

Oracle® Communications
User Data Repository

Cloud Installation and Configuration Guide

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1.0 INTRODUCTION

1.1 Purpose and Scope

This document describes the application-related installation procedures for an VMware User Data Repository 15.0.0.0.0 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

1.2.1 External

- [1] *Oracle Communications User Data Repository Installation and Configuration Guide*, F56659-01, latest revision
- [2] *Oracle Communications User Data Repository Cloud Disaster Recovery Guide*, F87585-01, 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 (e.g. 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 may be involved with the procedures in this manual. Therefore, most steps in the written procedures begin with the name or type of server to which the step applies.

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.

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

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

<p>Site</p>	<p>Applicable for various applications, a Site is type of “Place”. A Place is configured object that allows servers to be associated with a physical location.</p> <p>A Site place allows servers to be associated with a physical site. For example, Sites may be configured for Atlanta, Charlotte, and Chicago. Every server is associated with exactly one Site when the server is configured.</p> <p>For the Policy & Charging DRA application, when configuring a Site only put DA-MPs and SBR MP servers in the site. Do not add NOAMP, SOAM or IPFE MPs to a Site</p>
<p>Place Association</p>	<p>Applicable for various applications, a “Place Association” is a configured object that allows Places to be grouped together. A Place can be a member of more than one Place Association.</p> <p>The Policy & Charging DRA application defines two Place Association Types: Policy Binding Region and Policy & Charging Mated Sites.</p>
<p>Two Site Redundancy</p>	<p>Two Site Redundancy is a data durability configuration in which Policy and Charging data is unaffected by the loss of one site in a Policy & Charging Mated Sites Place Association containing two sites.</p> <p>Two Site Redundancy is a feature provided by Server Group configuration. This feature provides geographic redundancy. Some Server Groups can be configured with servers located in two geographically separate Sites(locations). This feature will ensure that there is always a functioning Active server in a Server Group even if all the servers in a single site fail.</p>
<p>Server Group Primary Site</p>	<p>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).</p> <p>The Primary Site may be in a different Site (Place) for each configured SOAM.</p> <p>A Primary Site is described as the location in which the Active and Standby servers to reside, however there cannot be any Preferred Spare servers within this location. All SOAM Server Groups will have a Primary Site.</p>
<p>Server Group Secondary Site</p>	<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:

- The user has taken assigned values from the Customer network and used them to compile XML files (see Appendix C for each NOAMP and SOAM site's NE prior to attempting to execute this procedure).
- The user has 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 each of the NOAMP and SOAM site's NE must be maintained and accessible for use in Disaster Recovery procedures. The Professional Services Engineer (PSE) will provide 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 (MOS) 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 ensure that the user understands the author's intent. These points are as follows;

- 1) Before beginning a procedure, completely read the instructional text (it will appear immediately after the Section heading for each procedure) and all associated procedural WARNINGS or NOTES.
- 2) Before execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS or NOTES.

If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support MOS for assistance before attempting to continue.

2.0 GENERAL DESCRIPTION

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

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

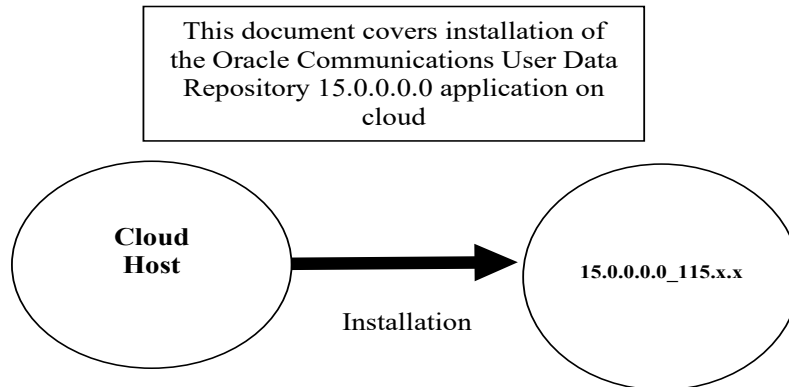


Figure 2. Initial Application Installation Path – Example shown

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 with estimated times. Section 2.4 discusses the overall install strategy and includes an installation flow chart that can be used to determine exactly which procedures should be run for an installation. Section 3.2.3 lists the steps required to install a 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 should be decided upon before installation proceeds. This section provides recommendations for these decisions.

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

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

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 will 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

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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 will be seen at the SOAM AND/OR NOAM as alarms **AND** they will be viewable at the configured NMS(s) as traps.

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

2.4 Installation List of Procedures

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

Table 2. Installation Overview

Procedure	Phase	Elapsed Time (Minutes)	
		This Step	Cum.
Procedure 1	Verify Deployment Options and Cloud Resources	5	5
Procedure 2	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 (1 st NOAMP only)	25	50
Procedure 6	Create Configuration for Remaining Servers	15	65
Procedure 7	Apply Configuration To Remaining Servers	15	80
Procedure 8	Configure XSI Networks (All SOAM Sites)	10	90
Procedure 9	OAM Pairing for Primary NOAMP Servers (1 st 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
Procedure 12	Configure Signaling Routes	5	125
Procedure 13	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
Procedure 16	Accept Installation	5	155

3.0 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	Result
1. <input type="checkbox"/>	Decide which profile to deploy	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. <ul style="list-style-type: none"> • For demo purposes a 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	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 1. 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.
THIS PROCEDURE HAS BEEN COMPLETED		

4.0 CLOUD CREATION

4.1 Deploy Oracle Communications User Data Repository Virtual Machines on VMware

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

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

Step	Procedure	Result
1. <input type="checkbox"/>	Ready Installation media	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	If using vCloud Director, follow: <ul style="list-style-type: none"> • Appendix C-2: Create vApp If using vSphere client proceed to the next step.
3. <input type="checkbox"/>	Create Oracle Communications User Data Repository guests	If using vSphere client, follow: <ul style="list-style-type: none"> • Appendix B-1: Create Guests from OVA If using vCloud Director, follow: <ul style="list-style-type: none"> • Appendix C-5 Create Guests from ISO for large database NOAMP or • Appendix C-3 Create Guests from OVA for all other server types “Check off” the associated Check Box as addition is completed for each Server. <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
4. <input type="checkbox"/>	Configure guest resources <i>Only OVA installs</i>	If using vSphere client to install by OVA, follow: <ul style="list-style-type: none"> • Appendix B-2: Configure Guest Resources If using vCloud Director to install by OVA, follow: <ul style="list-style-type: none"> • Appendix C-4: Configure Guest Resources If installing by ISO proceed to the next step. “Check off” the associated Check Box as addition is completed for each Server. <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
5. <input type="checkbox"/>	Install guest OS <i>Only ISO installs</i>	Only for ISO installs using vCloud Director, follow Appendix C-6: Install Guests from ISO “Check off” the associated Check Box as addition is completed for each Server. <input type="checkbox"/> NOAMP-A <input type="checkbox"/> NOAMP-B

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

Step	Procedure	Result
6. <input type="checkbox"/>	Configure guest OAM network	<p>If using vSphere client, follow:</p> <ul style="list-style-type: none"> • Appendix B-3: Configure Guest Network: Create Guests from OVA <p>If using vCloud Director, follow:</p> <ul style="list-style-type: none"> • Appendix C-7: Configure Guests Network <p>“Check off” the associated Check Box as addition is completed for each 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-2 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4</p>
THIS PROCEDURE HAS BEEN COMPLETED		

4.2 Deploy Oracle User Data Repository Virtual Machines on OpenStack

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

Requirements:

- **Section 3.1 Verify Deployment Options and Cloud Resources** has been completed

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

Procedure 3: Deploy User Data Repository Virtual Machines on OpenStack

Step	Procedure	Result
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 following: Appendix D-2: Create Resource Profiles (Flavors)
3. <input type="checkbox"/>	Create Key Pair	Create Key Pair on OpenStack following: Appendix D-3: Create Key Pair
4. <input type="checkbox"/>	Update the Yaml File	Update the UDR Stack Yaml file following: Appendix D-4: Update UDR Stack Yaml File
5. <input type="checkbox"/>	Create VM Instances	On OpenStack, please follow this to create vm instances: Appendix D-5: Create VM Instances Using Yaml File

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Step	Procedure	Result
6. <input type="checkbox"/>	Configure guest OAM network	Follow this step to configure OAM network for vm instances: Appendix D-7: VM Instance Network Configuration “Check off” the associated Check Box as addition is completed for each Server. <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
7. <input type="checkbox"/>	Extend Volumes	Extend volumes for various VM Instances depending on flavor following: Appendix D-6: Extend VM Instance Volume Size “Check off” the associated Check Box as addition is completed for each Server. <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
8. <input type="checkbox"/>	Clobber database on VM Instances	Clobber database on VM Instances following: Appendix D-11: Clobber the database on VM Instance “Check off” the associated Check Box as addition is completed for each Server. <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
9. <input type="checkbox"/>	Associate Floating IP	Associate Floating IPs to the VM Instances if Floating IPs are available in cloud following: Appendix D-12: Associating Floating IPs “Check off” the associated Check Box as addition is completed for each Server. <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 NOTE: This step is only needed if none of the networks assigned to VM Instances is a Public Network.
10. <input type="checkbox"/>	Create Virtual IPs	Assigning floating IP address to VIP: Appendix D-8: Virtual IP Address Assignment NOTE: This step is only needed if none of the networks assigned to VM Instances is a Public Network.
THIS PROCEDURE HAS BEEN COMPLETED		

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

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

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

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

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

5.0 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:

