active NOAMP VIP: Verify accept</p>	<p>Check that alarms are removed:</p> <ol style="list-style-type: none"> Navigate to this Alarms & Events > View Active.  <ol style="list-style-type: none"> Verify that alarm 32532 (Server Upgrade Pending Accept/Reject) is not displayed in the active alarms on User Data Repository system.

Step	Procedure	Details
THIS PROCEDURE IS COMPLETE		

8. APPENDIXES

APPENDIX A. VMWARE VSPHERE ENVIRONMENT SETUP

A.1 Host Datastore configuration using vSphere


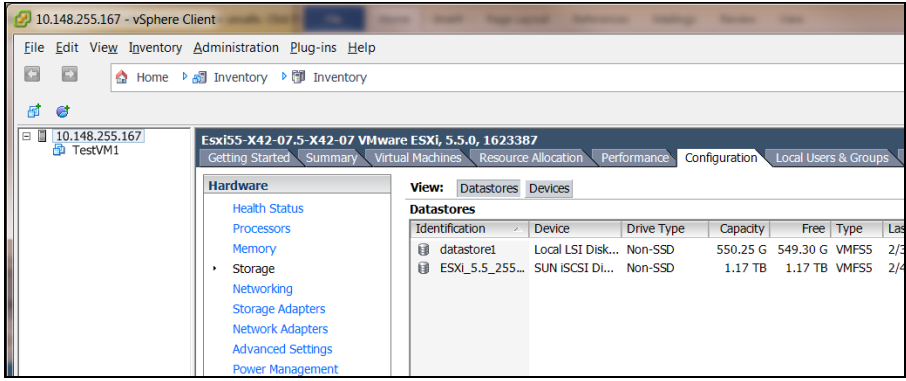
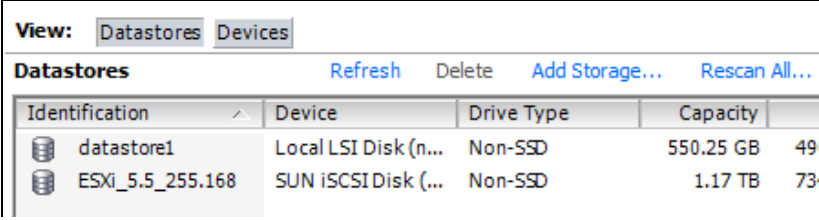
The following procedure is performed to configure a datastore on the host so that the correct amount of storage is available for Oracle Communications User Data Repository component VMs. These steps and screen captures are taken from vSphere Client.

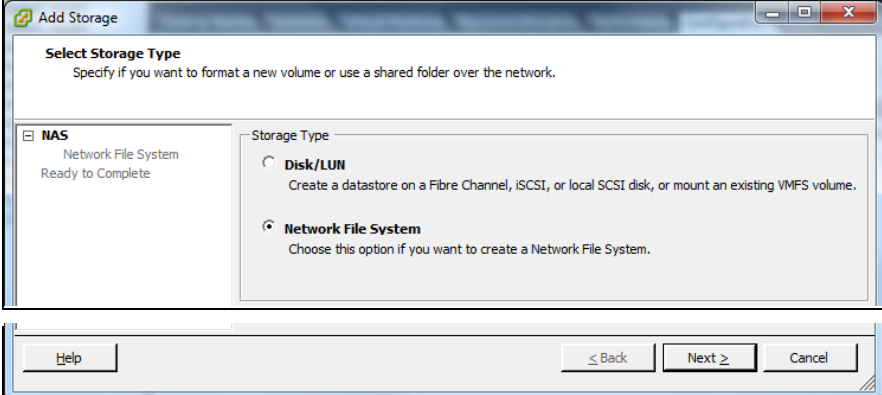
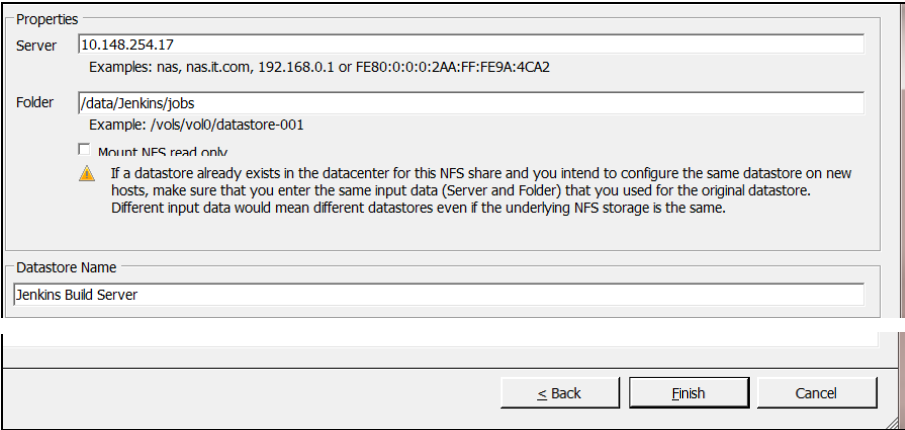
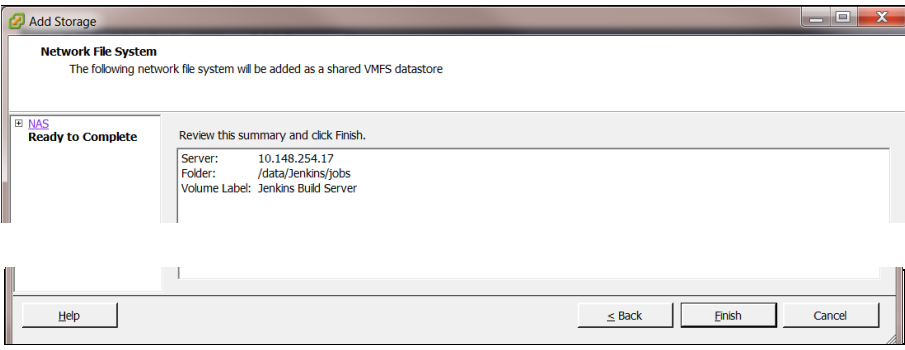
This procedure configures host networking.

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

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

Procedure 17: Host Datastore Configuration with vSphere

Step	Procedure	Details																					
1. <input type="checkbox"/>	Log into the VMware client																						
2. <input type="checkbox"/>	VMware client: 1. Select the host in the left tree menu 2. Click Configuration tab on right 3. Click Storage in the Hardware menu																						
3. <input type="checkbox"/>	VMware client: Click Add Storage	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Device</th> <th>Drive Type</th> <th>Capacity</th> <th>Free</th> <th>Type</th> <th>Last</th> </tr> </thead> <tbody> <tr> <td>datastore1</td> <td>Local LSI Disk (n...</td> <td>Non-SSD</td> <td>550.25 GB</td> <td>549.30 G</td> <td>VMFSS</td> <td>2/3</td> </tr> <tr> <td>ESXi_5.5_255.168</td> <td>SUN iSCSI Disk (...</td> <td>Non-SSD</td> <td>1.17 TB</td> <td>1.17 TB</td> <td>VMFSS</td> <td>2/4</td> </tr> </tbody> </table>	Identification	Device	Drive Type	Capacity	Free	Type	Last	datastore1	Local LSI Disk (n...	Non-SSD	550.25 GB	549.30 G	VMFSS	2/3	ESXi_5.5_255.168	SUN iSCSI Disk (...	Non-SSD	1.17 TB	1.17 TB	VMFSS	2/4
Identification	Device	Drive Type	Capacity	Free	Type	Last																	
datastore1	Local LSI Disk (n...	Non-SSD	550.25 GB	549.30 G	VMFSS	2/3																	
ESXi_5.5_255.168	SUN iSCSI Disk (...	Non-SSD	1.17 TB	1.17 TB	VMFSS	2/4																	

Step	Procedure	Details
4. <input type="checkbox"/>	VMware client: 1. Select Network File System . 2. Click Next	
5. <input type="checkbox"/>	VMware client: 1. Enter a Server IP, Folder, and Datastore Name in the provided fields according to the resource availability in your VMware host environment 2. Click Next	
6. <input type="checkbox"/>	VMware client: 1. Review the Datastore summary 2. Click Finish	
THIS PROCEDURE IS COMPLETE		

A.2 Host networking configuration using vSphere

The following procedure configures the recommended networking on the host so that the appropriate vNICs are available for Oracle Communications User Data Repository component VMs. These steps and screen captures are from the vSphere Client.


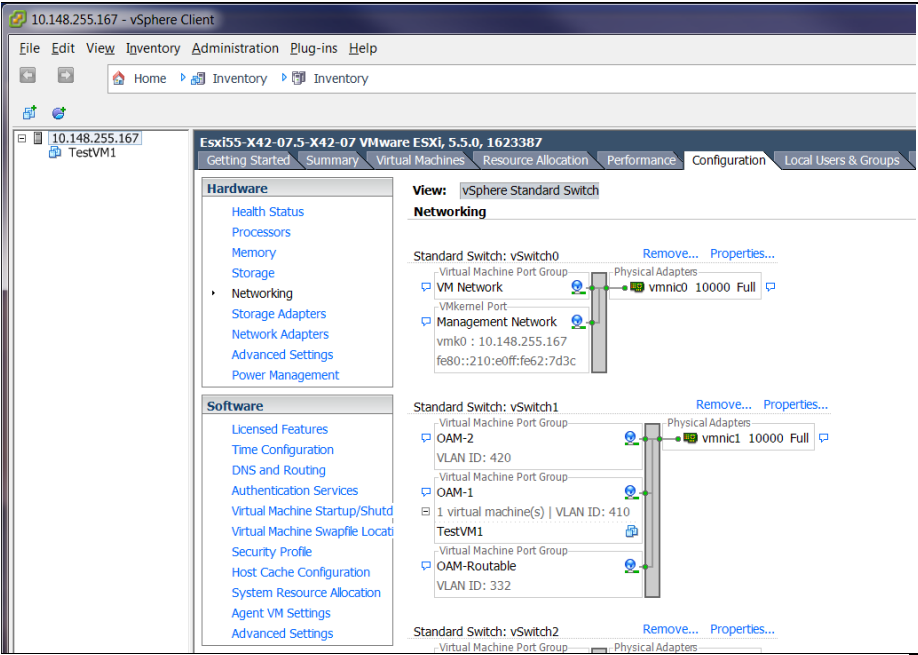
To view the currently available networks on the host, select the **Summary** tab. In the example below, several OAM and Signaling Networks are configured. Each are associated with a vSwitch on the host and physical Ethernet.

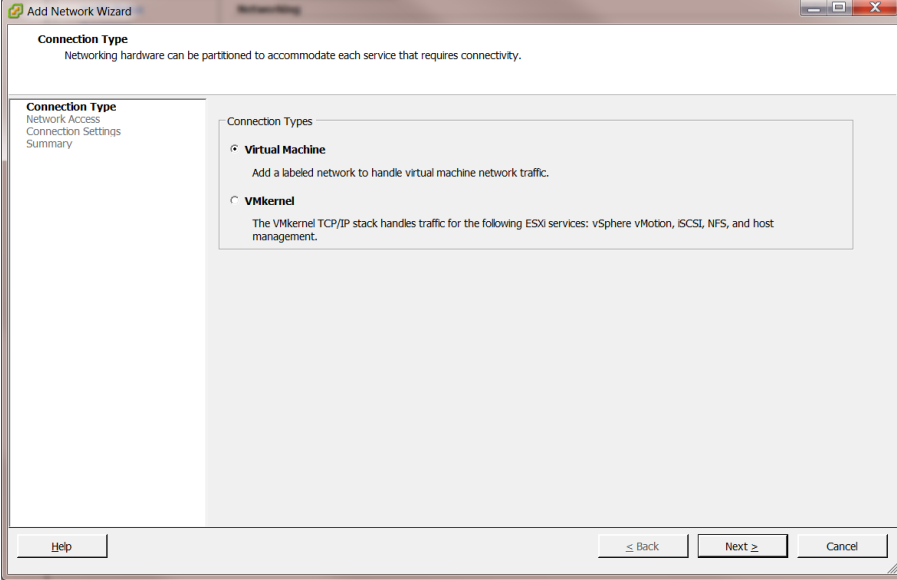
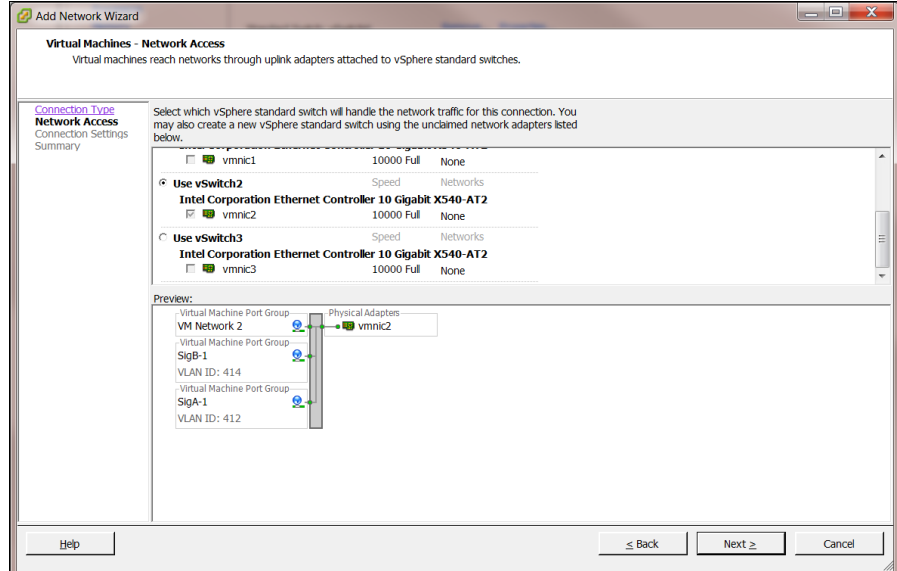
Oracle Communications User Data Repository VMs can be associated with up to five vLAN Networks. All of the vNICs must be created and configured so that they can be available for the guest. The expected vNICs correspond to the following dedicated interfaces of the Oracle Communications User Data Repository and so the recommendation is the label them using the interface name:

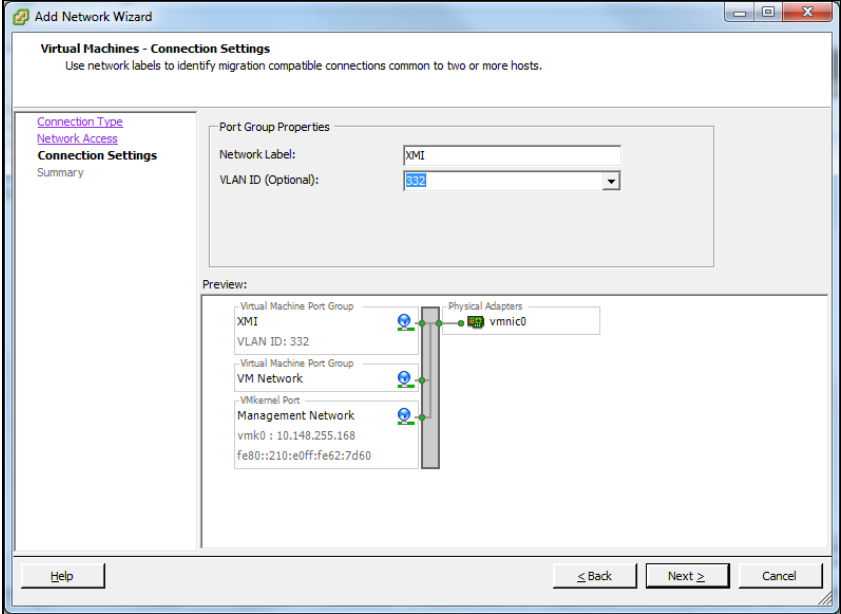
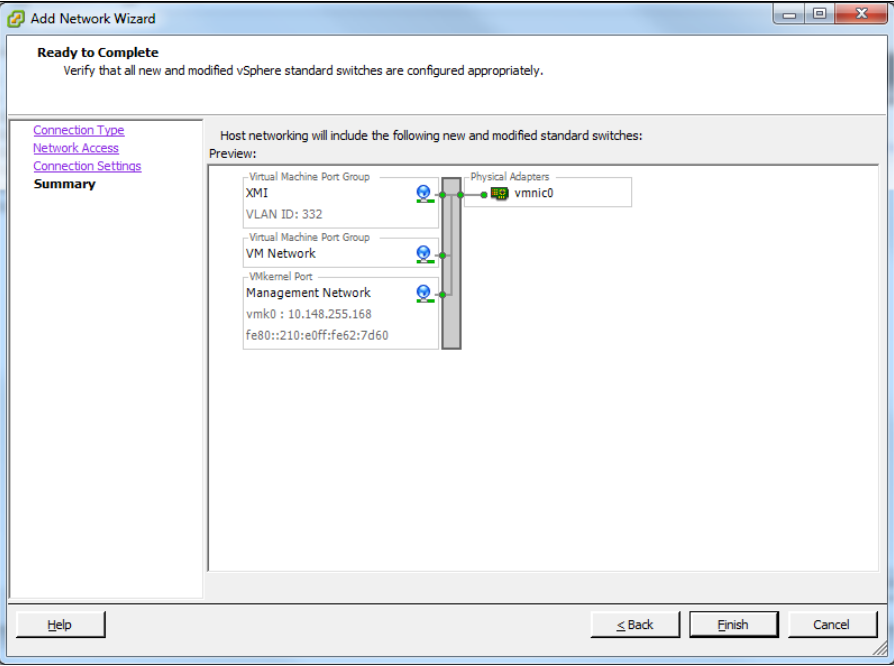
- XMI
OAM Management Interface for the application
- XSI1
Signaling Interface
- XSI2
Signaling Interface
- IMI
Replication Interface
- Guest Management
Reserved for Guest management activities.

This procedure configures host networking.
 Check (✓) each step as it is completed. Boxes have been provided for this purpose.
 If this procedure fails, contact My Oracle Support, and ask for assistance. See [Appendix K](#) for information on contacting My Oracle Support.

Procedure 18: Host Networking Configuration with vSphere

Step	Procedure	Details
7. <input type="checkbox"/>	Log into the VMware client	
8. <input type="checkbox"/>	<p>VMware client:</p> <p>3. Select the host on the left tree menu</p> <p>4. Click Configuration tab on right</p> <p>5. Select Networking in the Hardware list.</p>	

Step	Procedure	Details																		
9. <input type="checkbox"/>	<p>VMware client:</p> <ol style="list-style-type: none"> 1. Select Add Networking from top 2. Select connection type Virtual Machine 3. Click Next 	 <p>Add Network Wizard</p> <p>Connection Type Networking hardware can be partitioned to accommodate each service that requires connectivity.</p> <p>Connection Type Network Access Connection Settings Summary</p> <p>Connection Types</p> <ul style="list-style-type: none"> <input checked="" type="radio"/> Virtual Machine Add a labeled network to handle virtual machine network traffic. <input type="radio"/> VMkernel The VMkernel TCP/IP stack handles traffic for the following ESXi services: vSphere vMotion, iSCSI, NFS, and host management. <p>Help < Back Next > Cancel</p>																		
10. <input type="checkbox"/>	<p>VMware client:</p> <ol style="list-style-type: none"> 1. Select the vSwitch type based on the host hardware. 2. Click Next. 	 <p>Add Network Wizard</p> <p>Virtual Machines - Network Access Virtual machines reach networks through uplink adapters attached to vSphere standard switches.</p> <p>Connection Type Network Access Connection Settings Summary</p> <p>Select which vSphere standard switch will handle the network traffic for this connection. You may also create a new vSphere standard switch using the unclaimed network adapters listed below.</p> <table border="1"> <thead> <tr> <th></th> <th>Speed</th> <th>Networks</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> vNIC1</td> <td>10000 Full</td> <td>None</td> </tr> <tr> <td><input checked="" type="radio"/> Use vSwitch2</td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> vNIC2</td> <td>10000 Full</td> <td>None</td> </tr> <tr> <td><input type="radio"/> Use vSwitch3</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> vNIC3</td> <td>10000 Full</td> <td>None</td> </tr> </tbody> </table> <p>Preview:</p> <pre> graph LR subgraph VM_Group [Virtual Machine Port Group] VM_Net[VM Network 2] SigB[Virtual Machine Port Group SigB-1 VLAN ID: 414] SigA[Virtual Machine Port Group SigA-1 VLAN ID: 412] end subgraph Physical_Adapters [Physical Adapters] vNIC2[vNIC2] end VM_Net --- vNIC2 </pre> <p>Help < Back Next > Cancel</p>		Speed	Networks	<input type="checkbox"/> vNIC1	10000 Full	None	<input checked="" type="radio"/> Use vSwitch2			<input checked="" type="checkbox"/> vNIC2	10000 Full	None	<input type="radio"/> Use vSwitch3			<input type="checkbox"/> vNIC3	10000 Full	None
	Speed	Networks																		
<input type="checkbox"/> vNIC1	10000 Full	None																		
<input checked="" type="radio"/> Use vSwitch2																				
<input checked="" type="checkbox"/> vNIC2	10000 Full	None																		
<input type="radio"/> Use vSwitch3																				
<input type="checkbox"/> vNIC3	10000 Full	None																		

Step	Procedure	Details
11. <input type="checkbox"/>	<p>VMware client:</p> <p>Label the Network, enter the VLAN ID, click Next</p>	 <p>NOTE: It is recommended that the name reflect how the Network is used or referenced from within the Guest that is XMI, IMI, XSI1, and so on.</p>
12. <input type="checkbox"/>	<p>VMware client:</p> <p>Review the information and click Finish</p>	
13. <input type="checkbox"/>	<p>Repeat this procedure for each network</p>	<p>Repeat this procedure for each network type that is supported by this VMWare host:</p> <p><input type="checkbox"/> XMI <input type="checkbox"/> IMI <input type="checkbox"/> XSI-1 <input type="checkbox"/> XSI-2 (optional)</p>

THIS PROCEDURE IS COMPLETE

APPENDIX B. VMWARE VSPHERE ORACLE COMMUNICATIONS USER DATA REPOSITORY DEPLOYMENT

B.1 Create Guests from OVA


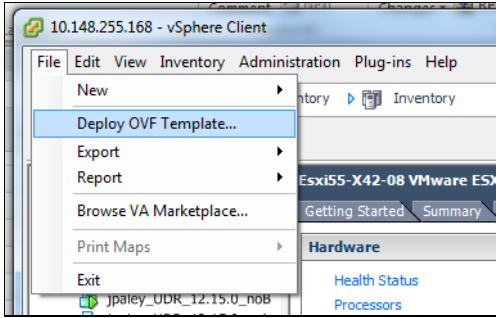
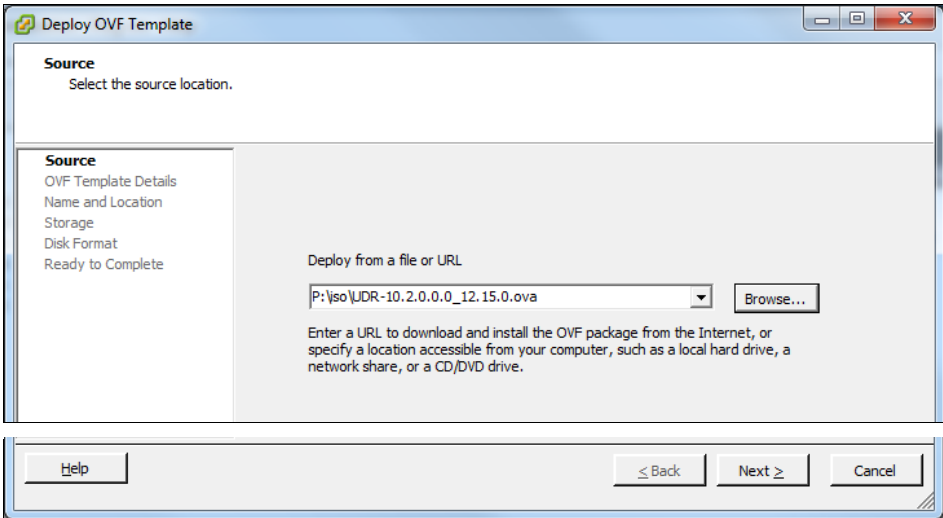
This procedure creates Oracle Communications User Data Repository virtual machines (guests) from OVA.

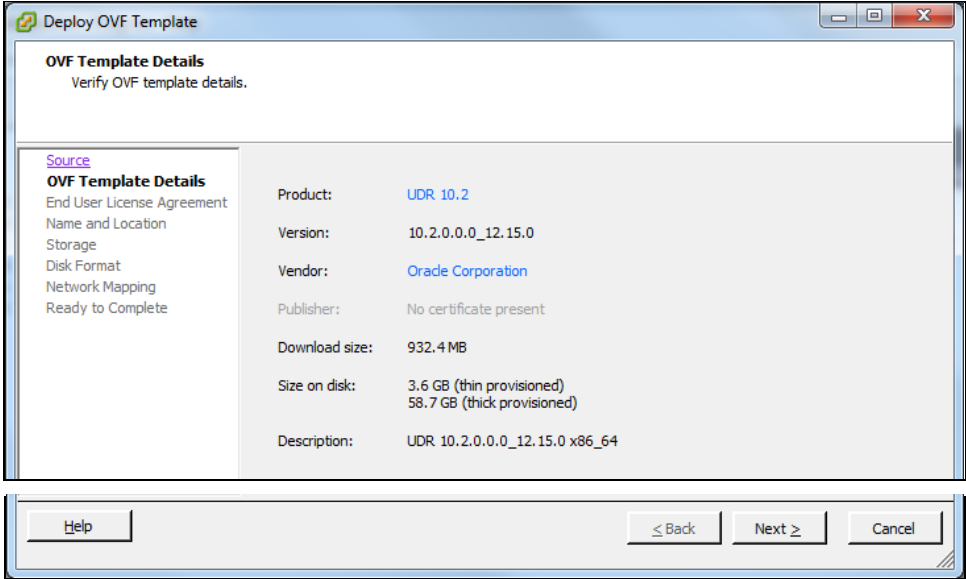
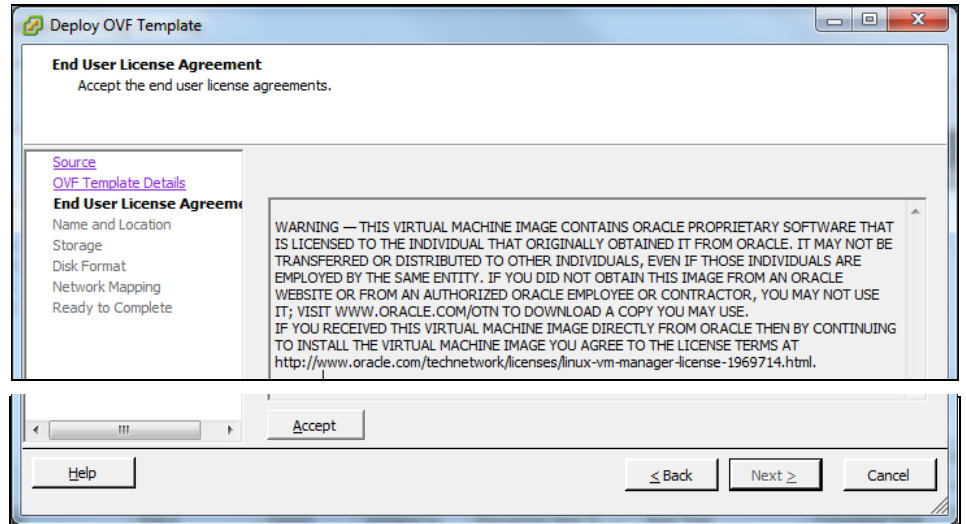
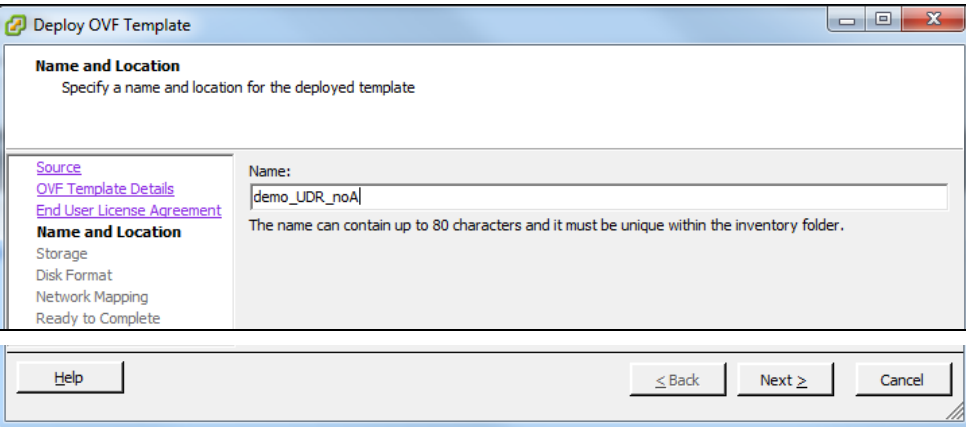
Required material:

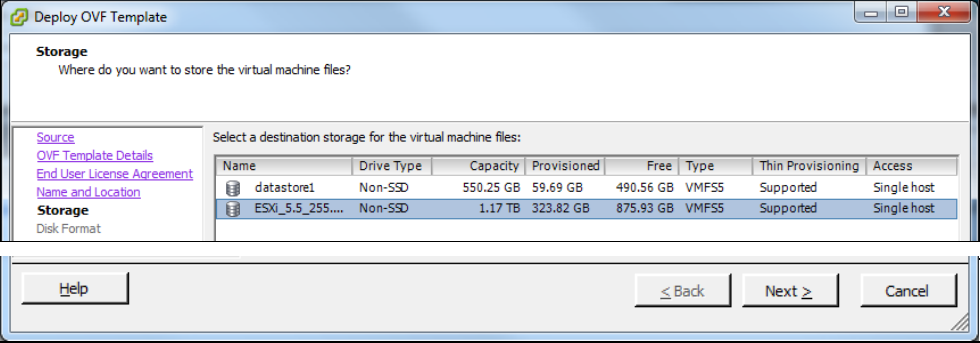
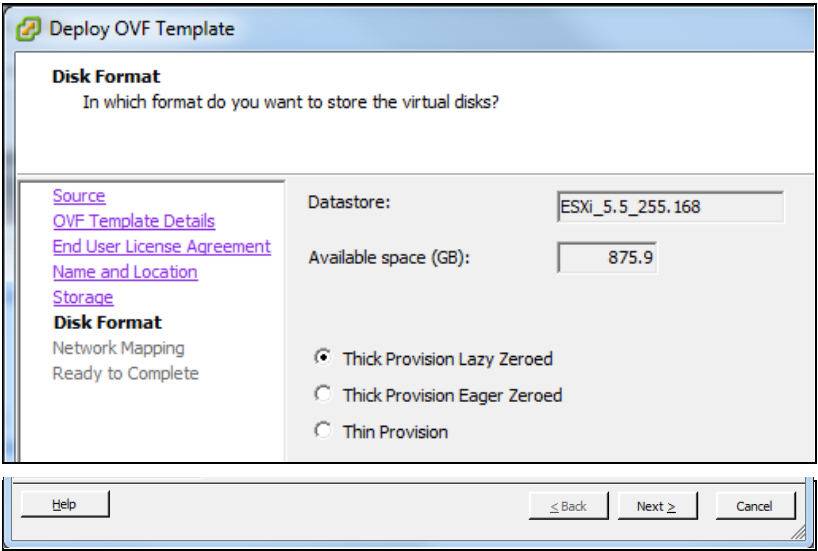
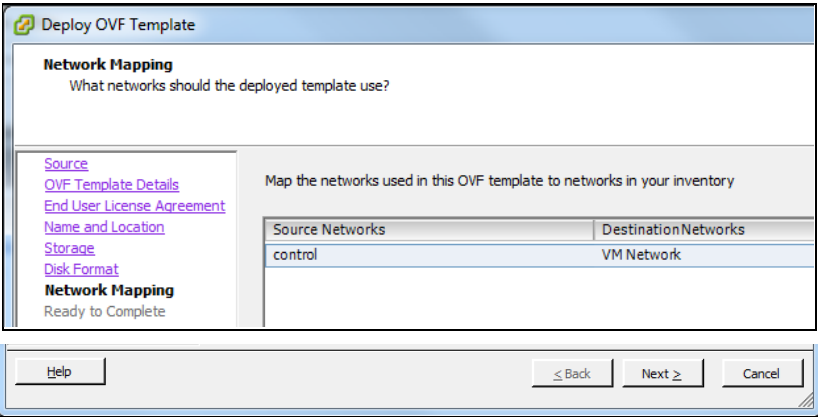
- Oracle Communications User Data Repository OVA

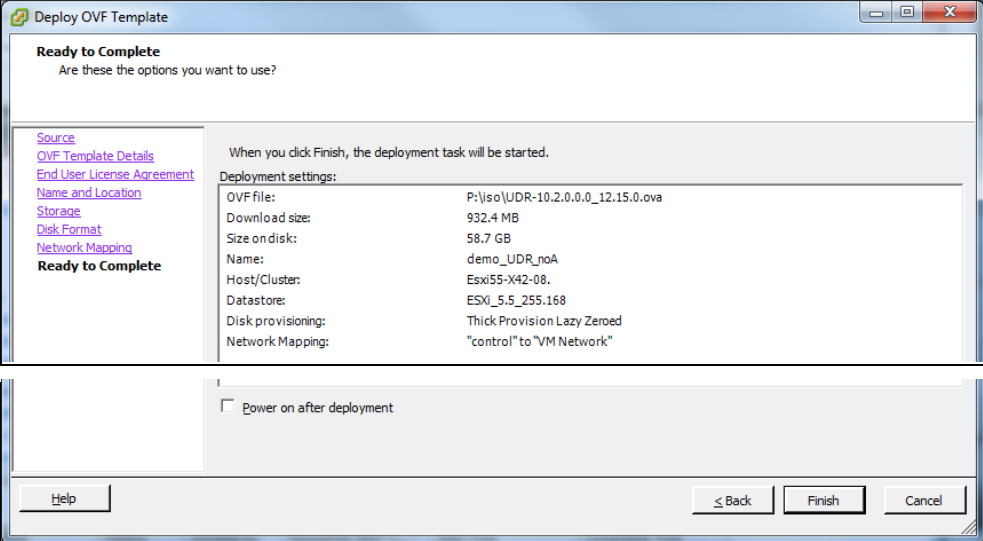
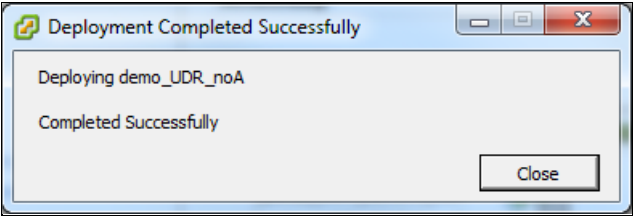
Check (✓) each step as it is completed. Boxes have been provided for this purpose.

Procedure 19: Deploy Oracle Communications User Data Repository OVA

Step	Procedure	Details
1. <input type="checkbox"/>	Log into the VMware client	
2. <input type="checkbox"/>	VMware client: Navigate to File → Deploy OVF Template	
3. <input type="checkbox"/>	VMware client: 1. Click Browse and select the OVA file 2. Click Next	

Step	Procedure	Details														
4. <input type="checkbox"/>	<p>VMware client: Details screen displays, click Next</p>	 <p>The screenshot shows the 'Deploy OVF Template' window with the 'OVF Template Details' tab selected. The window title is 'Deploy OVF Template'. Below the title bar, it says 'OVF Template Details' and 'Verify OVF template details.'. On the left, there is a navigation pane with links for 'Source', 'OVF Template Details', 'End User License Agreement', 'Name and Location', 'Storage', 'Disk Format', 'Network Mapping', and 'Ready to Complete'. The main area displays the following details:</p> <table border="1"> <tr> <td>Product:</td> <td>UDR 10.2</td> </tr> <tr> <td>Version:</td> <td>10.2.0.0_12.15.0</td> </tr> <tr> <td>Vendor:</td> <td>Oracle Corporation</td> </tr> <tr> <td>Publisher:</td> <td>No certificate present</td> </tr> <tr> <td>Download size:</td> <td>932.4 MB</td> </tr> <tr> <td>Size on disk:</td> <td>3.6 GB (thin provisioned) 58.7 GB (thick provisioned)</td> </tr> <tr> <td>Description:</td> <td>UDR 10.2.0.0_12.15.0 x86_64</td> </tr> </table> <p>At the bottom, there are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.</p>	Product:	UDR 10.2	Version:	10.2.0.0_12.15.0	Vendor:	Oracle Corporation	Publisher:	No certificate present	Download size:	932.4 MB	Size on disk:	3.6 GB (thin provisioned) 58.7 GB (thick provisioned)	Description:	UDR 10.2.0.0_12.15.0 x86_64
Product:	UDR 10.2															
Version:	10.2.0.0_12.15.0															
Vendor:	Oracle Corporation															
Publisher:	No certificate present															
Download size:	932.4 MB															
Size on disk:	3.6 GB (thin provisioned) 58.7 GB (thick provisioned)															
Description:	UDR 10.2.0.0_12.15.0 x86_64															
5. <input type="checkbox"/>	<p>VMware client: Accept End User License Agreement by clicking Accept then clicking Next</p>	 <p>The screenshot shows the 'Deploy OVF Template' window with the 'End User License Agreement' tab selected. The window title is 'Deploy OVF Template'. Below the title bar, it says 'End User License Agreement' and 'Accept the end user license agreements.'. On the left, the navigation pane is the same as in the previous screenshot. The main area displays a warning message:</p> <p>WARNING — THIS VIRTUAL MACHINE IMAGE CONTAINS ORACLE PROPRIETARY SOFTWARE THAT IS LICENSED TO THE INDIVIDUAL THAT ORIGINALLY OBTAINED IT FROM ORACLE. IT MAY NOT BE TRANSFERRED OR DISTRIBUTED TO OTHER INDIVIDUALS, EVEN IF THOSE INDIVIDUALS ARE EMPLOYED BY THE SAME ENTITY. IF YOU DID NOT OBTAIN THIS IMAGE FROM AN ORACLE WEBSITE OR FROM AN AUTHORIZED ORACLE EMPLOYEE OR CONTRACTOR, YOU MAY NOT USE IT; VISIT WWW.ORACLE.COM/OTN TO DOWNLOAD A COPY YOU MAY USE. IF YOU RECEIVED THIS VIRTUAL MACHINE IMAGE DIRECTLY FROM ORACLE THEN BY CONTINUING TO INSTALL THE VIRTUAL MACHINE IMAGE YOU AGREE TO THE LICENSE TERMS AT http://www.oracle.com/technetwork/licenses/linux-vm-manager-license-1969714.html.</p> <p>Below the warning, there is an 'Accept' button. At the bottom, there are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.</p>														
6. <input type="checkbox"/>	<p>VMware client: Name the virtual machine and click Next</p>	 <p>The screenshot shows the 'Deploy OVF Template' window with the 'Name and Location' tab selected. The window title is 'Deploy OVF Template'. Below the title bar, it says 'Name and Location' and 'Specify a name and location for the deployed template'. On the left, the navigation pane is the same as in the previous screenshots. The main area displays a text input field for 'Name:' with the value 'demo_UDR_noA'. Below the input field, it says 'The name can contain up to 80 characters and it must be unique within the inventory folder.'. At the bottom, there are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.</p>														

Step	Procedure	Details																								
7. <input type="checkbox"/>	<p>VMware client: Select the destination storage for the virtual machine from the list of available data stores then click Next.</p>	 <p>Storage Where do you want to store the virtual machine files?</p> <p>Select a destination storage for the virtual machine files:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Drive Type</th> <th>Capacity</th> <th>Provisioned</th> <th>Free</th> <th>Type</th> <th>Thin Provisioning</th> <th>Access</th> </tr> </thead> <tbody> <tr> <td>datastore1</td> <td>Non-SSD</td> <td>550.25 GB</td> <td>59.69 GB</td> <td>490.56 GB</td> <td>VMFS5</td> <td>Supported</td> <td>Single host</td> </tr> <tr> <td>ESXi_5.5_255....</td> <td>Non-SSD</td> <td>1.17 TB</td> <td>323.82 GB</td> <td>875.93 GB</td> <td>VMFS5</td> <td>Supported</td> <td>Single host</td> </tr> </tbody> </table> <p>NOTE: For an upgradeable deployment, ensure the data store has enough free capacity to support the type of VM according to the profile selected from [1].</p>	Name	Drive Type	Capacity	Provisioned	Free	Type	Thin Provisioning	Access	datastore1	Non-SSD	550.25 GB	59.69 GB	490.56 GB	VMFS5	Supported	Single host	ESXi_5.5_255....	Non-SSD	1.17 TB	323.82 GB	875.93 GB	VMFS5	Supported	Single host
Name	Drive Type	Capacity	Provisioned	Free	Type	Thin Provisioning	Access																			
datastore1	Non-SSD	550.25 GB	59.69 GB	490.56 GB	VMFS5	Supported	Single host																			
ESXi_5.5_255....	Non-SSD	1.17 TB	323.82 GB	875.93 GB	VMFS5	Supported	Single host																			
8. <input type="checkbox"/>	<p>VMware client: Choose Thick Provision Lazy Zeroed and click Next.</p>	 <p>Disk Format In which format do you want to store the virtual disks?</p> <p>Datastore: ESXi_5.5_255.168 Available space (GB): 875.9</p> <p> <input checked="" type="radio"/> Thick Provision Lazy Zeroed <input type="radio"/> Thick Provision Eager Zeroed <input type="radio"/> Thin Provision </p>																								
9. <input type="checkbox"/>	<p>VMware client: Click Next</p>	 <p>Network Mapping What networks should the deployed template use?</p> <p>Map the networks used in this OVF template to networks in your inventory</p> <table border="1"> <thead> <tr> <th>Source Networks</th> <th>Destination Networks</th> </tr> </thead> <tbody> <tr> <td>control</td> <td>VM Network</td> </tr> </tbody> </table>	Source Networks	Destination Networks	control	VM Network																				
Source Networks	Destination Networks																									
control	VM Network																									

Step	Procedure	Details
10. <input type="checkbox"/>	VMware client: Review deployment settings and click Finish	
11. <input type="checkbox"/>	VMware client: After a short time, a deployment status message is displayed. Click Close .	