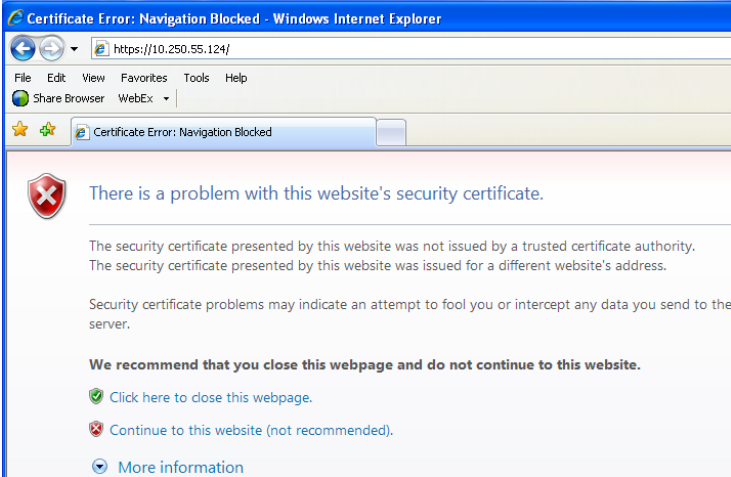

- **Section 4.0 Cloud Creation** has been completed

Assumptions:

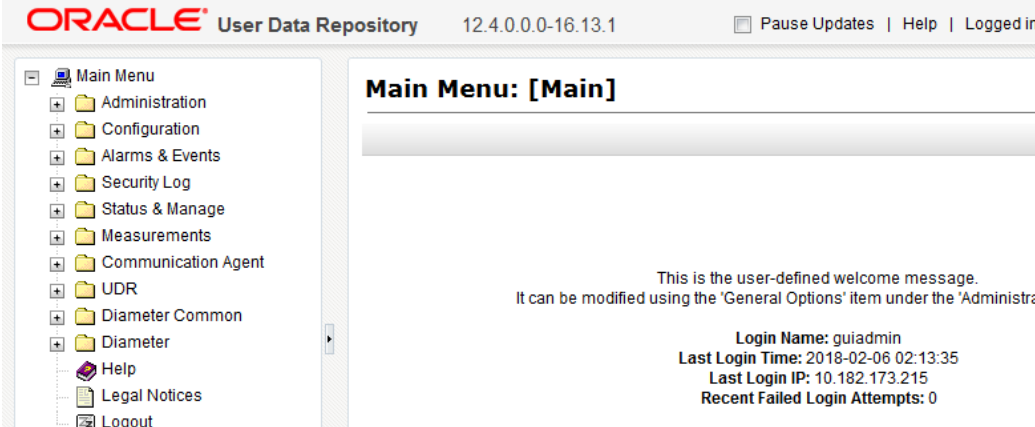
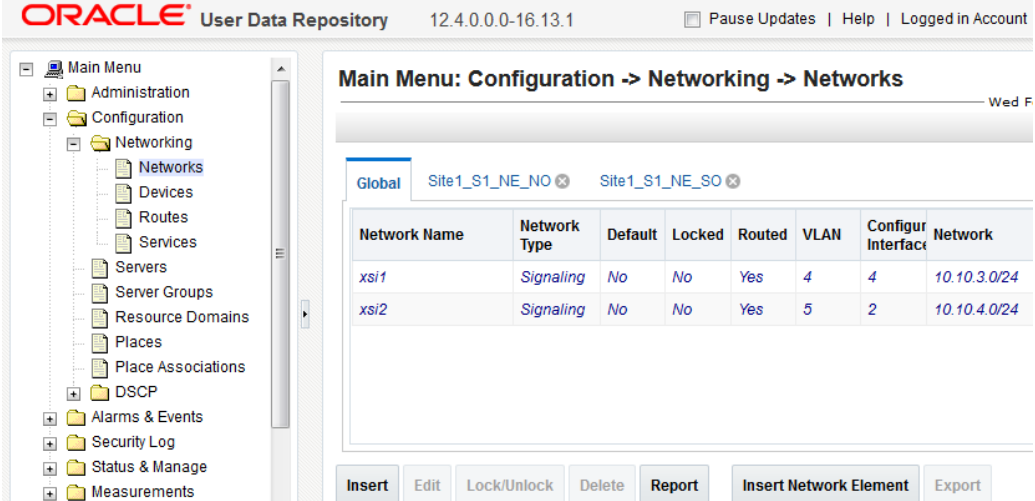
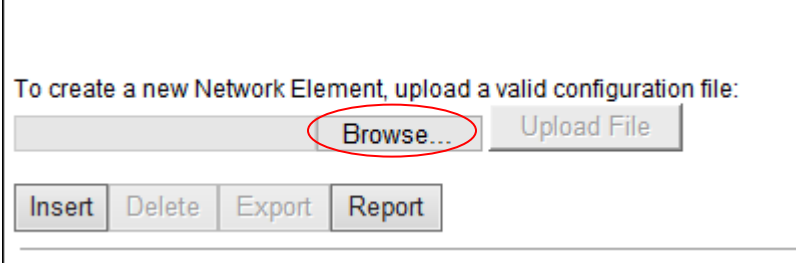
- This procedure assumes that the Oracle Communications User Data Repository Network Element XML file for the Primary Provisioning NOAMP site has previously been created, as described in Appendix E.
- This procedure assumes that the Network Element XML files are either on a USB flash drive or the laptop’s hard drive. 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 off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

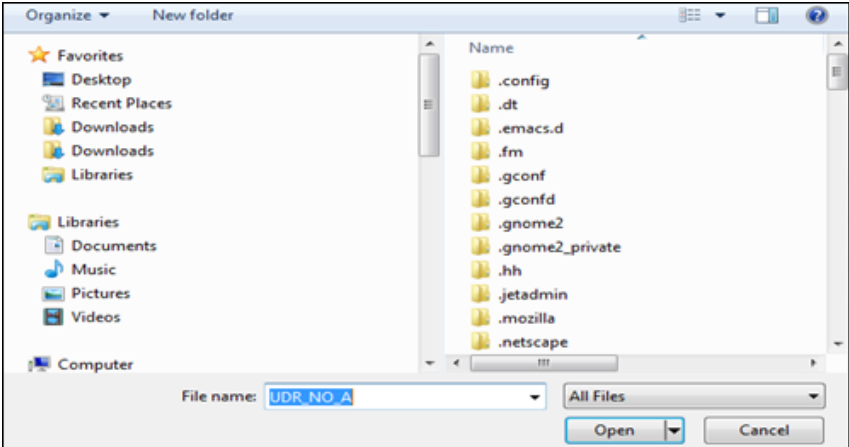
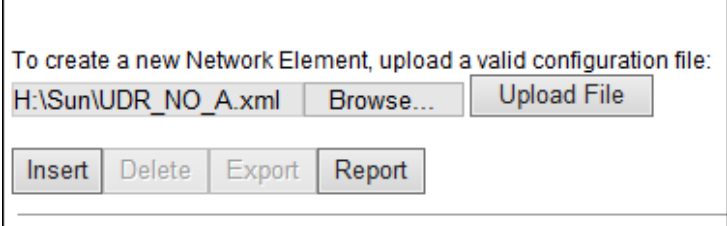
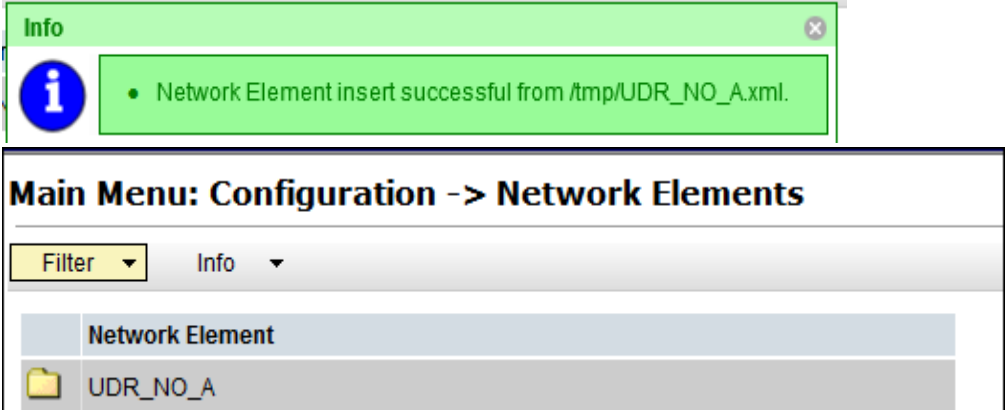
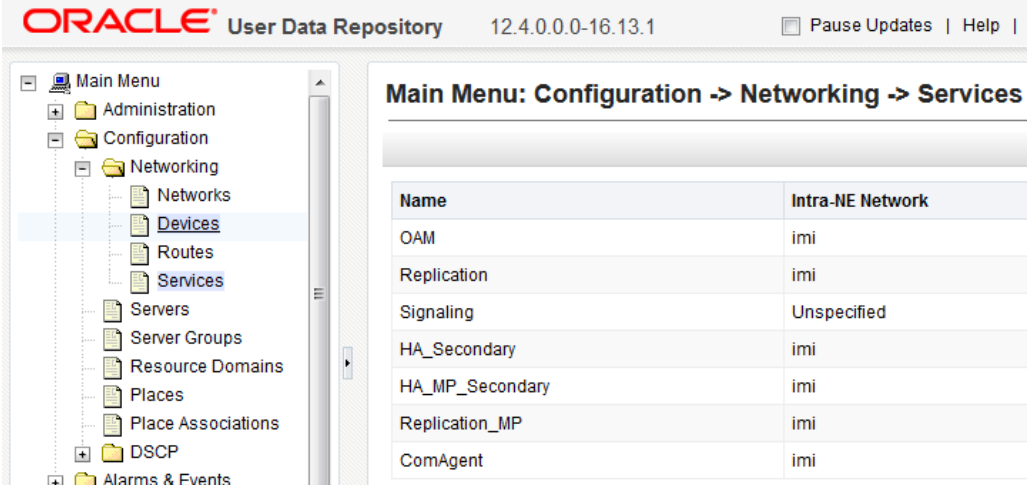
Procedure 5: Configure NOAMP-A Server (1st NOAMP only)