THIS PROCEDURE IS COMPLETE

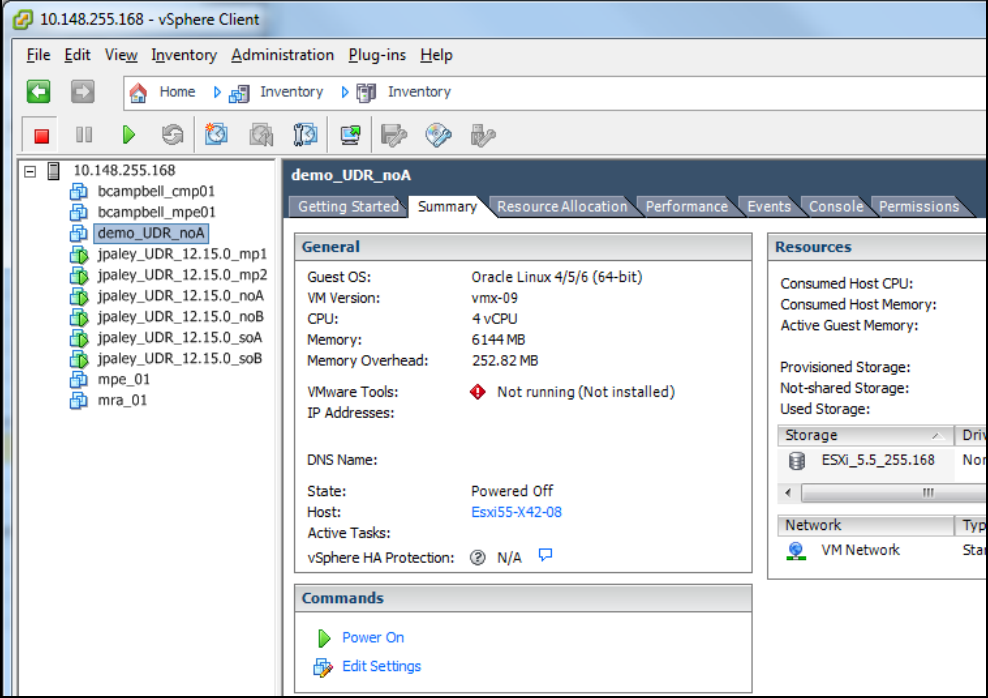
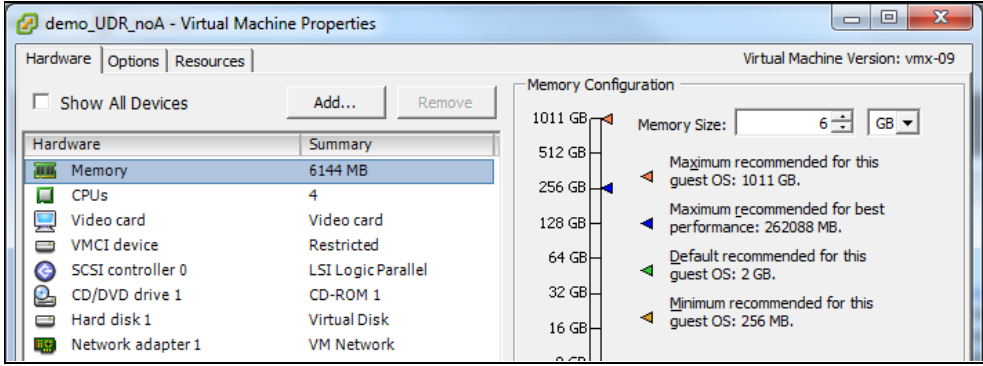
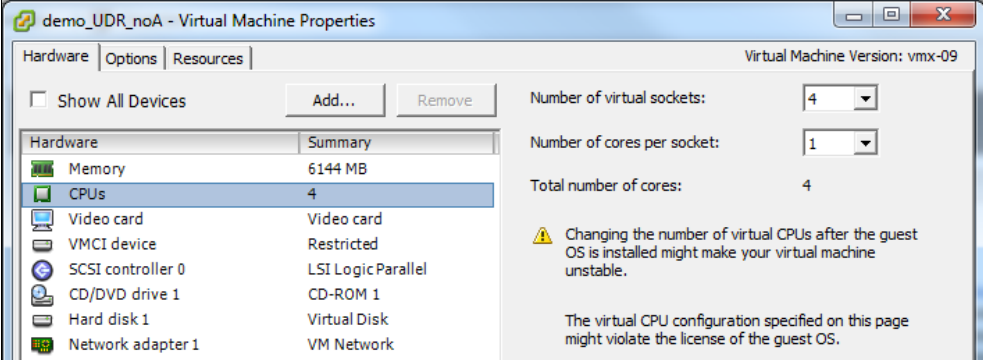
B.2 Configure Guest Resources

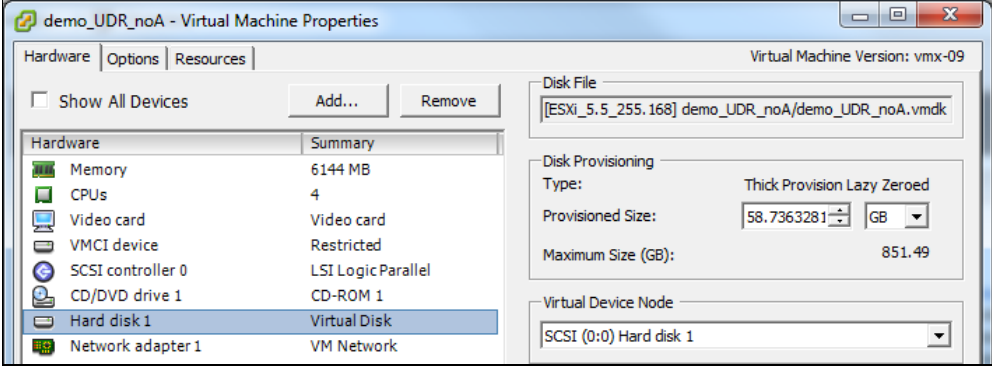
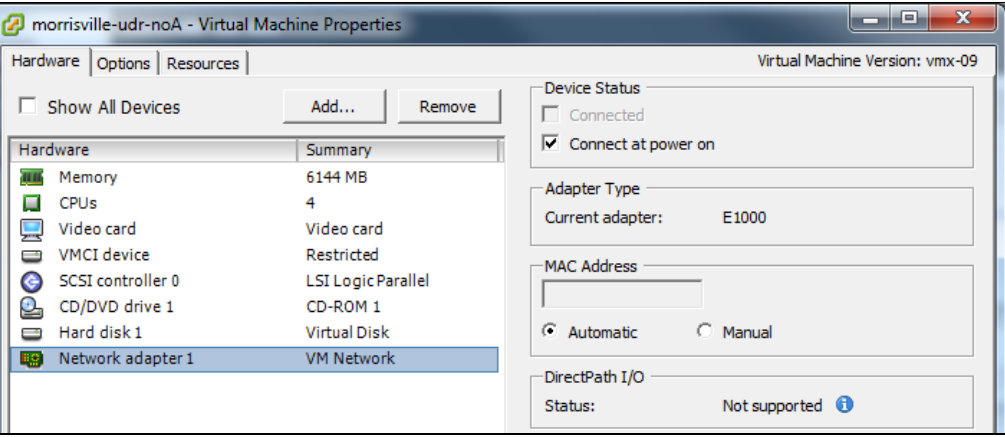
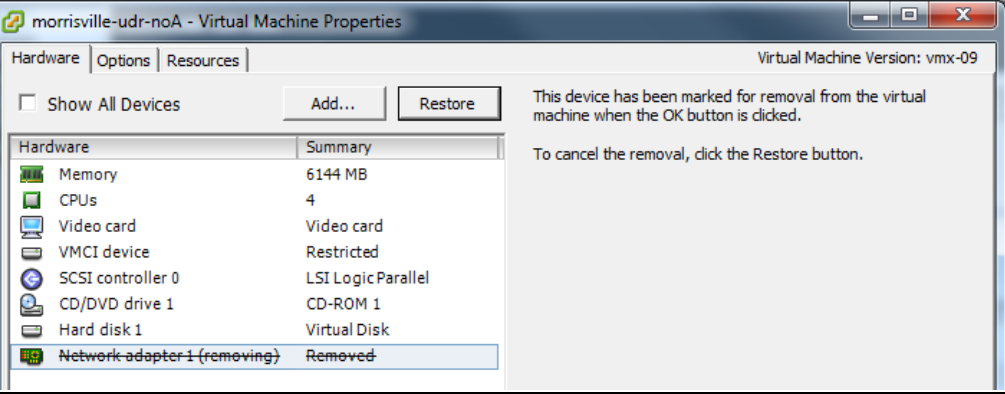
This procedure configures the required resource allocations and associations for Oracle Communications User Data Repository virtual machines (guests) and power them on.

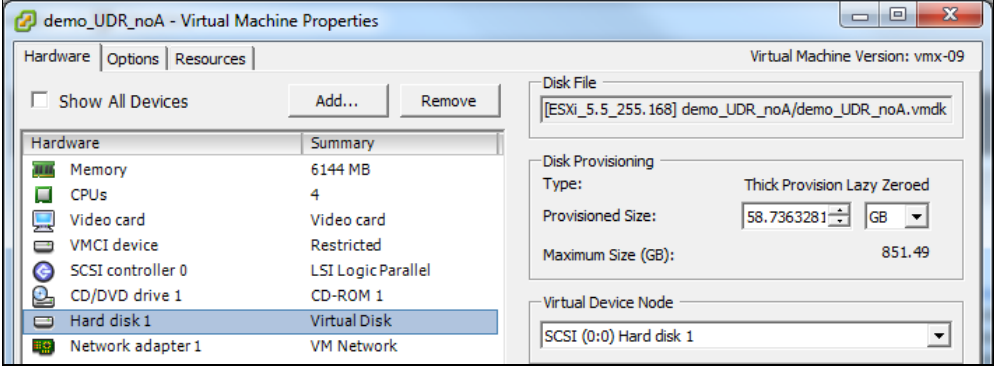
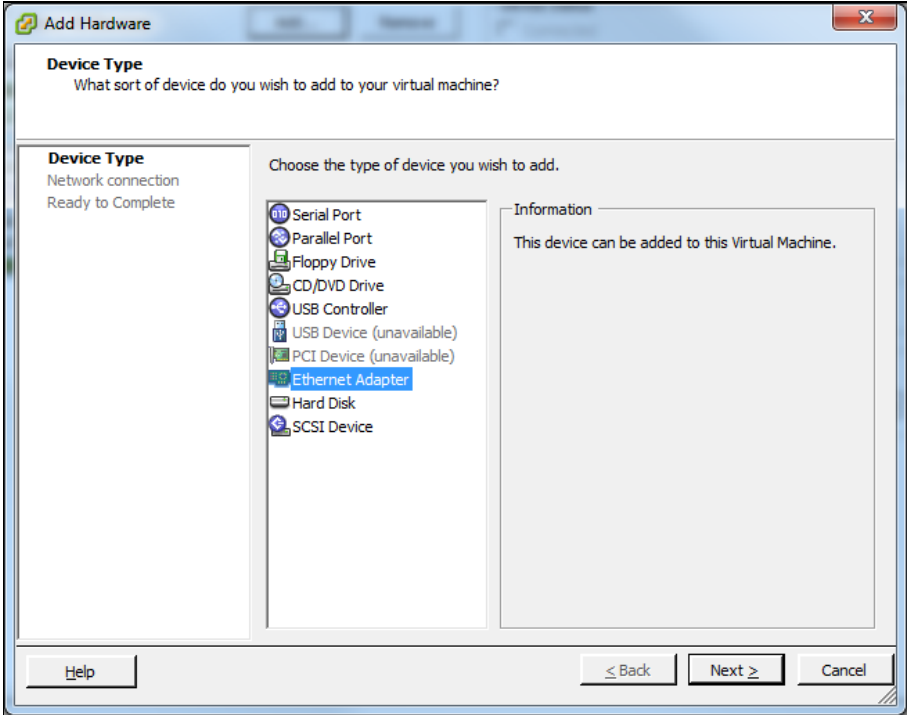
Check (✓) each step as it is completed. Boxes have been provided for this purpose.

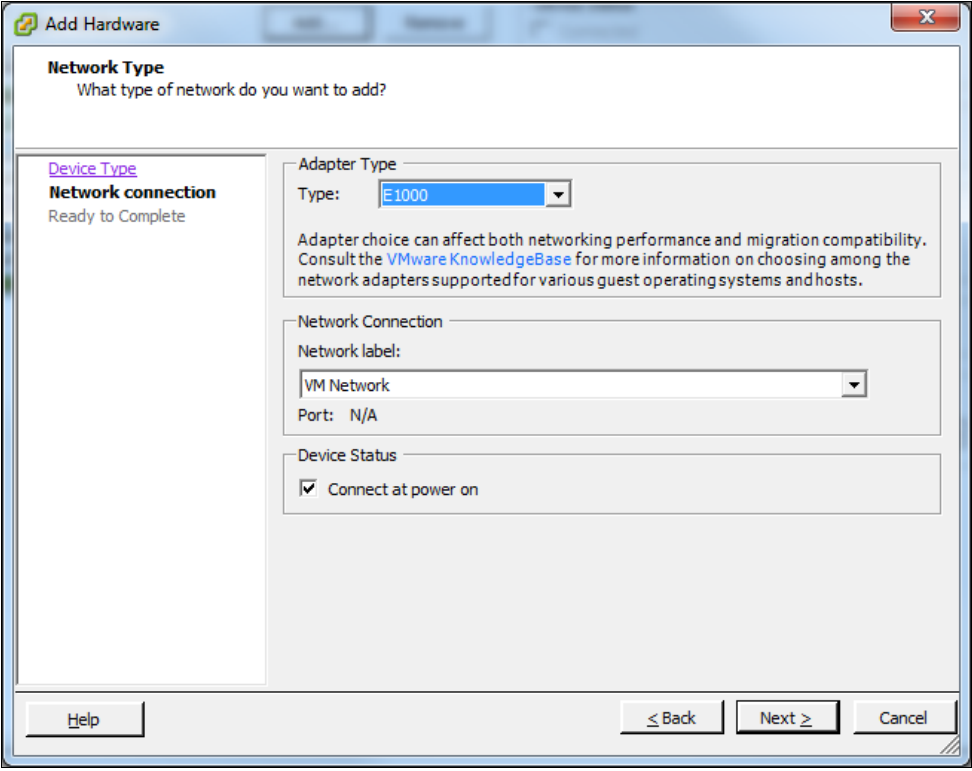
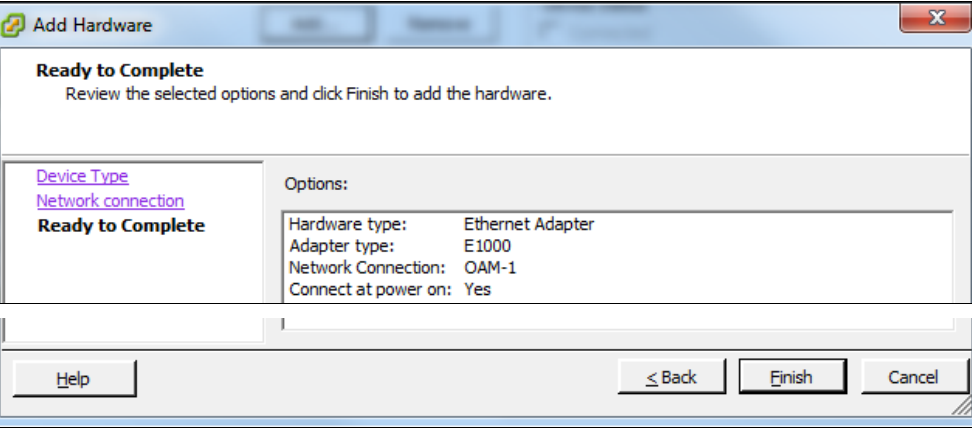
Procedure 20: Configure Guest Resources

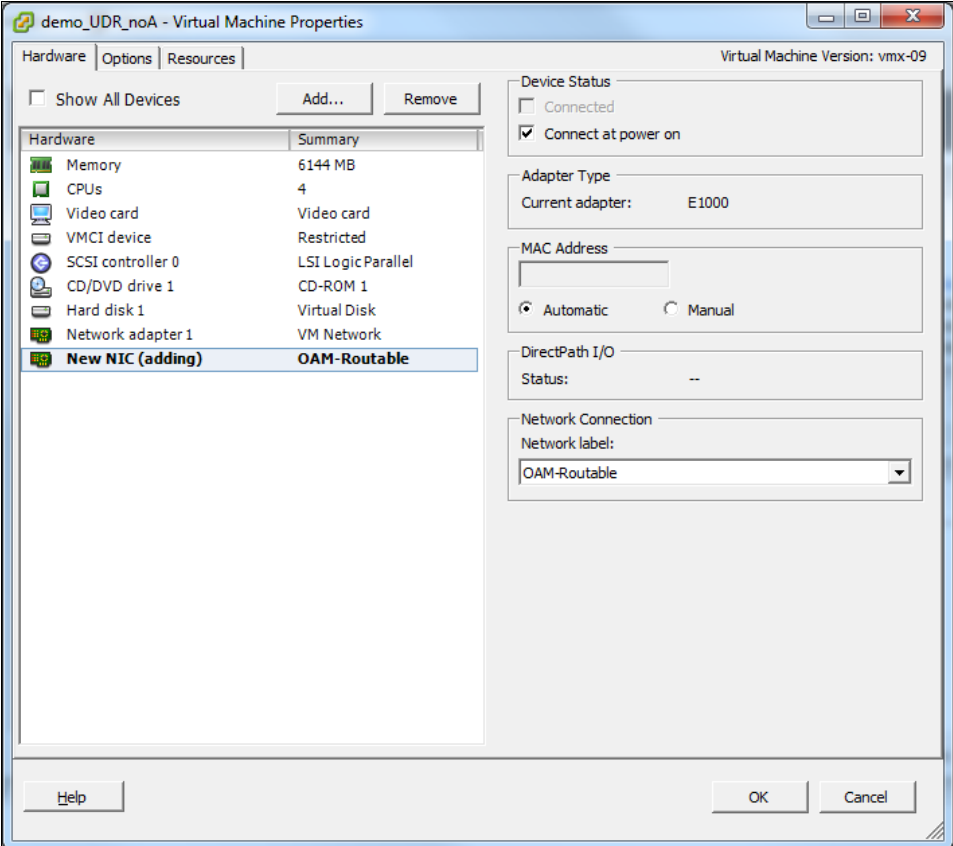
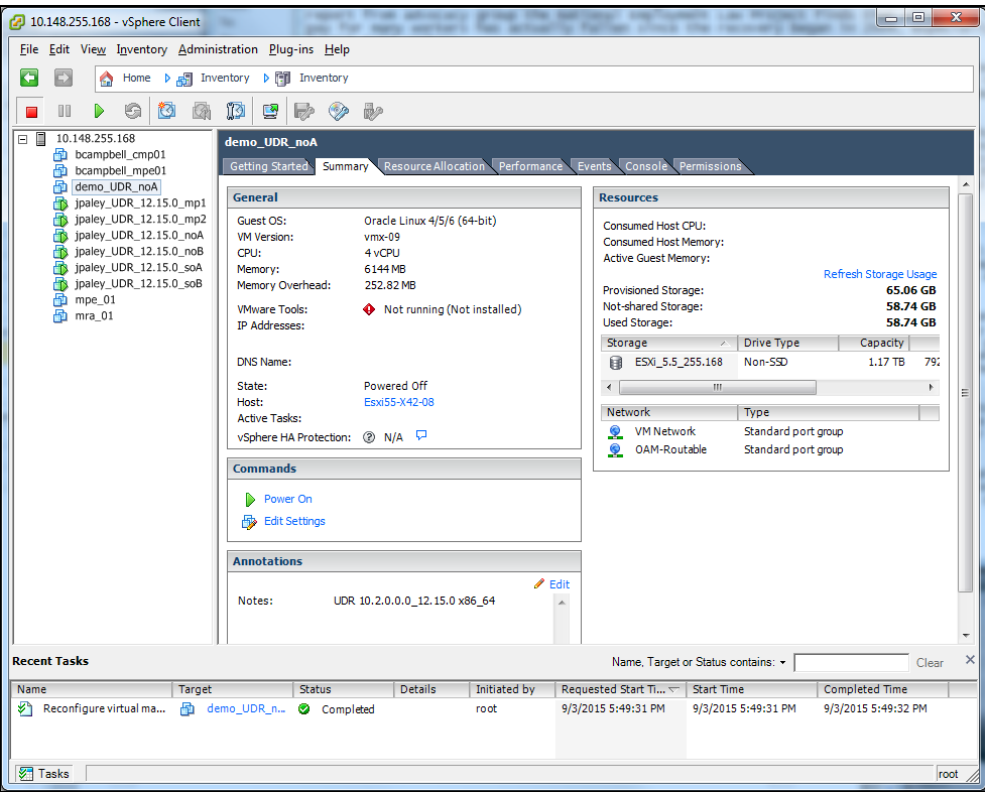
Step	Procedure	Details
1. <input type="checkbox"/>	VMware client: Log into the VMware client	

Step	Procedure	Details
<p>2. <input type="checkbox"/></p>	<p>VMware client:</p> <ol style="list-style-type: none"> 1. Select the Oracle Communications User Data Repository virtual machine from the left tree menu 2. Select the Summary tab 3. Click Edit Settings in the Commands section 	
<p>3. <input type="checkbox"/></p>	<p>VMware client:</p> <p>Select Memory from the Hardware menu and adjust Memory Size to suit the role of the server.</p> <ul style="list-style-type: none"> • NOAMP: 48 GB • SOAM: 4 GB • MP: 16 GB 	
<p>4. <input type="checkbox"/></p>	<p>VMware client:</p> <p>Select CPUs from the Hardware menu and adjust the Number of virtual sockets according to [1].</p>	

Step	Procedure	Details															
5. <input type="checkbox"/>	<p>VMware client:</p> <p>Select Hard disk 1 from the Hardware menu and adjust the Provisioned Size according to 1.</p>																
6. <input type="checkbox"/>	<p>VMware client:</p> <p>1. Select any Network adapter that exists by default</p> <p>2. Click Remove.</p>																
7. <input type="checkbox"/>	<p>VMware client:</p> <p>The network adapter is crossed out and a removal message displayed</p>																
8. <input type="checkbox"/>	<p>VMware client:</p> <p>Take note of the order in which networks are added.</p>	<p>NOTE: The order the networks are added affects their device order within the virtual machine. Add the networks in the order they are listed for each server type.</p> <table border="1"> <thead> <tr> <th>NOAMP</th> <th>SOAM</th> <th>MP</th> </tr> </thead> <tbody> <tr> <td>1. <input type="checkbox"/> XMI</td> <td>1. <input type="checkbox"/> XMI</td> <td>1. <input type="checkbox"/> XMI</td> </tr> <tr> <td>2. <input type="checkbox"/> IMI</td> <td>2. <input type="checkbox"/> IMI</td> <td>2. <input type="checkbox"/> IMI</td> </tr> <tr> <td>3. <input type="checkbox"/> XSI-1 (optional)</td> <td></td> <td>3. <input type="checkbox"/> XSI-1</td> </tr> <tr> <td></td> <td></td> <td>4. <input type="checkbox"/> XSI-2 (optional)</td> </tr> </tbody> </table>	NOAMP	SOAM	MP	1. <input type="checkbox"/> XMI	1. <input type="checkbox"/> XMI	1. <input type="checkbox"/> XMI	2. <input type="checkbox"/> IMI	2. <input type="checkbox"/> IMI	2. <input type="checkbox"/> IMI	3. <input type="checkbox"/> XSI-1 (optional)		3. <input type="checkbox"/> XSI-1			4. <input type="checkbox"/> XSI-2 (optional)
NOAMP	SOAM	MP															
1. <input type="checkbox"/> XMI	1. <input type="checkbox"/> XMI	1. <input type="checkbox"/> XMI															
2. <input type="checkbox"/> IMI	2. <input type="checkbox"/> IMI	2. <input type="checkbox"/> IMI															
3. <input type="checkbox"/> XSI-1 (optional)		3. <input type="checkbox"/> XSI-1															
		4. <input type="checkbox"/> XSI-2 (optional)															

Step	Procedure	Details
9. <input type="checkbox"/>	<p>VMware client: On the Hardware tab, click Add</p>	
10. <input type="checkbox"/>	<p>VMware client: Select Ethernet Adapter from the list of devices and click Next</p>	

Step	Procedure	Details
11. <input type="checkbox"/>	<p>VMware client:</p> <ol style="list-style-type: none"> 1. Select the Adapter Type to conform to your virtual host 2. Select the Network Label to match the network type 3. Click Next 	 <p>The screenshot shows the 'Add Hardware' dialog box with the following details:</p> <ul style="list-style-type: none"> Network Type: What type of network do you want to add? Device Type: Network connection (Ready to Complete) Adapter Type: Type: E1000 Network Connection: Network label: VM Network, Port: N/A Device Status: <input checked="" type="checkbox"/> Connect at power on
12. <input type="checkbox"/>	<p>VMware client:</p> <p>Confirm Option settings and click Finish</p>	 <p>The screenshot shows the 'Add Hardware' dialog box with the following details:</p> <ul style="list-style-type: none"> Ready to Complete: Review the selected options and click Finish to add the hardware. Options: Hardware type: Ethernet Adapter, Adapter type: E1000, Network Connection: OAM-1, Connect at power on: Yes
13. <input type="checkbox"/>	<p>VMware client:</p> <p>Repeat as required</p>	<p>Repeat steps Error! Reference source not found. to Error! Reference source not found. to add networks that are required for the role of the server.</p>

Step	Procedure	Details
<p>14. <input type="checkbox"/></p>	<p>VMware client: After all networks are added, confirm their correct entry in the Hardware menu then click OK.</p>	
<p>15. <input type="checkbox"/></p>	<p>VMware client: New devices and networks are listed on the Summary tab and Reconfigure task shows status Completed under Recent Tasks. Click Power On in the Commands section.</p>	

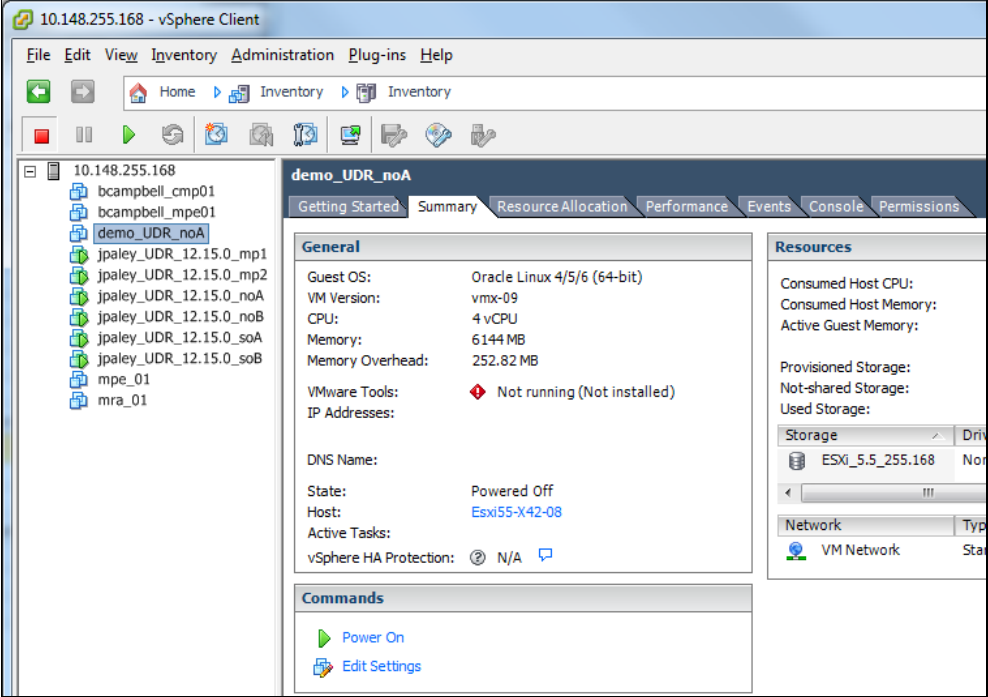
THIS PROCEDURE IS COMPLETE

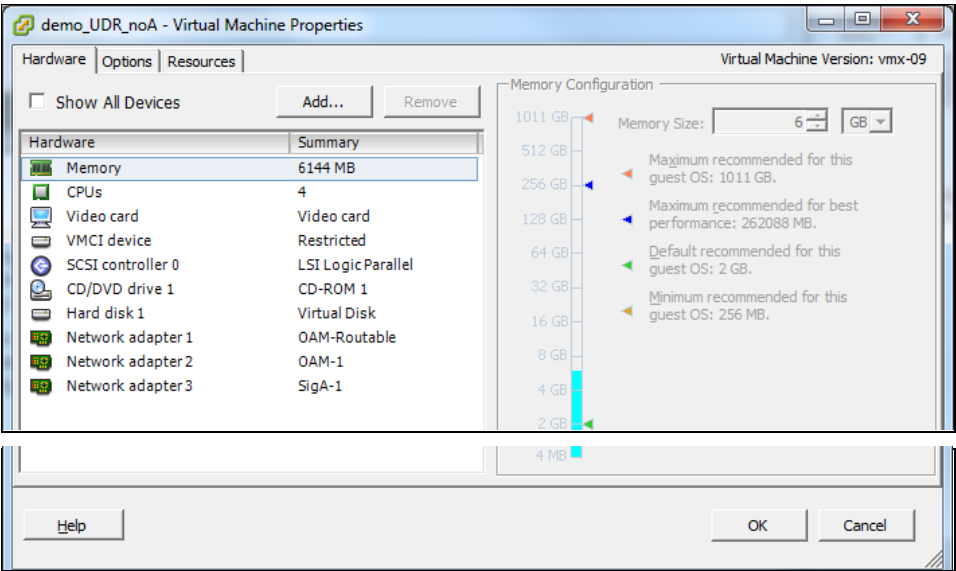
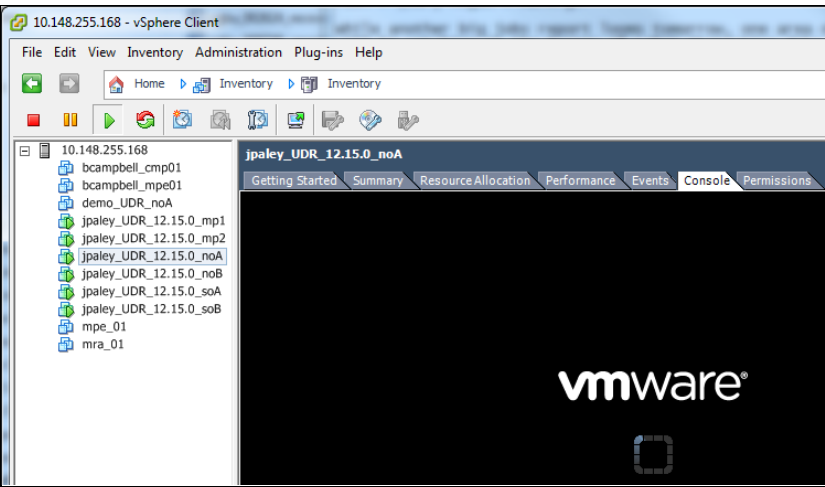
B.3 Configure Guest Network

This procedure configures the OAM network on Oracle Communications User Data Repository virtual machines (guests).

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

Procedure 21: Configure Guest OAM Network

Step	Procedure	Details
1. <input type="checkbox"/>	Log into the Vmware client	<div style="border: 1px solid #ccc; padding: 10px; width: fit-content;"> <p>IP address / Name: <input type="text"/></p> <p>User name: <input type="text"/></p> <p>Password: <input type="password"/></p> </div>
2. <input type="checkbox"/>	<p>VMware client:</p> <ol style="list-style-type: none"> 1. Select the Oracle Communications User Data Repository virtual machine from the left tree menu 2. Seleyc the Summary tab 3. Click Edit Settings in the Commands section. 	

Step	Procedure	Details
<p>3. <input type="checkbox"/></p>	<p>VMware client:</p> <ol style="list-style-type: none"> Take note of the Network adapter assignment under Hardware tab for each application network. Click Cancel. 	 <p>Network adapters are enumerated under the Hardware tab. Their adapter number in the Hardware column corresponds to their zero-based device name assignment within a running guest.</p> <p>For instance, in the example capture above:</p> <ul style="list-style-type: none"> OAM (XMI) is on eth0 device OAM-1 (IMI) is on eth1 device Sig-A (XSI-1) is on eth2 device <p>Note the device NIC number assignment of the following networks:</p> <p>XMI: _____</p> <p>IMI: _____</p> <p>XSI-1: _____</p> <p>XSI-2 : _____ (optional)</p>
<p>4. <input type="checkbox"/></p>	<p>VMware client:</p> <ol style="list-style-type: none"> Select the Console tab Click inside the console window to bring focus there <p>NOTE: Press Ctrl-Alt to escape from console.</p>	
<p>5. <input type="checkbox"/></p>	<p>VM Console:</p> <p>Login to console as admusr</p>	<pre>login as: admusr Password:</pre>

Step	Procedure	Details
6. <input type="checkbox"/>	VM Console: Configure XMI network	<p>1. Set the XMI device for routable OAM access:</p> <p>NOTE: Where ethX is the interface associated with the XMI network</p> <pre>\$ sudo netAdm add --device=eth0 --address=<Guest_XMI_IP_Address> --netmask=<XMI_Netmask> --onboot=yes --bootproto=none</pre> <p>2. Add the default route for XMI:</p> <pre>\$ sudo netAdm add --route=default --gateway=<Gateway_XMI_IP_Address> --device=eth0</pre> <p>NOTE: The network device may be different than the device listed here (eth0) if the order of network adapter insertion was different than shown. Refer to step 3 for this assignment.</p>
7. <input type="checkbox"/>	VM Console: Configure XSI network (NO and MP Server Only)	<p>(Only for NO and MP Servers) Set the XSI device for routable signaling network access:</p> <p>NOTE: Where ethX is the interface associated with the XSI network</p> <pre>\$ sudo netAdm add --device=eth2 --address=<Guest_XSI_IP_Address> --netmask=<XSI_Netmask> --onboot=yes --bootproto=none</pre> <p>NOTE: The network device may be different than the device listed here (eth2) if the order of network adapter insertion was different than shown. Refer to step 3 for this assignment.</p>
8. <input type="checkbox"/>	VM Console: Repeat as required (MP Server Only)	<p>(Only for MP Servers) If a second signaling network is in use, repeat step 7 to add XS1-2 (eth3). Adjust parameter values accordingly.</p>
9. <input type="checkbox"/>	VM Console: Exit console	<pre>\$ exit</pre> <p>NOTE: Press Ctrl-Alt to escape from console.</p>
THIS PROCEDURE IS COMPLETE		

APPENDIX C. VMWARE VCLLOUD DIRECTOR ORACLE COMMUNICATIONS USER DATA REPOSITORY DEPLOYMENT

C.1 vCloud Director Oracle Communications User Data Repository Media Upload

This procedure uploads Oracle Communications User Data Repository media (ISO or OVA) into vCloud Director Catalogs.