Step	Procedure	Result
<p>1.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: If presented with the “security certificate” warning screen shown to the right, choose the following option: “Continue to this website (not recommended)”.</p>	
<p>2.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

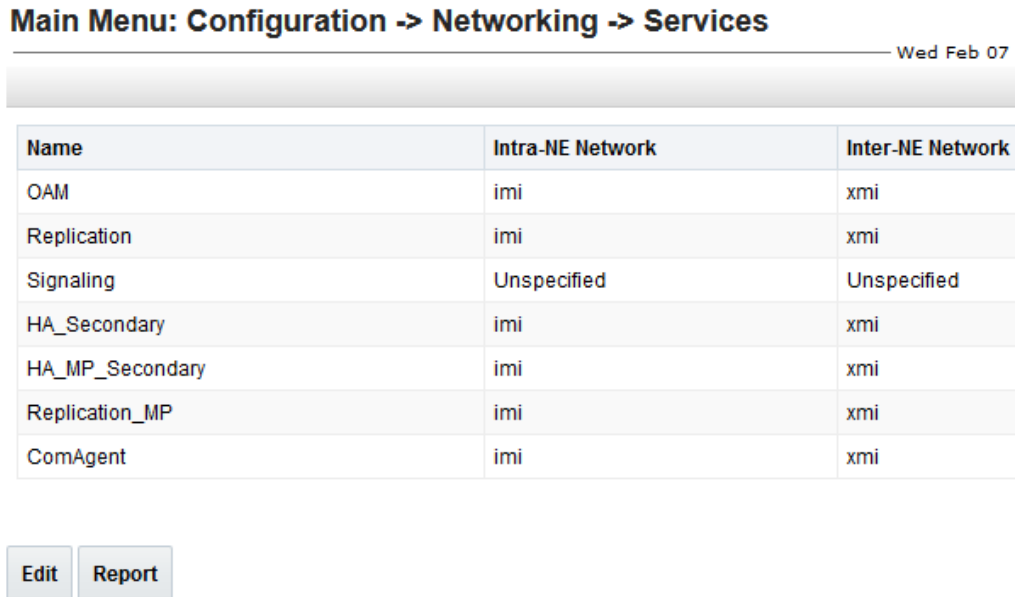
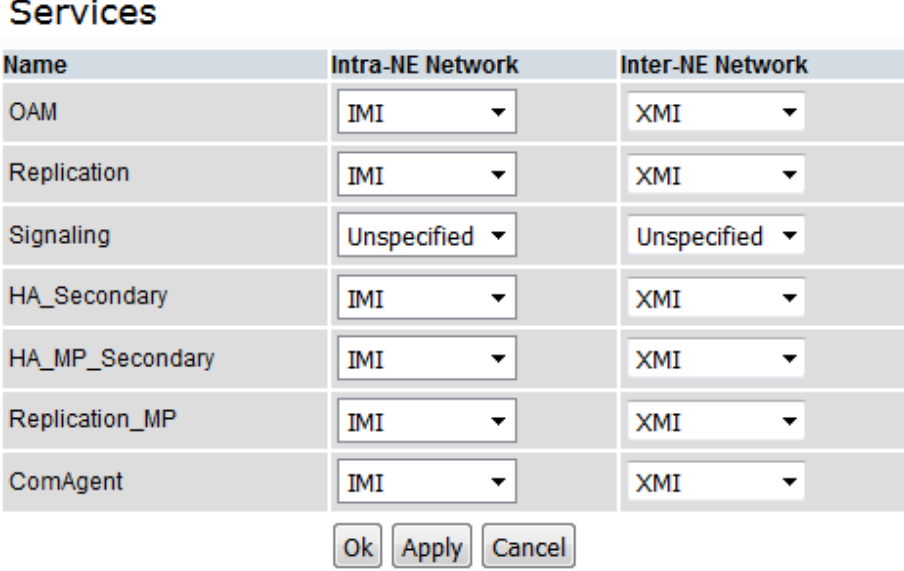
Procedure 5: Configure NOAMP-A Server (1st NOAMP only)

Step	Procedure	Result
3.	<p>NOAMP Server A: The user should be presented the Oracle Communications User Data Repository Main Menu as shown on the right.</p>	
4.	<p>NOAMP Server A: <i>Configuring Network Element</i></p> <p>Select...</p> <p>Main Menu → Configuration → Networking → Networks</p> <p>...as shown on the right.</p>	
5.	<p>NOAMP Server A: From the Configuration / Networking / Networks screen...</p> <p>Select the “Browse” dialogue button (scroll to bottom left corner of screen).</p>	

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

Step	Procedure	Result																
<p>6.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p>Note: This step assumes that the .xml files were previously prepared, as described in Appendix C.</p> <p>1) Select the location containing the site .xml file.</p> <p>2) Select the .xml file and click the “Open” dialogue button.</p>																	
<p>7.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p>Select the “Upload File” dialogue button (bottom left corner of screen).</p>																	
<p>8.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p>If the values in the .xml file pass validation rules, the user receives a banner information message showing 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>9.</p> <p><input type="checkbox"/></p>	<p>Select...</p> <p>Main Menu → Configuration → Networking → Services</p> <p>...as shown on the right.</p>	 <table border="1"> <thead> <tr> <th>Name</th> <th>Intra-NE Network</th> </tr> </thead> <tbody> <tr> <td>OAM</td> <td>imi</td> </tr> <tr> <td>Replication</td> <td>imi</td> </tr> <tr> <td>Signaling</td> <td>Unspecified</td> </tr> <tr> <td>HA_Secondary</td> <td>imi</td> </tr> <tr> <td>HA_MP_Secondary</td> <td>imi</td> </tr> <tr> <td>Replication_MP</td> <td>imi</td> </tr> <tr> <td>ComAgent</td> <td>imi</td> </tr> </tbody> </table>	Name	Intra-NE Network	OAM	imi	Replication	imi	Signaling	Unspecified	HA_Secondary	imi	HA_MP_Secondary	imi	Replication_MP	imi	ComAgent	imi
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Procedure 5: Configure NOAMP-A Server (1st NOAMP only)

Step	Procedure	Result																								
<p>10.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p>Select the “Edit” dialogue button.</p>	 <p>Main Menu: Configuration -> Networking -> Services Wed Feb 07</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><input type="button" value="Edit"/> <input type="button" value="Report"/></p>	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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<p>11.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p>1) Set the services values as shown on the right (see Note section).</p> <p>2) Select the “Apply” dialogue button.</p> <p>3) Select the “OK” dialogue button in the popup window.</p>	 <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><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></p> <p>Note: Servers do not need to be restarted if this is a fresh installation.</p> <p>Note: ComAgent Service is used for NOAMP ↔ MP and MP ↔ MP communication.</p>	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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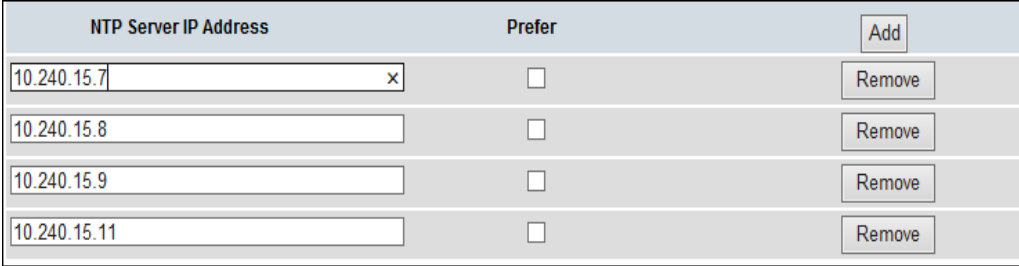
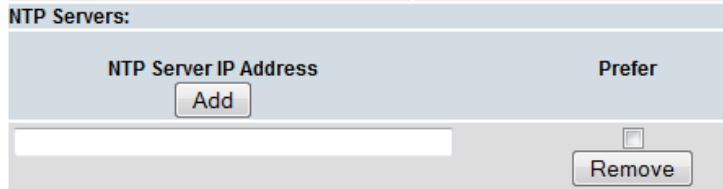
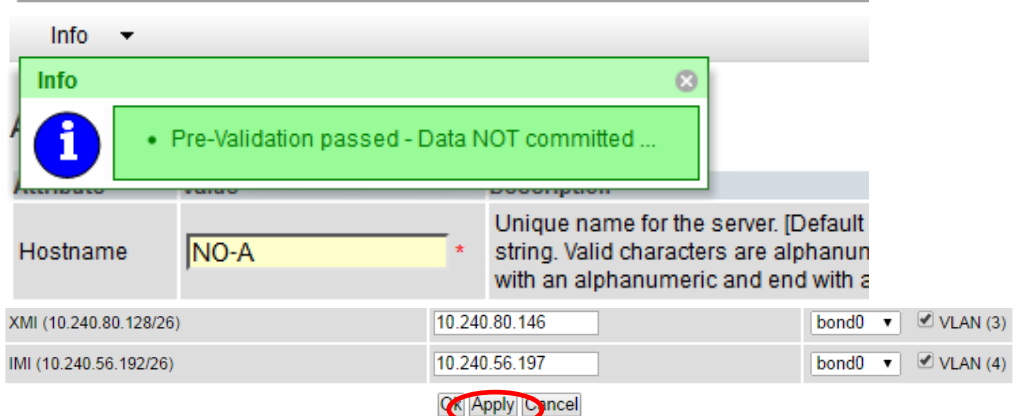
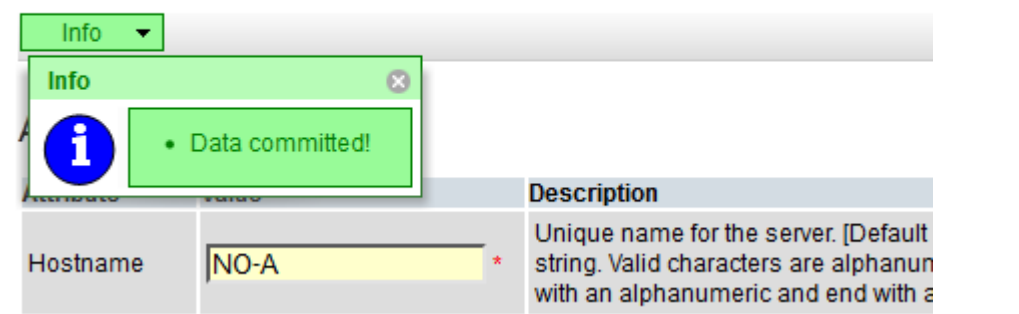
Procedure 5: Configure NOAMP-A Server (1st NOAMP only)