Needed material:

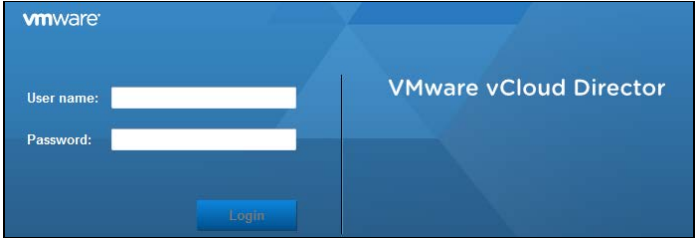
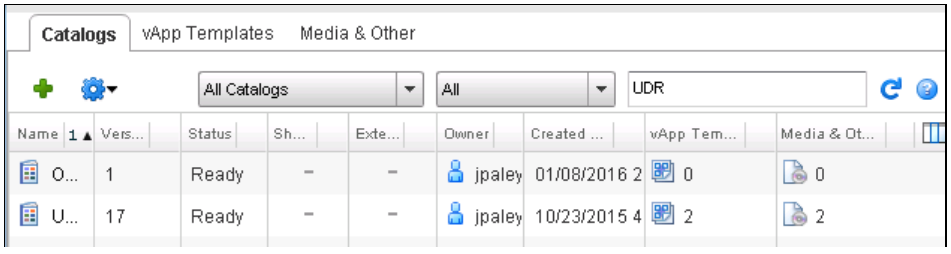
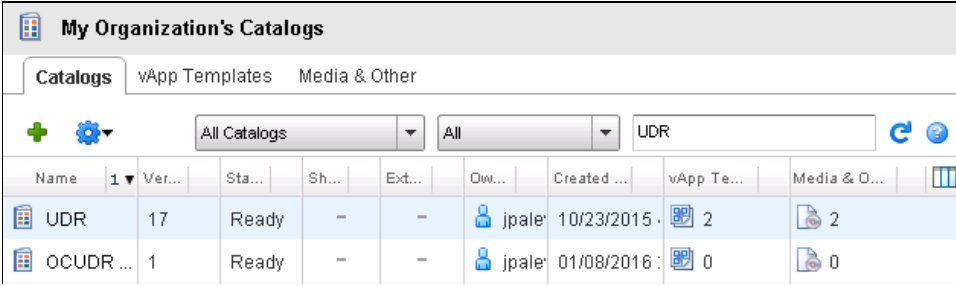
- Oracle Communications User Data Repository OVA

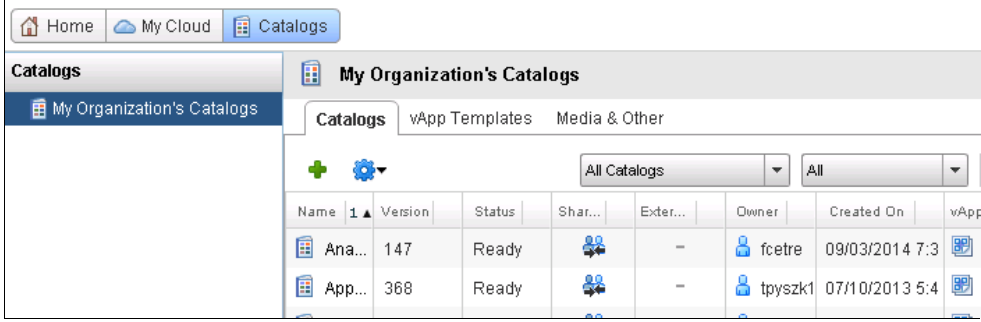
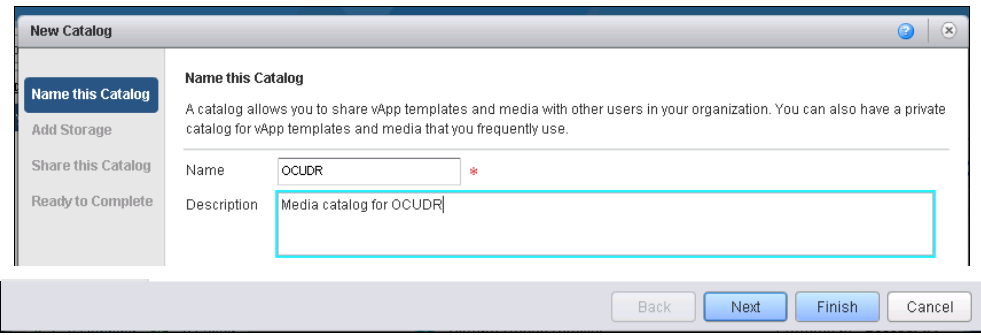

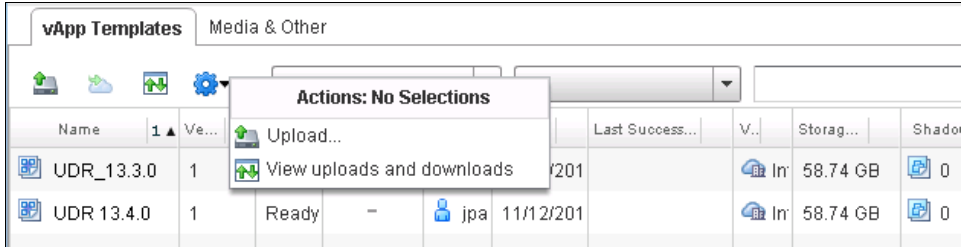
Optional material (required for ISO install only):

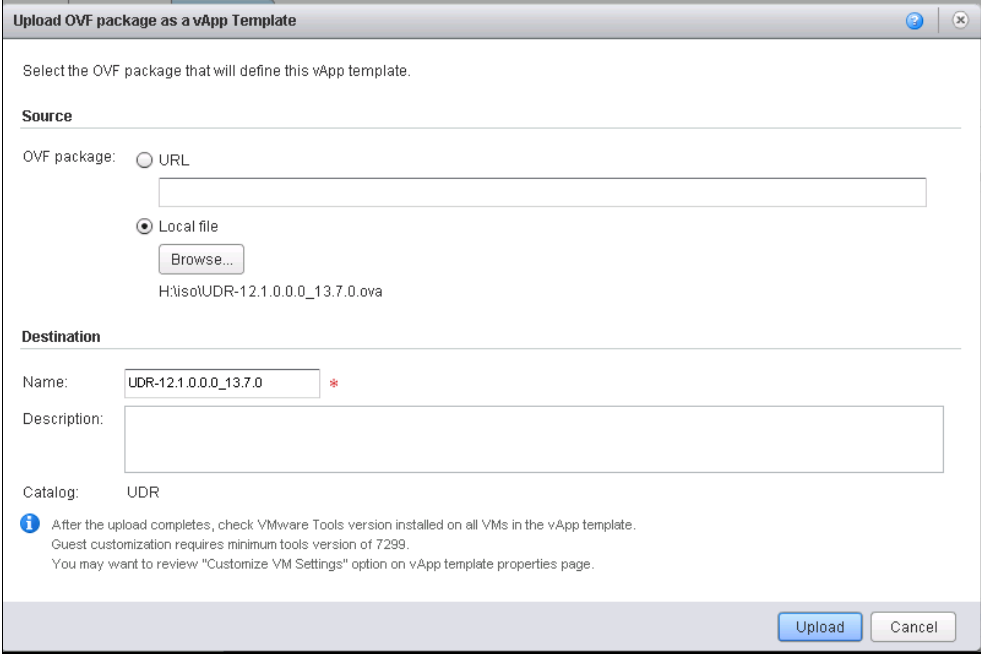
- Oracle Communications User Data Repository ISO
- TPD Platform ISO

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

Procedure 22: vCloud Director Oracle Communications User Data Repository Media Upload

Step	Procedure	Details																											
1. <input type="checkbox"/>	Log into the VMware vCloud Director																												
2. <input type="checkbox"/>	vCloud Director: Enter Oracle Communications User Data Repository catalog name in the search field and hit Enter.	 <table border="1"> <thead> <tr> <th>Name</th> <th>Vers...</th> <th>Status</th> <th>Sh...</th> <th>Ext...</th> <th>Owner</th> <th>Created ...</th> <th>vApp Tem...</th> <th>Media & Ot...</th> </tr> </thead> <tbody> <tr> <td>O...</td> <td>1</td> <td>Ready</td> <td>-</td> <td>-</td> <td>jpaley</td> <td>01/08/2016 2</td> <td>0</td> <td>0</td> </tr> <tr> <td>U...</td> <td>17</td> <td>Ready</td> <td>-</td> <td>-</td> <td>jpaley</td> <td>10/23/2015 4</td> <td>2</td> <td>2</td> </tr> </tbody> </table>	Name	Vers...	Status	Sh...	Ext...	Owner	Created ...	vApp Tem...	Media & Ot...	O...	1	Ready	-	-	jpaley	01/08/2016 2	0	0	U...	17	Ready	-	-	jpaley	10/23/2015 4	2	2
Name	Vers...	Status	Sh...	Ext...	Owner	Created ...	vApp Tem...	Media & Ot...																					
O...	1	Ready	-	-	jpaley	01/08/2016 2	0	0																					
U...	17	Ready	-	-	jpaley	10/23/2015 4	2	2																					
3. <input type="checkbox"/>	vCloud Director: Click the catalog name and proceed to step 6.	 <p>NOTE: If a catalog for Oracle Communications User Data Repository does not exist, create one using steps 4 and 5.</p>																											

Step	Procedure	Details
4. <input type="checkbox"/>	<p>vCloud Director: Navigate to Catalogs → + (Green Plus)</p>	 <p>The screenshot shows the vCloud Director interface. At the top, there are navigation tabs for Home, My Cloud, and Catalogs. Below this, there's a section for 'My Organization's Catalogs'. A sidebar on the left shows 'My Organization's Catalogs' selected. The main area has tabs for 'Catalogs', 'vApp Templates', and 'Media & Other'. There are filters for 'All Catalogs' and 'All'. A table below lists catalogs with columns: Name, Version, Status, Shar..., Exter..., Owner, Created On, and vApp. Two rows are visible: 'Ana...' with version 147 and 'App...' with version 368, both in 'Ready' status.</p>
5. <input type="checkbox"/>	<p>vCloud Director: 1. Input catalog name and description. 2. Unless this catalog requires special storage or sharing, click Finish.</p>	 <p>The screenshot shows the 'New Catalog' dialog box. It has a title bar 'New Catalog' and a close button. On the left, there are buttons for 'Name this Catalog', 'Add Storage', 'Share this Catalog', and 'Ready to Complete'. The main area is titled 'Name this Catalog' and contains a text box for 'Name' with the value 'OCUDR' and a red asterisk, and a larger text box for 'Description' with the value 'Media catalog for OCUDR'. Below the text boxes are 'Back', 'Next', 'Finish', and 'Cancel' buttons.</p> <p>NOTE: After clicking Finish, return to step 2 of this procedure to access the catalog.</p>
6. <input type="checkbox"/>	<p>vCloud Director: Select:</p> <ul style="list-style-type: none"> • vApp Templates for OVA upload • Media & Other for ISO upload 	 <p>The screenshot shows the vCloud Director navigation area. There are two tabs: 'vApp Templates' and 'Media & Other'. Below the tabs are icons for adding, sharing, and settings. There are also filters for 'All Catalogs' and 'All'.</p>
7. <input type="checkbox"/>	<p>vCloud Director: Navigate to Blue Gear Symbol → Upload</p>	 <p>The screenshot shows the vCloud Director interface with the 'vApp Templates' tab selected. A table lists catalogs with columns: Name, Version, Status, Shar..., Exter..., Owner, Last Success..., V., Storag..., and Shadow. Two rows are visible: 'UDR_13.3.0' and 'UDR 13.4.0'. A popup menu titled 'Actions: No Selections' is open over the table, showing options: 'Upload...', 'View uploads and downloads', and 'View details'. The 'UDR 13.4.0' row is highlighted.</p>

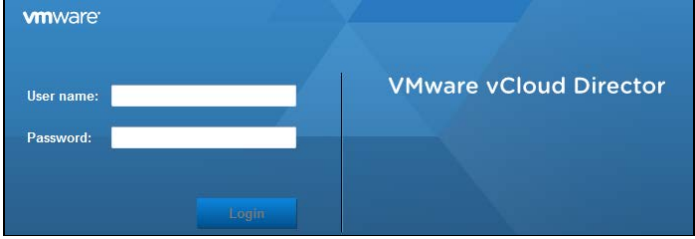
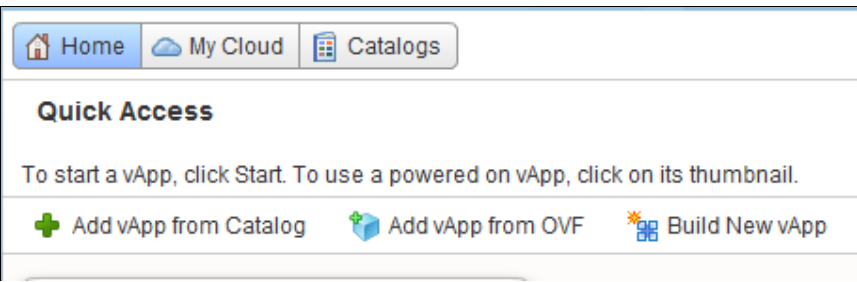
Step	Procedure	Details
8. <input type="checkbox"/>	<p>vCloud Director: In the source section, select:</p> <ul style="list-style-type: none"> • URL and enter a Name. • Local file and then select a file <p>Click Upload.</p>	 <p>Upload OVF package as a vApp Template</p> <p>Select the OVF package that will define this vApp template.</p> <p>Source</p> <p>OVF package: <input type="radio"/> URL <input type="radio"/> Local file <input type="button" value="Browse..."/> H:\iso\UDR-12.1.0.0.0_13.7.0.ova</p> <p>Destination</p> <p>Name: <input type="text" value="UDR-12.1.0.0.0_13.7.0"/> *</p> <p>Description: <input type="text"/></p> <p>Catalog: UDR</p> <p><small>After the upload completes, check VMware Tools version installed on all VMs in the vApp template. Guest customization requires minimum tools version of 7.299. You may want to review "Customize VM Settings" option on vApp template properties page.</small></p> <p><input type="button" value="Upload"/> <input type="button" value="Cancel"/></p>
THIS PROCEDURE IS COMPLETE		

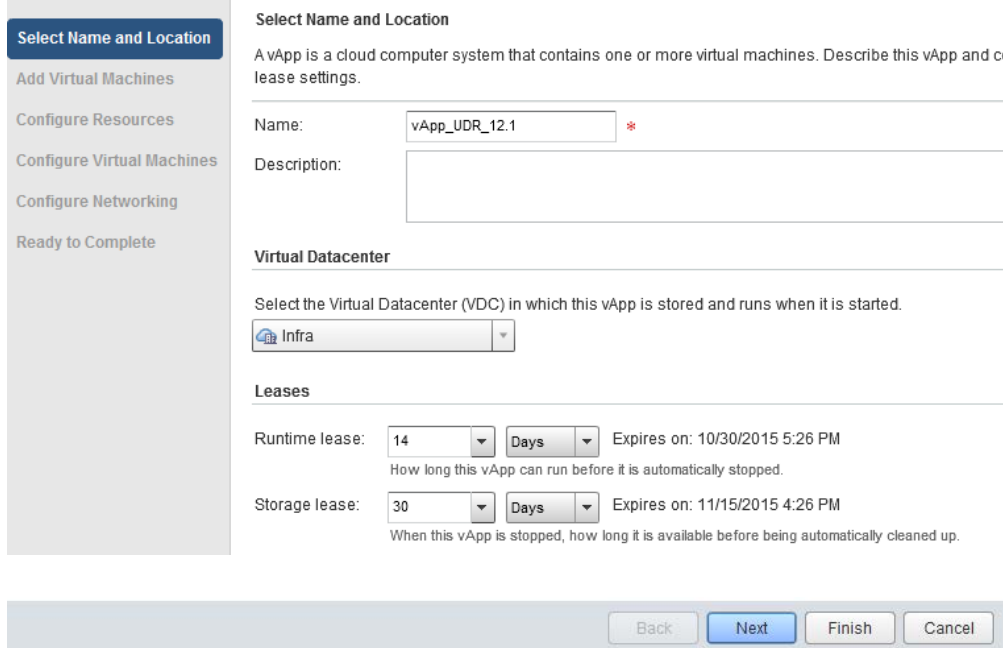
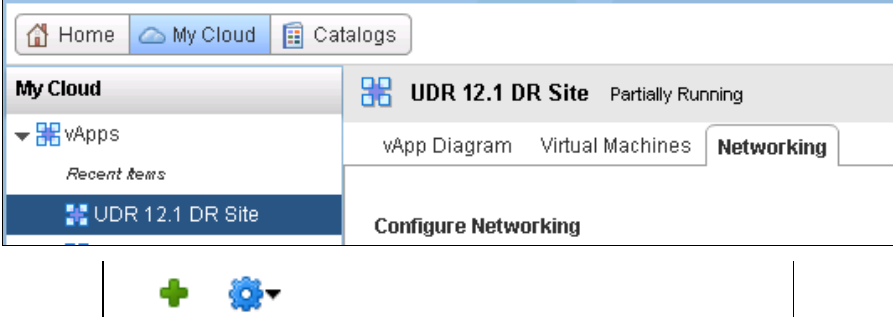
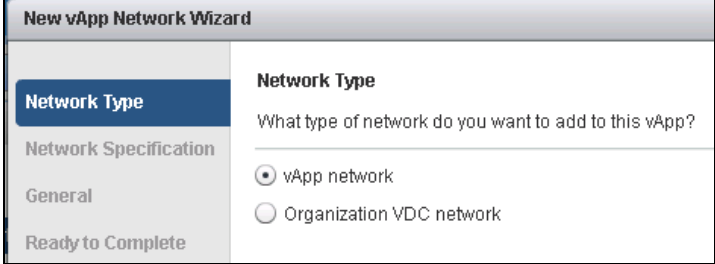
C.2 Create vApp

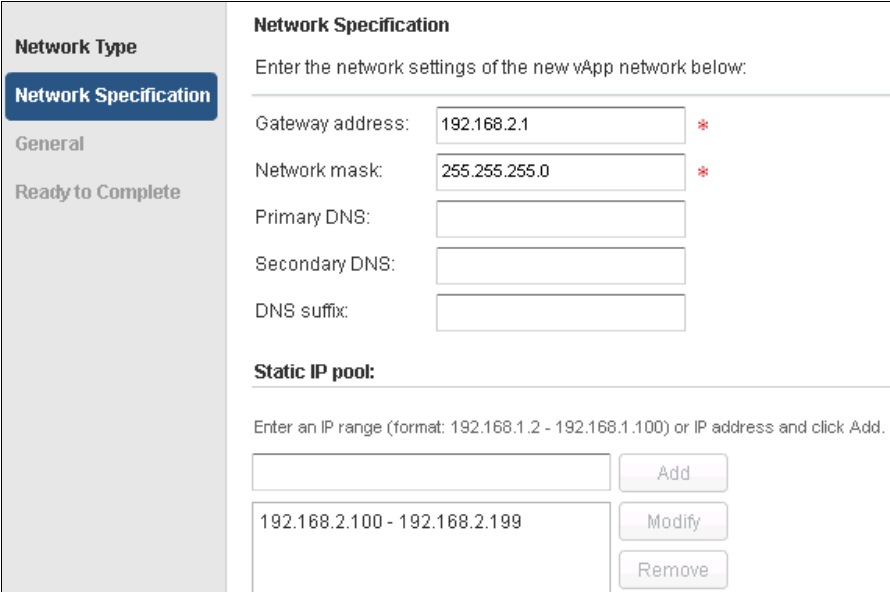
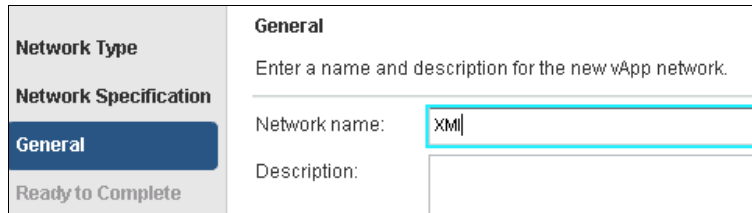
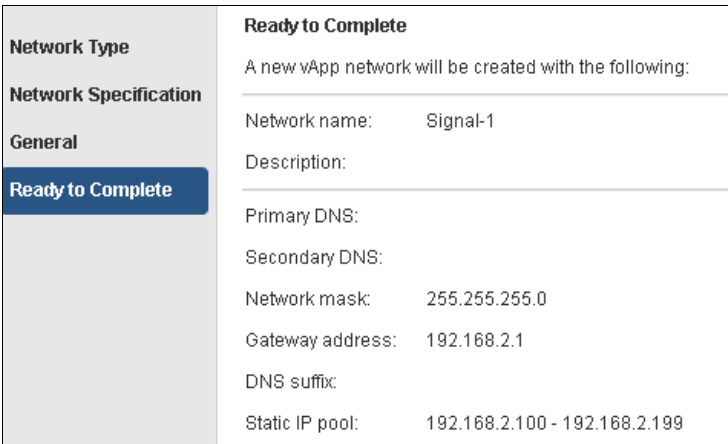
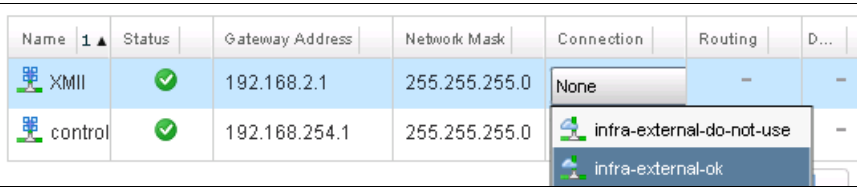
This procedure creates and configure a vApp virtual appliance.


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

Procedure 23: Create vApp

Step	Procedure	Details
1. <input type="checkbox"/>	Log into the VMware vCloud Director	
2. <input type="checkbox"/>	<p>vCloud Director: Select Home tab and then click Build New vApp.</p>	

Step	Procedure	Details
3. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Enter the Name for the vApp and other parameters as required. 2. Click Finish. 	
4. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Navigate to My Cloud → <vApp Name> → Networking 2. Click the + (green plus) icon to add a network 	
5. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select the vApp network. 2. Click Next. 	

Step	Procedure	Details
6. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Enter parameters for your internal network. Be sure to have sufficient address space for the number of servers you expect to deploy. 2. Click Next. 	
7. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Enter a Name for your network using [1] as a guide. 2. Click Next. 	
8. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Review the network data 2. Click Finish. 	
9. <input type="checkbox"/>	<p>vCloud Director:</p> <p>Back on the Networking tab.</p>	 <p>If the network is to be addressable outside the Cloud (such as XMI for administration), select an external network from the Connection list.</p> <p>Otherwise, leave Connection setting as None.</p>

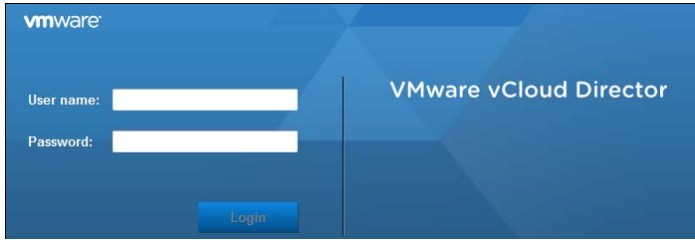
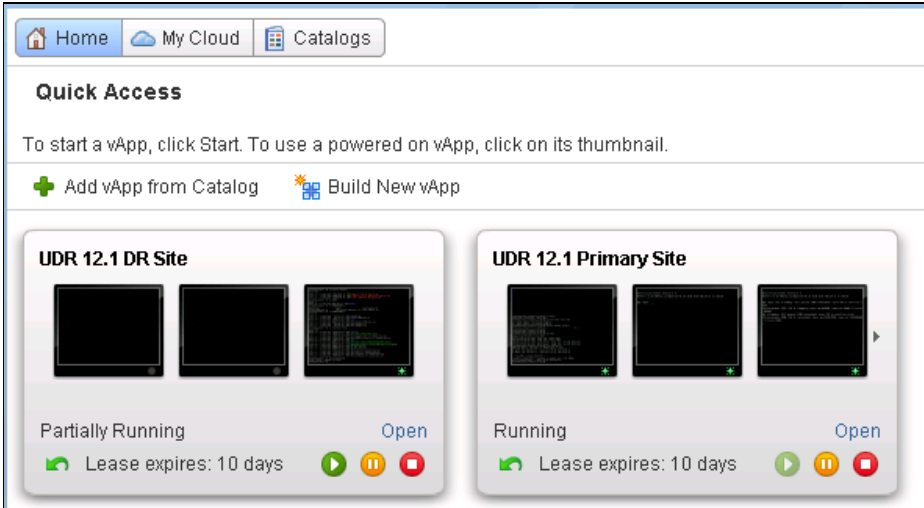
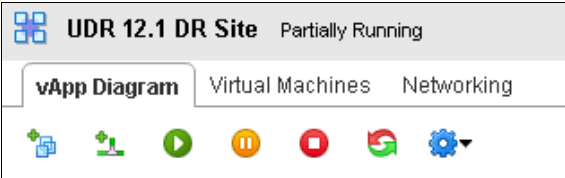
Step	Procedure	Details
10. <input type="checkbox"/>	vCloud Director: Click Apply .	
THIS PROCEDURE IS COMPLETE		

C.3 Create Guests from OVA

This procedure creates Oracle Communications User Data Repository virtual machines (guests) from OVA.

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

Procedure 24: Create Guests from OVA with vCloud Director

Step	Procedure	Details
1. <input type="checkbox"/>	Log into the VMware vCloud Director	
2. <input type="checkbox"/>	vCloud Director: Click Open for the Oracle Communications User Data Repository vApp	 <p>NOTE: Current vApps are listed on the Home Page. If a new vApp is required continue with the step 3.</p>
3. <input type="checkbox"/>	vCloud Director: Select icon on left to Add VM	

Step	Procedure	Details
4. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Enter the name in the search field and press Enter 2. Select Oracle Communications User Data Repository media name 3. Click Add 4. Click Next 	<p>NOTE: Multiple servers may be created at one time using the Add button.</p>
5. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select the box to agree with license 2. Click Next 	
6. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Rename virtual machines to suit its location and role 2. Click Finish. 	

THIS PROCEDURE IS COMPLETE


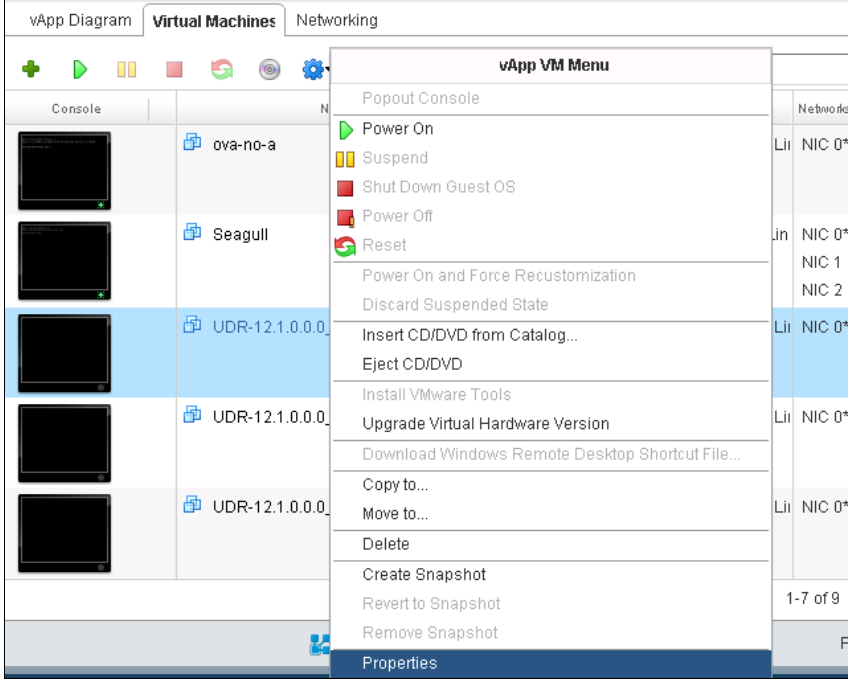

C.4 Configure Guest Resources

This procedure configures Oracle Communications User Data Repository virtual machines (guests) which have been created from OVA.

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

Procedure 25: Configure Guests from OVA with vCloud Director

Step	Procedure	Details
1. <input type="checkbox"/>	<p>Log into the VMware vCloud Director</p>	

Step	Procedure	Details
2. <input type="checkbox"/>	<p>vCloud Director: Navigate to My Cloud → Virtual Machines</p>	 <p>The screenshot shows the vCloud Director web interface. At the top, there are navigation tabs for 'Home', 'My Cloud', and 'Catalogs'. Below this, the 'My Cloud' section is active, showing a 'vApps' dropdown menu and a 'Recent Items' list. On the right, there's a summary for 'UDR 12.1 DR Site' which is 'Partially Running'. Below that, there are three tabs: 'vApp Diagram', 'Virtual Machines', and 'Networking'. The 'Virtual Machines' tab is selected.</p>
3. <input type="checkbox"/>	<p>vCloud Director: 1. Select the VM. 2. Click the Blue Gear icon. 3. Select Properties.</p>	 <p>The screenshot shows the 'Virtual Machines' view in vCloud Director. A list of VMs is displayed, including 'ova-no-a', 'Seagull', and three instances of 'UDR-12.1.0.0.0'. The 'UDR-12.1.0.0.0' VM is selected. A context menu (vApp VM Menu) is open over the selected VM, listing various actions like 'Power On', 'Suspend', 'Shut Down Guest OS', 'Power Off', 'Reset', etc. The 'Properties' option at the bottom of the menu is highlighted in blue.</p>
4. <input type="checkbox"/>	<p>vCloud Director: 1. Select the General tab. 2. Adjust Virtual Machine and Computer names to suit preference.</p>	 <p>The screenshot shows the 'Properties' dialog box for a VM, with the 'General' tab selected. It contains two text input fields: 'Virtual Machine name:' with the value 'UDR-12.1.0.0.0_13.7.0' and a red asterisk indicating a validation error; and 'Computer name:' with the value 'ova-so-a' and a red asterisk. A tooltip for the VM name field reads: 'A label for this VM that appears in VCD lists.'</p>

Step	Procedure	Details																																
5. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select the Hardware tab. 2. Adjust the number of Virtual CPUs and Total Memory to match the role of the server in [1]. 3. Check Expose hardware-assisted CPU virtualization box. 4. Adjust NICs to match the role of the server in [1]. 5. Click OK. 	<p>CPU</p> <p>Number of virtual CPUs: 4 Cores per socket: 1 Number of sockets: 4</p> <p><input checked="" type="checkbox"/> Expose hardware-assisted CPU virtualization to guest OS Select this option to support virtualization servers or 64-bit VMs running on this virtual machine.</p> <p>Memory</p> <p>Total memory: 6 GB</p> <p>NICs</p> <p>Guest customization is required to run for the NIC changes to take effect.</p> <p><input type="checkbox"/> Show network adapter type Adapter choice can affect both networking performance and migration compatibility. Consult the VMware KnowledgeBase for more information on choosing among the network adapter support for various guest operating systems and hosts.</p> <table border="1"> <thead> <tr> <th>NIC</th> <th>Connected</th> <th>Network</th> <th>Primary NIC</th> <th>IP Mode</th> <th>IP Address</th> <th>MAC Address</th> <th></th> </tr> </thead> <tbody> <tr> <td>0</td> <td><input checked="" type="checkbox"/></td> <td>XMI</td> <td><input checked="" type="radio"/></td> <td>Static - IP Pool</td> <td>10.240.23.9</td> <td>00:50:56:01:06:84</td> <td>Delete</td> </tr> <tr> <td>1</td> <td><input checked="" type="checkbox"/></td> <td>IMI</td> <td><input type="radio"/></td> <td>Static - IP Pool</td> <td></td> <td>VM will be generated</td> <td>Delete</td> </tr> <tr> <td>2</td> <td><input checked="" type="checkbox"/></td> <td>XSI1</td> <td><input type="radio"/></td> <td>Static - IP Pool</td> <td></td> <td>VM will be generated</td> <td>Delete</td> </tr> </tbody> </table> <p>Buttons: OK, Cancel</p>	NIC	Connected	Network	Primary NIC	IP Mode	IP Address	MAC Address		0	<input checked="" type="checkbox"/>	XMI	<input checked="" type="radio"/>	Static - IP Pool	10.240.23.9	00:50:56:01:06:84	Delete	1	<input checked="" type="checkbox"/>	IMI	<input type="radio"/>	Static - IP Pool		VM will be generated	Delete	2	<input checked="" type="checkbox"/>	XSI1	<input type="radio"/>	Static - IP Pool		VM will be generated	Delete
NIC	Connected	Network	Primary NIC	IP Mode	IP Address	MAC Address																												
0	<input checked="" type="checkbox"/>	XMI	<input checked="" type="radio"/>	Static - IP Pool	10.240.23.9	00:50:56:01:06:84	Delete																											
1	<input checked="" type="checkbox"/>	IMI	<input type="radio"/>	Static - IP Pool		VM will be generated	Delete																											
2	<input checked="" type="checkbox"/>	XSI1	<input type="radio"/>	Static - IP Pool		VM will be generated	Delete																											
THIS PROCEDURE IS COMPLETE																																		

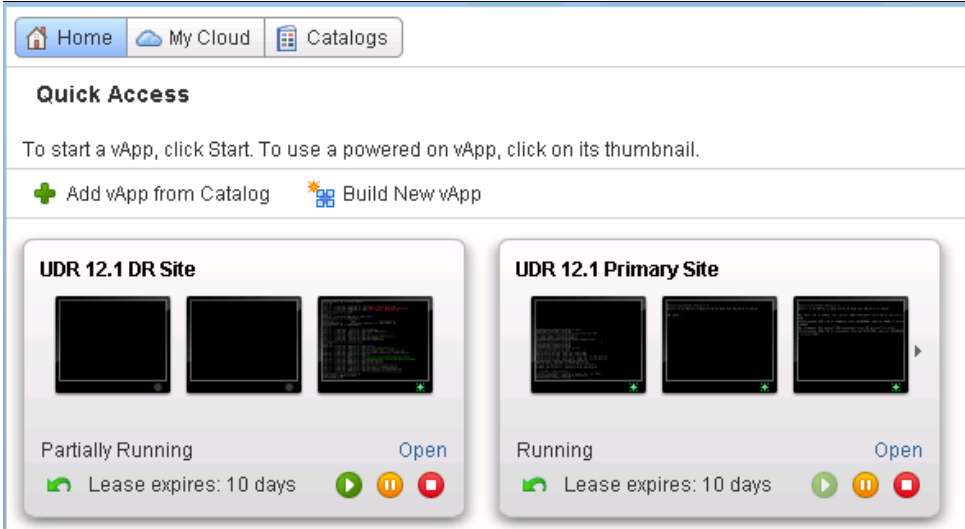
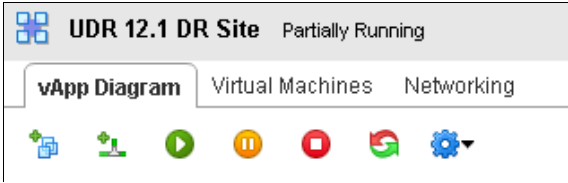
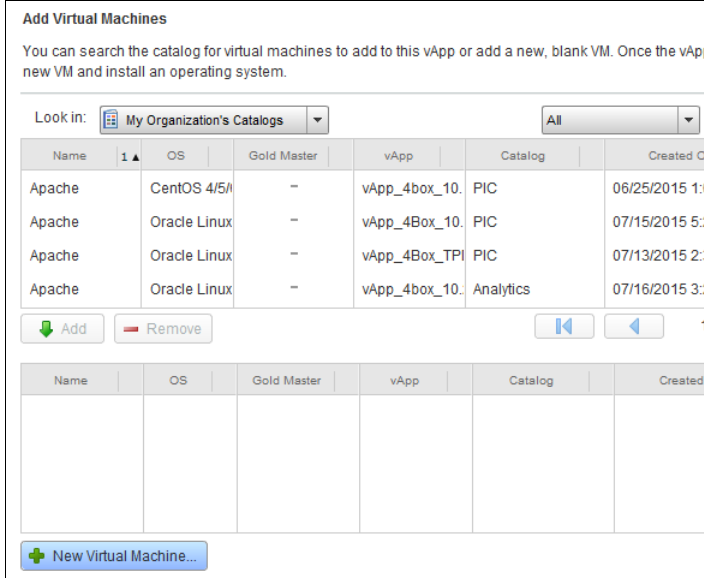
C.5 Create Guests from ISO

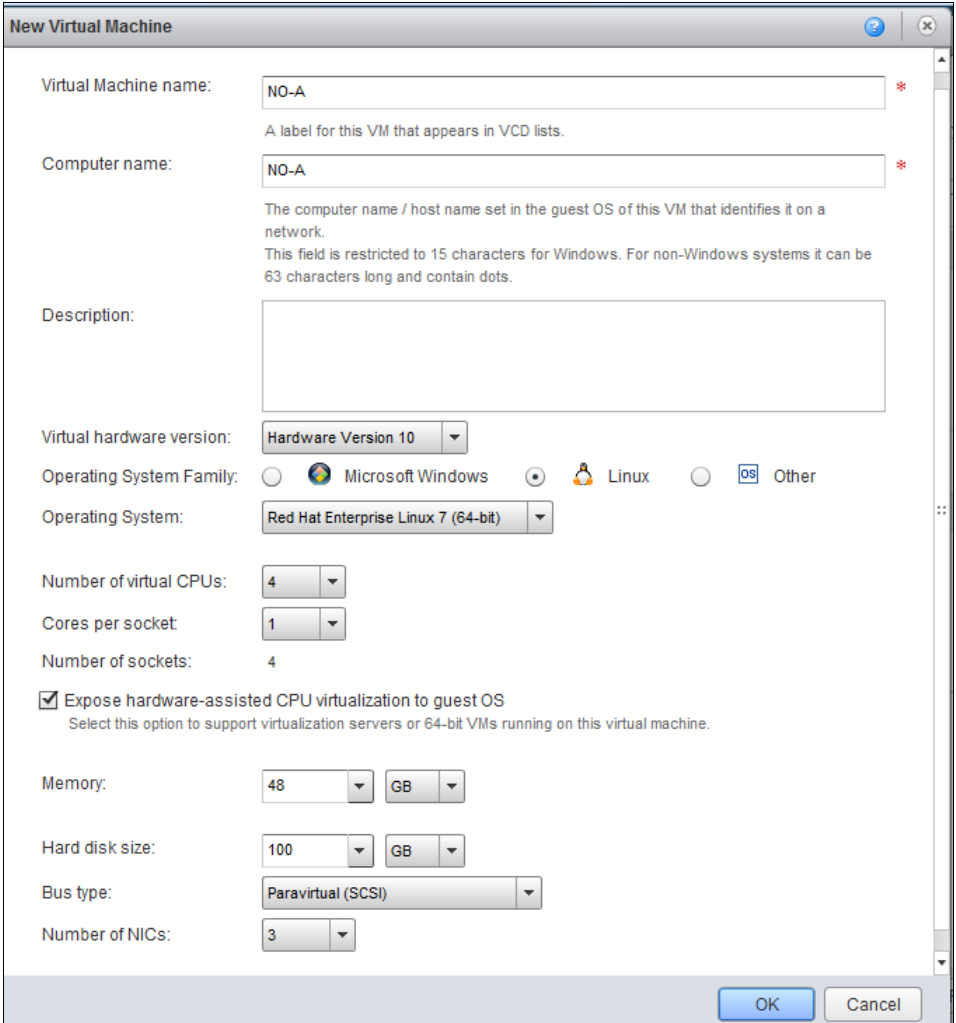
This procedure creates Oracle Communications User Data Repository virtual machines (guests) from ISO.

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

Procedure 26: Create Guests from ISO with vCloud Director

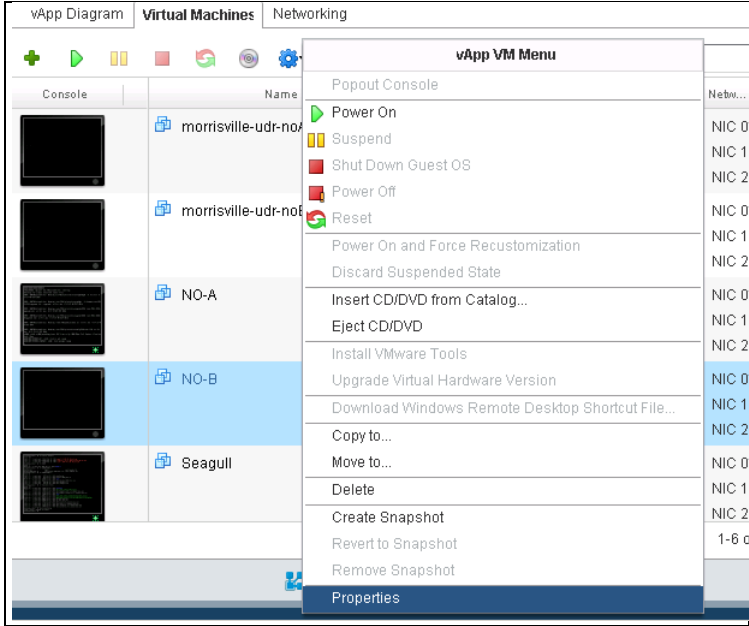
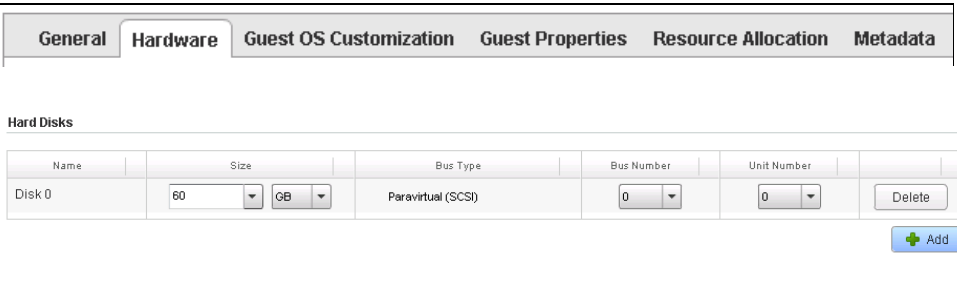
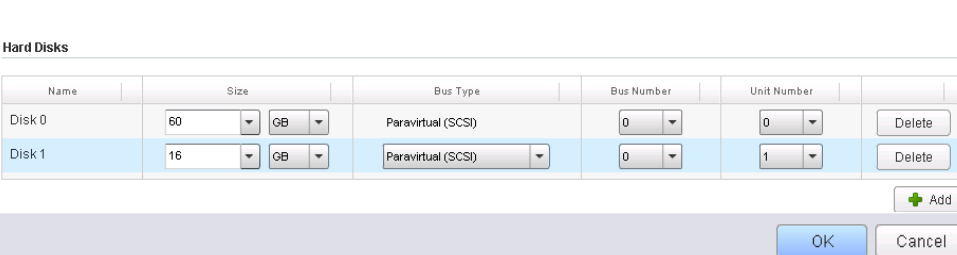
Step	Procedure	Details
1. <input type="checkbox"/>	Log into the VMware vCloud Director	

Step	Procedure	Details																														
2. <input type="checkbox"/>	<p>vCloud Director: Click Open for the Oracle Communications User Data Repository vApp</p>	 <p>The screenshot shows the vCloud Director interface. At the top, there are navigation tabs for Home, My Cloud, and Catalogs. Below this is a 'Quick Access' section with instructions: 'To start a vApp, click Start. To use a powered on vApp, click on its thumbnail.' There are two buttons: 'Add vApp from Catalog' and 'Build New vApp'. Below these are two vApp thumbnails. The first is 'UDR 12.1 DR Site', which is 'Partially Running' and has a 'Lease expires: 10 days' warning. The second is 'UDR 12.1 Primary Site', which is 'Running' and also has a 'Lease expires: 10 days' warning. Both thumbnails have an 'Open' button and control icons (play, pause, stop).</p> <p>NOTE: Current vApps are listed on the Home Page. If a new vApp is required continue with step 3 to create it.</p>																														
3. <input type="checkbox"/>	<p>vCloud Director: Select icon on left to Add VM</p>	 <p>The screenshot shows the 'vApp Diagram' view for the 'UDR 12.1 DR Site' vApp. The vApp is in a 'Partially Running' state. The diagram view includes tabs for 'vApp Diagram', 'Virtual Machines', and 'Networking'. Below the tabs are several control icons: a plus sign, a green play button, a yellow pause button, a red stop button, a refresh button, and a settings gear.</p>																														
4. <input type="checkbox"/>	<p>vCloud Director: Click New Virtual Machine.</p>	 <p>The screenshot shows the 'Add Virtual Machines' dialog box. It contains instructions: 'You can search the catalog for virtual machines to add to this vApp or add a new, blank VM. Once the vApp has a new VM and install an operating system.' There is a 'Look in:' dropdown menu set to 'My Organization's Catalogs' and a search filter set to 'All'. Below this is a table of virtual machines available in the catalog:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>OS</th> <th>Gold Master</th> <th>vApp</th> <th>Catalog</th> <th>Created On</th> </tr> </thead> <tbody> <tr> <td>Apache</td> <td>CentOS 4/5/6</td> <td>-</td> <td>vApp_4box_10.</td> <td>PIC</td> <td>06/25/2015 1:10</td> </tr> <tr> <td>Apache</td> <td>Oracle Linux</td> <td>-</td> <td>vApp_4Box_10.</td> <td>PIC</td> <td>07/15/2015 5:30</td> </tr> <tr> <td>Apache</td> <td>Oracle Linux</td> <td>-</td> <td>vApp_4Box_TPI</td> <td>PIC</td> <td>07/13/2015 2:30</td> </tr> <tr> <td>Apache</td> <td>Oracle Linux</td> <td>-</td> <td>vApp_4box_10.</td> <td>Analytics</td> <td>07/16/2015 3:30</td> </tr> </tbody> </table> <p>Below the table are 'Add' and 'Remove' buttons, and navigation arrows. At the bottom, there is a '+ New Virtual Machine...' button.</p>	Name	OS	Gold Master	vApp	Catalog	Created On	Apache	CentOS 4/5/6	-	vApp_4box_10.	PIC	06/25/2015 1:10	Apache	Oracle Linux	-	vApp_4Box_10.	PIC	07/15/2015 5:30	Apache	Oracle Linux	-	vApp_4Box_TPI	PIC	07/13/2015 2:30	Apache	Oracle Linux	-	vApp_4box_10.	Analytics	07/16/2015 3:30
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Apache	Oracle Linux	-	vApp_4box_10.	Analytics	07/16/2015 3:30																											

Step	Procedure	Details
5. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Enter the Name and Computer Name for VM. 2. Select Linux for the Operating SystemFamily. 3. Select Expose hardware-assisted CPU. 4. Enter the resource parameters according to the role given in OCCUR Resource Profile [1]. 5. Click OK. 	 <p>The screenshot shows the 'New Virtual Machine' configuration window. The 'Virtual Machine name' and 'Computer name' fields are both set to 'NO-A'. The 'Operating System Family' is set to 'Linux' and the 'Operating System' is 'Red Hat Enterprise Linux 7 (64-bit)'. The 'Expose hardware-assisted CPU virtualization to guest OS' checkbox is checked. The 'Memory' is set to 48 GB, 'Hard disk size' is 100 GB, 'Bus type' is 'Paravirtual (SCSI)', and 'Number of virtual CPUs' is 4.</p>

Step	Procedure	Details																																																																						
6. <input type="checkbox"/>	<p>vCloud Director: Click Next.</p>	<p>Add Virtual Machines</p> <p>You can search the catalog for virtual machines to add to this vApp or add a new, blank VM. Once the vApp is created, you can power on the new VM and install an operating system.</p> <p>Look in: <input type="text" value="My Organization's Catalogs"/> <input type="text" value="All"/> <input type="button" value="Refresh"/></p> <table border="1"> <thead> <tr> <th>Name</th> <th>OS</th> <th>Gold Master</th> <th>vApp</th> <th>Catalog</th> <th>Created On</th> <th>Disk Info</th> </tr> </thead> <tbody> <tr> <td>Apache</td> <td>CentOS 4/5/6</td> <td>-</td> <td>vApp_4box_10</td> <td>PIC</td> <td>06/25/2015 1:01 AM</td> <td>128.00 GB</td> </tr> <tr> <td>Apache</td> <td>Oracle Linux</td> <td>-</td> <td>vApp_4Box_10</td> <td>PIC</td> <td>07/15/2015 5:22 AM</td> <td>128.00 GB</td> </tr> <tr> <td>Apache</td> <td>Oracle Linux</td> <td>-</td> <td>vApp_4Box_TPI</td> <td>PIC</td> <td>07/13/2015 2:31 AM</td> <td>128.00 GB</td> </tr> <tr> <td>Apache</td> <td>Oracle Linux</td> <td>-</td> <td>vApp_4box_10</td> <td>Analytics</td> <td>07/16/2015 3:21 AM</td> <td>128.00 GB</td> </tr> </tbody> </table> <p><input type="button" value="Add"/> <input type="button" value="Remove"/> <input type="button" value="Previous"/> <input type="button" value="Next"/> 1-5 of 627 <input type="button" value="Refresh"/></p> <table border="1"> <thead> <tr> <th>Name</th> <th>OS</th> <th>Gold Master</th> <th>vApp</th> <th>Catalog</th> <th>Created On</th> <th>Disk Info</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Red Hat Ent</td> <td>-</td> <td></td> <td></td> <td></td> <td>100.00 GB</td> </tr> <tr> <td>NO-B</td> <td>Red Hat Ent</td> <td>-</td> <td></td> <td></td> <td></td> <td>100.00 GB</td> </tr> <tr> <td>SO-A</td> <td>Microsoft Win</td> <td>-</td> <td></td> <td></td> <td></td> <td>60.00 GB</td> </tr> <tr> <td>SO-B</td> <td>Red Hat Ent</td> <td>-</td> <td></td> <td></td> <td></td> <td>60.00 GB</td> </tr> </tbody> </table> <p><input type="button" value="New Virtual Machine..."/></p> <p><input type="button" value="Back"/> <input type="button" value="Next"/> <input type="button" value="Finish"/> <input type="button" value="Cancel"/></p>	Name	OS	Gold Master	vApp	Catalog	Created On	Disk Info	Apache	CentOS 4/5/6	-	vApp_4box_10	PIC	06/25/2015 1:01 AM	128.00 GB	Apache	Oracle Linux	-	vApp_4Box_10	PIC	07/15/2015 5:22 AM	128.00 GB	Apache	Oracle Linux	-	vApp_4Box_TPI	PIC	07/13/2015 2:31 AM	128.00 GB	Apache	Oracle Linux	-	vApp_4box_10	Analytics	07/16/2015 3:21 AM	128.00 GB	Name	OS	Gold Master	vApp	Catalog	Created On	Disk Info	NO-A	Red Hat Ent	-				100.00 GB	NO-B	Red Hat Ent	-				100.00 GB	SO-A	Microsoft Win	-				60.00 GB	SO-B	Red Hat Ent	-				60.00 GB
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7. <input type="checkbox"/>	<p>vCloud Director: Click Next.</p>	<p>Configure Resources</p> <p>Select what Storage Policies this vApp's virtual machines will use when deployed.</p> <table border="1"> <thead> <tr> <th>Virtual Machine</th> <th>Storage Policy</th> <th>Template VM Default Storage Policy</th> </tr> </thead> <tbody> <tr> <td>NO-A *</td> <td>*(Any)</td> <td></td> </tr> <tr> <td>NO-B *</td> <td>*(Any)</td> <td></td> </tr> <tr> <td>SO-A *</td> <td>*(Any)</td> <td></td> </tr> <tr> <td>SO-B *</td> <td>*(Any)</td> <td></td> </tr> <tr> <td>MP-1 *</td> <td>*(Any)</td> <td></td> </tr> <tr> <td>MP-2 *</td> <td>*(Any)</td> <td></td> </tr> </tbody> </table> <p><input type="button" value="Back"/> <input type="button" value="Next"/> <input type="button" value="Finish"/> <input type="button" value="Cancel"/></p>	Virtual Machine	Storage Policy	Template VM Default Storage Policy	NO-A *	*(Any)		NO-B *	*(Any)		SO-A *	*(Any)		SO-B *	*(Any)		MP-1 *	*(Any)		MP-2 *	*(Any)																																																		
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Step	Procedure	Details																																																
8. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> Select Networks and IP Assignments for the VM according to the role given in Resource Profile [1]. Click Next. 	<p>Configure Virtual Machines</p> <p>Name each virtual machine and select the network to which you want it to connect. You can configure additional properties for virtual machines after you complete this wizard.</p> <p><input type="checkbox"/> Show network adapter type Adapter choice can affect both networking performance and migration compatibility. Consult the VMware KnowledgeBase for more information on choosing among the network adapter support for various guest operating systems and hosts.</p> <table border="1"> <thead> <tr> <th>Virtual Machine</th> <th>Computer Name</th> <th>Primary NIC</th> <th>Network</th> <th>IP Assignment</th> </tr> </thead> <tbody> <tr> <td>SO-A</td> <td>SO-A *</td> <td><input checked="" type="radio"/> NIC 0 <input type="radio"/> NIC 1</td> <td>XMI IMI</td> <td>Static - IP Pool Static - IP Pool</td> </tr> </tbody> </table> <p>Back Next Finish Cancel</p>	Virtual Machine	Computer Name	Primary NIC	Network	IP Assignment	SO-A	SO-A *	<input checked="" type="radio"/> NIC 0 <input type="radio"/> NIC 1	XMI IMI	Static - IP Pool Static - IP Pool																																						
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9. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> For each external network (XMI, XSI): Set Connection to the network a cloud administrator has granted for external communication. For each external network (XMI, XSI): Select NAT and clear Firewall. Click Next. 	<p>Configure Networking</p> <p>Specify how this vApp, its virtual machines, and its vApp networks connect to the organization VDC networks that are accessed in this vApp.</p> <p><input type="checkbox"/> Fence vApp Fencing allows identical virtual machines in different vApps to be powered on without conflict by isolating the MAC and IP addresses of the virtual machines.</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Gateway Ad...</th> <th>Network Mask</th> <th>Connection</th> <th>Routing</th> <th>DHCP</th> <th>Retain IP/ M...</th> </tr> </thead> <tbody> <tr> <td>XSI1</td> <td>vApp</td> <td>192.168.3.1</td> <td>255.255.255.0</td> <td>infra-external</td> <td><input checked="" type="checkbox"/> NAT <input type="checkbox"/> Firewall</td> <td>-</td> <td><input type="checkbox"/></td> </tr> <tr> <td>IMI</td> <td>vApp</td> <td>192.168.2.1</td> <td>255.255.255.0</td> <td>None</td> <td>-</td> <td>-</td> <td><input type="checkbox"/></td> </tr> <tr> <td>XSI2</td> <td>vApp</td> <td>192.168.4.1</td> <td>255.255.255.0</td> <td>None</td> <td>-</td> <td>-</td> <td><input type="checkbox"/></td> </tr> <tr> <td>control</td> <td>vApp</td> <td>192.168.254.1</td> <td>255.255.255.0</td> <td>None</td> <td>-</td> <td>-</td> <td><input type="checkbox"/></td> </tr> <tr> <td>XMI</td> <td>vApp</td> <td>10.240.23.1</td> <td>255.255.255.0</td> <td>infra-external</td> <td><input checked="" type="checkbox"/> NAT <input type="checkbox"/> Firewall</td> <td>-</td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <p>Back Next Finish Cancel</p>	Name	Type	Gateway Ad...	Network Mask	Connection	Routing	DHCP	Retain IP/ M...	XSI1	vApp	192.168.3.1	255.255.255.0	infra-external	<input checked="" type="checkbox"/> NAT <input type="checkbox"/> Firewall	-	<input type="checkbox"/>	IMI	vApp	192.168.2.1	255.255.255.0	None	-	-	<input type="checkbox"/>	XSI2	vApp	192.168.4.1	255.255.255.0	None	-	-	<input type="checkbox"/>	control	vApp	192.168.254.1	255.255.255.0	None	-	-	<input type="checkbox"/>	XMI	vApp	10.240.23.1	255.255.255.0	infra-external	<input checked="" type="checkbox"/> NAT <input type="checkbox"/> Firewall	-	<input type="checkbox"/>
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10. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> Review the settings. Click Finish. 	<p>Ready to Complete</p> <p>You are about to create a vApp with these specifications. Review the settings and click Finish.</p> <p>Select Name and Location Name: vApp_UDR_12.1</p> <p>Add Virtual Machines Description:</p> <p>Configure Resources Owner: jpaley3 Virtual datacenter: Infra Runtime lease: 14 Days Runtime lease expiration: 10/30/2015 5:44 PM Storage lease: 30 Days Storage lease expiration: 11/15/2015 4:44 PM</p> <p>Configure Virtual Machines Networks - 0:</p> <p>Configure Networking VMs - 6:</p> <table border="1"> <thead> <tr> <th>Virtual Machine</th> <th>Guest OS</th> <th>Storage Policy</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Red Hat Enterprise Linux 7 (64-bit) * (Any)</td> <td></td> </tr> <tr> <td>NO-B</td> <td>Red Hat Enterprise Linux 7 (64-bit) * (Any)</td> <td></td> </tr> </tbody> </table> <p>Back Next Finish Cancel</p>	Virtual Machine	Guest OS	Storage Policy	NO-A	Red Hat Enterprise Linux 7 (64-bit) * (Any)		NO-B	Red Hat Enterprise Linux 7 (64-bit) * (Any)																																								
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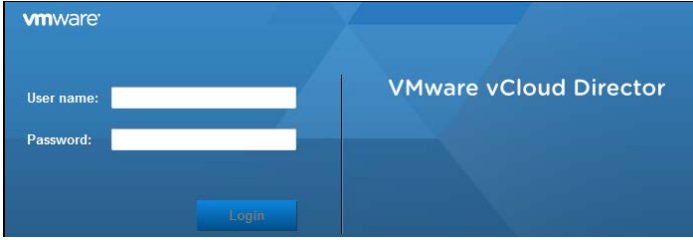
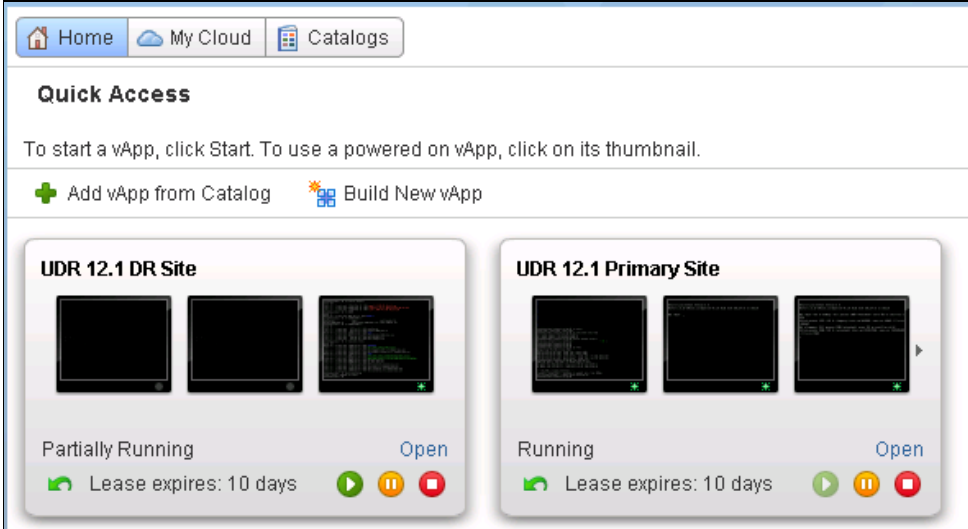

Step	Procedure	Details
11. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select the VM. 2. Click the Blue Gear icon. 3. Select Properties. 	
12. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select the Hardware tab. 2. Adjust size of Disk 0 to match VM profile [1]. 	
13. <input type="checkbox"/>	<p>vCloud Director:</p> <p>Only If the VM uses a second disk by [1]:</p> <ol style="list-style-type: none"> 1. Click Add 2. Adjust size of Disk 1 to match VM profile [1]. 3. Click OK 	
THIS PROCEDURE IS COMPLETE		

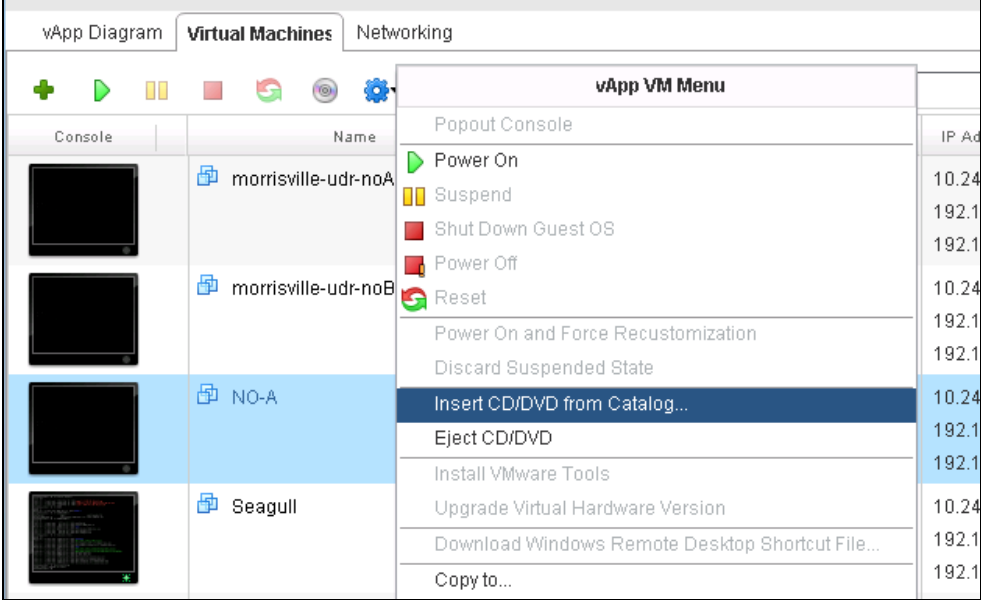
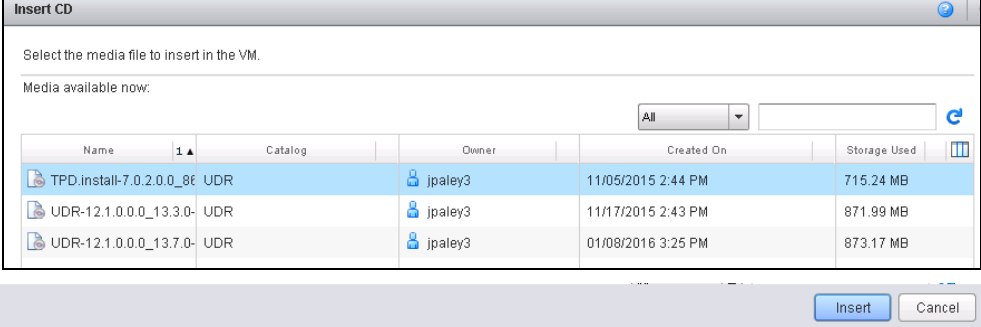
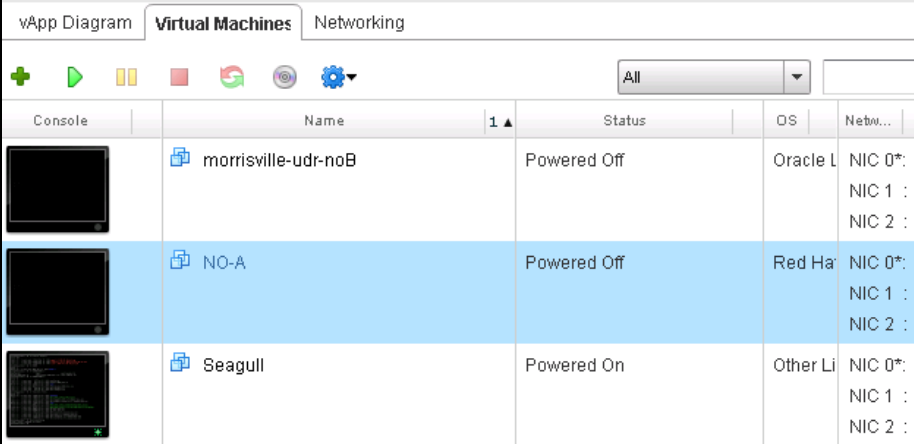
C.6 Install Guests from ISO

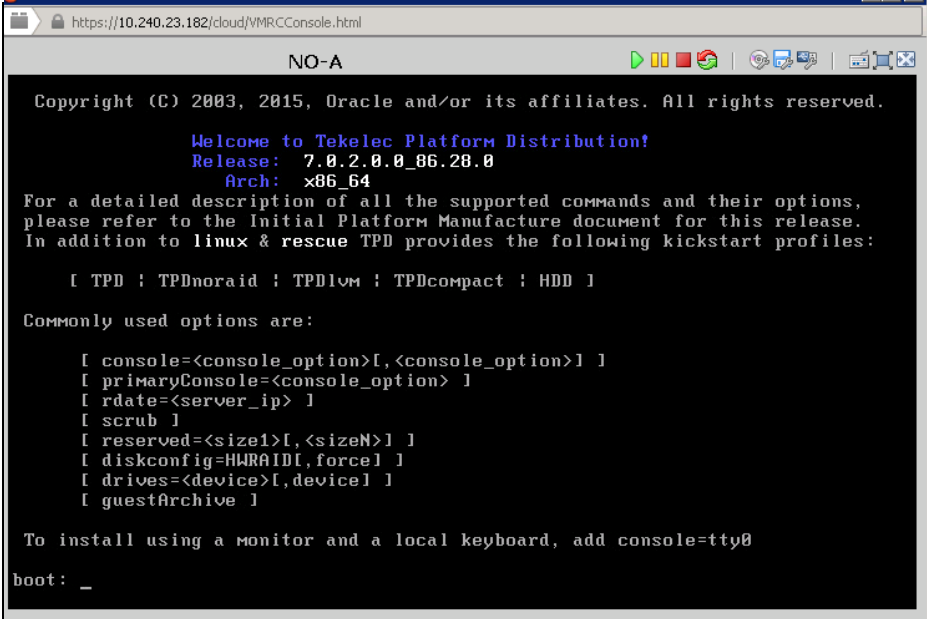
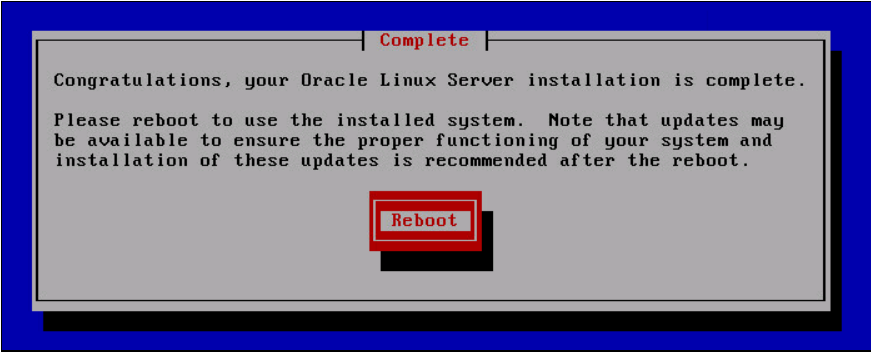
This procedure creates Oracle Communications User Data Repository virtual machines (guests) from ISO.

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

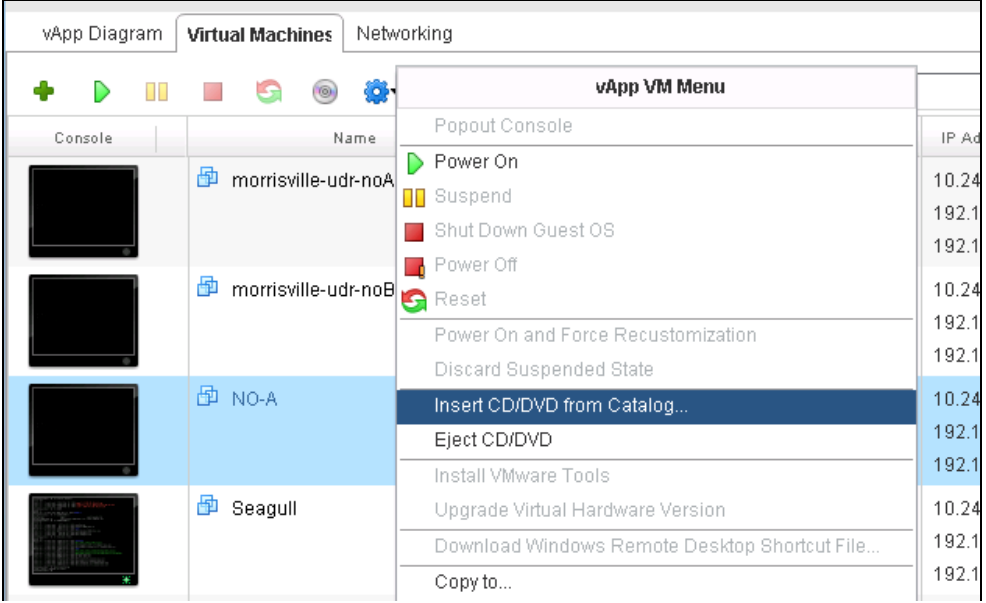
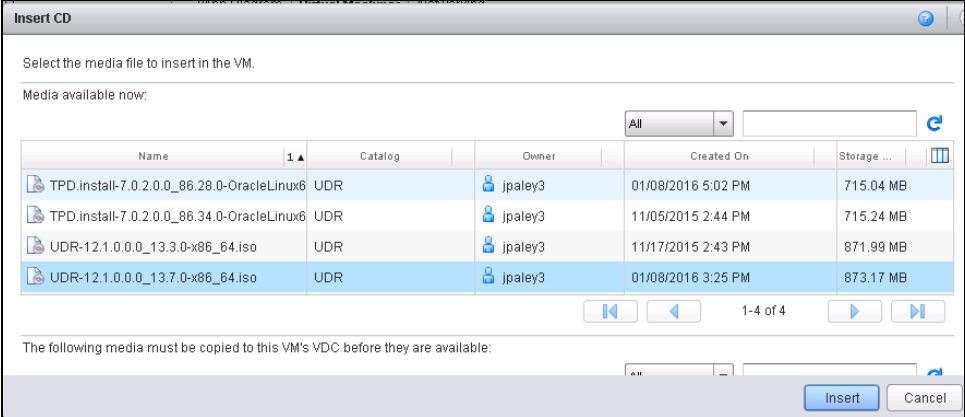
Procedure 27: Install Guests from ISO with vCloud Director

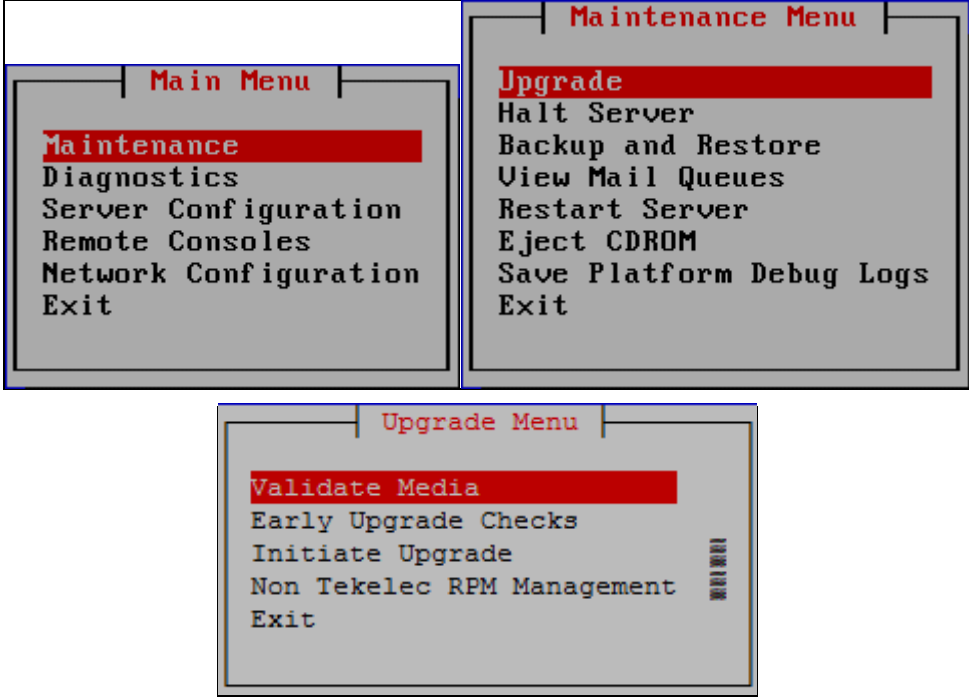
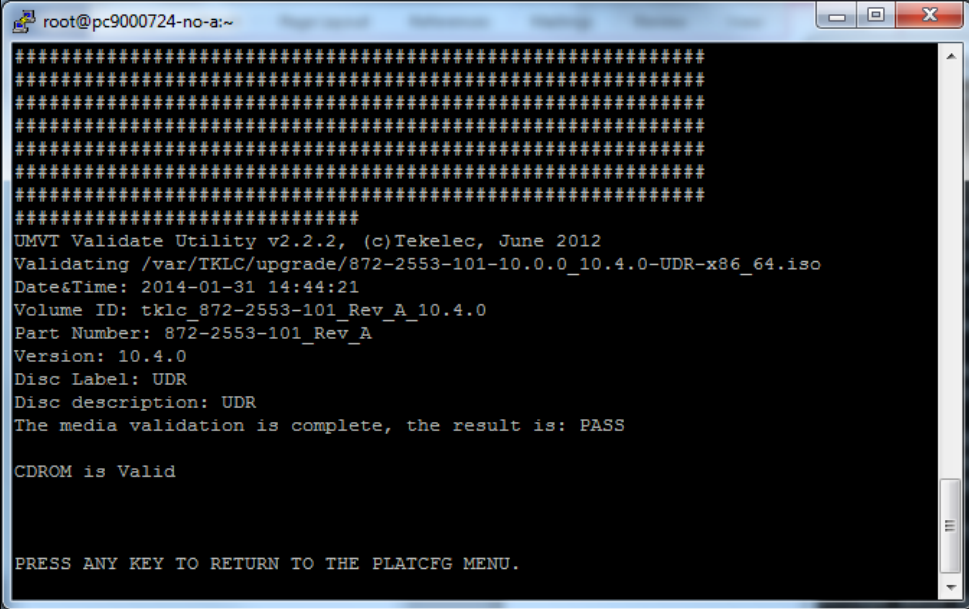
Step	Procedure	Details
1. <input type="checkbox"/>	Log into the VMware vCloud Director	
2. <input type="checkbox"/>	vCloud Director: Select Open for the Oracle Communications User Data Repository vApp then proceed to step 5.	 <p>NOTE: Current vApps are listed on the Home Page. If a new vApp is required continue with the step 3.</p>
3. <input type="checkbox"/>	vCloud Director: Navigate to My Cloud → Virtual Machines	

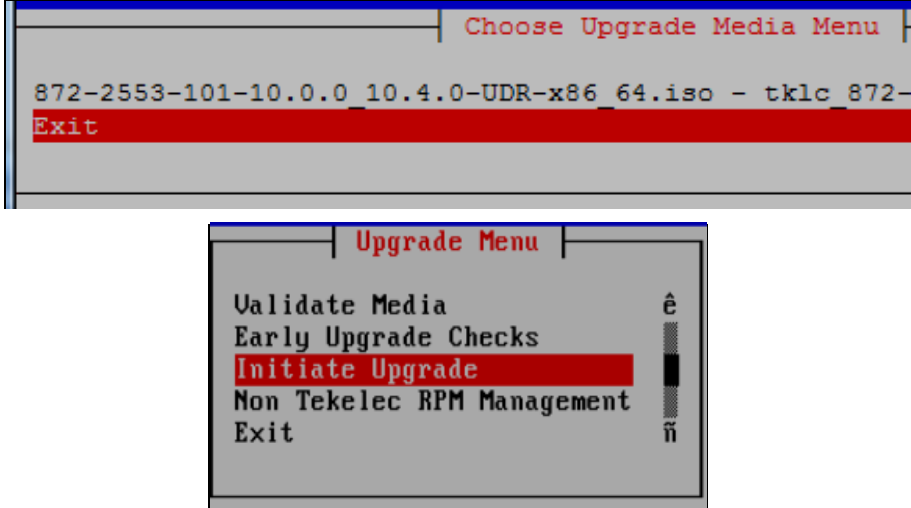
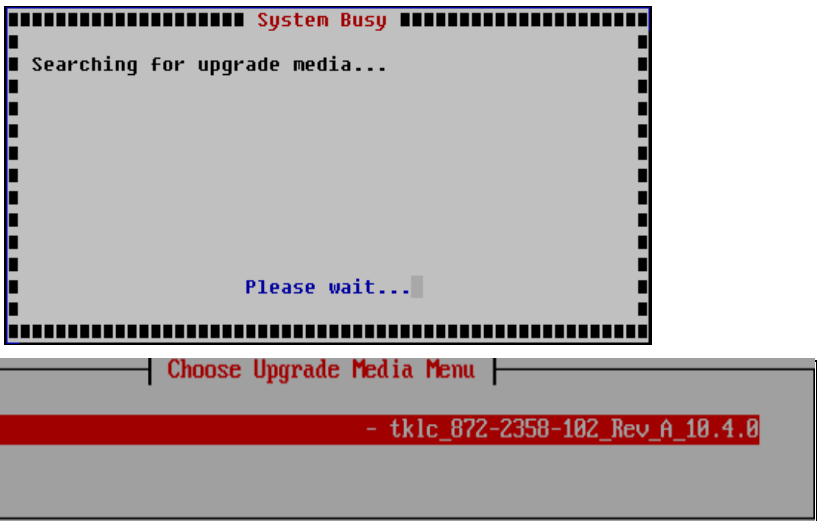
Step	Procedure	Details																				
4. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select the VM. 2. Click the Blue Gear icon. 3. Select Insert CD/DVD from Catalog. 																					
5. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select the TPD ISO. 2. Click Insert 	 <table border="1"> <thead> <tr> <th>Name</th> <th>Catalog</th> <th>Owner</th> <th>Created On</th> <th>Storage Used</th> </tr> </thead> <tbody> <tr> <td>TPD.install-7.0.2.0.0_86</td> <td>UDR</td> <td>jpaley3</td> <td>11/05/2015 2:44 PM</td> <td>715.24 MB</td> </tr> <tr> <td>UDR-12.1.0.0.0_13.3.0-</td> <td>UDR</td> <td>jpaley3</td> <td>11/17/2015 2:43 PM</td> <td>871.99 MB</td> </tr> <tr> <td>UDR-12.1.0.0.0_13.7.0-</td> <td>UDR</td> <td>jpaley3</td> <td>01/08/2016 3:25 PM</td> <td>873.17 MB</td> </tr> </tbody> </table>	Name	Catalog	Owner	Created On	Storage Used	TPD.install-7.0.2.0.0_86	UDR	jpaley3	11/05/2015 2:44 PM	715.24 MB	UDR-12.1.0.0.0_13.3.0-	UDR	jpaley3	11/17/2015 2:43 PM	871.99 MB	UDR-12.1.0.0.0_13.7.0-	UDR	jpaley3	01/08/2016 3:25 PM	873.17 MB
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UDR-12.1.0.0.0_13.7.0-	UDR	jpaley3	01/08/2016 3:25 PM	873.17 MB																		
6. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Click the Green Play icon to start the VM 2. Select the Console to open the console window 	 <table border="1"> <thead> <tr> <th>Name</th> <th>Status</th> <th>OS</th> <th>Netw...</th> </tr> </thead> <tbody> <tr> <td>morrisville-udr-noB</td> <td>Powered Off</td> <td>Oracle L</td> <td>NIC 0*: NIC 1 : NIC 2 :</td> </tr> <tr> <td>NO-A</td> <td>Powered Off</td> <td>Red Ha</td> <td>NIC 0*: NIC 1 : NIC 2 :</td> </tr> <tr> <td>Seagull</td> <td>Powered On</td> <td>Other Li</td> <td>NIC 0*: NIC 1 : NIC 2 :</td> </tr> </tbody> </table>	Name	Status	OS	Netw...	morrisville-udr-noB	Powered Off	Oracle L	NIC 0*: NIC 1 : NIC 2 :	NO-A	Powered Off	Red Ha	NIC 0*: NIC 1 : NIC 2 :	Seagull	Powered On	Other Li	NIC 0*: NIC 1 : NIC 2 :				
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Seagull	Powered On	Other Li	NIC 0*: NIC 1 : NIC 2 :																			

Step	Procedure	Details
7. <input type="checkbox"/>	<p>vCloud Director:</p> <p>Initiate operating system install by entering the given text into console boot prompt</p>	<p>boot: TPDnoraid console=tty0</p> 
8. <input type="checkbox"/>	<p>When installation completes, press Enter to reboot</p>	 <p>NOTE: Escape the console session by pressing Ctrl+Alt</p>
9. <input type="checkbox"/>	<p>After reboot, log into console</p>	<pre>Hostnameb6092a316785 login: root password:</pre>
10. <input type="checkbox"/>	<p>Verify that the TPD release is 7.0.2.x</p>	<pre># getPlatRev 7.0.2.0.0-86.34.0</pre>
11. <input type="checkbox"/>	<p>Run the alarmMgr command to verify health of the server before Application install.</p>	<pre># alarmMgr --alarmStatus</pre> <p>NOTE: This command should return no output on a healthy system.</p>

Step	Procedure	Details
12. <input type="checkbox"/>	Run the verifyIPM command as a secondary way to verify health of the server before Application install.	<pre># verifyIPM</pre> <p>NOTE: This command should return no output on a healthy system.</p>
13. <input type="checkbox"/>	Create physical volume <code>sdb</code>	<pre># pvcreate /dev/sdb Physical volume "/dev/sdb" successfully created</pre>
14. <input type="checkbox"/>	Create volume group <code>stripe_vg</code>	<pre># vgcreate stripe_vg /dev/sdb Volume group "stripe_vg" successfully created</pre>
15. <input type="checkbox"/>	Create logical volume <code>rundb</code>	<pre># lvcreate -L <SIZE>G --alloc anywhere --name rundb stripe_vg</pre> <p>Replace <code><SIZE></code> size tag with a number in gigabytes half the size of the second disk according to [1].</p> <pre>ISO lab second disk is 120: <SIZE> = 60 ISO production second disk is 720: <SIZE> = 360</pre>
16. <input type="checkbox"/>	Make filesystem on <code>rundb</code>	<pre># mkfs -t ext4 /dev/stripe_vg/rundb mke2fs 1.43-WIP (20-Jun-2013) Filesystem label= OS type: Linux Block size=4096 (log=2) Fragment size=4096 (log=2) Stride=0 blocks, Stripe width=0 blocks 25231360 inodes, 100925440 blocks 5046272 blocks (5.00%) reserved for the super user First data block=0 Maximum filesystem blocks=4294967296 3080 block groups 32768 blocks per group, 32768 fragments per group 8192 inodes per group Superblock backups stored on blocks: 32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208, 4096000, 7962624, 11239424, 20480000, 23887872, 71663616, 78675968 Allocating group tables: done Writing inode tables: done Creating journal (32768 blocks): done Writing superblocks and filesystem accounting information: done This filesystem will be automatically checked every 22 mounts or 180 days, whichever comes first. Use tune2fs -c or -i to override.</pre>