Step	Procedure	Result																								
12.	<p>NOAMP Server A: The user will be presented with the “Services” configuration screen</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.	<p>NOAMP Server A: <i>Configuring Oracle Communications User Data Repository Server</i> Select... Main Menu → Configuration → Servers ...as shown on the right.</p>																									
14.	<p>NOAMP Server A: Select the “Insert” dialogue button.</p>																									
15.	<p>NOAMP Server A: The user is now presented with the “Adding a new server” configuration screen.</p>	<p>Main Menu: Configuration -> Servers [Insert]</p> <p>Adding a new server</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td><input type="text"/></td> <td>Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]</td> </tr> <tr> <td>Role</td> <td>- Select Role -</td> <td>Select the function of the server</td> </tr> <tr> <td>System ID</td> <td><input type="text"/></td> <td>System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]</td> </tr> <tr> <td>Hardware Profile</td> <td>BL460 HP c-Class Blade</td> <td>Hardware profile of the server</td> </tr> <tr> <td>Network Element Name</td> <td>- Unassigned -</td> <td>Select the network element</td> </tr> <tr> <td>Location</td> <td><input type="text"/></td> <td>Location description [Default = ""]. Range = A 15-character string. Valid value is any text string.]</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p>	Attribute	Value	Description	Hostname	<input type="text"/>	Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]	Role	- Select Role -	Select the function of the server	System ID	<input type="text"/>	System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]	Hardware Profile	BL460 HP c-Class Blade	Hardware profile of the server	Network Element Name	- Unassigned -	Select the network element	Location	<input type="text"/>	Location description [Default = ""]. Range = A 15-character string. Valid value is any text string.]			
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16.	<p>NOAMP Server A: Input the assigned “hostname” for the NOAMP-A Server.</p>	<table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>NO-A</td> <td>Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]</td> </tr> </tbody> </table>	Attribute	Value	Description	Hostname	NO-A	Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]																		
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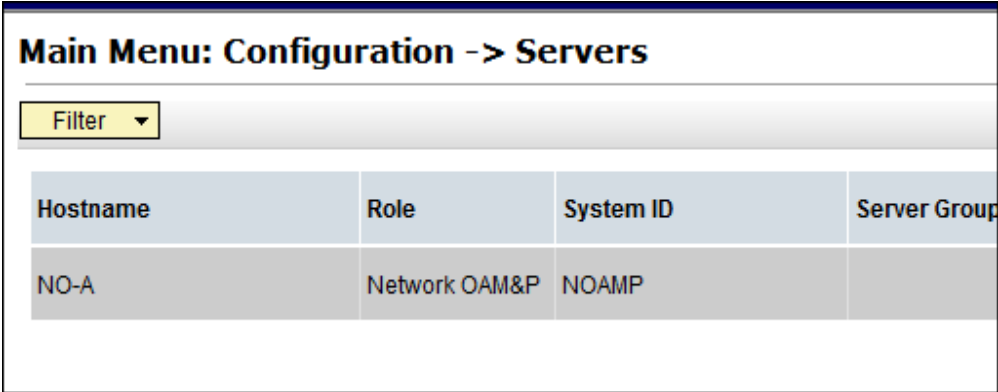
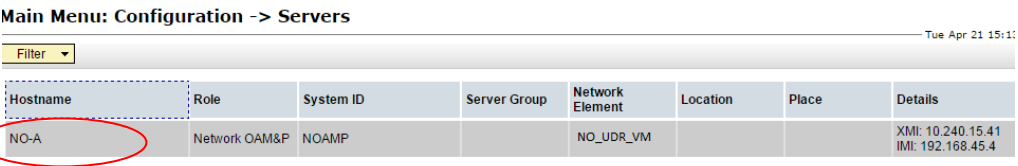
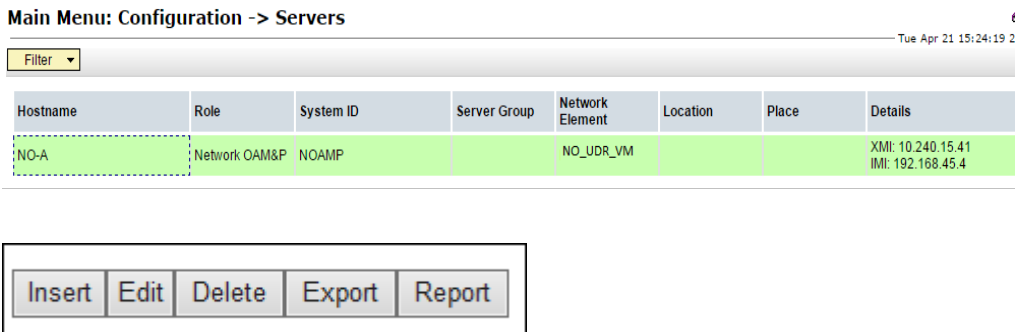
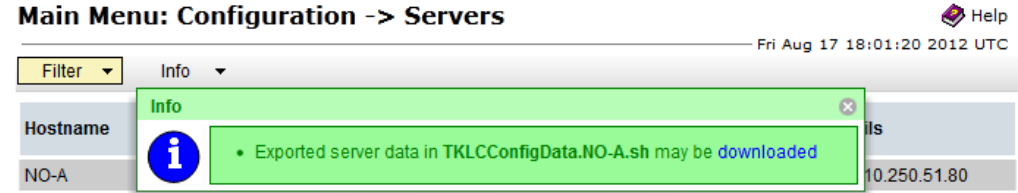
Procedure 5: Configure NOAMP-A Server (1st NOAMP only)

Step	Procedure	Result												
17.	<p>NOAMP Server A: Select “NETWORK OAM&P” for the server “Role” from the pull-down menu.</p>	<p>Role: - Select Role - * Hardware Profile: - Select Role - Network Element Name: SYSTEM OAM MP, QUERY SERVER Location: [Text Field]</p> <p>Select the function of the server Hardware profile of the server Select the network element Location description [Default = "", Range = A 15-character string. Valid value is any text string.]</p>												
18.	<p>NOAMP Server A: Input the “System ID” for the NOAMP Server.</p>	<p>System ID: NOAMP</p> <p>System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]</p>												
19.	<p>NOAMP Server A: Select the correct Hardware Profile from the pull-down menu.</p>	<p>Select Hardware Profile: Cloud UDR NOAMP</p> <p>Hardware Profile: Cloud UDR NOAMP</p>												
20.	<p>NOAMP Server A: Select the Network Element Name from the pull-down menu.</p> <p>NOTE: After the Network Element Name is selected, the Interfaces fields will be displayed.</p>	<p>Network Element Name: NO_UDR_VM *</p> <p>Select the network element</p>												
21.	<p>NOAMP Server A: Enter the site location.</p> <p>NOTE: Location is an optional field.</p>	<p>Location: Morrisville_NC</p> <p>Location description [Default = "", Range = A 15-character string. Valid value is any text string.]</p>												
22.	<p>NOAMP Server A:</p> <p>1) Enter the IP Addresses for the Server.</p> <p>2) Set the Interface parameters according to to deployment type.</p>	<table border="1"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>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> <p>Enter the IP Addresses for XMI and IMI networks.</p> <p>Set the Interface device for XMI and IMI networks according to this VM guest’s network adapter assignment as viewable in Appendix B-3 Step 3 or Appendix C-7 Step 5.</p> <p>Leave the VLAN boxes unchecked.</p>	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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Procedure 5: Configure NOAMP-A Server (1st NOAMP only)

Step	Procedure	Result
<p>23.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Click the “Add” button under NTP Servers and add the address of the customer supplied NTP server.</p>	 <p>The screenshot shows a table with columns 'NTP Server IP Address' and 'Prefer'. There are four rows of IP addresses: 10.240.15.7, 10.240.15.8, 10.240.15.9, and 10.240.15.11. Each row has a 'Prefer' checkbox and a 'Remove' button. An 'Add' button is located at the top right of the table.</p> <p>Set one ore more NTP Server IP Address(es) to customer supplied NTP server(s). It is recommended to have minimum of 3 and up to 4 external NTP servers for reliable functioning of NTP service.</p>  <p>The screenshot shows a form titled 'NTP Servers:'. It has a table with columns 'NTP Server IP Address' and 'Prefer'. There is an 'Add' button below the table and a 'Remove' button at the bottom right.</p>
<p>24.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>Click the “Apply” dialogue button.</p>	<p>Main Menu: Configuration -> Servers [Insert]</p>  <p>The screenshot shows the 'Servers [Insert]' configuration page. A green information banner is displayed at the top, stating 'Pre-Validation passed - Data NOT committed ...'. Below the banner, the 'Hostname' field is set to 'NO-A'. The 'Apply' button is circled in red.</p>
<p>25.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: If the values provided match the network ranges assigned to the NOAMP NE, the user will receive a banner information message showing that the data has been validated and committed to the DB.</p>	<p>Main Menu: Configuration -> Servers [Insert]</p>  <p>The screenshot shows the 'Servers [Insert]' configuration page. A green information banner is displayed at the top, stating 'Data committed!'. Below the banner, the 'Hostname' field is set to 'NO-A'.</p>


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

Step	Procedure	Result																
26.	<p>NOAMP Server A:</p> <p>Applying the Server Configuration File</p> <p>Select...</p> <p>Main Menu → Configuration → Servers</p> <p>...as shown on the right.</p>	 <p>Main Menu: Configuration -> Servers</p> <p>Filter</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> </tr> </tbody> </table>	Hostname	Role	System ID	Server Group	NO-A	Network OAM&P	NOAMP									
Hostname	Role	System ID	Server Group															
NO-A	Network OAM&P	NOAMP																
27.	<p>NOAMP Server A:</p> <p>The “Configuration → Servers” screen should now show the newly added Server in the list.</p>	 <p>Main Menu: Configuration -> Servers</p> <p>Filter</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>NO_UDR_VM</td> <td></td> <td></td> <td>XML: 10.240.15.41 IMI: 192.168.45.4</td> </tr> </tbody> </table>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details	NO-A	Network OAM&P	NOAMP		NO_UDR_VM			XML: 10.240.15.41 IMI: 192.168.45.4
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NO-A	Network OAM&P	NOAMP		NO_UDR_VM			XML: 10.240.15.41 IMI: 192.168.45.4											
28.	<p>NOAMP Server A:</p> <p>1) Use the cursor to select the Server just inserted.</p> <p>The row containing the desired Server should now be highlighted in GREEN.</p> <p>2) Select the “Export” dialogue button.</p>	 <p>Main Menu: Configuration -> Servers</p> <p>Filter</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>NO_UDR_VM</td> <td></td> <td></td> <td>XML: 10.240.15.41 IMI: 192.168.45.4</td> </tr> </tbody> </table> <p>Insert Edit Delete Export Report</p>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details	NO-A	Network OAM&P	NOAMP		NO_UDR_VM			XML: 10.240.15.41 IMI: 192.168.45.4
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29.	<p>NOAMP Server A:</p> <p>The user will receive a banner information message showing a download link for the Server configuration data.</p>	 <p>Main Menu: Configuration -> Servers</p> <p>Filter Info</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>NO_UDR_VM</td> <td></td> <td></td> <td>XML: 10.240.15.41 IMI: 192.168.45.4</td> </tr> </tbody> </table> <p>Info</p> <ul style="list-style-type: none"> Exported server data in TKLConfigData.NO-A.sh may be downloaded 	Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details	NO-A	Network OAM&P	NOAMP		NO_UDR_VM			XML: 10.240.15.41 IMI: 192.168.45.4
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NO-A	Network OAM&P	NOAMP		NO_UDR_VM			XML: 10.240.15.41 IMI: 192.168.45.4											
30.	<p>NOAMP Server A:</p> <p>1) Access the command prompt.</p> <p>2) Log into the NOAMP-A server as the “admusr” user.</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 [root@pc9040833-no-a ~]#</pre>																
31.	<p>NOAMP Server A:</p> <p>Switch to “root” user.</p>	<pre>[admusr@ pc9040833-no-a ~]\$ su - password: <root_password></pre>																

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

Step	Procedure	Result
32. <input type="checkbox"/>	<p>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>	<p>Example: TKLCConfigData<.server_hostname>.sh → will translate to →TKLCConfigData.sh</p> <pre># cp -p /var/TKLC/db/filemgmt/TKLCConfigData.NO-A.sh /var/tmp/TKLCConfigData.sh</pre> <p>NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</p>
33. <input type="checkbox"/>	<p>NOAMP Server A: After the script completes, a broadcast message will be sent to the terminal.</p> <p>Ignore the output shown and press the <ENTER> key to return to the command prompt.</p> <p>NOTE: The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.</p>	<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"/>	<p>NOAMP Server A: Configure the time zone.</p>	<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"/>	<p>NOAMP Server A: Initiate a reboot of the NOAMP Server.</p>	<pre># reboot</pre>
36. <input type="checkbox"/>	<p>NOAMP Server A: Wait until server reboot is done. Then, SSH into the NOAMP-A server.</p> <p>Output similar to that shown on the right may be observed</p>	<p>Wait about 9 minutes until the server reboot is done.</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 isn’t 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>

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

Step	Procedure	Result																														
37.	<input type="checkbox"/> <p>NOAMP Server A: Verify that the XMI and IMI IP addresses entered in Step 22 have been applied</p>	<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:10.240.80.191 Mask:255.255.255.192 eth1 Link encap:Ethernet HWaddr F0:92:1C:18:59:10 inet addr:10.240.56.197 Bcast:10.240.56.255 Mask:255.255.255.192</pre> <p>NOTE: The server's XMI and IMI addresses can be verified by reviewing the server configuration through the Oracle Communications User Data Repository GUI.</p> <p>Main Menu → Configuration → Servers</p> <p>Scroll to line entry containing the server's hostname.</p>																														
38.	<input type="checkbox"/> <p>NOAMP Server A: Use the “ntpq” command to verify that the server has connectivity to the assigned Primary (and Secondary if one was provided) NTP server(s).</p>	<pre>\$ ntpq -np</pre> <table border="1"> <thead> <tr> <th>remote</th> <th>refid</th> <th>st</th> <th>t</th> <th>when</th> <th>poll</th> <th>reach</th> <th>delay</th> <th>offset</th> <th>jitter</th> </tr> </thead> <tbody> <tr> <td>*10.250.32.10</td> <td>192.5.41.209</td> <td>2</td> <td>u</td> <td>651</td> <td>1024</td> <td>377</td> <td>0.339</td> <td>0.583</td> <td>0.048</td> </tr> <tr> <td>+10.250.32.51</td> <td>192.5.41.209</td> <td>2</td> <td>u</td> <td>656</td> <td>1024</td> <td>377</td> <td>0.416</td> <td>0.641</td> <td>0.086</td> </tr> </tbody> </table>	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
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																							
 <p>IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND EXECUTE THE FOLLOWING STEPS:</p> <ul style="list-style-type: none"> Have the customer IT group provide a network path from the OAM server IP to the assigned NTP IP addresses. <p>ONCE NETWORK CONNECTIVITY IS ESTABLISHED TO THE ASSIGNED NTP IP ADDRESSES, THEN RESTART THIS PROCEDURE BEGINNING WITH STEP 35 .</p>																																
39.	<input type="checkbox"/> <p>NOAMP Server A: Execute a “alarmMgr” 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>																														
40.	<input type="checkbox"/> <p>NOAMP Server A: Exit the SSH session for the NOAMP-A server</p>	<pre>\$ exit</pre>																														
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>																																

5.2 Create Configuration for Remaining Servers

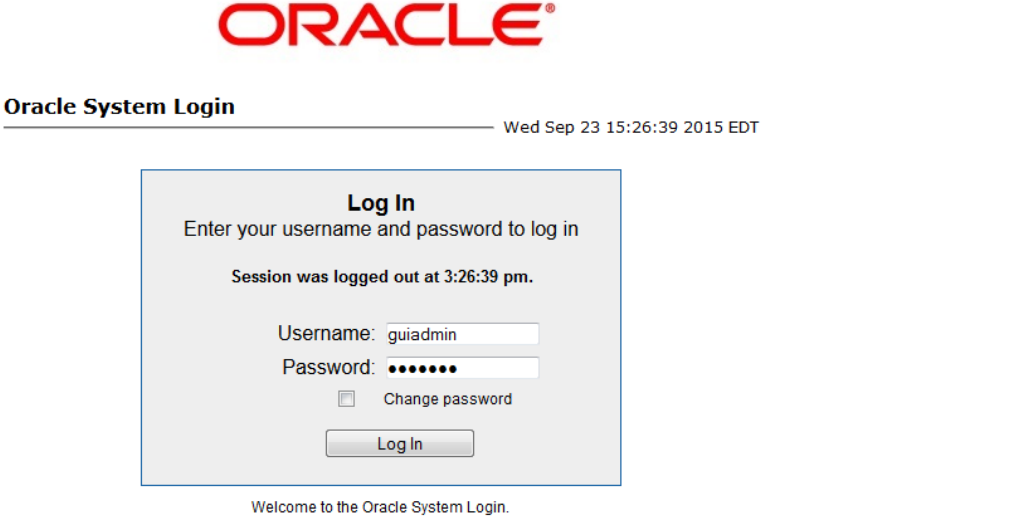
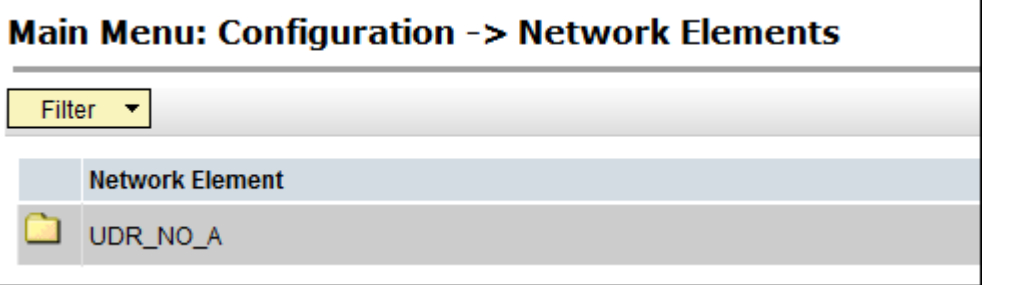
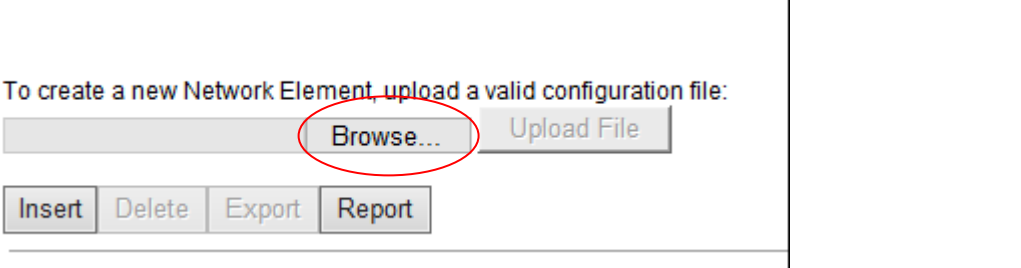
This procedure is used to create and configure all Oracle Communications User Data Repository Servers (Primary and DR Servers) except the first NOAMP-A server.