Step	Procedure	Details																									
17. <input type="checkbox"/>	Perform the syscheck/restart steps in order	<pre># syscheck --reconfig disk</pre>																									
18. <input type="checkbox"/>	Escape console	Escape the console session by pressing Ctrl+Alt																									
19. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> Select the VM. Click the Blue Gear icon. Select Insert CD/DVD from Catalog. 	 <p>The screenshot shows the vCloud Director interface with the 'Virtual Machines' tab selected. A list of VMs is shown, with 'NO-A' selected. The 'vApp VM Menu' is open, displaying various actions. The 'Insert CD/DVD from Catalog...' option is highlighted in blue.</p>																									
20. <input type="checkbox"/>	<p>vCloud Director:</p> <ol style="list-style-type: none"> Select Oracle Communication s User Data Repository ISO. Click Insert 	 <p>The screenshot shows the 'Insert CD' dialog box. It prompts the user to select a media file to insert into the VM. A table lists available media files:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Catalog</th> <th>Owner</th> <th>Created On</th> <th>Storage ...</th> </tr> </thead> <tbody> <tr> <td>TPD.install-7.0.2.0.0_86.28.0-OracleLinux6</td> <td>UDR</td> <td>jpaley3</td> <td>01/08/2016 5:02 PM</td> <td>715.04 MB</td> </tr> <tr> <td>TPD.install-7.0.2.0.0_86.34.0-OracleLinux6</td> <td>UDR</td> <td>jpaley3</td> <td>11/05/2015 2:44 PM</td> <td>715.24 MB</td> </tr> <tr> <td>UDR-12.1.0.0.0_13.3.0-x86_64.iso</td> <td>UDR</td> <td>jpaley3</td> <td>11/17/2015 2:43 PM</td> <td>871.99 MB</td> </tr> <tr> <td>UDR-12.1.0.0.0_13.7.0-x86_64.iso</td> <td>UDR</td> <td>jpaley3</td> <td>01/08/2016 3:25 PM</td> <td>873.17 MB</td> </tr> </tbody> </table> <p>The 'Insert' button is highlighted at the bottom right of the dialog.</p>	Name	Catalog	Owner	Created On	Storage ...	TPD.install-7.0.2.0.0_86.28.0-OracleLinux6	UDR	jpaley3	01/08/2016 5:02 PM	715.04 MB	TPD.install-7.0.2.0.0_86.34.0-OracleLinux6	UDR	jpaley3	11/05/2015 2:44 PM	715.24 MB	UDR-12.1.0.0.0_13.3.0-x86_64.iso	UDR	jpaley3	11/17/2015 2:43 PM	871.99 MB	UDR-12.1.0.0.0_13.7.0-x86_64.iso	UDR	jpaley3	01/08/2016 3:25 PM	873.17 MB
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UDR-12.1.0.0.0_13.7.0-x86_64.iso	UDR	jpaley3	01/08/2016 3:25 PM	873.17 MB																							
21. <input type="checkbox"/>	<p>VM Console:</p> <ol style="list-style-type: none"> Go to the console window Login to the platcfg utility. 	<pre>[root@hostname1260476221 ~]# su - platcfg</pre>																									

Step	Procedure	Details
<p>22. <input type="checkbox"/></p>	<p>VM Console: From the platcfg Main Menu:</p> <ol style="list-style-type: none"> 1. Select Maintenance and press Enter. 2. Select Upgrade and press Enter. 3. Select Validate Medion and press Enter. 	 <p>The details for step 22 are represented by three screenshots of the VM console menu system. The top-left screenshot shows the 'Main Menu' with 'Maintenance' highlighted. The top-right screenshot shows the 'Maintenance Menu' with 'Upgrade' highlighted. The bottom screenshot shows the 'Upgrade Menu' with 'Validate Media' highlighted.</p>
<p>23. <input type="checkbox"/></p>	<p>VM Console: From the platcfg Main Menu:</p> <ol style="list-style-type: none"> 1. Verify that the CDROM is Valid. 2. Press any key to return to platcfg menu. 	 <p>The details for step 23 are represented by a screenshot of a terminal window. The terminal shows the output of the 'UMVT Validate Utility' command, indicating that the media validation is complete and the result is 'PASS'.</p>

Step	Procedure	Details
24. <input type="checkbox"/>	<p>VM Console:</p> <p>From the platcfg Main Menu:</p> <ol style="list-style-type: none"> 1. Select Exit and press Enter. 2. Select Initiate Upgrade and press Enter. 	 <p>The first screenshot shows the 'Choose Upgrade Media Menu' with the following text: '872-2553-101-10.0.0 10.4.0-UDR-x86_64.iso - tklc_872-Exit'. The 'Exit' option is highlighted in red.</p> <p>The second screenshot shows the 'Upgrade Menu' with the following options: 'Validate Media', 'Early Upgrade Checks', 'Initiate Upgrade', 'Non Tekelec RPM Management', and 'Exit'. The 'Initiate Upgrade' option is highlighted in red.</p>
25. <input type="checkbox"/>	<p>VM Console:</p> <p>Verify that the application release level matches the target release.</p> <p>Press Enter.</p>	 <p>The first screenshot shows a 'System Busy' message with the text: 'Searching for upgrade media...' and 'Please wait...'. The message is enclosed in a dashed border.</p> <p>The second screenshot shows the 'Choose Upgrade Media Menu' with the following text: '/dev/scd1 - tklc_872-2358-102_Rev_A_10.4.0' and 'Exit'. The '/dev/scd1' option is highlighted in red.</p>

Step	Procedure	Details
26. <input type="checkbox"/>	VM Console: Output similar to that shown on the right may be observed as the Application install progresses.	<pre> Determining if we should upgrade... Install product is TPD Install product record exists in /etc/tekelec.cfg Install products match Stopping cron service... Checking for stale RPM DB locks... Installing public key /mnt/upgrade/upgrade/pub_keys/MySQL_public_key.asc... Installing public key /mnt/upgrade/upgrade/pub_keys/RPM-GPG-KEY-redhat-beta... Installing public key /mnt/upgrade/upgrade/pub_keys/RPM-GPG-KEY-redhat-release... . Checking for any missing packages or files Checking for missing files... No missing files found. Checking if upgrade is supported Current platform version: 5.0.0-72.28.0 Target platform version: 5.0.0-72.28.0 Minimum supported version: 4.2.0-70.60.0 Upgrade from same release as current is supported Evaluate if there are any packages to upgrade Evaluating if there are packages to upgrade... </pre>
27. <input type="checkbox"/>	VM Console: Output similar to that shown on the right may be observed as the server initiates a post-install reboot.	<pre> scsi7 : SCSI emulation for USB Mass Storage devices scsi8 : SCSI emulation for USB Mass Storage devices input: Intel(R) Multidevice as /class/input/input3 input: USB HID v1.01 Mouse [Intel(R) Multidevice] on usb-0000:00:1d.3-1 input: Intel(R) Multidevice as /class/input/input4 input: USB HID v1.01 Keyboard [Intel(R) Multidevice] on usb-0000:00:1d.3-1 Restarting system. . machine restart █ </pre>
28. <input type="checkbox"/>	VM Console: After the server has completed the reboot, log into the server as admusr.	<pre> CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prere15.0.0_72.22.0 on an x86_64 hostname1260476221 login:admusr Password: <admusr_password> </pre>

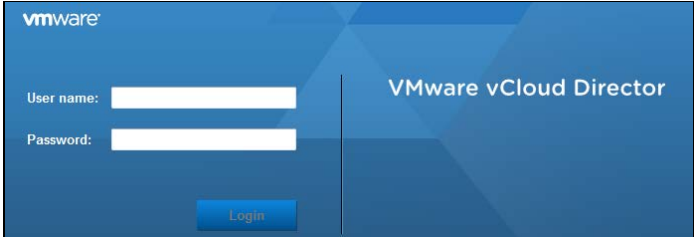
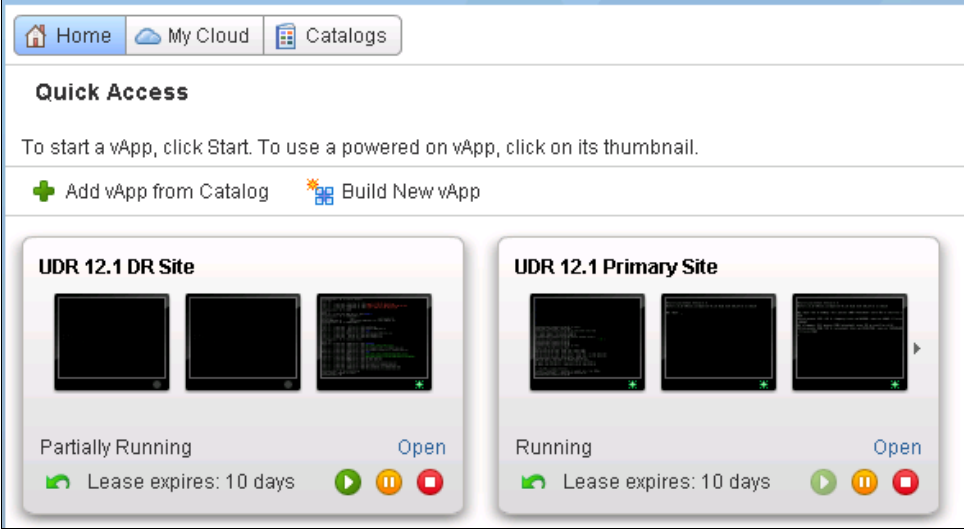

Step	Procedure	Details
29. <input type="checkbox"/>	VM Console: The server returns to a command prompt.	<p>*** TRUNCATED OUTPUT ***</p> <pre> ===== This system has been upgraded but the upgrade has not yet been accepted or rejected. Please accept or reject the upgrade soon. ===== VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16 PRODPATH= RELEASE=5.16 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/c omagent-gui:/usr/TKLC/comagent:/usr/TKLC/udr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@hostname1260476221 ~]\$ </pre>
30. <input type="checkbox"/>	VM Console: Verify successful upgrade.	<pre>\$ verifyUpgrade</pre> <p>NOTE: This command should return no output on a healthy system.</p>
31. <input type="checkbox"/>	VM Console: Verify that the Application release level matches the target release.	<pre> [admusr@pc9000724-no-a ~]\$ appRev Install Time: Tue Dec 8 06:16:58 2015 Product Name: UDR Product Release: 12.2.0.0.0_14.3.1 Base Distro Product: TPD Base Distro Release: 7.0.3.0.0_86.41.0 Base Distro ISO: TPD.install-7.0.2.0.0_86.36.0-OracleLinux6.6- x86_64.iso ISO name: UDR-12.2.0.0.0_14.3.1-x86_64.iso OS: OracleLinux 6.6 </pre>
32. <input type="checkbox"/>	Change directory	<pre>\$ cd /var/TKLC/backout</pre>
33. <input type="checkbox"/>	Perform upgrade acceptance.	<pre>\$ sudo ./accept</pre>
34. <input type="checkbox"/>	VM Console: Reboot the server	Reboot the server: <pre>\$ sudo reboot</pre> Wait until the reboot completes and re-login with admusr credentials.
35. <input type="checkbox"/>	VM Console: Verify server health	Verify server health: <pre>\$ alarmMgr --alarmStatus</pre> <p>NOTE: This command should return only one alarm related to pending upgrade acceptance.</p>
THIS PROCEDURE IS COMPLETE		

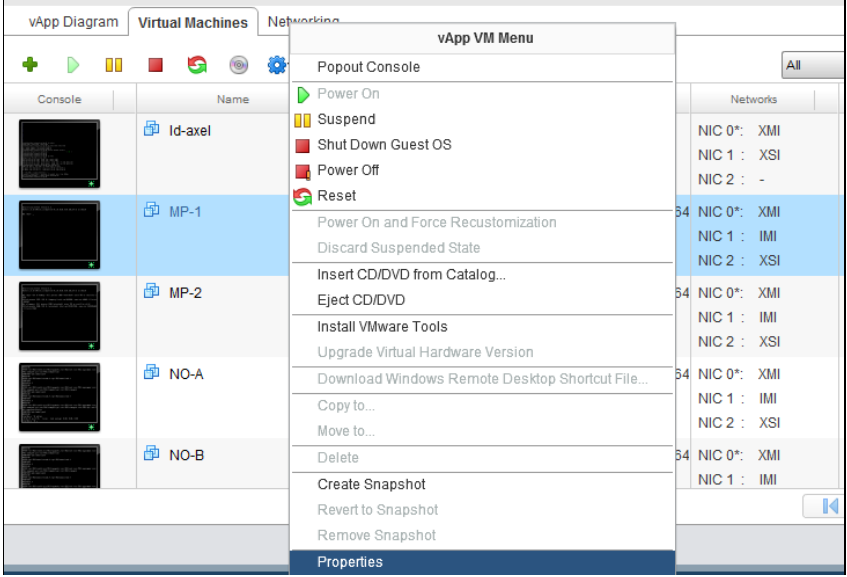
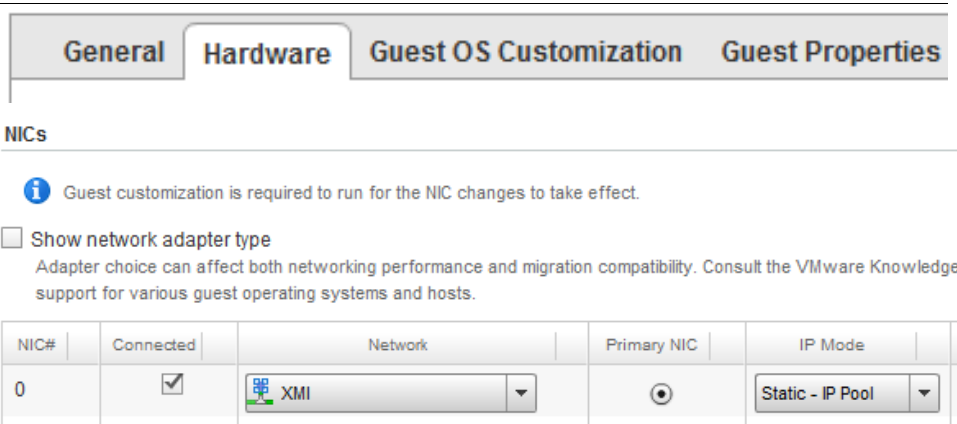
C.7 Configure Network for Guest

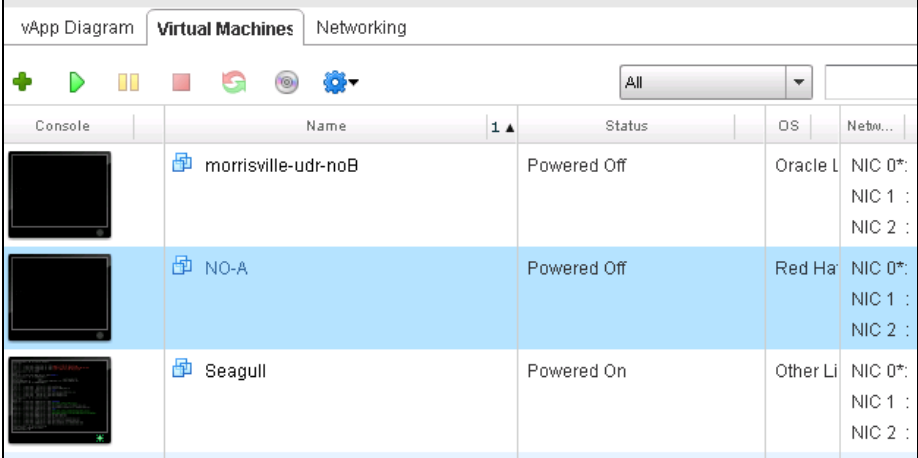
This procedure creates Oracle Communications User Data Repository virtual machines (guests) from ISO.

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

Procedure 28: Configure Guest OAM Network

Step	Procedure	Details
1. <input type="checkbox"/>	Log into the VMware vCloud Director	
2. <input type="checkbox"/>	<p>vCloud Director: Click Open hyperlink for the Oracle Communications User Data Repository vApp then proceed to step 5.</p>	 <p>NOTE: Current vApps are listed on the Home Page. If a new vApp is required continue with the next step 3.</p>
3. <input type="checkbox"/>	<p>vCloud Director: Navigate to My Cloud → Virtual Machines</p>	

Step	Procedure	Details										
<p>4. <input type="checkbox"/></p>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select the VM. 2. Click the Blue Gear icon. 3. Select Properties 	 <p>The screenshot shows the vApp VM Menu for a virtual machine. The 'Properties' option is highlighted at the bottom of the menu. The background shows a list of VMs with 'MP-1' selected.</p>										
<p>5. <input type="checkbox"/></p>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select Hardware tab. 2. Note the NIC number assignment of application networks 3. Click Cancel 	 <p>The screenshot shows the 'Hardware' tab in vCloud Director. Under the 'NICs' section, there is a table with the following data:</p> <table border="1"> <thead> <tr> <th>NIC#</th> <th>Connected</th> <th>Network</th> <th>Primary NIC</th> <th>IP Mode</th> </tr> </thead> <tbody> <tr> <td>0</td> <td><input checked="" type="checkbox"/></td> <td>XMI</td> <td><input checked="" type="radio"/></td> <td>Static - IP Pool</td> </tr> </tbody> </table> <p>Below the table, there is a note: "Note the device NIC number assignment of the following networks:"</p> <p>XMI: _____</p> <p>IMI: _____</p> <p>XSI-1: _____</p> <p>XSI-2 : _____ (optional)</p> <p>At the bottom right, there are 'OK' and 'Cancel' buttons.</p>	NIC#	Connected	Network	Primary NIC	IP Mode	0	<input checked="" type="checkbox"/>	XMI	<input checked="" type="radio"/>	Static - IP Pool
NIC#	Connected	Network	Primary NIC	IP Mode								
0	<input checked="" type="checkbox"/>	XMI	<input checked="" type="radio"/>	Static - IP Pool								

Step	Procedure	Details
6. <input type="checkbox"/>	vCloud Director: Click the console to raise console window	
7. <input type="checkbox"/>	VM Console: Login to console as admusr	<pre>login as: admusr Password:</pre>
8. <input type="checkbox"/>	VM Console: Configure XMI network	<ol style="list-style-type: none"> View a list of netAdm devices <pre>\$ sudo netAdm show</pre> Set the XMI device for routable OAM access: NOTE: Use add if the show command did not list device eth0. Otherwise, use set. <pre>\$ sudo netAdm add --device=eth0 --address=<Guest XMI IP Address> --netmask=<XMI_Netmask> --onboot=yes --bootproto=none</pre> Add the default route for XMI: <pre>\$ sudo netAdm add --route=default --gateway=<Gateway XMI IP Address> --device=eth0</pre> NOTE: The network device may be different than the device listed (eth0) if the order of network adapter insertion was different than shown. Refer to step 5 for this assignment.
9. <input type="checkbox"/>	VM Console: Configure XSI network (NO and MP Server Only)	Set the XSI device for routable signaling network access (Only for NO and MP Servers): NOTE: Where ethx is the interface associated with the signaling network <pre>\$ sudo netAdm add --device=eth2 --address=<Guest XSI IP Address> --netmask=<XSI_Netmask> --onboot=yes --bootproto=none</pre> NOTE: The network device may be different than the device listed (eth2) if the order of network adapter insertion was different than shown. Refer to step 5 for this assignment.
10. <input type="checkbox"/>	VM Console: Repeat as required (MP Server Only)	Repeat steps 7 to 9 add XS1-2 (eth3) if a second signaling network is in use (Only for MP Servers). Adjust parameter values accordingly
11. <input type="checkbox"/>	VM Console: Exit console	<pre>\$ exit</pre> NOTE: Press Ctrl-Alt to escape from console.
THIS PROCEDURE IS COMPLETE		

APPENDIX D. OPENSTACK CLOUD ORACLE COMMUNICATIONS USER DATA REPOSITORY

This appendix contains procedures for deploying Oracle Communications User Data Repository on the Openstack platform. The steps here contain references to third party interfaces, the accuracy of which cannot be guaranteed. Appearance and function may differ between versions of Openstack software and deployments of Openstack cloud computing.

Important: The content of this appendix is for informational purposes only. Consult the latest documents from the vendor of your OpenStack distribution.

D.1 OpenStack Image Creation from OVA

This procedure converts application media (OVA) to qcow2 format and upload it into OpenStack.


Needed material:

- Oracle Communications User Data Repository OVAs

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

Procedure 29: OpenStack Image Creation from OVA

Step	Procedure	Details
1. <input type="checkbox"/>	1. Login to OpenStack Controller Node using root user 2. Create /home/ova dir.	<pre>login as: root root@100.65.218.136's password: <root_password> Last login: Thu Mar 31 21:10:59 2016 from 10.182.167.73 [root@pc12107008 ~]# mkdir -p /home/ova [root@pc12107008 ~]# cd /home/ova</pre>
2. <input type="checkbox"/>	Transfer OVA file to this directory using sftp tool	<pre>[root@pc12107008 ova]# ll total 12322888 -rw-r--r-- 1 root root 1044500480 Mar 14 02:57 UDR-12.2.0.0.0_14.3.1.ova</pre>
3. <input type="checkbox"/>	Untar this ova file	<pre>[root@pc12107008 ova]# tar xvf UDR-12.2.0.0.0_14.3.1.ova UDR-14_3_1.ovf UDR-14_3_1.mf UDR-14_3_1.vmdk</pre>
4. <input type="checkbox"/>	Convert this vmdk file to qcow2 file	<pre>[root@pc12107008 ova]# qemu-img convert -O qcow2 UDR-14_3_1.vmdk UDR-14_3_1.qcow2</pre>

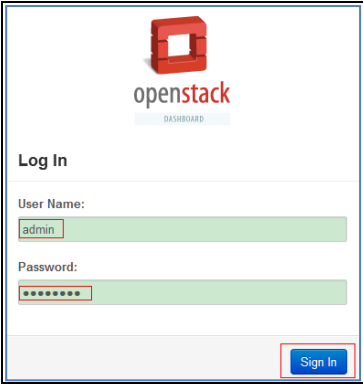
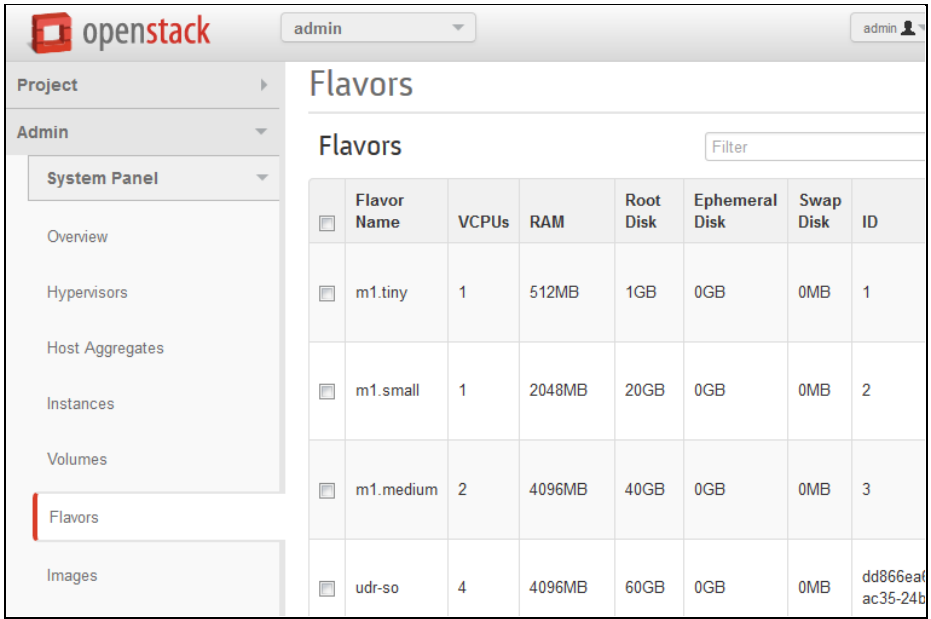
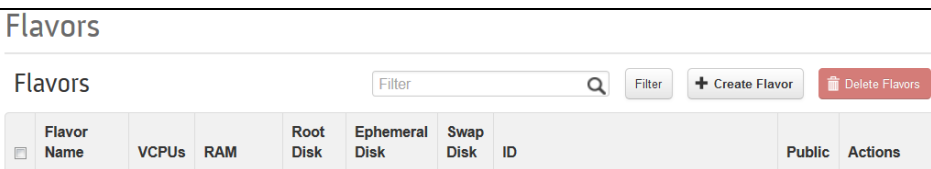
Step	Procedure	Details																																				
5. <input type="checkbox"/>	Import converted qcow2 file into OpenStack	<pre>[root@pc12107008 ova]# source /root/keystonerc_admin [root@pc12107008 ova(keystone admin)]# time glance image-create --name UDR-14_3_1 --disk-format=qcow2 --container-format=bare -- visibility=public--file=UDR-14_3_1.qcow2</pre> <table border="1"> <thead> <tr> <th>Property</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>checksum</td><td>81e7f682231b108e29053e9516ff91ac</td></tr> <tr><td>container_format</td><td>bare</td></tr> <tr><td>created_at</td><td>2016-03-29T06:56:51</td></tr> <tr><td>deleted</td><td>False</td></tr> <tr><td>deleted_at</td><td>None</td></tr> <tr><td>disk_format</td><td>qcow2</td></tr> <tr><td>id</td><td>ee0ffa59-356b-4b32-aea2-b0cdf9063653</td></tr> <tr><td>is_public</td><td>True</td></tr> <tr><td>min_disk</td><td>0</td></tr> <tr><td>min_ram</td><td>0</td></tr> <tr><td>name</td><td>UDR-14_3_1</td></tr> <tr><td>owner</td><td>63efbafd70864562aa6440abfca60ca5</td></tr> <tr><td>protected</td><td>False</td></tr> <tr><td>size</td><td>3615227904</td></tr> <tr><td>status</td><td>active</td></tr> <tr><td>updated_at</td><td>2016-03-29T06:57:16</td></tr> <tr><td>virtual_size</td><td>None</td></tr> </tbody> </table> <pre>real 0m26.267s user 0m2.435s sys 0m2.691s</pre>	Property	Value	checksum	81e7f682231b108e29053e9516ff91ac	container_format	bare	created_at	2016-03-29T06:56:51	deleted	False	deleted_at	None	disk_format	qcow2	id	ee0ffa59-356b-4b32-aea2-b0cdf9063653	is_public	True	min_disk	0	min_ram	0	name	UDR-14_3_1	owner	63efbafd70864562aa6440abfca60ca5	protected	False	size	3615227904	status	active	updated_at	2016-03-29T06:57:16	virtual_size	None
Property	Value																																					
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is_public	True																																					
min_disk	0																																					
min_ram	0																																					
name	UDR-14_3_1																																					
owner	63efbafd70864562aa6440abfca60ca5																																					
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updated_at	2016-03-29T06:57:16																																					
virtual_size	None																																					
6. <input type="checkbox"/>	After image-create, this image could be seen from OpenStack GUI under Project → Images	 <table border="1"> <thead> <tr> <th>Image Name</th> <th>Type</th> <th>Status</th> <th>Public</th> <th>Protected</th> <th>Format</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td>UDR-14_3_1</td> <td>Image</td> <td>Active</td> <td>Yes</td> <td>No</td> <td>QCOW2</td> <td>Edit More</td> </tr> </tbody> </table>	Image Name	Type	Status	Public	Protected	Format	Actions	UDR-14_3_1	Image	Active	Yes	No	QCOW2	Edit More																						
Image Name	Type	Status	Public	Protected	Format	Actions																																
UDR-14_3_1	Image	Active	Yes	No	QCOW2	Edit More																																
THIS PROCEDURE IS COMPLETE																																						

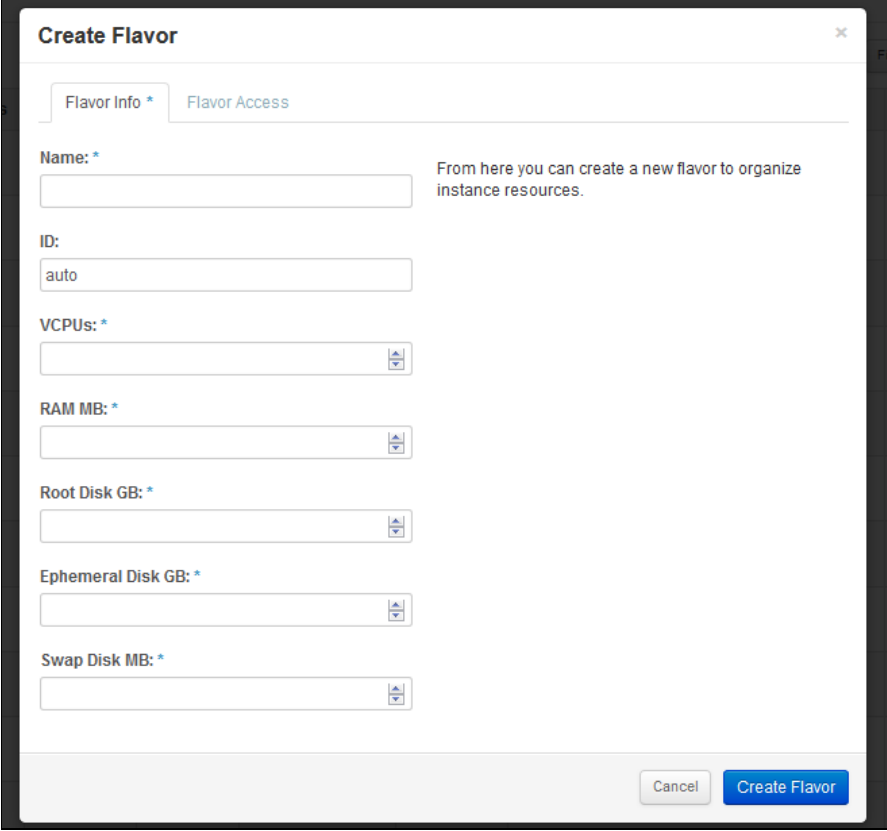
D.2 Create Resource Profiles (Flavors)

This procedure creates resource profiles called flavors to aid in VM creation.

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

Procedure 30: Create Resource Profiles (Flavors)

Step	Procedure	Details																																			
1. <input type="checkbox"/>	Login to the OpenStack GUI NOTE: Flavor Profile creation may require administrative privilege.																																				
2. <input type="checkbox"/>	Navigate to Main Menu → Admin → System Panel → Flavors	 <table border="1"> <thead> <tr> <th>Flavor Name</th> <th>VCPUs</th> <th>RAM</th> <th>Root Disk</th> <th>Ephemeral Disk</th> <th>Swap Disk</th> <th>ID</th> </tr> </thead> <tbody> <tr> <td>m1.tiny</td> <td>1</td> <td>512MB</td> <td>1GB</td> <td>0GB</td> <td>0MB</td> <td>1</td> </tr> <tr> <td>m1.small</td> <td>1</td> <td>2048MB</td> <td>20GB</td> <td>0GB</td> <td>0MB</td> <td>2</td> </tr> <tr> <td>m1.medium</td> <td>2</td> <td>4096MB</td> <td>40GB</td> <td>0GB</td> <td>0MB</td> <td>3</td> </tr> <tr> <td>udr-so</td> <td>4</td> <td>4096MB</td> <td>60GB</td> <td>0GB</td> <td>0MB</td> <td>dd866eaf-ac35-24b</td> </tr> </tbody> </table>	Flavor Name	VCPUs	RAM	Root Disk	Ephemeral Disk	Swap Disk	ID	m1.tiny	1	512MB	1GB	0GB	0MB	1	m1.small	1	2048MB	20GB	0GB	0MB	2	m1.medium	2	4096MB	40GB	0GB	0MB	3	udr-so	4	4096MB	60GB	0GB	0MB	dd866eaf-ac35-24b
Flavor Name	VCPUs	RAM	Root Disk	Ephemeral Disk	Swap Disk	ID																															
m1.tiny	1	512MB	1GB	0GB	0MB	1																															
m1.small	1	2048MB	20GB	0GB	0MB	2																															
m1.medium	2	4096MB	40GB	0GB	0MB	3																															
udr-so	4	4096MB	60GB	0GB	0MB	dd866eaf-ac35-24b																															
3. <input type="checkbox"/>	Click + Create Flavor																																				

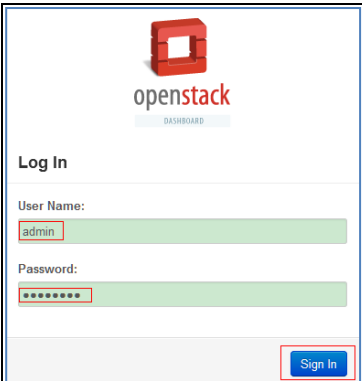
Step	Procedure	Details
4. <input type="checkbox"/>	1. Enter Flavor Details using Appendix G Resource Profile as a guide. 2. Click Create Flavor .	
5. <input type="checkbox"/>	Repeat for each server type	Repeat steps Error! Reference source not found. and Error! Reference source not found. for each additional server type: udr-so, udr-mp.
THIS PROCEDURE IS COMPLETE		


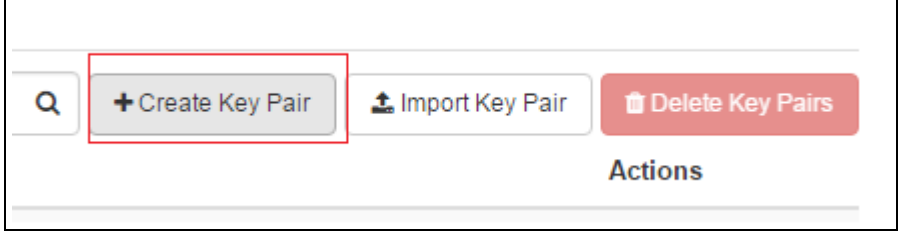
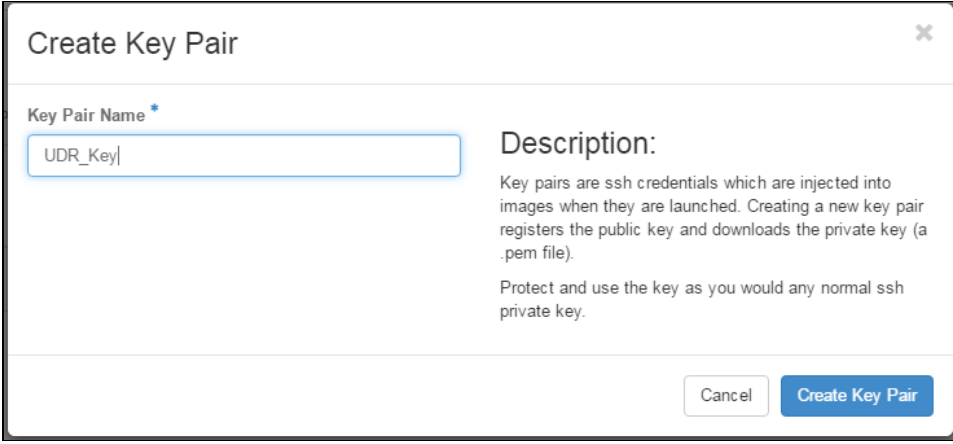
D.3 Create Key Pair

This procedure creates Key Pair to be used in VM creation.

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

Procedure 31: Create Key Pair

Step	Procedure	Details
1. <input type="checkbox"/>	Login to the OpenStack GUI NOTE: Flavor Profile creation may require administrative privilege.	


Step	Procedure	Details
2. <input type="checkbox"/>	Navigate to Main Menu → Compute → Access & Security → Key Pairs	
3. <input type="checkbox"/>	Click + Create Key Pair	
4. <input type="checkbox"/>	1. Enter Key Pair Name 2. Click Create Key Pair .	
5. <input type="checkbox"/>	The key pair automatically get downloaded to your computer.	The generated key pair is downloaded automatically on creation. This is used for SSH Access to VM Instances.
THIS PROCEDURE IS COMPLETE		

D.4 Update UDR Stack YAML File

This procedure updates UDR Stack YAML file to be used in VM creation.

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

Procedure 32: Create Key Pair

Step	Procedure	Details
1. <input type="checkbox"/>	Download the YAML file	
2. <input type="checkbox"/>	Update Image name or ID with the name of the UDR Qcow2 to be used	Change the default value: <pre>label: Image name or ID description: UDR Image to be used for launching UDR VM default: UDR-12.2.0.0.0_15.12.0</pre>

Step	Procedure	Details
3. <input type="checkbox"/>	Update the Key Pair name to be used if different	<p>Change the default value.</p> <pre>label: Key name description: Name of key-pair to be used for accessing UDR VM default: UDR_key</pre>
4. <input type="checkbox"/>	Update the NTP Server IP	<p>Change the default value.</p> <pre>label: NTP server description: IP address of the NTP server used for UDR VM syncing time default: 192.168.xx.xxx</pre>
5. <input type="checkbox"/>	Update the NOAMP flavor name if different	<p>Change the default value.</p> <pre>label: Flavor for NOAMP description: Type of instance (flavor) to be used for launching UDR NOAMP VM default: udr-no</pre>
6. <input type="checkbox"/>	Update the SOAM flavor name if different	<p>Change the default value.</p> <pre>label: Flavor for SOAM description: Type of instance (flavor) to be used for launching UDR SOAM VM default: udr-so</pre>
7. <input type="checkbox"/>	Update the MP flavor name if different	<p>Change the default value.</p> <pre>label: Flavor for MP description: Type of instance (flavor) to be used for launching UDR MP VM default: udr-mp</pre>
8. <input type="checkbox"/>	Update the XMI Network name if different	<p>Change the default value.</p> <pre>label: UDR XMI network description: Network name or ID to attach UDR XMI network to. default: xmi</pre>
9. <input type="checkbox"/>	Update the IMI Network name if different	<p>Change the default value.</p> <pre>label: UDR IMI network description: Private network name or ID to attach UDR IMI network to. default: imi</pre>
10. <input type="checkbox"/>	Update the XSI1 Network name if different	<p>Change the default value.</p> <pre>label: UDR XSI1 network description: Network name or ID to attach UDR XSI1 network to. default: xsi1</pre>
11. <input type="checkbox"/>	Update the XSI2 Network name if different	<p>Change the default value.</p> <pre>label: UDR XSI2 network description: Network name or ID to attach UDR XSI2 network to. default: xsi2</pre>

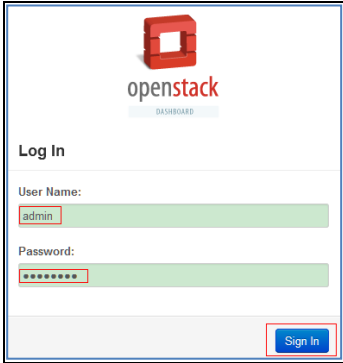
Step	Procedure	Details
12. <input type="checkbox"/>	Uncomment NOB configuration from line 121 to 174 if configuring Active/Standby NOAMPs	Uncomment NOB configuration from line 121 to 174 if configuring Active/Standby NOAMPs
13. <input type="checkbox"/>	Uncomment SOB configuration from line 236 to 288 if configuring Active/Standby NOAMPs	Uncomment SOB configuration from line 236 to 288 if configuring Active/Standby SOAMs
14. <input type="checkbox"/>	Uncomment MP2 configuration from line 354 to 526 if configuring 12.5K Sh Profile	Uncomment MP2,MP3, and MP4 configuration from line 354 to 526 if configuring 12.5K Sh Profile
THIS PROCEDURE IS COMPLETE		

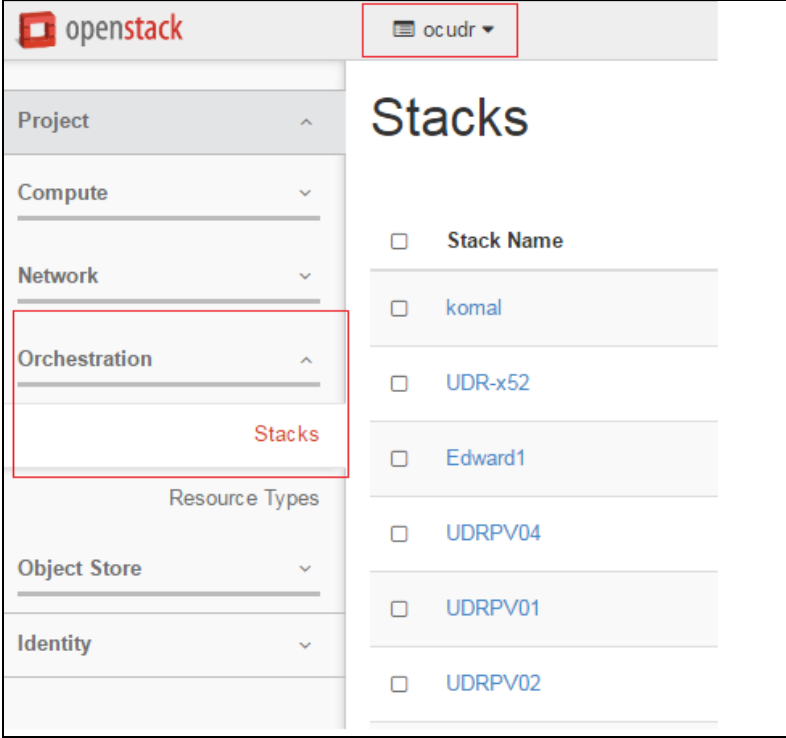
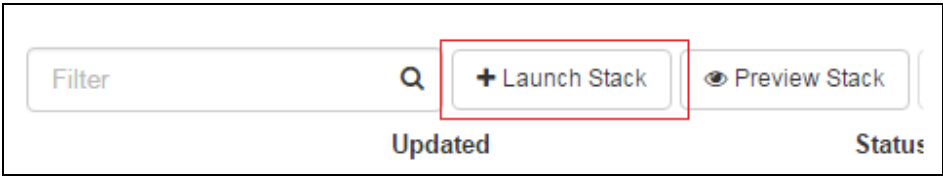
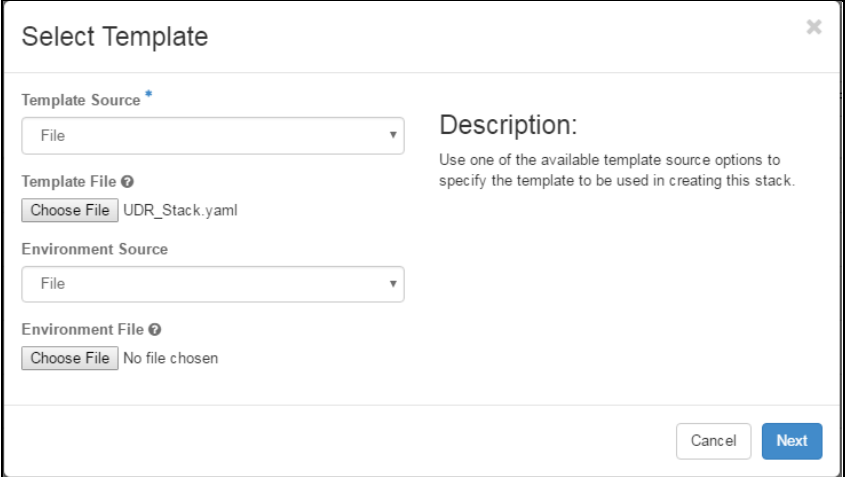
D.5 Create VM Instances Using YAML File

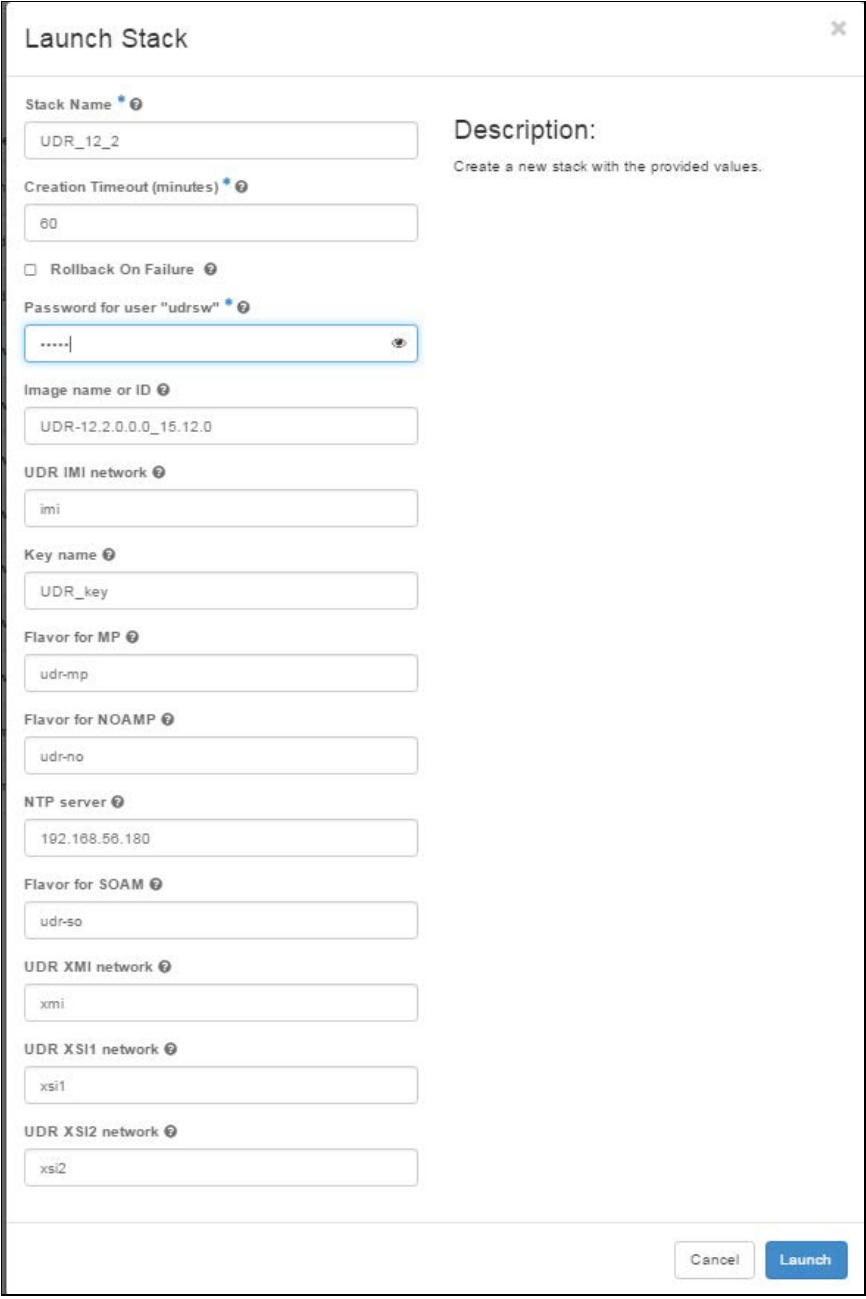

This procedure creates and configures all VM instances required for Oracle Communications User Data Repository configuration.