Requirements:

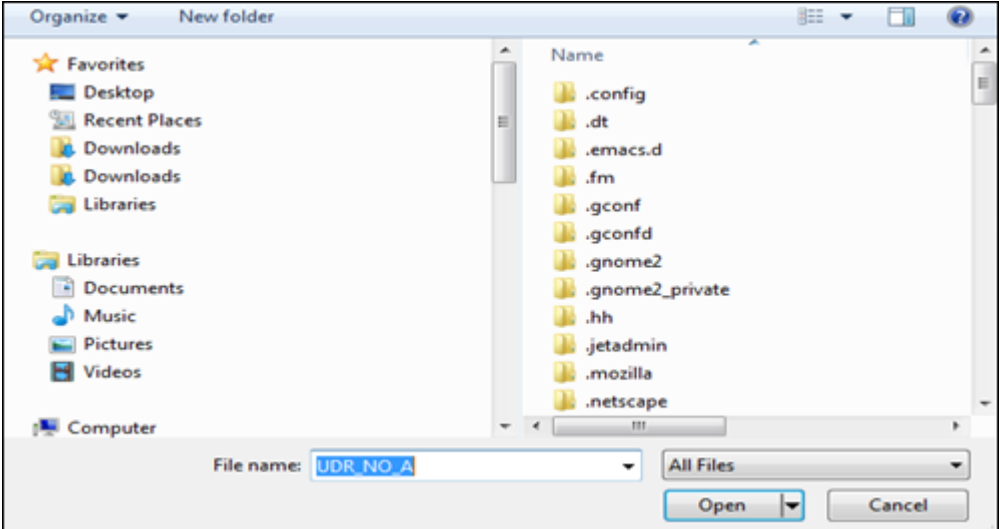
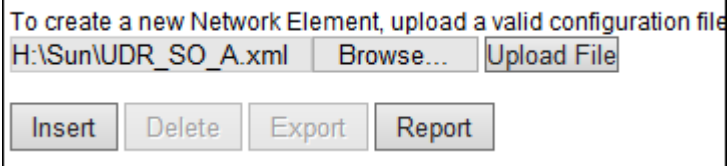
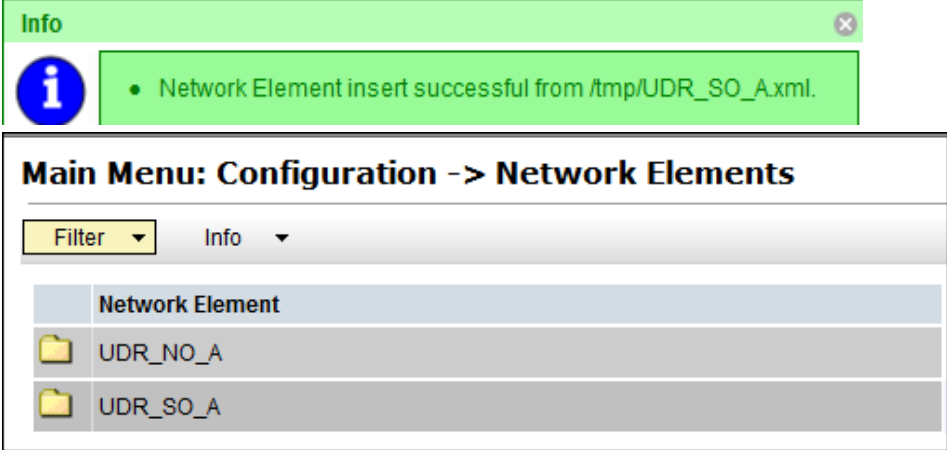
- Section 5.1 Configure NOAMP-A Server (1st NOAMP only) has been completed

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

Procedure 6: Create Configuration for Remaining Servers

Step	Procedure	Result
<p>1.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>	
<p>For steps 4 – 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>		
<p>2.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: <i>Configuring Network Element</i></p> <p>Select...</p> <p>Main Menu → Configuration → Network Elements</p> <p>...as shown on the right.</p>	
<p>3.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: From the Configuration / Network Elements screen...</p> <p>Select the “Browse” dialogue button (scroll to bottom left corner of screen).</p>	

Procedure 6: Create Configuration for Remaining Servers

Step	Procedure	Result
<p>4.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p>Note: This step assumes that the xml files were previously prepared, as described in Appendix C.</p> <p>1) Select the location containing the site .xml file.</p> <p>2) Select the .xml file and click the “Open” dialogue button.</p>	
<p>5.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p>Select the “Upload File” dialogue button (bottom left corner of screen).</p>	
<p>6.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p>If the values in the .xml file pass validation rules, the user receives a banner information message showing 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: The following steps need to run 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>		

Procedure 6: Create Configuration for Remaining Servers

Step	Procedure	Result																					
7.	<p>NOAMP Server A: Select...</p> <p><input type="checkbox"/></p> <p>Main Menu → Configuration → Servers</p> <p>...as shown on the right.</p>	<p>Main Menu: Configuration -> Servers Mon May 04 14:25:15 2015</p> <p>Filter ▾</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>UDR_NO_A</td> <td>Morrisville_NC</td> <td></td> <td>XMI: 10.240.15.41 IMI: 192.168.45.4</td> </tr> </tbody> </table> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details	NO-A	Network OAM&P	NOAMP		UDR_NO_A	Morrisville_NC		XMI: 10.240.15.41 IMI: 192.168.45.4					
Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details																
NO-A	Network OAM&P	NOAMP		UDR_NO_A	Morrisville_NC		XMI: 10.240.15.41 IMI: 192.168.45.4																
8.	<p>NOAMP Server A: Select the “Insert” dialogue button at the bottom left.</p> <p><input type="checkbox"/></p>	<p>Insert Edit Delete Export Report</p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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.	<p>NOAMP Server A: The user is now presented with the “Adding a new server” configuration screen.</p> <p><input type="checkbox"/></p>	<p>Main Menu: Configuration -> Servers [Insert] Tue Oct 14 16:07:40 2015</p> <p>Adding a new server</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td><input type="text"/></td> <td>Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]</td> </tr> <tr> <td>Role</td> <td>- Select Role - ▾</td> <td>Select the function of the server</td> </tr> <tr> <td>System ID</td> <td><input type="text"/></td> <td>System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]</td> </tr> <tr> <td>Hardware Profile</td> <td>UDR SO ▾</td> <td>Hardware profile of the server</td> </tr> <tr> <td>Network Element Name</td> <td>- Unassigned - ▾</td> <td>Select the network element</td> </tr> <tr> <td>Location</td> <td><input type="text"/></td> <td>Location description [Default = "". Range = A 15-character string. Valid value is any text string.]</td> </tr> </tbody> </table> <p>Ok Apply Cancel</p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	Attribute	Value	Description	Hostname	<input type="text"/>	Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]	Role	- Select Role - ▾	Select the function of the server	System ID	<input type="text"/>	System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]	Hardware Profile	UDR SO ▾	Hardware profile of the server	Network Element Name	- Unassigned - ▾	Select the network element	Location	<input type="text"/>	Location description [Default = "". Range = A 15-character string. Valid value is any text string.]
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Location	<input type="text"/>	Location description [Default = "". Range = A 15-character string. Valid value is any text string.]																					
10.	<p>NOAMP Server A: Input the assigned “Hostname” for the server.</p> <p><input type="checkbox"/></p>	<table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>NO-B *</td> <td>Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]</td> </tr> </tbody> </table> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	Attribute	Value	Description	Hostname	NO-B *	Unique name for the server. [Default = n/a. Range = A 20-character string. Valid characters are alphanumeric and minus sign. Must start with an alphanumeric and end with an alphanumeric.]															
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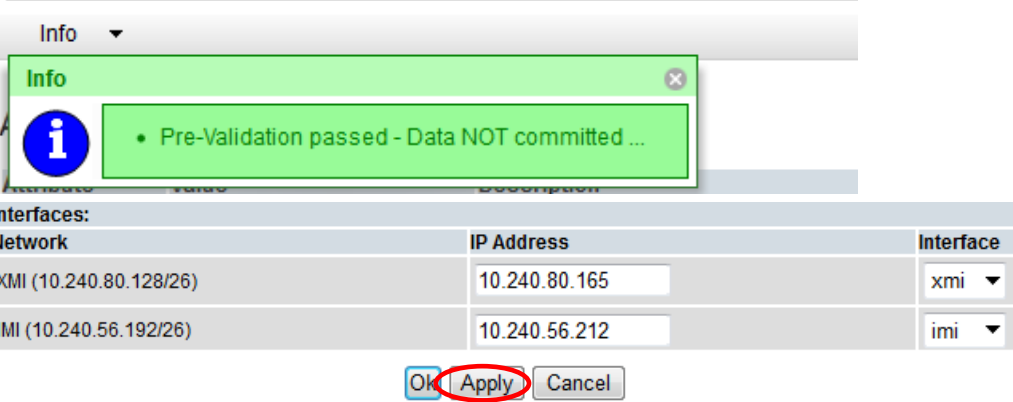
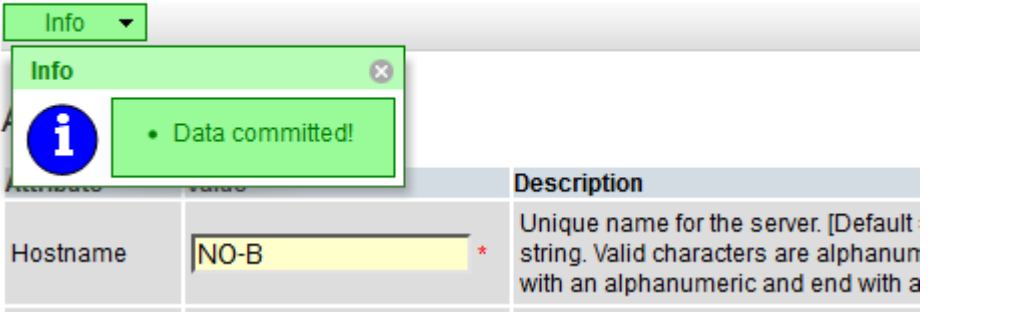
Procedure 6: Create Configuration for Remaining Servers

Step	Procedure	Result												
<p>11.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Select the appropriate server “Role” from the pull-down menu.</p>	<table border="1" data-bbox="461 289 1382 514"> <tr> <td>Role</td> <td>- Select Role - *</td> <td>Select the function of the server</td> </tr> <tr> <td>Hardware Profile</td> <td>- Select Role - NETWORK OAM&P</td> <td>Hardware profile of the server</td> </tr> <tr> <td>Network Element Name</td> <td>SYSTEM OAM MP QUERY SERVER</td> <td>Select the network element</td> </tr> <tr> <td>Location</td> <td></td> <td>Location description [Default = "", Range = A 15-character string. Valid value is any text string.]</td> </tr> </table> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	Role	- Select Role - *	Select the function of the server	Hardware Profile	- Select Role - NETWORK OAM&P	Hardware profile of the server	Network Element Name	SYSTEM OAM MP QUERY SERVER	Select the network element	Location		Location description [Default = "", Range = A 15-character string. Valid value is any text string.]
Role	- Select Role - *	Select the function of the server												
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Network Element Name	SYSTEM OAM MP QUERY SERVER	Select the network element												
Location		Location description [Default = "", Range = A 15-character string. Valid value is any text string.]												
<p>12.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Input the “System ID” for the server.</p> <p>NOTE: <i>System ID is not required for MP.</i></p>	<table border="1" data-bbox="461 695 1497 785"> <tr> <td>System ID</td> <td>NOAMP</td> <td>System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]</td> </tr> </table> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	System ID	NOAMP	System ID for the NOAMP or SOAM server. [Default = n/a. Range = A 64-character string. Valid value is any text string.]									
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<p>13.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Select the correct Hardware Profile from the pull-down menu.</p>	<p>SOAM Select Hardware Profile: Cloud UDR SOAM MP Select Hardware Profile: Cloud UDR MP</p> <table border="1" data-bbox="461 1024 1308 1100"> <tr> <td>Hardware Profile</td> <td>Cloud</td> </tr> </table> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	Hardware Profile	Cloud										
Hardware Profile	Cloud													
<p>14.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Select the Network Element Name from the pull-down menu.</p> <p>NOTE: <i>After the Network Element Name is selected, the Interfaces fields will be displayed.</i></p>	<table border="1" data-bbox="461 1287 1448 1381"> <tr> <td>Network Element Name</td> <td>NO_UDR_VM *</td> <td>Select the network element</td> </tr> </table> <p>NOTE: <i>NO and DR pairs will have their own Network element. SO pairs will also have their own Network Element which they share with their associated MP.</i></p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	Network Element Name	NO_UDR_VM *	Select the network element									
Network Element Name	NO_UDR_VM *	Select the network element												
<p>15.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Enter the site location.</p> <p>NOTE: <i>Location is an optional field.</i></p>	<table border="1" data-bbox="461 1644 1497 1709"> <tr> <td>Location</td> <td>Morrisville_NC</td> <td>Location description [Default = "", Range = A 15-character string. Valid value is any text string.]</td> </tr> </table> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	Location	Morrisville_NC	Location description [Default = "", Range = A 15-character string. Valid value is any text string.]									
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Procedure 6: Create Configuration for Remaining Servers

Step	Procedure	Result															
16. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>1) Enter the IP Addresses for the Server.</p> <p>2) Set the Interface parameters according to deployment type.</p>	<table border="1" data-bbox="461 289 1474 436"> <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> <p>Enter the IP Addresses for XMI and IMI networks.</p> <p>Set the Interface device for XMI and IMI networks according to this VM guest’s network adapter assignment as viewable in Appendix B-3 Step 3 or Appendix C-7 Step 5.</p> <p>Leave the VLAN boxes unchecked.</p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	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)			
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)															
17. <input type="checkbox"/>	<p>NOAMP Server A:</p> <p>Click the “Add” button under NTP Servers and add the address(s) of the NTP server(s).</p>	<table border="1" data-bbox="461 783 1474 1045"> <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> <p>Set one ore more NTP Server IP Address(es) to customer supplied NTP server(s). It is recommended to have minimum of 3 and up to 4 external NTP servers for reliable functioning of NTP service.</p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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"/>															

Procedure 6: Create Configuration for Remaining Servers

Step	Procedure	Result																								
<p>18.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>Click the “Apply” dialogue button.</p>	<p>Main Menu: Configuration -> Servers [Insert]</p>  <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>Buttons: <input type="button" value="Ok"/> <input checked="" type="button" value="Apply"/> <input type="button" value="Cancel"/></p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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																								
<p>19.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: If the values provided match the network ranges assigned to the NE, the user will receive a banner information message showing that the data has been validated and committed to the DB.</p>	<p>Main Menu: Configuration -> Servers [Insert]</p>  <p>Description</p> <p>Hostname: NO-B *</p> <p>Unique name for the server. [Default string. Valid characters are alphanumeric with an alphanumeric and end with a</p> <p>Buttons: <input type="button" value="Ok"/> <input checked="" type="button" value="Apply"/> <input type="button" value="Cancel"/></p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>																								
<p>20.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A:</p> <p><i>Applying the Server Configuration File</i></p> <p>Select...</p> <p>Main Menu → Configuration → Servers</p> <p>...as shown on the right.</p>	<p>Main Menu: Configuration -> Servers</p> <p>Wed Apr 22 23:53:56 2015 ET</p> <p>Filter</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>NO_SUN_05</td> <td></td> <td></td> <td>XMI: 10.240.15.41 IMI: 192.168.45.4</td> </tr> <tr> <td>NO-B</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>NO_SUN_05</td> <td></td> <td></td> <td>XMI: 10.240.15.42 IMI: 192.168.45.8</td> </tr> </tbody> </table> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details	NO-A	Network OAM&P	NOAMP		NO_SUN_05			XMI: 10.240.15.41 IMI: 192.168.45.4	NO-B	Network OAM&P	NOAMP		NO_SUN_05			XMI: 10.240.15.42 IMI: 192.168.45.8
Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details																			
NO-A	Network OAM&P	NOAMP		NO_SUN_05			XMI: 10.240.15.41 IMI: 192.168.45.4																			
NO-B	Network OAM&P	NOAMP		NO_SUN_05			XMI: 10.240.15.42 IMI: 192.168.45.8																			

Procedure 6: Create Configuration for Remaining Servers

Step	Procedure	Result																								
21.	<p>NOAMP Server A:</p> <p>The "Configuration →Servers" screen should now show the newly added Server in the list.</p>	<p>Main Menu: Configuration -> Servers</p> <p>Mon May 04 14:47:37 2015 ED</p> <p>Filter ▾</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>UDR_NO_A</td> <td>Morrisville_NC</td> <td></td> <td>XMI: 10.240.15.41 IMI: 192.168.45.4</td> </tr> <tr> <td>NO-B</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>UDR_NO_A</td> <td>Morrisville_NC</td> <td></td> <td>XMI: 10.240.15.42 IMI: 192.168.45.8</td> </tr> </tbody> </table> <p>"Check off" the associated Check Box as addition is completed for each Server.</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>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details	NO-A	Network OAM&P	NOAMP		UDR_NO_A	Morrisville_NC		XMI: 10.240.15.41 IMI: 192.168.45.4	NO-B	Network OAM&P	NOAMP		UDR_NO_A	Morrisville_NC		XMI: 10.240.15.42 IMI: 192.168.45.8
Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details																			
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NO-B	Network OAM&P	NOAMP		UDR_NO_A	Morrisville_NC		XMI: 10.240.15.42 IMI: 192.168.45.8																			
22.	<p>NOAMP Server A:</p> <p>1) Use the cursor to select the Server just inserted.</p> <p>The row containing the desired Server should now be highlighted in GREEN.</p> <p>2) Select the "Export" dialogue button.</p>	<p>Main Menu: Configuration -> Servers</p> <p>Mon May 04 14:47:37 2015 ED</p> <p>Filter ▾</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>Role</th> <th>System ID</th> <th>Server Group</th> <th>Network Element</th> <th>Location</th> <th>Place</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>NO-A</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>UDR_NO_A</td> <td>Morrisville_NC</td> <td></td> <td>XMI: 10.240.15.41 IMI: 192.168.45.4</td> </tr> <tr style="background-color: #90EE90;"> <td>NO-B</td> <td>Network OAM&P</td> <td>NOAMP</td> <td></td> <td>UDR_NO_A</td> <td>Morrisville_NC</td> <td></td> <td>XMI: 10.240.15.42 IMI: 192.168.45.8</td> </tr> </tbody> </table> <p>Insert Edit Delete Export Report</p> <p>"Check off" the associated Check Box as addition is completed for each Server.</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>	Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details	NO-A	Network OAM&P	NOAMP		UDR_NO_A	Morrisville_NC		XMI: 10.240.15.41 IMI: 192.168.45.4	NO-B	Network OAM&P	NOAMP		UDR_NO_A	Morrisville_NC		XMI: 10.240.15.42 IMI: 192.168.45.8
Hostname	Role	System ID	Server Group	Network Element	Location	Place	Details																			
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NO-B	Network OAM&P	NOAMP		UDR_NO_A	Morrisville_NC		XMI: 10.240.15.42 IMI: 192.168.45.8																			
23.	<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 <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/> MP-3 <input type="checkbox"/> MP-4 </p>																								
THIS PROCEDURE HAS BEEN COMPLETED																										