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

Procedure 33: Create VM Instances Using YAML File

Step	Procedure	Details
1. <input type="checkbox"/>	Login to the OpenStack GUI	

Step	Procedure	Details
2. <input type="checkbox"/>	1. Select project, (For example, ocudr). 2. Navigate to Project → Orchestration → Stacks to show the stacks created for this project:	
3. <input type="checkbox"/>	Click Launch Stack	
4. <input type="checkbox"/>	Select the Template File and Click Next	

Step	Procedure	Details
5. <input type="checkbox"/>	1. Enter the Stack Name 2. Enter the password for Openstack user 3. Click Launch to create UDR Stack	
6. <input type="checkbox"/>	Wait for stack creation to finish.	

THIS PROCEDURE IS COMPLETE

D.6 Extend VM Instance Volume Size

This procedure extends the storage capacity for a VM instance using filesystem utilities.

Important: *These steps only apply to servers where storage demands exceed the default size 60GB. The numbers vary depending on the unique requirements of each deployment and the specific hardware resource available. The numbers in this procedure are an example only. The suitability of these steps cannot be guaranteed across all deployment scenarios.*

The steps in this procedure are only performed in the following conditions:

- NOAMP Instance with Resource Profile other than Lab Profile
- SOAM Instance with 12.5K Sh Profile
- MP Instance with 12.5K Sh Profile

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

Procedure 34: Extend VM Instance Volume Size

Step	Procedure	Details
1. <input type="checkbox"/>	Login to the VM Instance as per D.10: Accessing VM Instance using SSH	<pre>hostnamea0c2d9aa8bce login: admusr</pre>
2. <input type="checkbox"/>	Switch to root user	<pre># su - root password: <root_password></pre>

Step	Procedure	Details
3. <input type="checkbox"/>	<p>NOTE: Do not perform on KVM based VMs</p> <p>Use the fdisk command to create a partition on /dev/vda</p> <p>NOTE:</p> <ol style="list-style-type: none"> If /dev/vda is not present, use /dev/sda instead in the commands. First cylinder of /dev/vda3 is calculated from End cylinder of /dev/vda2, for example assume that 124810 is the next of the End Cylinder of /dev/vda2 	<pre>[root@hostnameb267a6968148 ~]#fdisk /dev/vda Command (m for help): p Disk /dev/vda: 171.8 GB, 171798691840 bytes 16 heads, 63 sectors/track, 332881 cylinders Units = cylinders of 1008 * 512 = 516096 bytes Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes Disk identifier: 0x0008a531 Device Boot Start End Blocks Id System /dev/vda1 * 3 523 262144 83 Linux Partition 1 does not end on cylinder boundary. /dev/vda2 523 124809 62640128 8e Linux LVM Partition 2 does not end on cylinder boundary. Command (m for help): n Command action e extended p primary partition (1-4) p Partition number (1-4): 3 First cylinder (1-332881, default 1): 124810 Last cylinder, +cylinders or +size{K,M,G} (124810-332881, default 332881): Using default value 332881 Command (m for help): w The partition table has been altered! Calling ioctl() to re-read partition table. WARNING: Re-reading the partition table failed with error 16: Device or resource busy. The kernel still uses the old table. The new table will be used at the next reboot or after you run partprobe(8) or kpartx(8) Syncing disks.</pre>
4. <input type="checkbox"/>	<p>NOTE: Do not perform on KVM based VMs</p> <p>Reboot instance</p>	<pre>[root@hostnameb267a6968148 ~]# init 6</pre>

Step	Procedure	Details
5. <input type="checkbox"/>	<p>NOTE: Do not perform on KVM based VMs</p> <p>After reboot, Login to the VM with admusr user and switch to root user</p> <p>D.10: Accessing VM Instance using SSH</p>	<pre>hostnameb267a6968148 login: admusr # su - root password: <root_password></pre>
6. <input type="checkbox"/>	<p>NOTE: Do not perform on KVM based VMs</p> <p>Create physical volume /dev/vda3</p>	<pre>[root@hostnameb267a6968148 ~]# pvcreate /dev/vda3 Physical volume "/dev/vda3" successfully created</pre>
7. <input type="checkbox"/>	<p>NOTE: Do not perform on KVM based VMs</p> <p>Extend vg vgroot on /dev/vda3</p>	<pre>[root@hostnameb267a6968148 ~]# vgextend vgroot /dev/vda3 Volume group "vgroot" successfully extended</pre>
8. <input type="checkbox"/>	<p>Extend logical volumes for 2K profile</p> <p>Only required for NOAMP VM Instance</p>	<pre># lvextend -L +52428800K /dev/vgroot/run_db # lvextend -L +52428800K /dev/vgroot/filemgmt # lvextend -L +6291456K /dev/vgroot/logs_process # resize2fs /dev/mapper/vgroot-filemgmt # resize2fs /dev/mapper/vgroot-run_db # resize2fs /dev/mapper/vgroot-logs_process # lvs LV VG Attr LSize Pool Origin Data% Meta% Move Log Cpy%Sync Convert apw_tmp vgroot -wi-ao---- 9.09g filemgmt vgroot -wi-ao---- 68.19g logs_process vgroot -wi-ao---- 9.66g logs_security vgroot -wi-ao---- 3.66g netbackup_lv vgroot -wi-ao---- 2.00g plat_root vgroot -wi-ao---- 1.00g plat_tmp vgroot -wi-ao---- 1.00g plat_usr vgroot -wi-ao---- 4.00g plat_var vgroot -wi-ao---- 1.00g plat_var_tklc vgroot -wi-ao---- 4.00g run_db vgroot -wi-ao---- 59.09g # vgs VG #PV #LV #SN Attr VSize VFree vgroot 2 11 0 wz--n- 219.72g 57.03g</pre>

Step	Procedure	Details
9. <input type="checkbox"/>	Extend logical volumes for 7K or 12.5K profile (Only required for NOAMP VM Instance)	<pre> # lvextend -L +115343360K /dev/vgroot/run_db # lvextend -L +104857600K /dev/vgroot/filemgmt # lvextend -L +6291456K /dev/vgroot/logs_process # lvextend -L +10485760K /dev/vgroot/apw_tmp # resize2fs /dev/mapper/vgroot-filemgmt # resize2fs /dev/mapper/vgroot-run_db # resize2fs /dev/mapper/vgroot-logs_process # resize2fs /dev/mapper/vgroot-apw_tmp # lvs LV VG Attr LSize Pool Origin Data% Meta% Move Log Cpy%Sync Convert apw_tmp vgroot -wi-ao---- 29.09g filemgmt vgroot -wi-ao---- 118.19g logs_process vgroot -wi-ao---- 9.66g logs_security vgroot -wi-ao---- 3.66g netbackup_lv vgroot -wi-ao---- 2.00g plat_root vgroot -wi-ao---- 1.00g plat_tmp vgroot -wi-ao---- 1.00g plat_usr vgroot -wi-ao---- 4.00g plat_var vgroot -wi-ao---- 1.00g plat_var_tklc vgroot -wi-ao---- 4.00g run_db vgroot -wi-ao---- 109.09g # vgs VG #PV #LV #SN Attr VSize VFree vgroot 2 11 0 wz--n- 282.69g 117.31g </pre>

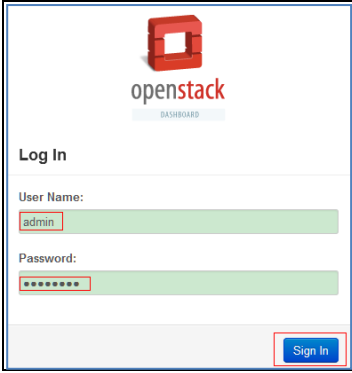
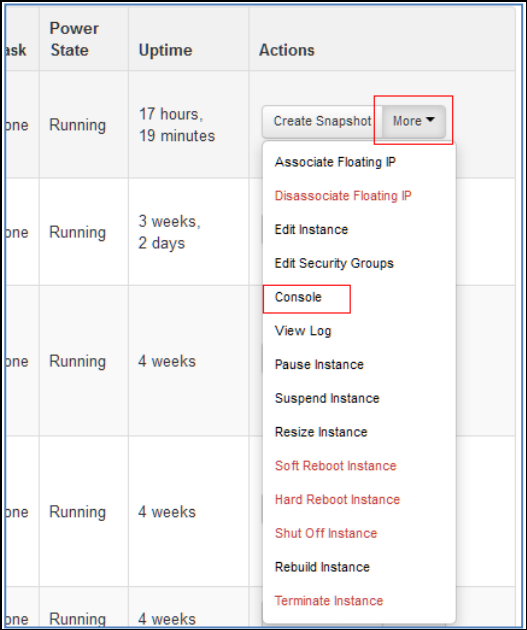
Step	Procedure	Details
10. <input type="checkbox"/>	Extend logical volumes for 12.5K profile Only required for SOAM and MP VM Instance for 12.5K Sh Profile	<pre># lvextend -L +6364856K /dev/vgroot/run_db # lvextend -L +16672358K /dev/vgroot/filemgmt # lvextend -L +3145728K /dev/vgroot/logs_process # lvextend -L +6291456K /dev/vgroot/apw_tmp # resize2fs /dev/mapper/vgroot-filemgmt # resize2fs /dev/mapper/vgroot-run_db # resize2fs /dev/mapper/vgroot-logs_process # resize2fs /dev/mapper/vgroot-apw_tmp # lvs LV VG Attr LSize Pool Origin Data% Meta% Move Log Cpy%Sync Convert apw_tmp vgroot -wi-ao---- 15.16g filemgmt vgroot -wi-ao---- 34.09g logs_process vgroot -wi-ao---- 6.66g logs_security vgroot -wi-ao---- 3.66g netbackup_lv vgroot -wi-ao---- 2.00g plat_root vgroot -wi-ao---- 1.00g plat_tmp vgroot -wi-ao---- 1.00g plat_usr vgroot -wi-ao---- 4.00g plat_var vgroot -wi-ao---- 1.00g plat_var_tklc vgroot -wi-ao---- 4.00g run_db vgroot -wi-ao---- 15.16g # vgs VG #PV #LV #SN Attr VSize Vfree vgroot 2 11 0 wz--n- 87.73g 12.27g</pre>
11. <input type="checkbox"/>	Reboot instance	<pre>[root@hostnameb267a6968148 ~]# init 6</pre>
THIS PROCEDURE IS COMPLETE		

D.7 VM Instance Network Configuration

This procedure configures network interfaces for VM instance.

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

Procedure 35: VM Instance Network Configuration

Step	Procedure	Details
1. <input type="checkbox"/>	Login to the OpenStack GUI	
2. <input type="checkbox"/>	Login VM instance from Project → Compute → Instances → More → Console	
3. <input type="checkbox"/>	Login to the VM with root user	<pre>hostnameea0c2d9aa8bce login: root password: <root_password></pre>
4. <input type="checkbox"/>	Use netAdm to add device and set IP address (ISO installs only)	<p>NOTE: This step is required only for ISO installs.</p> <pre>[root@ hostnameea0c2d9aa8bce ~]# netAdm add --device=eth0 Interface eth0 added</pre>
5. <input type="checkbox"/>	Set IP address for this interface	<pre>[root@ hostnameea0c2d9aa8bce ~]# netAdm set --device=eth0 --onboot=yes \ --netmask=<netmask> --address=<ip_address> Interface eth0 updated</pre>

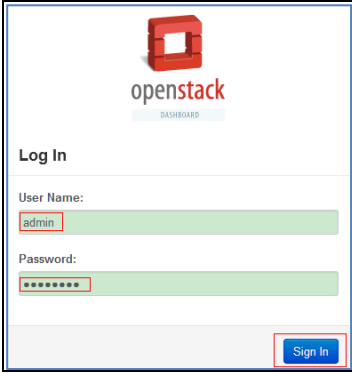
Step	Procedure	Details
6. <input type="checkbox"/>	Add default router	<pre>[root@ hostnamea0c2d9aa8bce ~]# netAdm add --route=default --device=eth0 \ --gateway=10.240.xxx.xx Route to eth0 added</pre>
7. <input type="checkbox"/>	Add eth1 interface	<pre>[root@ hostnamea0c2d9aa8bce ~]# netAdm add --device=eth1 Interface eth1 added</pre>
8. <input type="checkbox"/>	Add eth2 interface (NOAMP and MP only)	NOTE: Perform this step only for NOAMP and MP virtual machines: <pre>[root@hostnameb6092a316785 ~]# netAdm add --device=eth2 Interface eth2 added</pre>
9. <input type="checkbox"/>	Add eth3 interface (MP only)	NOTE: Perform this step only for MP virtual machines for deployments that use a second signaling network (XS12): <pre>[root@hostnameb6092a316785 ~]# netAdm add --device=eth3 Interface eth3 added</pre>
THIS PROCEDURE IS COMPLETE		

D.8 Virtual IP Address Assignment

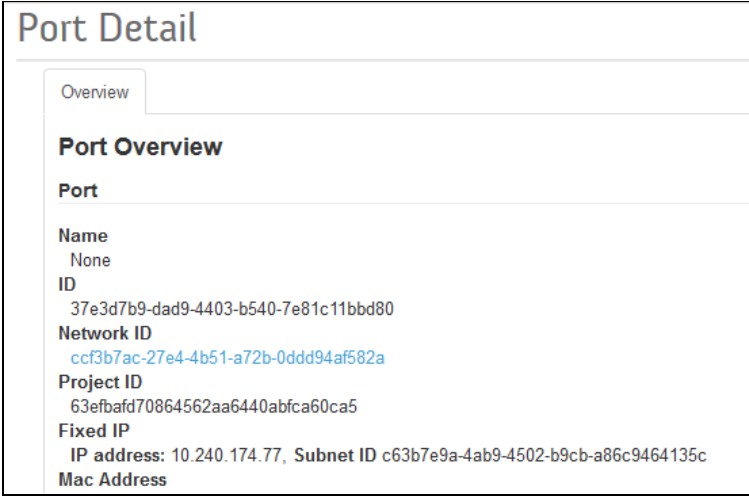
This procedure configures a VIP for a virtual machine. Administrative access to the OpenStack controller node is required.

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

Procedure 36: Virtual IP Address Assignment

Step	Procedure	Details
1. <input type="checkbox"/>	Login to the OpenStack GUI	

Step	Procedure	Details
2. <input type="checkbox"/>	1. Select project, (for example: UDR). 2. Navigate to Project → Compute → Instances to show all Instances created under this project.	
3. <input type="checkbox"/>	Find the NOAMP instances	Record the IP addresses of the NOAMP and/or SOAM instances primary XMI network. NOAMP A: _____ SOAM A: _____ NOAMP B: _____ SOAM B: _____
4. <input type="checkbox"/>	1. Navigate to Project → Network → Networks 2. Select the XMI network for expanded detail	
5. <input type="checkbox"/>	1. In the Ports section, find the Fixed IP associated with the addresses recorded in step 3. 2. Select the associated Port Name.	

Step	Procedure	Details
6. <input type="checkbox"/>	Copy or record the Port ID	
7. <input type="checkbox"/>	Copy or record all required Port IDs.	Repeat steps 5 and 6 to record the Port ID of each server from step 3. NOAMP A: _____ SOAM A: _____ NOAMP B: _____ SOAM B: _____
8. <input type="checkbox"/>	OpenStack Controller node: 1. Access the command prompt. 2. Log into the controller node as a privileged user.	<pre>login as: <usr_name> root@10.250.xx.yy's password: <usr_password> Last login: Mon Jul 30 10:33:19 2012 from 10.25.80.199 [root@control01]#</pre>
9. <input type="checkbox"/>	OpenStack Controller node: Initialize environment variables	<pre>controller ~]# source keystone_admin</pre>
10. <input type="checkbox"/>	OpenStack Controller node: Assign VIP by Port IDs	Assign the VIP address to both A and B servers sharing the VIP: <pre>[root@control01 ~(keystone_admin)]# neutron port-update <A_server_port_id> --allowed-address-pairs type=dict list=true ip_address=<vip> [root@control01 ~(keystone_admin)]# neutron port-update <B_server_port_id> --allowed-address-pairs type=dict list=true ip_address=<vip></pre>
11. <input type="checkbox"/>	OpenStack Controller node: Repeat if required	Repeat step 10 as required for any other server pairs requiring a VIP.
12. <input type="checkbox"/>	OpenStack Controller node: Confirm VIP association	Example of VIP associations are confirmed with the following command using the port ID: <pre>[root@control01 ~(keystone_admin)]# neutron port-show <port_id></pre>
THIS PROCEDURE IS COMPLETE		

D.8.1 Example of VIP Associations Confirmation

```

+-----+-----+
| Field          | Value                                                                 |
+-----+-----+
| admin_state_up | True                                                                    |
| allowed_address_pairs | {"ip_address": "10.240.xxx.xx", "mac_address": "fa:16:3e:ce:18:2a"} |
| binding:host_id | compute05.labafrica                                                    |
| binding:profile | {}                                                                      |
| binding:vif_details | {"port_filter": true, "ovs_hybrid_plug": true}                        |
| binding:vif_type | ovs                                                                    |
| binding:vnic_type | normal                                                                |
| device_id       | 947457b4-46e8-43e7-8f14-79c816388e3d                                  |
| device_owner    | compute:Odds                                                            |
| extra_dhcp_opts |                                                                           |
| fixed_ips       | {"subnet_id": "23f28095-bdb6-4fab-b13e-281d726ef3eb", "ip_address": "10.240.xxx.xx"} |
| id              | aa14b554-d0a6-413d-b77c-63e11a3c9895                                  |
| mac_address     | fa:16:3e:ce:18:2a                                                    |
| name            |                                                                           |
| network_id      | 62027e77-7556-42b2-8070-ffbd61933877                                  |
| port_security_enabled | True                                                                    |
| security_groups | 1e4bd44c-9ac2-4cd0-a56b-c094a52830c2                                  |
| status          | ACTIVE                                                                  |
| tenant_id       | d2fda814485247f795c23b9af2bc2e1c                                    |
+-----+-----+

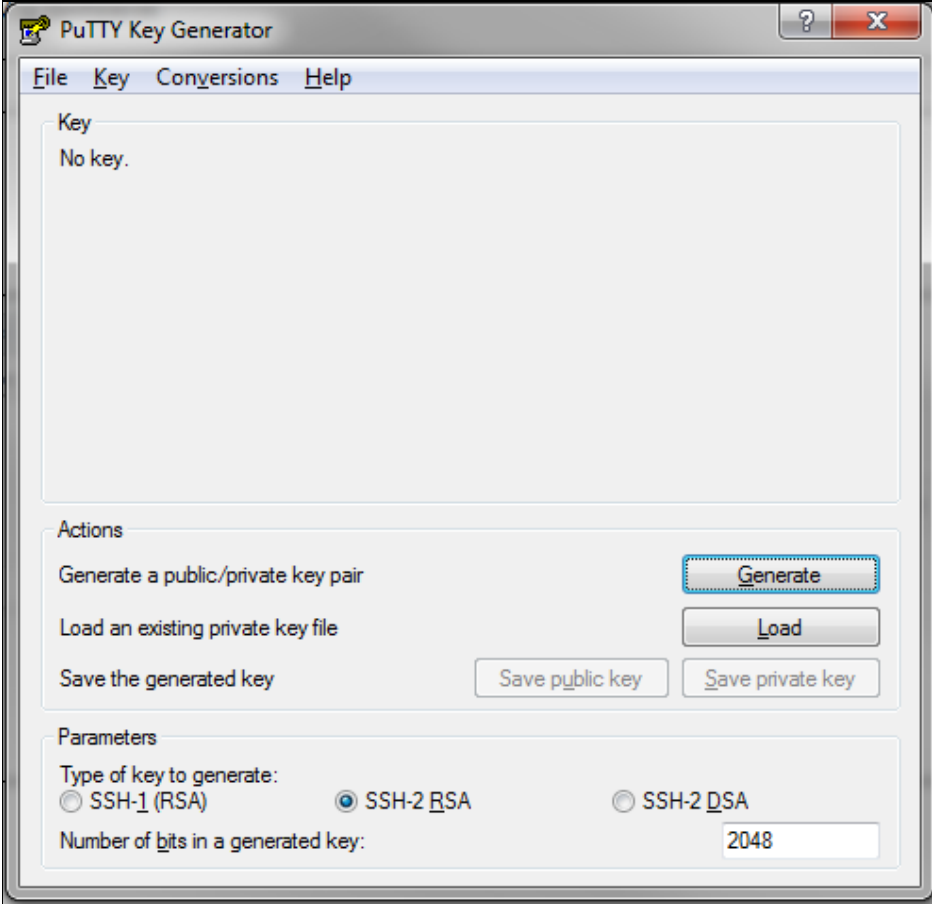
```

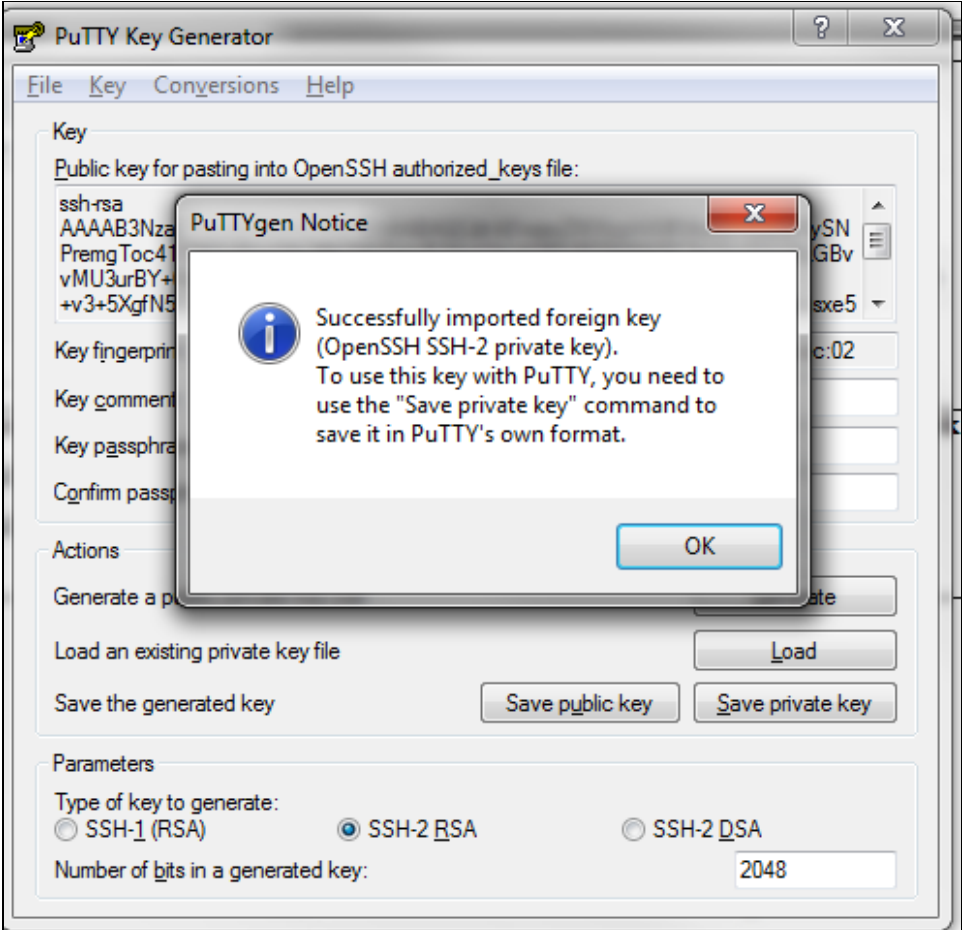
D.9 Generate Private Key for SSH Access

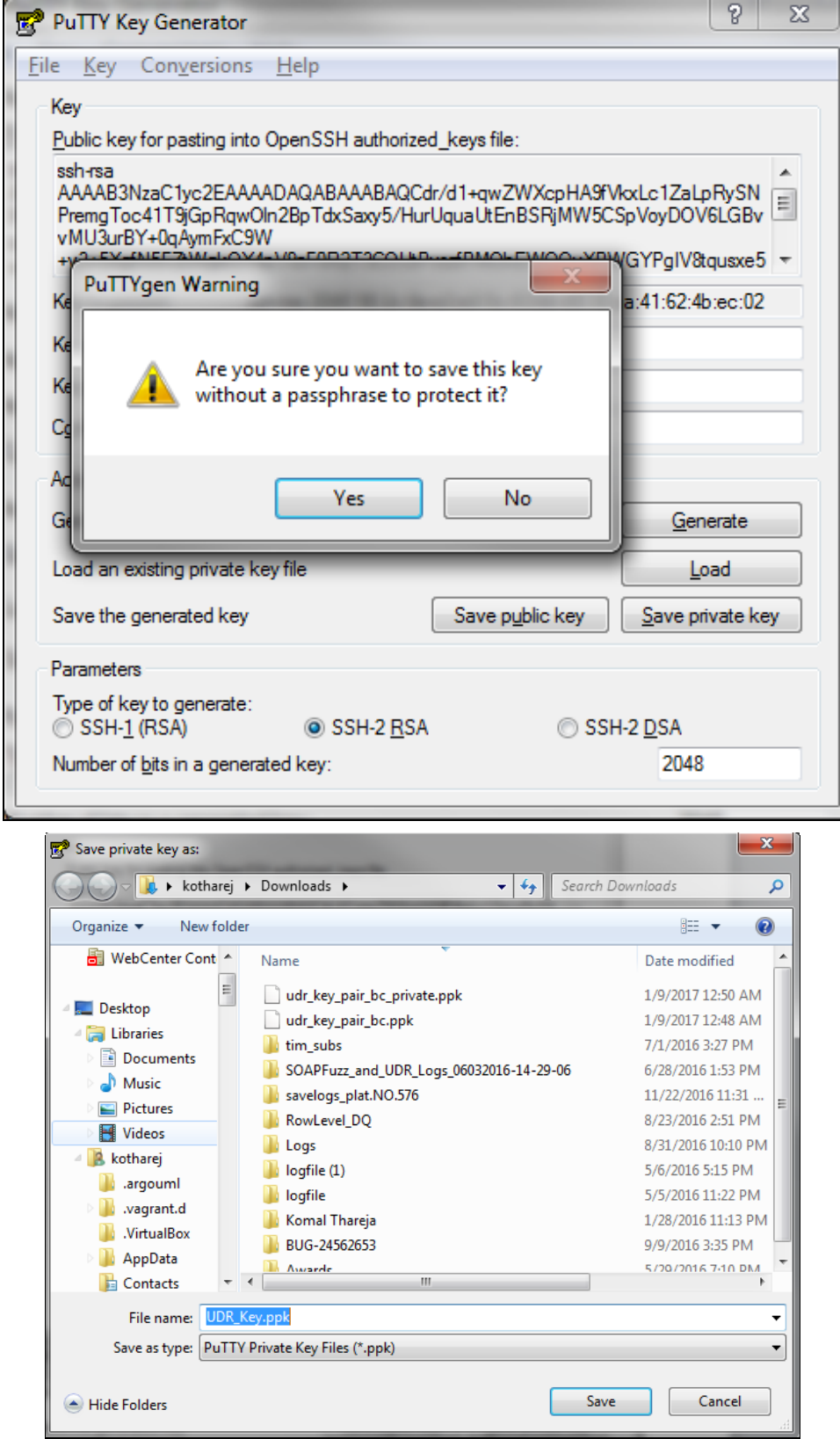
This procedure generates Private Key to be used for accessing VM instance via SSH.

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

Procedure 37: Generate Private Key for SSH Access

Step	Procedure	Details
1. <input type="checkbox"/>	Launch PuTTYGen	

Step	Procedure	Details
2. <input type="checkbox"/>	1. Load the Key file (the *.pem generated in D.3: Create Key Pair) 2. Click OK	

Step	Procedure	Details
<p>3. <input type="checkbox"/></p>	<ol style="list-style-type: none"> 1. Save the Private Key by clicking Save Private Key 2. Click Yes 3. Click Save 	 <p>The screenshot shows the PuTTY Key Generator application. A warning dialog box is displayed in the foreground, asking: "Are you sure you want to save this key without a passphrase to protect it?". The dialog has "Yes" and "No" buttons. In the background, the PuTTY Key Generator window is visible, showing the "Key" tab with a public key for pasting into the OpenSSH authorized_keys file. Below the key text, there are buttons for "Generate", "Load", "Save public key", and "Save private key". The "Parameters" section shows "Type of key to generate:" with radio buttons for "SSH-1 (RSA)", "SSH-2 RSA" (selected), and "SSH-2 DSA". The "Number of bits in a generated key:" is set to "2048".</p> <p>Below the PuTTY Key Generator window is a "Save private key as:" dialog box. It shows a file explorer view of the Downloads folder. The file list includes: udr_key_pair_bc_private.ppk, udr_key_pair_bc.ppk, tim_subs, SOAPFuzz_and_UDR_Logs_06032016-14-29-06, savelogs_plat.NO.576, RowLevel_DQ, Logs, logfile (1), logfile, Komal Thareja, BUG-24562653, and Awards. The "File name:" field contains "UDR_Key.ppk" and the "Save as type:" is set to "PuTTY Private Key Files (*.ppk)". There are "Save" and "Cancel" buttons at the bottom.</p>
<p>THIS PROCEDURE IS COMPLETE</p>		

D.10 Accessing VM Instance using SSH

This procedure accesses the VM instance using SSH. This procedure assumes:

- Network configuration on VM instance is complete or floating IPs have been associated with VM instance
- Private Key has been generated as per [D.8.1: Example of VIP Associations Confirmation](#)

• -----+

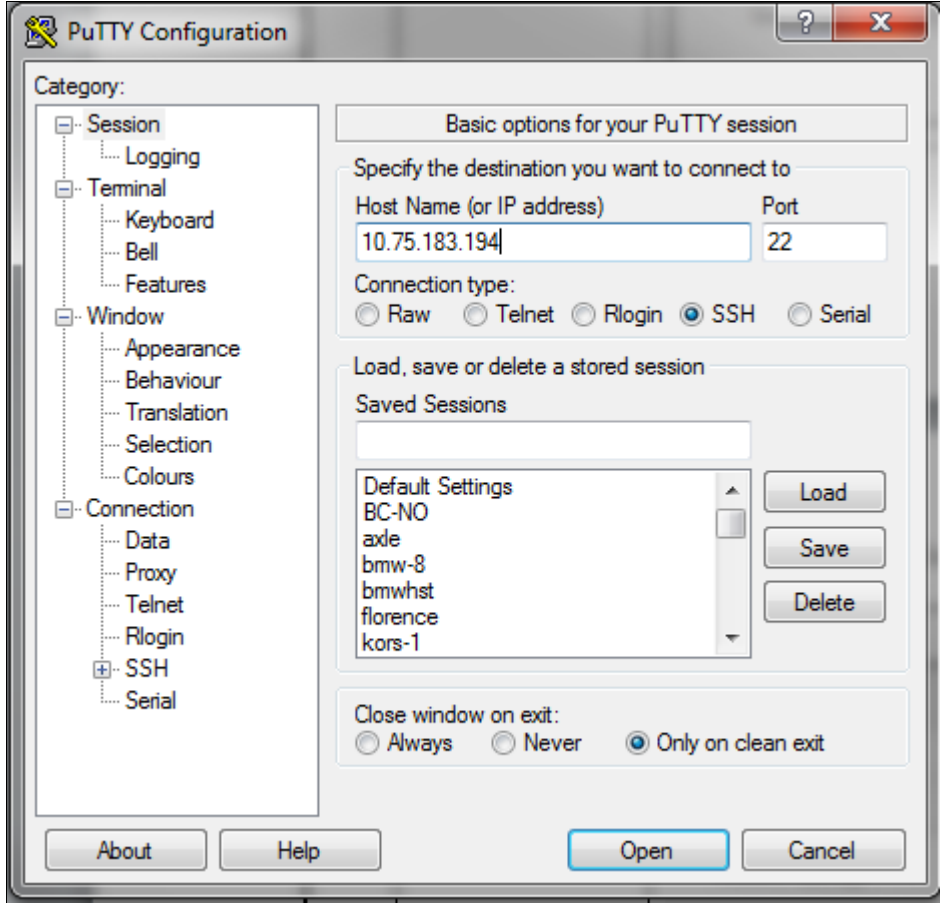
Field	Value
admin_state_up	True
allowed_address_pairs	{"ip_address": "10.240.xxx.xx", "mac_address": "fa:16:3e:ce:18:2a"}
binding:host_id	compute05.labafrica
binding:profile	{}
binding:vif_details	{"port_filter": true, "ovs_hybrid_plug": true}
binding:vif_type	ovs
binding:vnic_type	normal
device_id	947457b4-46e8-43e7-8f14-79c816388e3d
device_owner	compute:Odds
extra_dhcp_opts	
fixed_ips	{"subnet_id": "23f28095-bdb6-4fab-b13e-281d726ef3eb", "ip_address": "10.240.xxx.xx"}
id	aa14b554-d0a6-413d-b77c-63e11a3c9895
mac_address	fa:16:3e:ce:18:2a
name	
network_id	62027e77-7556-42b2-8070-ffbd61933877
port_security_enabled	True
security_groups	1e4bd44c-9ac2-4cd0-a56b-c094a52830c2
status	ACTIVE
tenant_id	d2fda814485247f795c23b9af2bc2e1c

• -----+

- Generate Private Key for SSH Access

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

Procedure 38: SSH Access to VM Instance

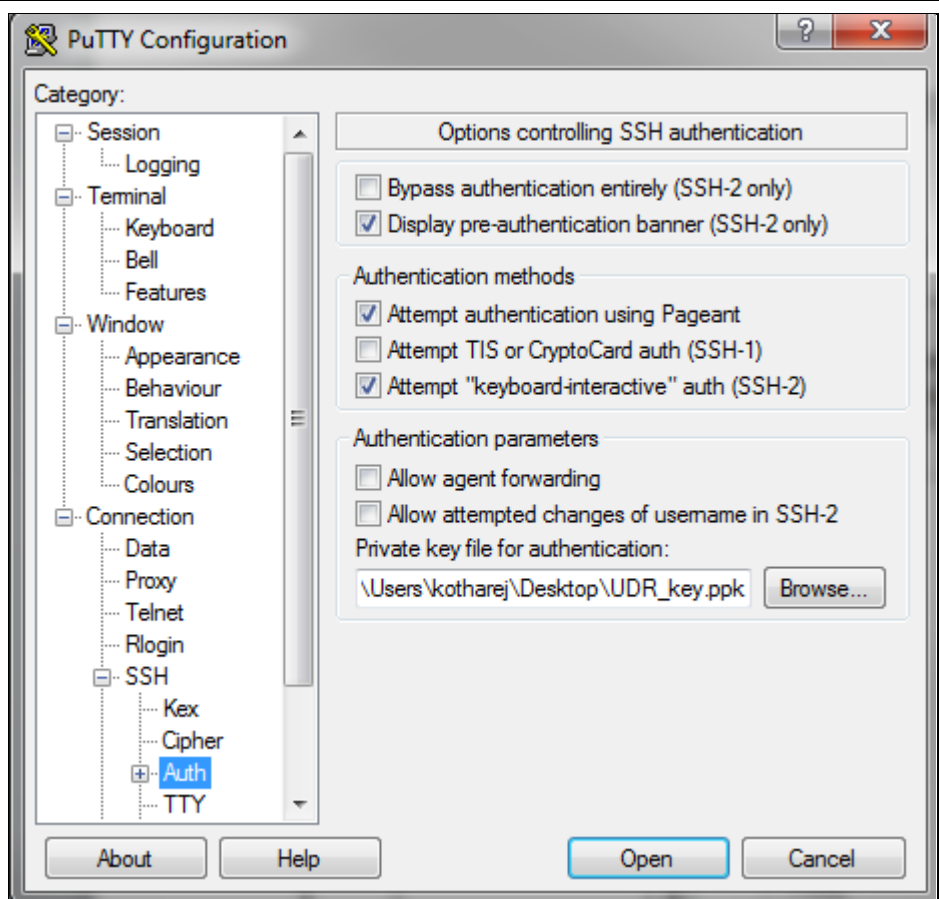
Step	Procedure	Details
1. <input type="checkbox"/>	1. Open Putty 2. Specify the IP Address of the VM Instance	 <p>The screenshot shows the PuTTY Configuration dialog box. On the left, a tree view shows categories: Session, Terminal, Window, and Connection. Under Connection, 'SSH' is selected. On the right, the 'Basic options for your PuTTY session' section includes: <ul style="list-style-type: none"> 'Specify the destination you want to connect to': Host Name (or IP address) is '10.75.183.194' and Port is '22'. 'Connection type': Radio buttons for Raw, Telnet, Rlogin, SSH (selected), and Serial. 'Load, save or delete a stored session': A list of 'Saved Sessions' including 'Default Settings', 'BC-NO', 'axde', 'bmw-8', 'bmwhst', 'florence', and 'kors-1'. Buttons for 'Load', 'Save', and 'Delete' are present. 'Close window on exit': Radio buttons for 'Always', 'Never', and 'Only on clean exit' (selected). At the bottom are 'About', 'Help', 'Open', and 'Cancel' buttons. </p>

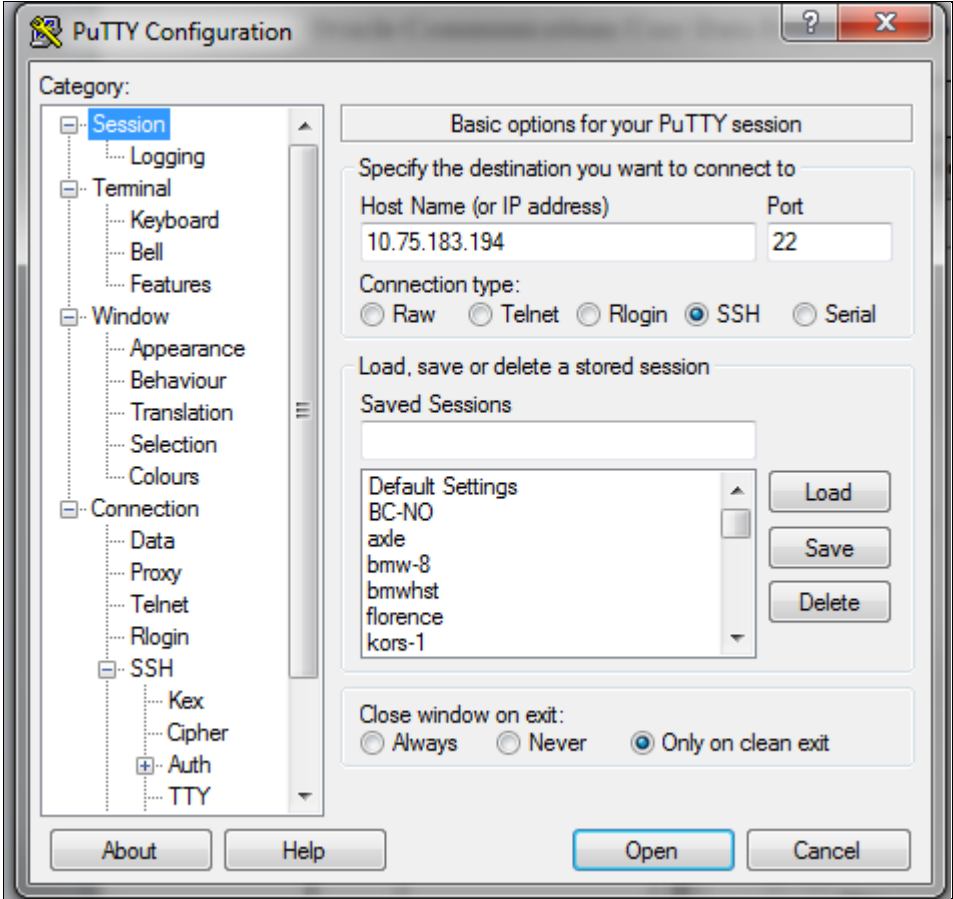
2. Under the **SSH** → **Auth**, select the *.ppk file generated by D.8.1: Example of VIP Associations Confirmation

```

+-----+
+-----+
+-----+
+-----+
+-----+
| Field |
| Value |
+-----+
+-----+
+-----+
+-----+
+-----+
|
| admin_state_up
| True
|
|
| allowed address pairs | {"ip address":
| "10.240.xxx.xx",
| "mac address":
| "fa:16:3e:ce:18:2a"
| }
|
| binding:host id
| compute05.labafrika
|
|
| binding:profile
| {}
|
|
| binding:vif_details
| {"port_filter":
| true,
| "ovs_hybrid_plug":
| true}
|
|
| binding:vif_type
| ovs
|
|
| binding:vnic type

```



Step	Procedure	Details
	<pre> status ACTIVE tenant id d2fda814485247f795c 23b9af2bc2e1c +-----+ +-----+ +-----+ +-----+ +-----+ +-----+ +-----+ +-----+ </pre> <p>Generate Private Key for SSH Access</p>	
<p>3. <input type="checkbox"/></p>	<p>From Session Category, click Open to launch the SSH connection</p> <p>Specify username admusr when prompted</p>	
<p>THIS PROCEDURE IS COMPLETE</p>		

D.11 Clobber the Database on VM Instance

This procedure clobbers the database on VM instance.

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

Procedure 39: Clobber Database on VM Instance

Step	Procedure	Details
1. <input type="checkbox"/>	Login to the VM with admusr via SSH as per D.10: Accessing VM Instance using SSH	<pre>hostnameea0c2d9aa8bce login: admusr</pre>
2. <input type="checkbox"/>	Switch to root user	<pre># su-root password: <root_password></pre>
3. <input type="checkbox"/>	Run the prod.clobber command on the created instances	<pre>[root@hostname2c6772f9819e ~]# prod.clobber ...prod.clobber (RUNID=00)... ...getting current state... Current state: X (product under procmgr) WARNING: ABOUT TO DESTROY ALL PRODUCT DISK FILES !!!! Are you sure? [enter Y or N] y ...setting state 0... ...waiting for state 0... Current state is 0 ...taking down processes... processes down ...removing existing IPC resources... + md_ipcrm ... 852 resources ...clobbering runenv files... + rm -rf /var/TRLC/rundb/run</pre>
4. <input type="checkbox"/>	Run prod.start on instance After start, use the ps command to check process status, after first start, only a few processes start	<pre>[root@hostname2c6772f9819e ~]# prod.start_ + iqt -liddtoXML -DataDictPart > /var/TRLC/rundb/run/db/DataDictPart/20160527.055813.5460.DataDictPart.tmp + edd.op --install --must-eq-current /var/TRLC/rundb/run/db/DataDictPart/20160527.055813.5460.DataDictPart.tmp created: 20160527.055813.5460.DataDictPart.xml ...starting procmgr ... [root@hostname2c6772f9819e ~]# ps S pid procTag \$1 stat spawnTime N cmd 2 29470 cnha Up 05/27 01:59:29 1 cnha 2 29471 cnssoapa Up 05/27 01:59:29 1 cnssoapa 2 29473 idbsvc Up 05/27 01:59:29 1 idbsvc -H10 -HE204 -D40 -DE820 -V1 -S2 -L1 2 29475 inetmerge Up 05/27 01:59:29 1 inetmerge 2 29477 raclerk Up 05/27 01:59:29 1 raclerk -r 3000 2 29478 re.portmap Up 05/27 01:59:29 1 re.portmap -c100</pre>
5. <input type="checkbox"/>	Run prod.start again on instance, this time, all processes start	<pre>[root@hostname2c6772f9819e ~]# prod.start ...prod.start (RUNID=00)... ...getting current state... Current state: Z (product under procmgr) ...setting state X... ...waiting for state [X00]... Current state is X [root@hostname2c6772f9819e ~]# ps S pid procTag \$1 stat spawnTime N cmd X 29586 Inysqld Up 05/27 02:00:25 1 Inysqld.start -force X 29587 ProcWatch Up 05/27 02:00:25 1 ProcWatch -L X 29589 apuSoapServer Up 05/27 02:00:25 1 fCHNOSIGCHK=1 apuSoapServer X 29470 cnha Up 05/27 01:59:29 1 cnha X 29591 cmplatalarm Up 05/27 02:00:25 1 cmplatalarm X 29593 cnsnmpsa Up 05/27 02:00:25 1 cnsnmpsa -R 1.3.6.1.4.1.323.5.3.32.1 X 29471 cnssoapa Up 05/27 01:59:29 1 cnssoapa X 29608 eclipseHelp Up 05/27 02:00:25 1 eclipseHelp X 29594 guiReqMapLoad Up 05/27 02:00:25 1 guiReqMapLoad X 29473 idbsvc Up 05/27 01:59:29 1 idbsvc -H10 -HE204 -D40 -DE820 -V1 -S2 -L1 X 29475 inetmerge Up 05/27 01:59:29 1 inetmerge X 29596 inetrep Up 05/27 02:00:25 1 inetrep X 29598 nkdhooks Up 05/27 02:00:25 1 nkdhooks X 29601 oampAgent Up 05/27 02:00:25 1 oampAgent X 29603 pn.watchdog Up 05/27 02:00:25 1 pn.watchdog X 29477 raclerk Up 05/27 01:59:29 1 raclerk -r 3000 X 29478 re.portmap Up 05/27 01:59:29 1 re.portmap -c100 X 29605 statclerk Up 05/27 02:00:25 1 statclerk -s -0 X 29607 vipmgr Up 05/27 02:00:25 1 vipmgr</pre>

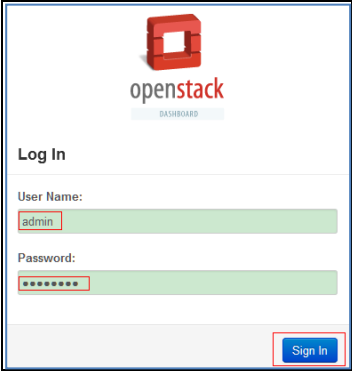
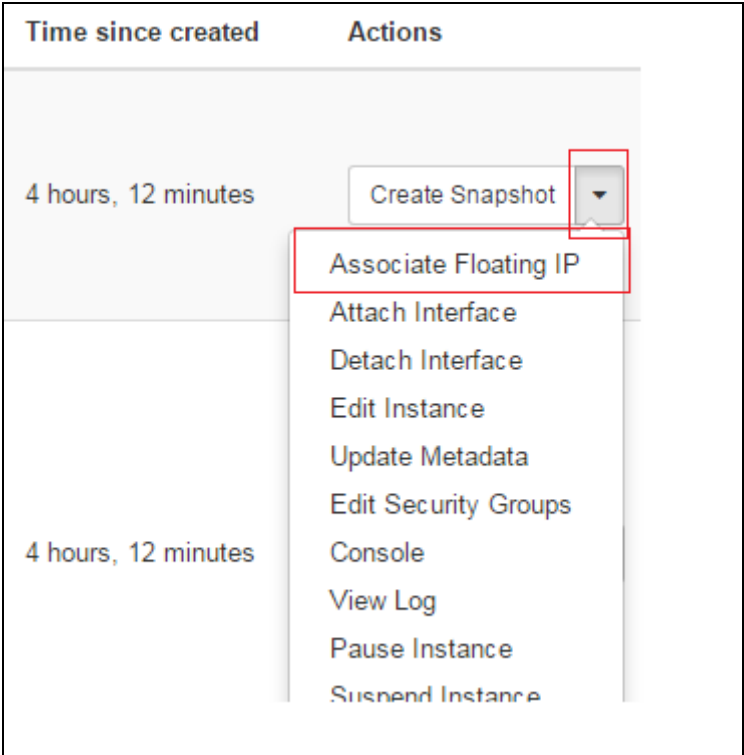
Step	Procedure	Details
THIS PROCEDURE IS COMPLETE		

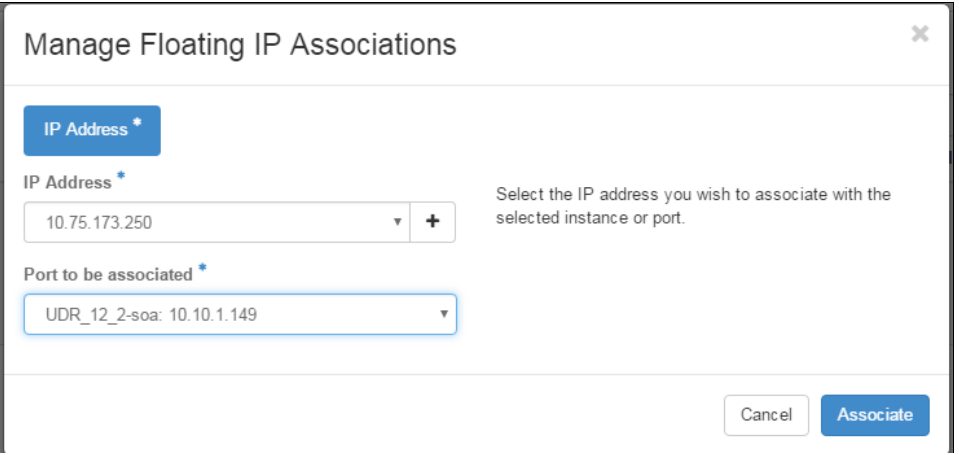
D.12 Associating Floating IPs

This procedure associates a floating IP with a VM instance.

Check (√) each step as it is completed. Boxes have been provided for this purpose.

Procedure 40: Associate Floating IP

Step	Procedure	Details
1. <input type="checkbox"/>	Login to the OpenStack GUI	
2. <input type="checkbox"/>	Login VM instance from Project → Instances → More → Associate Floating IP	

Step	Procedure	Details
3. <input type="checkbox"/>	1. Select the IP Address and Port to be associated 2. Click Associate .	
THIS PROCEDURE IS COMPLETE		

APPENDIX E. SAME NETWORK ELEMENT AND HARDWARE PROFILES

In order to enter all the network information for a network element into an Appworks-based system, a specially formatted XML file needs to be filled out with the required network information. The network information is needed to configure both the NOAMP and any SOAM Network Elements.

It is expected that the maintainer/creator of this file has networking knowledge of this product and the site where 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 is not possible.

Table 4 Example Network Element XML File

Example NOAMP Network Element XML	Example SOAM Network Element XML
<pre> <?xml version="1.0"?> <networkelement> <name>NO_UDR_NE</name> <networks> <network> <name>XMI</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>IMI</name> <vlanId>4</vlanId> <ip>10.3.0.0</ip> <mask>255.255.255.0</mask> <nonRoutable>true</nonRoutable> </network> </networks> </networkelement> </pre>	<pre> <?xml version="1.0"?> <networkelement> <name>SO_UDR_NE</name> <networks> <network> <name>XMI</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>IMI</name> <vlanId>4</vlanId> <ip>10.3.0.0</ip> <mask>255.255.255.0</mask> <nonRoutable>true</nonRoutable> </network> </networks> </networkelement> </pre>

NOTE: Do not include the XSI networks in a Network Element XML file.

The server hardware information is needed to configure the Ethernet interfaces on the servers. This server hardware profile data XML file is used for Appworks deployments. It is supplied to the NOAMP server so that the information can be pulled in by Appworks and presented in the GUI during server configuration.

The following is an example of a Server Hardware Profile XML file which is stored at path
/var/TKLC/appworks/profiles

Table 5 Example Server Hardware Profile XML–Virtual Guest:

```
<profile>
  <serverType>Cloud UDR</serverType>
  <available>
    <device>eth0</device>
    <device>eth1</device>
    <device>eth2</device>
    <device>eth3</device>
  </available>
  <devices>
    <device>
      <name>eth0</name>
      <type>ETHERNET</type>
    </device>
    <device>
      <name>eth1</name>
      <type>ETHERNET</type>
    </device>
    <device>
      <name>eth2</name>
      <type>ETHERNET</type>
    </device>
    <device>
      <name>eth3</name>
      <type>ETHERNET</type>
    </device>
  </devices>
</profile>
```


APPENDIX F. HIGH AVAILABILITY CONFIGURATIONS

VM Name	Non HA		HA			
	Min number of VMs	Max number of VMs	Min number of VMs	Max number of VMs	HA config	Affinity
NOAMP	1	2	2	2	Active-Standby	Anti-affinity. NOAMPs must be hosted on different servers
SOAM	1	2	2	2	Active-Standby	Anti-affinity. SOAMs must be hosted on different servers
MP	1	1	2	4	Active-Active	Anti-affinity. MPs must be hosted on different servers

NOTES:

Non-HA configuration is for labs and demonstrations only.

The NOAMP and SOAM VMs raise HA alarms when deployed as singletons. For this reason, standby VMs are often deployed even in non-HA labs.

The HA Max number of VMs was used for performance testing

For Geo-Diverse configurations, DR site VMs must be hosted at a geo-diverse location from the first site

APPENDIX G. RESOURCE PROFILE

VM Name		VM Purpose		vCPUs				RAM (GB)				Storage (GB)			
				Lab	2K Sh	7K Sh	12.5K	Lab	2K Sh	7K Sh	12.5K Sh	Lab	2K Sh	7K Sh	12.5K Sh
NOAMP	Network Operation, Administration, Maintenance, and Provisioning	4	4	8	14	6	16	32	64	60	220	400	400		
SOAM	Site (node) Operation, Administration, Maintenance	2*	2*	2*	2*	2	4	4	16	60	60	100	100		
MP	Message Processor	4	4	6	12	10	16	16	32	60	60	100	100		

- SOAM can run with only 2 CPUs. This does not create a performance degradation. However, the Server Hardware Configuration Error alarm is raised and remains on the system.
- Lab numbers are for demonstration of functionality only and can only support 100/s SOAP provisioning with 2k/s SH traffic.
- 1:1vCPU to CPU ratio based on Intel(R) Xeon(R) CPU E5-2699 v3 @ 2.30GHz

NOTES:

APPENDIX H. NETWORK DEVICE ASSIGNMENTS

Product	Role	Interface Assignment						
		Control	Platform Management	OAMP (XMI)	Local (IMI)	Signaling A (XS11)	Signaling B (XS12)	NetBackup
Platform	TVOE							
	PMAC							
UDR	NOAMP			eth0	eth1	eth2		
	SOAM			eth0	eth1			
	MP			eth0	eth1	eth2	eth3	

Legend				
Mandatory	Not Applicable	Unsupported	Optional	Suggested

APPENDIX I. NETWORK AND PORT INFORMATION

Network	Description	Also Known As	Optional/ Mandatory	Type	IPv6	VMs using	Services	Notes
OAMP	Routable operations, administration, maintenance and provisioning flows	External Management Interface (XMI)	Mandatory	External	No	All	AppWorks SOAP Server (TCP/18081) AppWorks GUI (TCP/443, TCP/80) AppWorks File Transfer (TCP/22) AppWorks Online Help (TCP/8081) DNS (TCP/53, UDP/53) NTP (UDP/123) SNMP gets (UDP/161) SSH (TCP/22) X11 Forwarding (TCP/6010) RPC Bind (TCP/111) Prov REST (TCP/8787)** Prov SOAP (TCP/62001)** Prov GUI (TCP/16530)** Prov Import (TCP/16531) Prov OnDemand (TCP/16532) Prov Notifications (TCP/16535)	Local services may also run on OAM network when the target is outside the Network Element. ComAgent Services may run over OAMP Network between Network Elements unless configured to run on Signaling A.

Local	Application internal communications	Internal Management Interface (IMI)	Mandatory	Internal	No	All	COMCOL SOAP Server (TCP/15360) COMCOL Merging (TCP/16878) COMCOL Replication (TCP/17398,17399, TCP/17400) COMCOL HA (TCP/17401,17402,17406 UDP/17401) ComAgent EventTransfer (TCP/16529) ComAgent EventTransfer Alert (TCP/16541) Imysql (TCP 15616)	OAM services may be configured to run on the Local network when the destination is inside the Network Element.
Signaling A	Application external communications	External Signaling Interface 1 (XSI1)	Mandatory	External	Yes	MP, Optional:NO AMP	Diameter (TCP/3868, SCTP/3868)	Signal A network may also be configured to host ComAgent services when the target is outside the Network Element.
Signaling B	Application external communications	External Signaling Interface 2 (XSI2)	Optional	External	Yes	MP	Diameter (TCP/3868, SCTP/3868)	

** Port values are configurable (default value is shown)

APPENDIX J. INSTALL UDR ON ORACLE LINUX OS VIA KVM

Important: The content of this appendix is for informational purposes only.

This procedure installs UDR configuration on Oracle Linux OS with direct KVM as hypervisor.


NOTE:

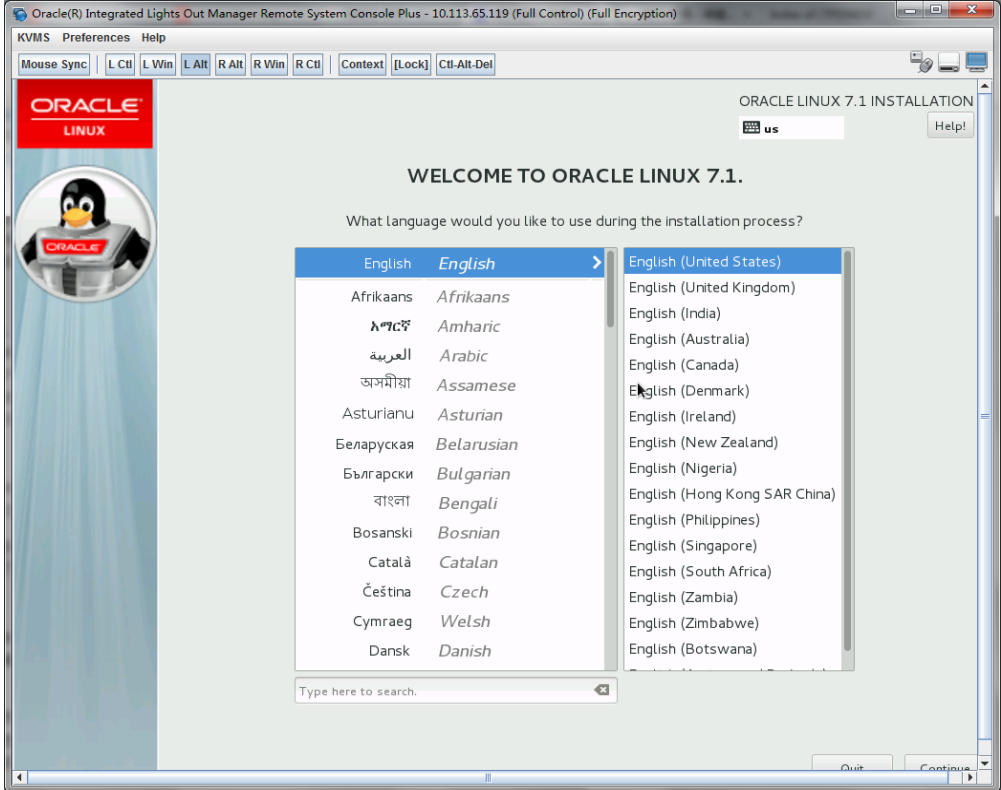
- This installation procedure only applies when installing UDR on Oracle Linux OS via direct KVM
- For the Oracle Linux OS, Oracle Linux 7.2 GA release is used and verified OK.

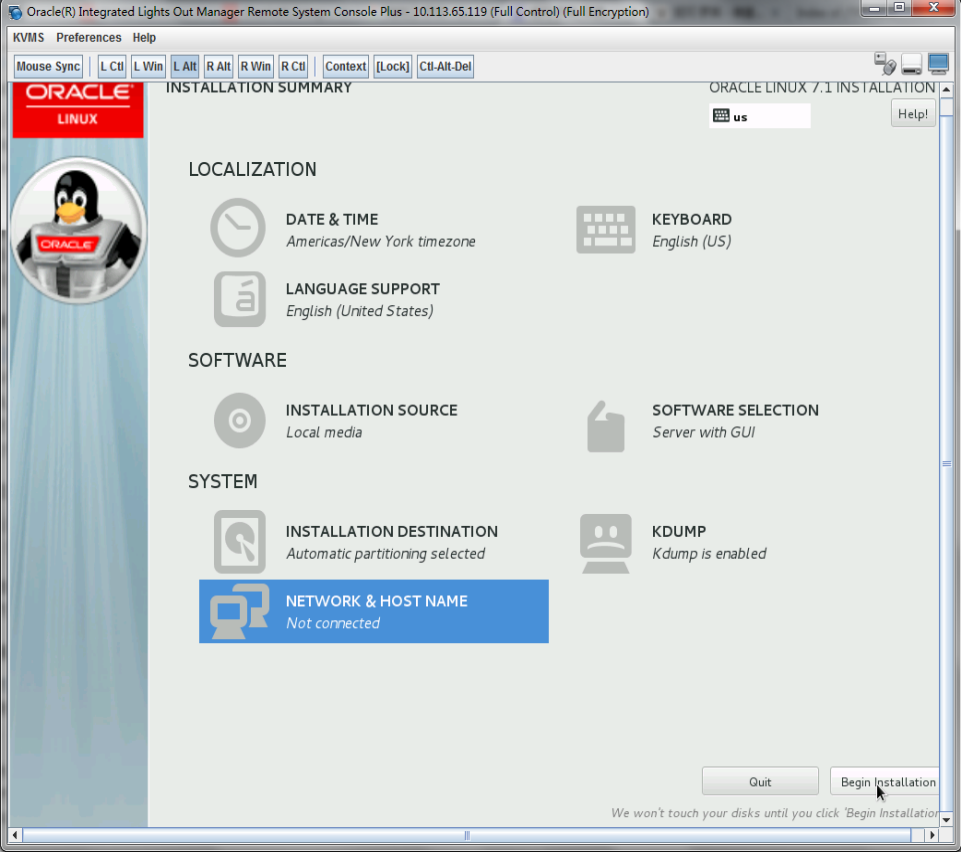
Check (✓) each step as it is completed. Boxes have been provided for this purpose.

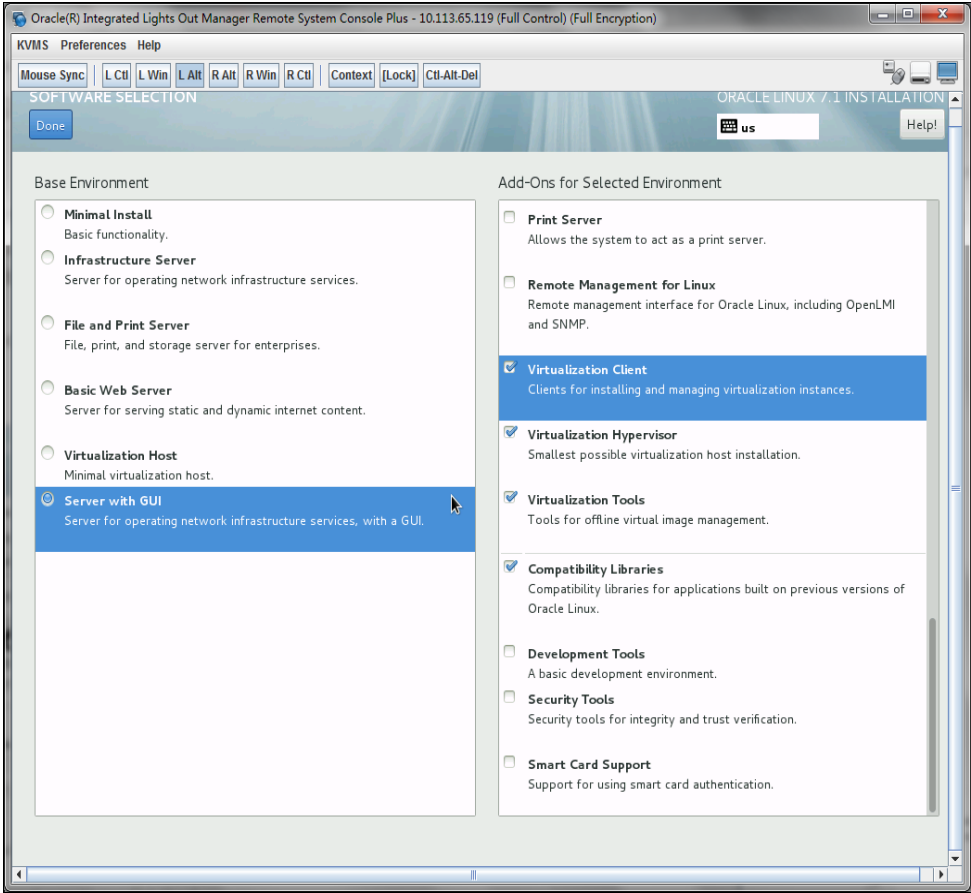
Procedure 41: Install UDR on Oracle Linux/KVM

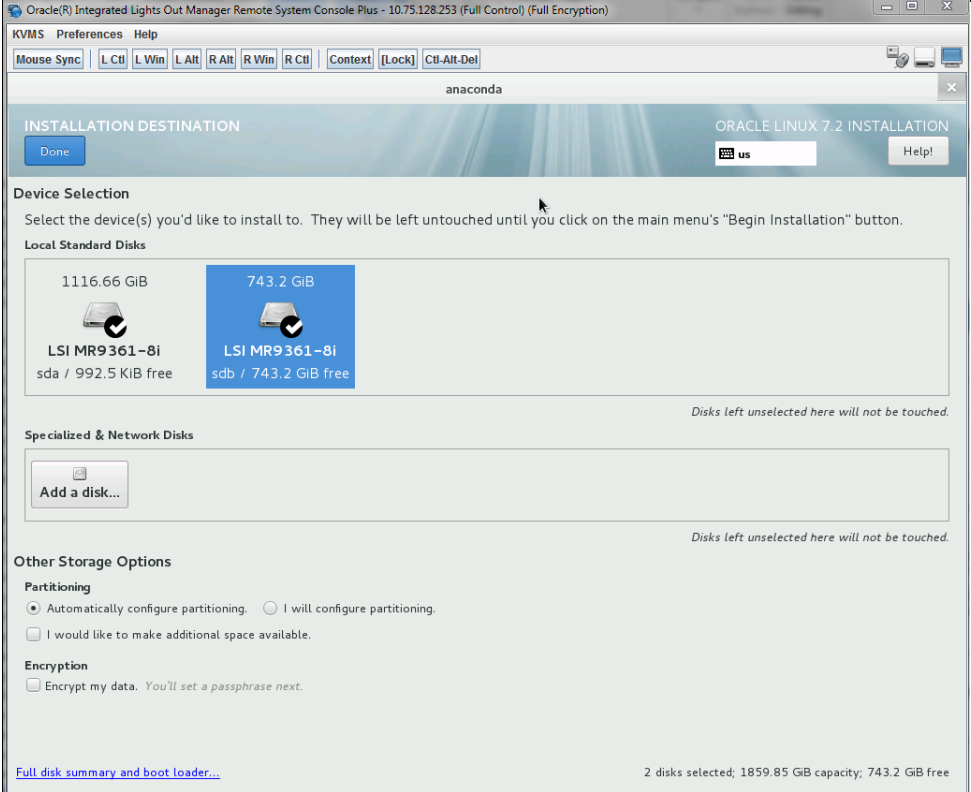
Step	Procedure	Details
1. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Mount virtual media contains Oracle Linux OS software</p>	<p>Follow steps defined in Appendix C.3 Mounting Virtual Media on Oracle RMS Server of [1] to mount the Oracle Linux OS software ISO.</p>
2. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS.</p> <p>Reboot the host.</p>	<p>1. Login to X5-2 iLo GUI and launch the remote console.</p> <p>2. Navigate to Host Management → Power Control.</p> <p>3. Select Reset and click Save to reboot host.</p> <p>In the remote console window, you see that the host is rebooting.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>The screenshot shows a terminal window titled "Oracle(R) Integrated Lights Out Manager Remote System Console Plus - 10.113.65.119". The terminal output includes: <pre> KVMS Preferences Help Mouse Sync L Ctl L Win L Alt R Alt R Win R Ctl Context [Lock] Ctl-Alt-Del ORACLE Copyright (C) 2014, Oracle and/or its affiliates. All rights reserved. BIOS Version : 30040200 System is Booting. Please Wait... </pre> </p></div> <p>Wait for a couple of minutes for reboot to complete.</p>

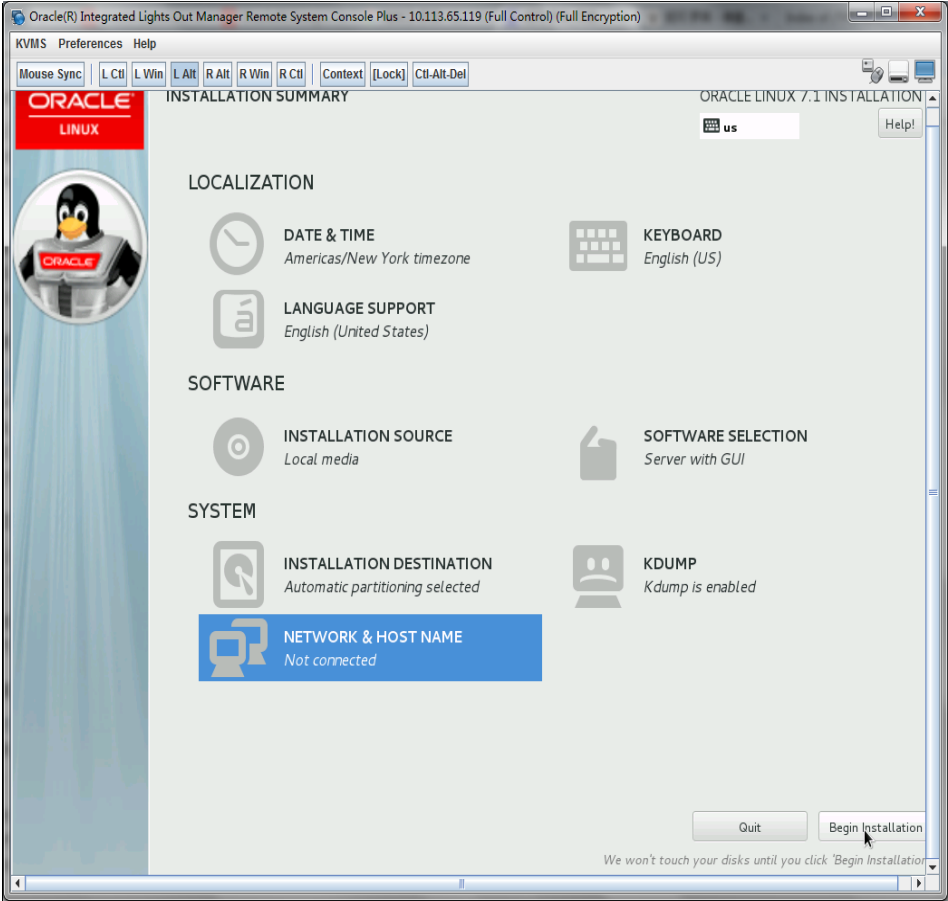
Step	Procedure	Details
3. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS: Initiate Oracle Linux Platform installation</p>	<p>After the reboot completes, the host opens with the Oracle Linux installation ISO and the GUI screen prompts for the installation option. Select Install Oracle Linux 7.x to continue.</p>  <p>The screenshot shows a remote console window titled "Oracle(R) Integrated Lights Out Manager Remote System Console Plus - 10.113.65.119 (...)" with a "KVMS" toolbar. The main display is a red background with the Oracle logo at the top. The text on the screen reads: "Oracle Linux 7.1", "Install Oracle Linux 7.1", "Test this media & install Oracle Linux 7.1", "Troubleshooting >", and "Press Tab for full configuration options on menu items." At the bottom left, it says "Oracle Linux" next to a Linux penguin logo.</p>

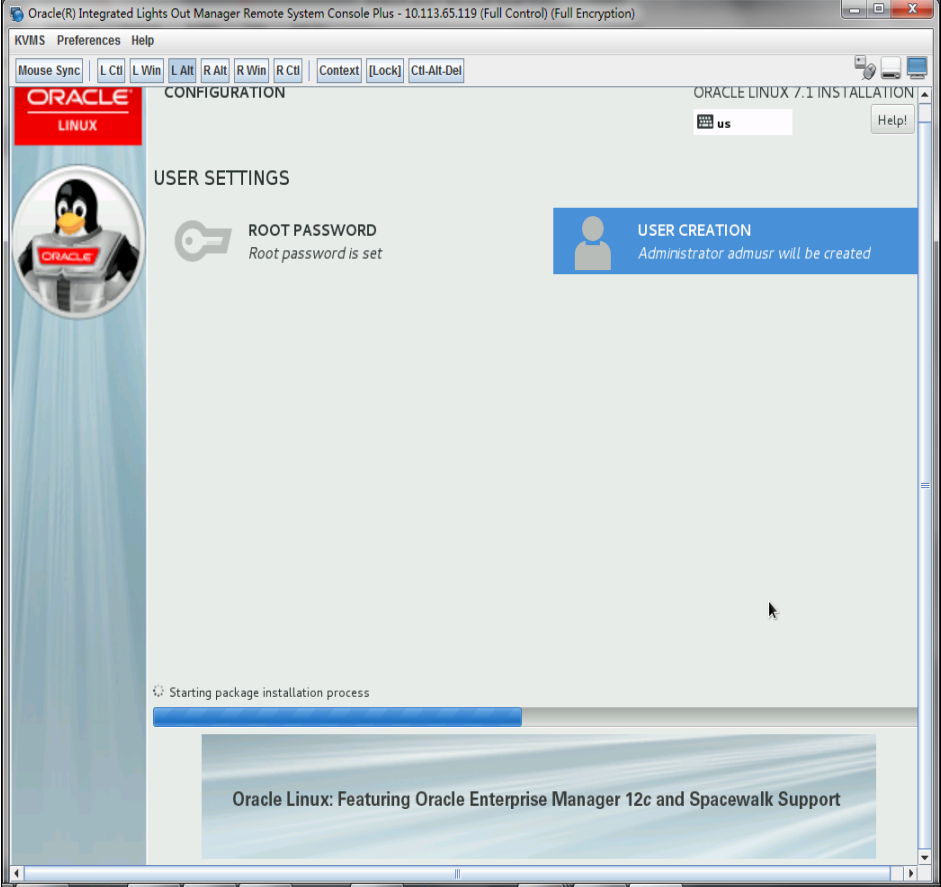
Step	Procedure	Details
<p>4. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS: Choose Oracle Linux OS language</p>	<p>1. When prompted, select English as Oracle Linux OS language:</p>  <p>2. Click Continue and go to the next step.</p>

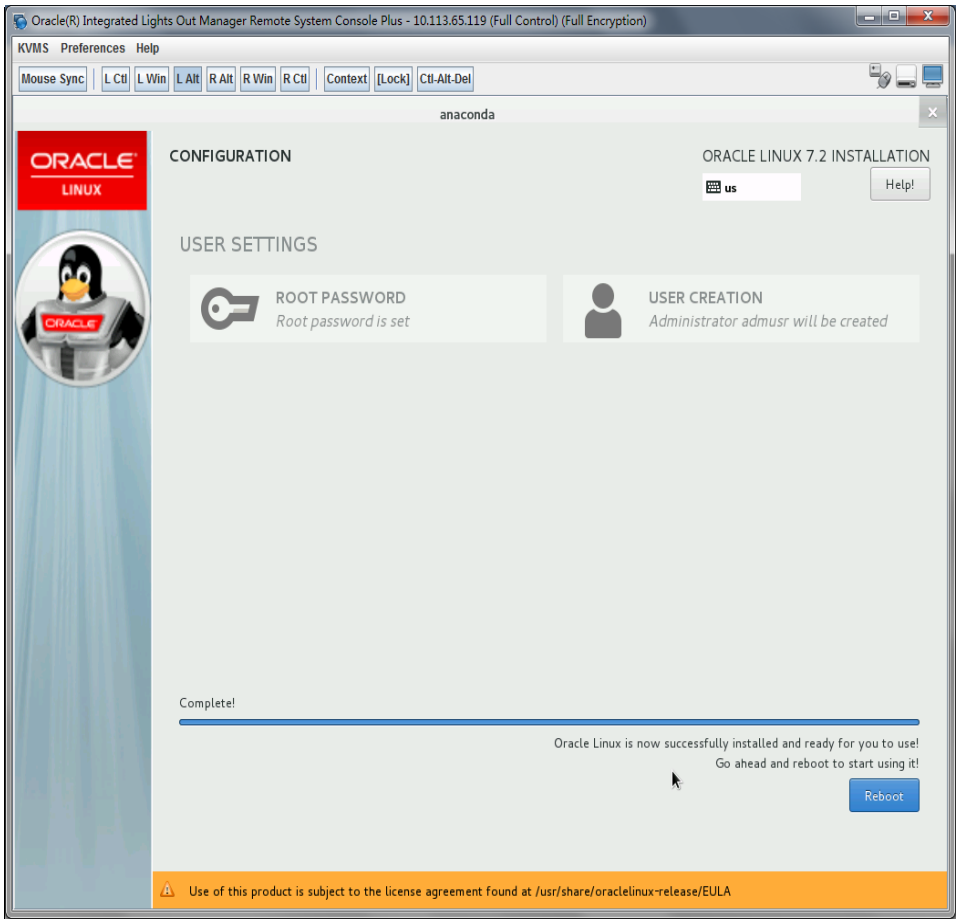
Step	Procedure	Details
<p>5. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS: Setup time zone</p>	<p>The next page prompts for Oracle Linux OS installation required information to start installation.</p>  <ol style="list-style-type: none"> 1. Navigate to LOCALIZATION → DATE & TIME. 2. Set the time zone as Americas/New York. 3. Click Done to save the changes and go back to main configuration page.

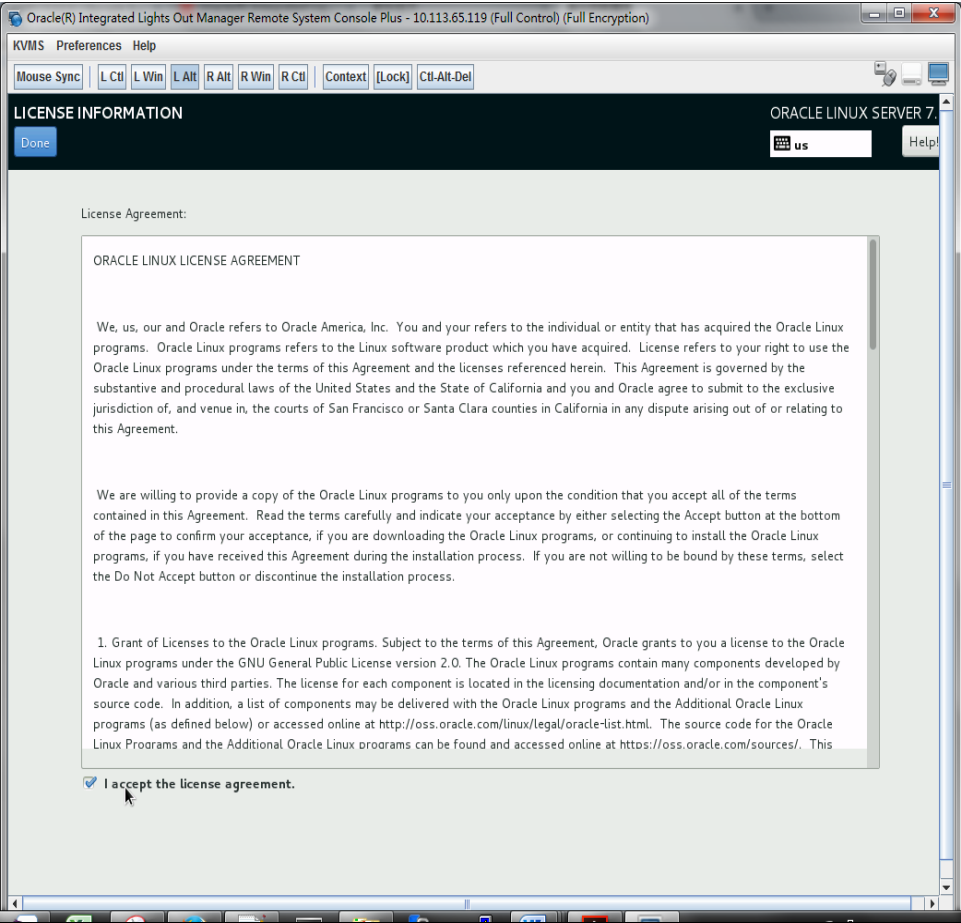
Step	Procedure	Details
6. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Setup installation base environment</p>	<ol style="list-style-type: none"> Navigate to SOFTWARE -> SOFTWARE SELECTION. Select Server with GUI, and verify that these add-ons are selected: <ul style="list-style-type: none"> - Virtualization Client - Virtualization Hypervisor - Virtualization Tools - Compatibility Libraries  <ol style="list-style-type: none"> Click Done to save the changes and return to the main configuration page.

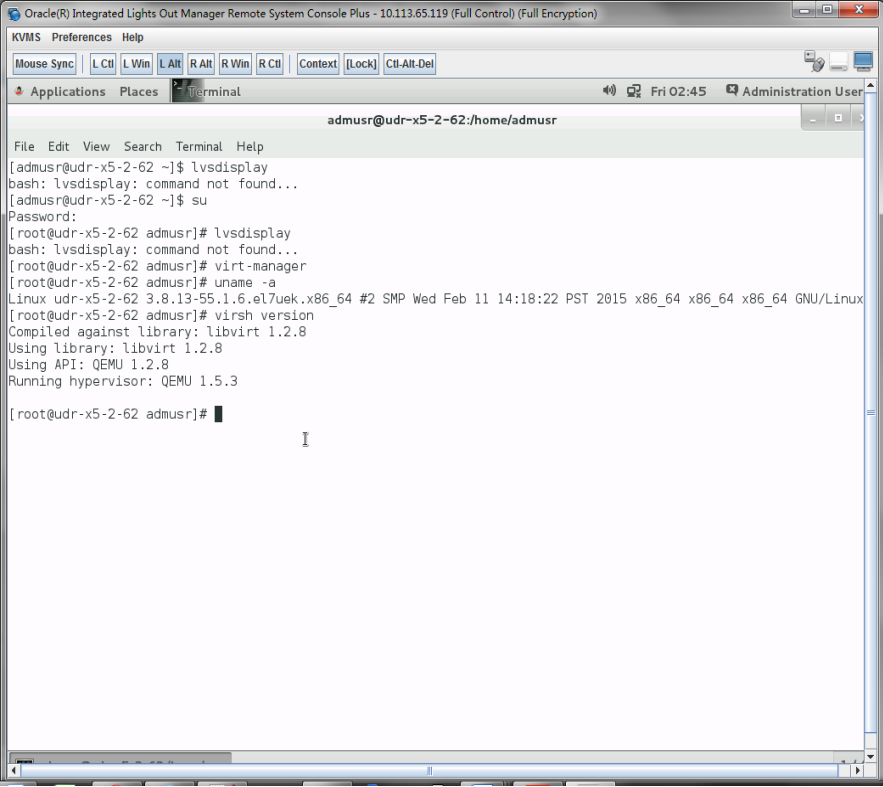
Step	Procedure	Details
7. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Setup installation destination</p>	<ol style="list-style-type: none"> 1. Navigate to SYSTEM → INSTALLATION DESTINATION menu. 2. Select sda and sdb to use. 3. Select Automatically configure partitioning. 4. Click Done.  <p>The screenshot shows the 'INSTALLATION DESTINATION' window in the anaconda installer. Under 'Local Standard Disks', two disks are selected: 'sda' (1116.66 GiB, 992.5 KiB free) and 'sdb' (743.2 GiB, 743.2 GiB free). Under 'Other Storage Options', the 'Automatically configure partitioning' radio button is selected. The status bar at the bottom indicates '2 disks selected; 1859.85 GB capacity; 743.2 GiB free'.</p>

Step	Procedure	Details
8. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS: Review configuration and start to install</p>	<p>Review all information before clicking Begin Installation. (You do not have to configure the network now, configuration is completed after the Oracle Linux OS is installed.)</p> 

Step	Procedure	Details
<p>9. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS: Create login credential</p>	<p>At the same time Oracle Linux installation software is laying down files into Oracle X5-2 local hard disk, you may configure root credential or any other login credentials per your needs:</p>  <p>The screenshot shows the 'ORACLE LINUX 7.1 INSTALLATION' configuration window. The 'USER SETTINGS' section is active, displaying 'ROOT PASSWORD' with the status 'Root password is set' and a 'USER CREATION' button indicating 'Administrator admusr will be created'. A progress bar at the bottom shows 'Starting package installation process'.</p>

Step	Procedure	Details
10. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Reboot host after installation completed</p>	<p>1. Wait for the installation to complete.</p>  <p>2. Click Reboot.</p>

Step	Procedure	Details
11. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Read and accept license agreement</p>	<p>After reboot is complete, the license agreement page opens.</p>  <p>Select I accept the license agreement and then click Finish Configuration.</p> <p>Later you are prompted for ULN setting, skip that step.</p>

Step	Procedure	Details
<p>12. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS: Verify kernel version and KVM version</p>	<p>Open SSH console window and check following:</p>  <pre> [admusr@udr-x5-2-62 ~]\$ lvsdisplay bash: lvsdisplay: command not found... [admusr@udr-x5-2-62 ~]\$ su Password: [root@udr-x5-2-62 admusr]# lvsdisplay bash: lvsdisplay: command not found... [root@udr-x5-2-62 admusr]# virt-manager [root@udr-x5-2-62 admusr]# uname -a Linux udr-x5-2-62 3.8.13-55.1.6.el7uek.x86_64 #2 SMP Wed Feb 11 14:18:22 PST 2015 x86_64 x86_64 x86_64 GNU/Linux [root@udr-x5-2-62 admusr]# virsh version Compiled against library: libvirt 1.2.8 Using library: libvirt 1.2.8 Using API: QEMU 1.2.8 Running hypervisor: QEMU 1.5.3 [root@udr-x5-2-62 admusr]# </pre>
<p>13. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS: Change network interface name pattern to ethx</p>	<ol style="list-style-type: none"> 1. Edit <code>/etc/default/grub</code> to append <code>net.ifnames=0</code> to <code>GRUB_CMDLINE_LINUX</code>: <pre>[root@udr-x5-2-62-ol7 admusr]#vim /etc/default/grub GRUB_TIMEOUT=5 GRUB_DISTRIBUTOR="\$(sed 's, release .*\$,,g' /etc/system-release)" GRUB_DEFAULT=saved GRUB_DISABLE_SUBMENU=true GRUB_TERMINAL_OUTPUT="console" GRUB_CMDLINE_LINUX="crashkernel=auto rd.lvm.lv=ol100/root rd.lvm.lv=ol100/swap rhgb quiet net.ifnames=0" GRUB_DISABLE_RECOVERY="true"</pre> 2. Recreate the grub2 config file with following command: <pre># grub2-mkconfig -o /boot/grub2/grub.cfg</pre> 3. Restart host using the <code>shutdown -r</code> command and verify that network interface are with ethx name pattern.

Step	Procedure	Details
14. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Create bond0 device</p>	<ol style="list-style-type: none"> 1. Create bond0 device configuration file: <pre># vim /etc/sysconfig/network-scripts/ifcfg-bond0 DEVICE=bond0 TYPE=Bonding BOND_INTERFACES=<nic1>,<nic2> ONBOOT=yes NM_CONTROLLED=no BOOTPROTO=none BONDING_OPTS="mode=active-backup primary=<nic1> miimon=100"</pre> 2. Save the file and exit. 3. Create eth0 device configuration file: <pre># vim /etc/sysconfig/network-scripts/ifcfg-<nic1> DEVICE=<nic1> TYPE=Ethernet ONBOOT=yes NM_CONTROLLED=no BOOTPROTO=none MASTER=bond0 SLAVE=yes</pre> 4. Save the file and exit. 5. Create eth1 device configuration file: <pre># vim /etc/sysconfig/network-scripts/ifcfg-<nic2> DEVICE=<nic2> TYPE=Ethernet ONBOOT=yes NM_CONTROLLED=no BOOTPROTO=none MASTER=bond0 SLAVE=yes</pre> 6. Save the file and exit. 7. Bring up devices into services: <pre># ifup <nic1> # ifup <nic2> # ifup bond0</pre>

Step	Procedure	Details
15. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS: Create IMI bridge</p>	<p>1. Create bond0.<imi_vlan> configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-bond0.<imi_vlan> DEVICE=bond0.<imi_vlan> TYPE=Ethernet BOOTPROTO=none ONBOOT=yes NM_CONTROLLED=no BRIDGE=imi VLAN=yes</pre> <p>2. Create imi device configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-imi DEVICE=imi TYPE=Bridge BOOTPROTO=none ONBOOT=yes NM_CONTROLLED=no BRIDGE_INTERFACES=bond0.<imi_vlan></pre> <p>3. Bring up devices into services:</p> <pre># ifup bond0.<imi_vlan> # ifup imi</pre>

Step	Procedure	Details
16. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS: Create XMI bridge</p>	<p>1. Create bond0.<xmi_vlan> configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-bond0.<xmi_vlan> DEVICE=bond0.<xmi_vlan> TYPE=Ethernet BOOTPROTO=none ONBOOT=yes NM_CONTROLLED=no BRIDGE=xmi VLAN=yes</pre> <p>2. Create xmi device configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-xmi: DEVICE=xmi TYPE=Bridge BOOTPROTO=none ONBOOT=yes NM_CONTROLLED=no IPADDR=<xmi_ip_addr> NETMASK=<xmi_netmask> NETWORK=<xmi_network> BRIDGE_INTERFACES=bond0.<xmi_vlan></pre> <p>3. Set default route for xmi network:</p> <pre># vim /etc/sysconfig/network-scripts/route-xmi default via <xmi_gateway> table main</pre> <p>4. Bring devices into services:</p> <pre># ifup bond0.<xmi_vlan> # ifup xmi</pre>

Step	Procedure	Details
17. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Create bond1 device</p>	<p>1. Create device bond1 configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-bond1 DEVICE=bond1 TYPE=Bonding BOND_INTERFACES=<nic3>,<nic4> ONBOOT=yes NM_CONTROLLED=no BOOTPROTO=none BONDING_OPTS="mode=active-backup primary=<nic3> miimon=100"</pre> <p>2. Create device eth4 configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-<nic3> DEVICE=<nic3> TYPE=Ethernet ONBOOT=yes NM_CONTROLLED=no BOOTPROTO=none MASTER=bond1 SLAVE=yes</pre> <p>3. Create device eth5 configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-<nic4> DEVICE=<nic4> TYPE=Ethernet ONBOOT=yes NM_CONTROLLED=no BOOTPROTO=none MASTER=bond1 SLAVE=yes</pre> <p>4. Bring up devices into services:</p> <pre># ifup <nic3> # ifup <nic4> # ifup bond1</pre>

Step	Procedure	Details
18. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS: Create xsi1/xsi2 bridge</p>	<p>1. Create device bond1.<xsi1_vlan> configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-bond1.<xsi1_vlan> BOOTPROTO=none VLAN=yes ONBOOT=yes TYPE=Ethernet DEVICE=bond1.<xsi1_vlan> BRIDGE=xsi1 NM_CONTROLLED=no</pre> <p>2. Create device xsi1 configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-xsi1 DEVICE=xsi1 TYPE=Bridge BOOTPROTO=none ONBOOT=yes NM_CONTROLLED=no BRIDGE_INTERFACES=bond1.<xsi1_vlan></pre> <p>3. Bring devices into services:</p> <pre># ifup xsi1 # ifup bond1.<xsi1_vlan></pre> <p>4. Perform these steps again to create network devices for xsi2.</p>
19. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS: Set host name</p>	<p>Rename host by modifying /etc/hostname file:</p> <pre>[root@localhost network-scripts]# cat /etc/hostname udr-x5-2-62-017</pre> <p>Review host name change with following command:</p> <pre>[root@localhost network-scripts]# hostnamectl status Static hostname: udr-x5-2-62-017 Icon name: computer-server Chassis: server Machine ID: 17980a78ef7d440ca5a6900768903795 Boot ID: a2a5a649eea14d8ab7534aec962c6782 Operating System: Oracle Linux Server 7.2 CPE OS Name: cpe:/o:oracle:linux:7:2:server Kernel: Linux 3.8.13-98.7.1.el7uek.x86_64 Architecture: x86-64</pre>

Step	Procedure	Details
20. <input type="checkbox"/>	For each Oracle X5-2 RMS: Set NTP service	<ol style="list-style-type: none"> 1. Modify the <code>/etc/chrony.conf</code> path. 2. Comment out all server * entries. 3. Append your NTP server IP to the list with the prepending text of server: <pre># Use public servers from the pool.ntp.org project. # Please consider joining the pool (http://www.pool.ntp.org/join.html). #server 0.rhel.pool.ntp.org iburst #server 1.rhel.pool.ntp.org iburst #server 2.rhel.pool.ntp.org iburst #server 3.rhel.pool.ntp.org iburst server 144.25.xxx.xxx</pre> 4. Force ntp to sync with the added server: <pre># ntpdate 144.25.xxx.xxx # timedatectl</pre> 5. Verify time synced: <pre>[root@udr-x5-2-62 log]# chronyc tracking Reference ID : 144.25.xxx.xxx (144.25.xxx.xxx) Stratum : 3 Ref time (UTC) : Mon Feb 29 06:06:44 2016 System time : 1.692247748 seconds slow of NTP time Last offset : -3.862722397 seconds RMS offset : 3.862722397 seconds Frequency : 0.000 ppm fast Residual freq : -93.109 ppm Skew : 1000000.000 ppm Root delay : 0.178002 seconds Root dispersion : 30.041723 seconds Update interval : 0.0 seconds Leap status : Normal</pre>
21. <input type="checkbox"/>	For each Oracle X5-2 RMS: Create <code>/home/ova</code> directory	<pre>[root@pc9112020 ~]# mkdir -p /home/ova [root@pc9112020 ~]# cd /home/ova</pre>
22. <input type="checkbox"/>	Transfer OVA file this dir using sftp tool	<pre>[root@pc12107008 ova]# ll total 12322888 -rw-r--r--. 1 root root 1047767040 May 2 00:51 UDR-12.2.0.1.0_15.12.1.ova</pre>
23. <input type="checkbox"/>	Untar this ova file	<pre>[root@pc9112020 ova]# tar xvf UDR-12.2.0.1.0_15.12.1.ova UDR-15_12_1.ovf UDR-15_12_1.mf UDR-15_12_1.vmdk</pre>

Step	Procedure	Details
24. <input type="checkbox"/>	Convert this vmdk file to qcow2 file	<pre>[root@pc9112020 ova]# qemu-img convert -O qcow2 DR-12.2.0.1.0_15.12.1.vmdk UDRNO-15_12_1.qcow2</pre>
25. <input type="checkbox"/>	Copy the qcow2 files for SO and MP	<pre>[root@pc9112020 ova]# cp UDRNO-15_12_1.qcow2 UDRSO-15_12_1.qcow2 [root@pc9112020 ova]# cp UDRNO-15_12_1.qcow2 UDRMP-15_12_1.qcow2</pre>
26. <input type="checkbox"/>	Configure storage for corresponding qcow2 files	<p>Configure storage qcow2 files for the corresponding VMs. See Appendix G to get the required storage.</p> <p>Run the following command for each VM to set the storage:</p> <pre>qemu-img resize <NO_qcow2_filename>.qcow2 <storage_in_gigabytes>G</pre> <p>Run the command for a VM if storage required is >60G. No need to run this command if the storage required is 60G.</p> <p>For example, if resource profile is 2K Sh and VM is NOAMP, the storage required is 220G. The command in that case is:</p> <pre>qemu-img resize UDRNO-15_12_1.qcow2 220G</pre>
27. <input type="checkbox"/>	Create Oracle Communications User Data Repository VMs. Repeat this step for each VM.	<p>Create Oracle Communications User Data Repository VMs: NO, SO and MP using Appendix M, Create and install Oracle Communications User Data Repository VM via KVM GUI. Repeat the procedure for each VM</p> <p>Mark the checkbox as the addition of each server is completed.</p> <p><input type="checkbox"/> NOAMP <input type="checkbox"/> SOAM <input type="checkbox"/> MP</p>
28. <input type="checkbox"/>	For each UDR VMs: Add the network device	<p>Login to each VM created and add the network devices:</p> <p>NO:</p> <pre># netAdm add -device=eth0 # netAdm add -device=eth1 # netAdm add -device=eth2</pre> <p>SO:</p> <pre># netAdm add -device=eth0 # netAdm add -device=eth1</pre> <p>MP:</p> <pre># netAdm add -device=eth0 # netAdm add -device=eth1 # netAdm add -device=eth2</pre> <p>NOTE: eth0 is XMI, eth1 is IMI, eth2 is XSI1 and eth3 is XSI2 (create eth3 if XSI2 is required).</p>
29. <input type="checkbox"/>	For each UDR VMs: Configure XMI network address	<p>Set XMI network address for each UDR VM:</p> <pre># netAdm set --device=eth0 --onboot=yes --netmask=<XMI_netmask> --address=<XMI_network_address> # netAdm add --device=eth0 --route=default --gateway=<XMI_gateway></pre>
30. <input type="checkbox"/>	For each UDR VMs: Configure NTP service	<p>Perform steps 5 and 6 in section L.6 Configure TVOE Server (Hostname, Time Zone, SNMP, NTP, and so on) of 1 to configure NTP service for each VM.</p>

Step	Procedure	Details
31. <input type="checkbox"/>	Extend VM Instance volume	Extend volumes for various VM Instances depending on flavor. See Appendix D.6: Extend VM Instance Volume Size for the procedure. Mark the checkbox as the addition of each server is completed. <input type="checkbox"/> NOAMP <input type="checkbox"/> SOAM <input type="checkbox"/> MP
THIS PROCEDURE IS COMPLETE		

APPENDIX K. MY ORACLE SUPPORT

My Oracle Support (<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 My Oracle Support registration.

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

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

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, and 365 days a year.

APPENDIX L. LOCATE PRODUCT DOCUMENTATION ON THE ORACLE HELP CENTER SITE

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

1. Access the Oracle Help Center site at <http://docs.oracle.com>
2. Click **Industries**.
3. Under the Oracle Communications subheading, click the **Oracle Communications documentation** link.

The Communications Documentation page opens. This product is listed in the Network Session Delivery and Control Infrastructure section.

4. Click your product and then the release number.

A list of the documentation set for the selected product and release displays.

5. To download a file to your location, right-click the **PDF** link, select **Save target as** (or similar command based on your browser), and save to a local folder.

APPENDIX M. CREATE AND INSTALL ORACLE COMMUNICATIONS USER DATA REPOSITORY VM VIA KVM GUI

IMPORTANT: The content of this appendix is for informational purposes only.

This procedure installs UDR VMs NO, SO and MP using KVM GUI.

NOTE:

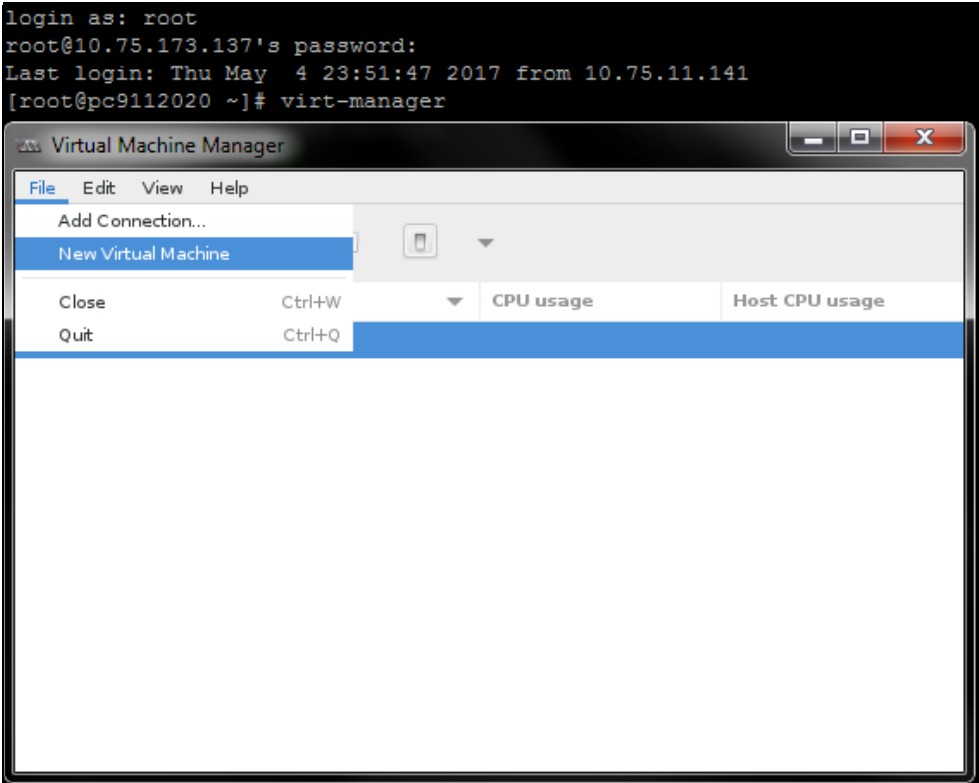
- This procedure must be done for each VM: NO, SO and MP

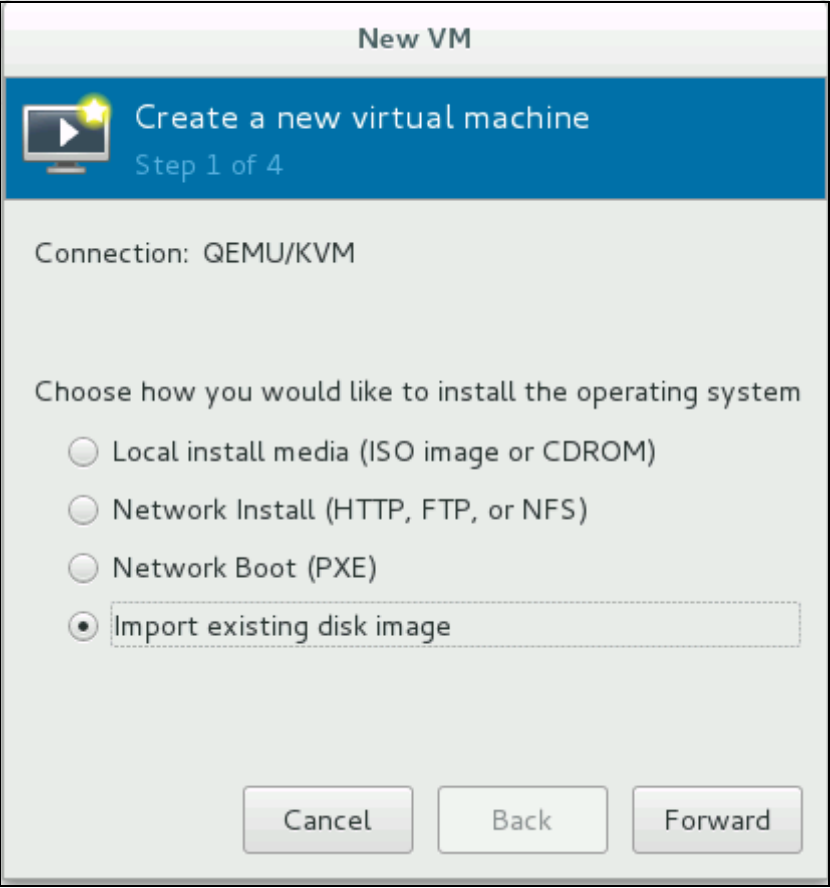
Requirements:

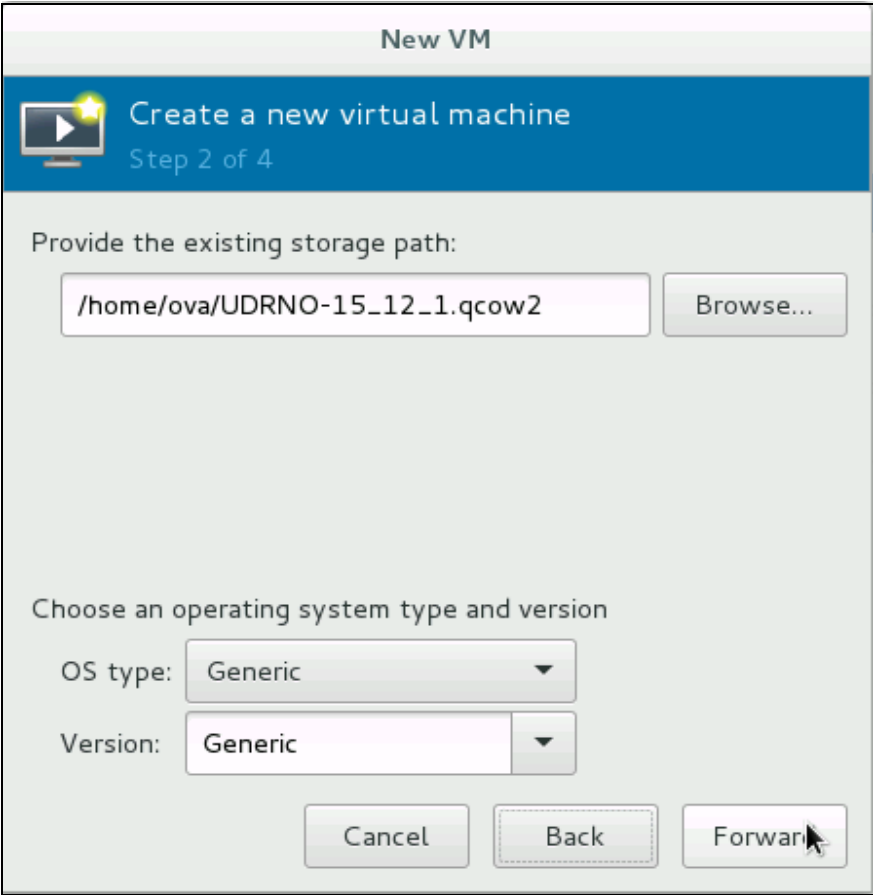
- [Appendix J Install UDR on Oracle Linux OS via KVM](#) steps: 1-25 must be complete.

Check (√) each step as it is completed. Boxes have been provided for this purpose.

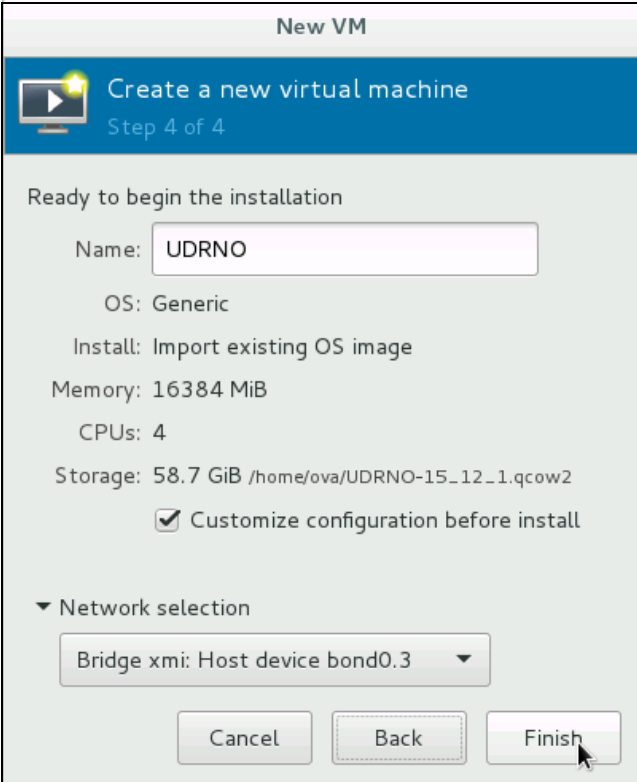
Procedure 42: Create and Install Oracle Communications User Data Repository VMs via KVM GUI

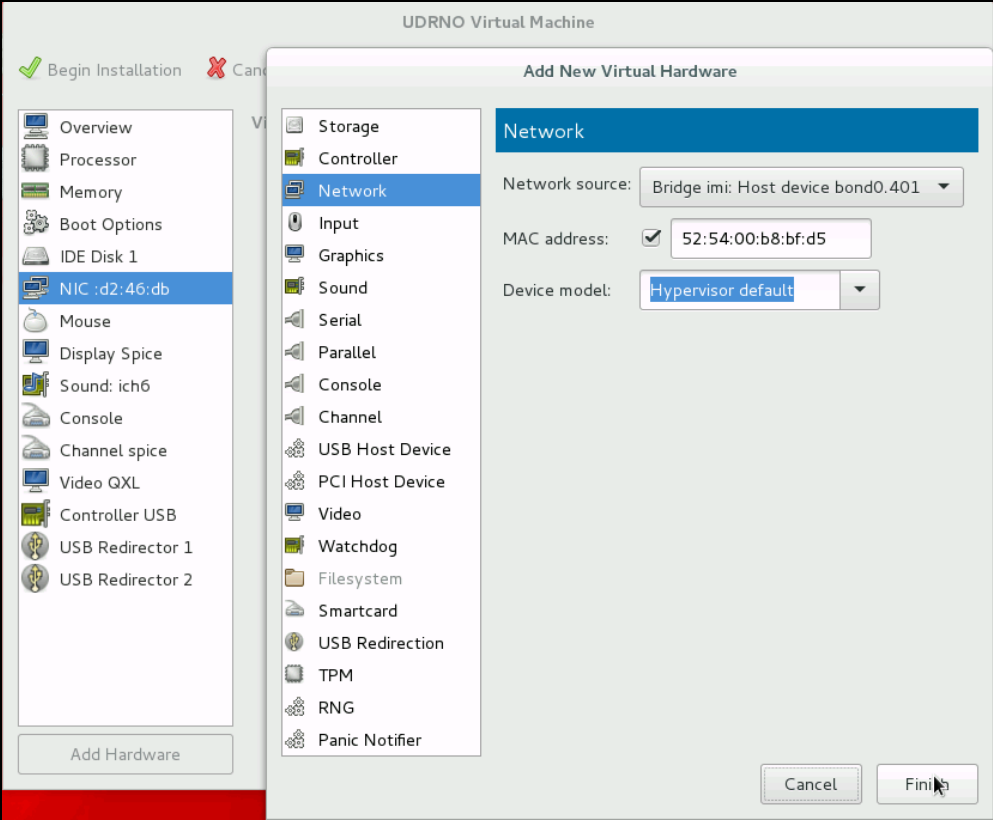
Step	Procedure	Details
1. <input type="checkbox"/>	Login to the host machine and open the Virtual Machine Manager	<p>Login to the host machine that Oracle Linux installed and open the Virtual Machine Manager using the command virt-manager.</p> <p>NOTE: Make sure X11 forwarding is enabled before running virt-manager command on CLI.</p>  <pre>login as: root root@10.75.173.137's password: Last login: Thu May 4 23:51:47 2017 from 10.75.11.141 [root@pc9112020 ~]# virt-manager</pre> <p>The screenshot shows the Virtual Machine Manager window with the 'File' menu open and 'New Virtual Machine' selected. Other visible options include 'Add Connection...', 'Close' (Ctrl+W), and 'Quit' (Ctrl+Q). The main area shows 'CPU usage' and 'Host CPU usage'.</p>

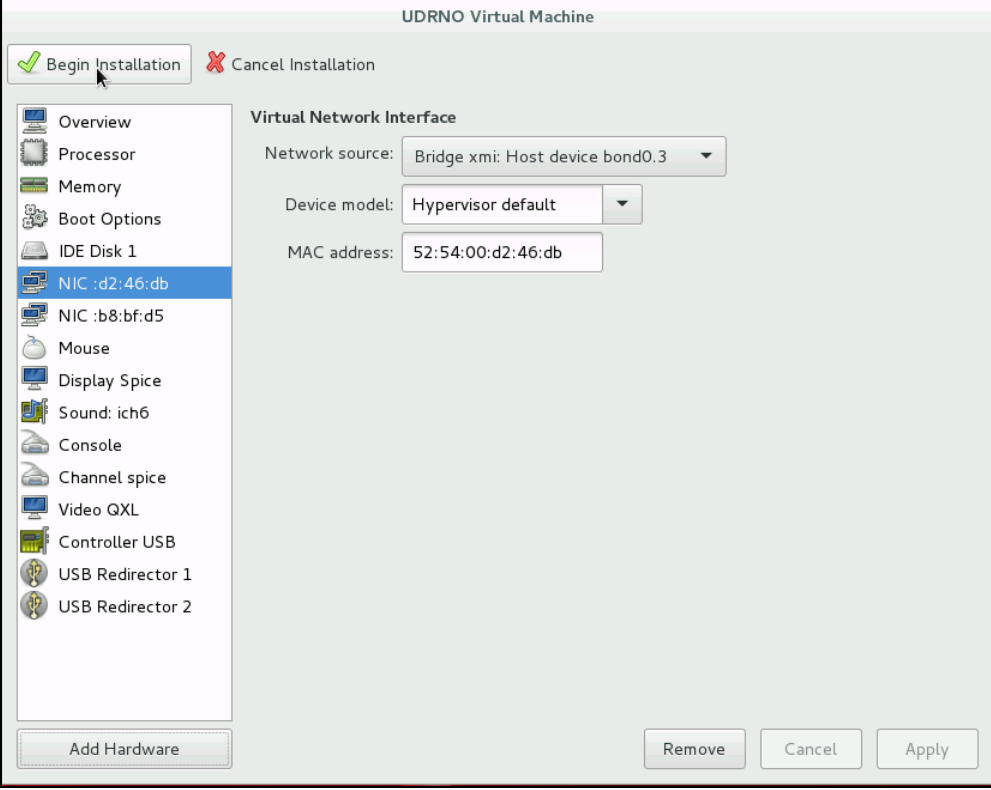
Step	Procedure	Details
2. <input type="checkbox"/>	Create a Virtual Machine using the Virtual Manager GUI	<p>On Virtual Manager GUI,</p> <ol style="list-style-type: none"> 1. Navigate to File → New Virtual Machine. 2. Select Import existing disk image. 

Step	Procedure	Details
3. <input type="checkbox"/>	Select the image file	<p>Select the qcow2 from the <code>/home/ova</code> directory (as done in steps 24 to 25 in Appendix J) by browsing to the location.</p> <p>Click Forward.</p> 

Step	Procedure	Details
4. <input type="checkbox"/>	Select RAM and vCPUs for VM	<p>1. For each VM, select the RAM and vCPUs according to the required resource profile. Refer to Appendix G.</p> <p>2. Click Forward.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">New VM</p> <div style="background-color: #0070C0; color: white; padding: 5px; display: flex; align-items: center;"> Create a new virtual machine </div> <p style="color: #0070C0; font-size: 0.9em;">Step 3 of 4</p> <p style="margin-top: 10px;">Choose Memory and CPU settings</p> <p>Memory (RAM): <input style="width: 80px; text-align: center;" type="text" value="16384"/> - + MiB</p> <p style="font-size: 0.8em; color: #666;">Up to 257557 MiB available on the host</p> <p>CPU: <input style="width: 80px; text-align: center;" type="text" value="4"/> - +</p> <p style="font-size: 0.8em; color: #666;">Up to 72 available</p> <div style="display: flex; justify-content: flex-end; gap: 10px; margin-top: 10px;"> Cancel Back Forward </div> </div>

Step	Procedure	Details
5. <input type="checkbox"/>	Verify and customize VM	<p>1. Update the VM name and select Customize configuration before install.</p> <p>2. In the Network selection list, select XMI bridge</p> <p>3. Click Finish.</p>  <p>The screenshot shows the 'New VM' dialog box with the following configuration:</p> <ul style="list-style-type: none"> Title: Create a new virtual machine (Step 4 of 4) Status: Ready to begin the installation Name: UDRNO OS: Generic Install: Import existing OS image Memory: 16384 MiB CPUs: 4 Storage: 58.7 GiB /home/ova/UDRNO-15_12_1.qcow2 <input checked="" type="checkbox"/> Customize configuration before install Network selection: Bridge xmi: Host device bond0.3 Buttons: Cancel, Back, Finish

Step	Procedure	Details
6. <input type="checkbox"/>	Customize the network configuration	<p>1. On the next screen, click Add Hardware.</p> <p>The Add New Virtual Hardware window displays.</p> <p>2. Under Network, choose the IMI bridge.</p> <ul style="list-style-type: none"> - For NO and SO, choose IMI bridge only. (add XSI also if required for NOAMP) - For MP, add XSI1 along with IMI by repeating this step. <p>3. Click Finish.</p> 

Step	Procedure	Details
7. <input type="checkbox"/>	Verify and begin installation	<p>After adding all bridges, verify and begin the VM installation:</p> 
THIS PROCEDURE IS COMPLETE		