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

Procedure 7: Apply Configuration to Remaining Servers

Step	Procedure	Result
6.	<p>NOAMP Server A:</p> <p><input type="checkbox"/> 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>“Check off” the associated Check Box as addition is completed for each 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>
7.	<p>Target Server:</p> <p><input type="checkbox"/> 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>	<p>Example: TKLCConfigData<.server_hostname>.sh → will translate to →TKLCConfigData.sh</p> <pre>[admusr@hostname1326744539 ~]\$ sudo cp -p /tmp/TKLCConfigData.NO-B.sh /var/tmp/TKLCConfigData.sh [admusr@hostname1326744539 ~]\$</pre> <p>NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</p> <p>“Check off” the associated Check Box as addition is completed for each 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>
8.	<p>Target Server:</p> <p><input type="checkbox"/> After the script completes, a broadcast message will be sent to the terminal.</p> <p>Ignore the output shown and press the <ENTER> key to return to the command prompt.</p> <p>NOTE: The user should be aware that the time to complete this step varies by server and may take from 3-20 minutes to complete.</p>	<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> <pre>[admusr@hostname1326744539 ~]\$</pre> <p>“Check off” the associated Check Box as addition is completed for each 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>
9.	<p>Target Server:</p> <p><input type="checkbox"/> Initiate a reboot of the Server.</p>	<pre>[admusr@hostname1326744539 ~]\$ sudo reboot</pre> <p>“Check off” the associated Check Box as addition is completed for each 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>

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


Procedure 7: Apply Configuration to Remaining Servers

Step	Procedure	Result
10. <input type="checkbox"/>	<p>NOAMP Server A: The SSH session for the target server was terminated by previous step.</p> <p>Output similar to that shown on the right may be observed.</p>	<p>The previous step should cause the ssh session to the desired server to close and user should return to the NOAMP server console prompt. The user should see output similar to the below output:</p> <pre>Connection to 192.168.1.16 closed by remote host. Connection to 192.168.1.16 closed. \$</pre> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>
11. <input type="checkbox"/>	<p>NOAMP Server A: Wait until server reboot is done. Then, SSH into the target server using its XMI address.</p> <p>Output similar to that shown on the right may be observed</p>	<p>Wait about 9 minutes until the server reboot is done.</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@192.168.1.20's password: <admusr_password></pre> <p>Note: If the server isn't 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>“Check off” the associated Check Box as addition is completed for each Server.</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>
12. <input type="checkbox"/>	<p>Target Server:</p> <p>Verify that the XMI and IMI IP addresses entered in Section 5.2 Step 16 have been applied</p>	<pre>\$ ifconfig grep in grep -v inet6 control Link encap:Ethernet HWaddr 52:54:00:6C:3C:B4 inet addr:192.168.1.11 Bcast:192.168.1.255 Mask:255.255.255.0 imi Link encap:Ethernet HWaddr 52:54:00:F6:DC:4A inet addr:169.254.2.2 Bcast:169.254.2.255 Mask:255.255.255.0 lo Link encap:Local Loopback inet addr:127.0.0.1 Mask:255.0.0.0 xmi Link encap:Ethernet HWaddr 52:54:00:0F:1F:3B inet addr:10.250.39.19 Bcast:10.250.39.31 Mask:255.255.255.240</pre> <p>NOTE: The server's XMI and IMI addresses can be verified by reviewing the server configuration through the Oracle Communications User Data Repository GUI.</p> <p>Main Menu → Configuration → Servers</p> <p>Scroll to line entry containing the server's hostname.</p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>

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

Procedure 7: Apply Configuration to Remaining Servers

Step	Procedure	Result
13. <input type="checkbox"/>	Target Server: Use the “ ntpq ” command to verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).	<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 offset value is in excess of five seconds, run the commands below 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>“Check off” the associated Check Box as addition is completed for each Server.</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>
		IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND EXECUTE THE FOLLOWING STEPS:
14. <input type="checkbox"/>	Target Server: Execute a “ alarmMgr ” 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> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>
15. <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>“Check off” the associated Check Box as addition is completed for each Server.</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>
16. <input type="checkbox"/>	NOAMP Server A: Exit terminal session	<pre># exit logout Connection to 192.168.1.4 closed. #</pre>
THIS PROCEDURE HAS BEEN COMPLETED		

5.4 Configure XSI Networks (All SOAM Sites)

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


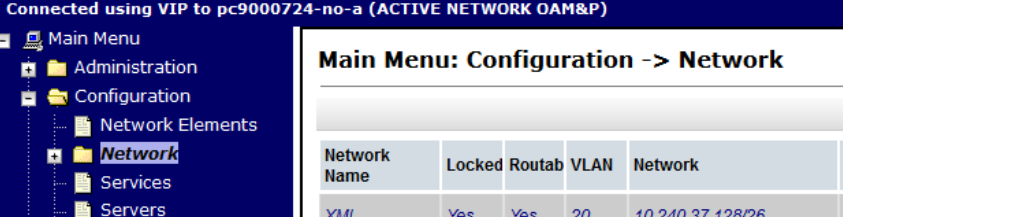
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Requirements:


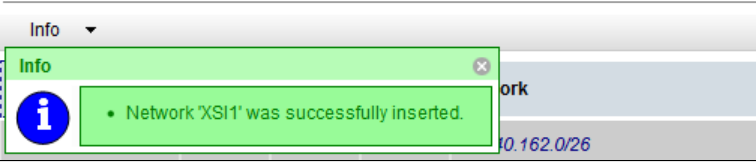
- **Section 5.3 Apply Configuration To Remaining Servers** has been completed

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

Procedure 8: Configure XSI Networks

Step	Procedure	Result										
<p>1.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>											
<p>2.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A Select...</p> <p>Main Menu → Configuration → Network</p> <p>...as shown on the right.</p>	 <table border="1" data-bbox="779 953 1302 1037"> <thead> <tr> <th>Network Name</th> <th>Locked</th> <th>Routab</th> <th>VLAN</th> <th>Network</th> </tr> </thead> <tbody> <tr> <td>XMI</td> <td>Yes</td> <td>Yes</td> <td>20</td> <td>10.240.37.128/26</td> </tr> </tbody> </table>	Network Name	Locked	Routab	VLAN	Network	XMI	Yes	Yes	20	10.240.37.128/26
Network Name	Locked	Routab	VLAN	Network								
XMI	Yes	Yes	20	10.240.37.128/26								

Procedure 8: Configure XSI Networks

Step	Procedure	Result																											
<p>3.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A Add the XSI1 network</p>	<p>Click the Insert button. </p> <p>Output similar to that shown below may be observed.</p> <p>Insert Network</p> <table border="1" data-bbox="467 457 1464 890"> <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: center;"><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></p> <p>Enter all of the above fields for the XSI1 network according to the customer's network parameters. The default values for Network Element (Unassigned), Default Network (No) and Routable (Yes) should be retained.</p> <p>ComAgent Service may be configured to run on XSI1 in Section 0. In such case, the XSI1 network shall be used for MP↔NOAMP ComAgent Traffic.</p> <p>This network may or may not be used for MP Signaling Traffic.</p> <p>Note: Network names can be overloaded to support multiple subnets. When defining network for ComAgent Service, use same network name for Primary and DR Site.</p> <p>Note: 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.</p>	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.
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.]																											
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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.																											
<p>4.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A Repeat as required</p>	<p>Repeat Step 3 of this procedure to Insert additional signaling networks (XSI2, etc) if applicable.</p>																											
<p>5.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A New XSI network is displayed along with a success message.</p>	<p>Main Menu: Configuration -> Network</p> 																											
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>																													

6.0 OAM PAIRING

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

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


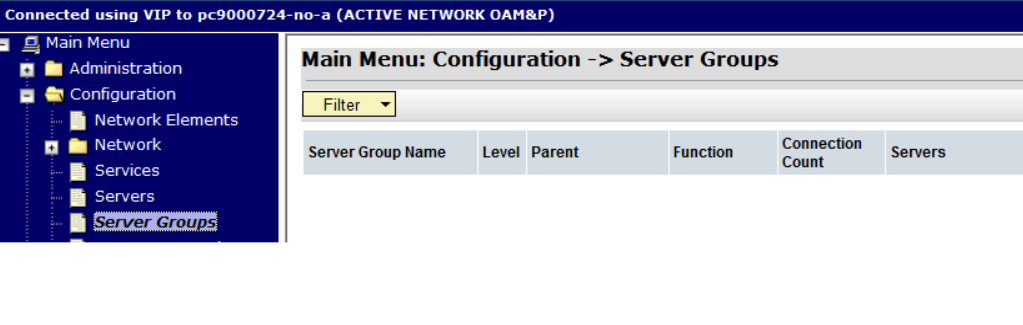
This procedure creates active/standby pair for the NOAMP servers at the Primary Provisioning Site..

Requirements:

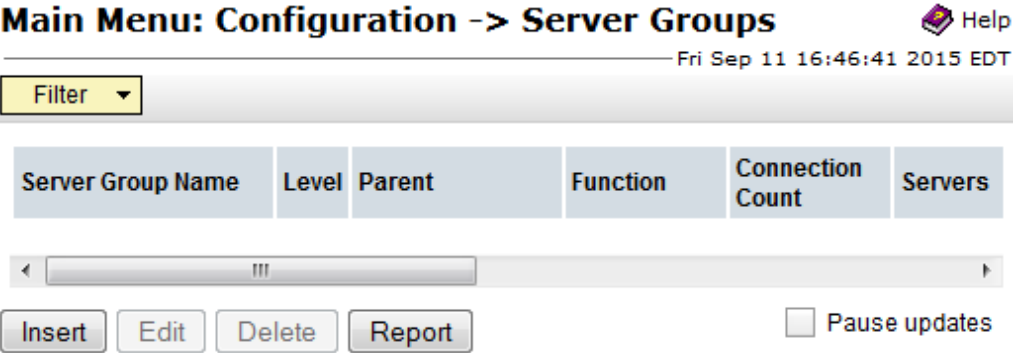
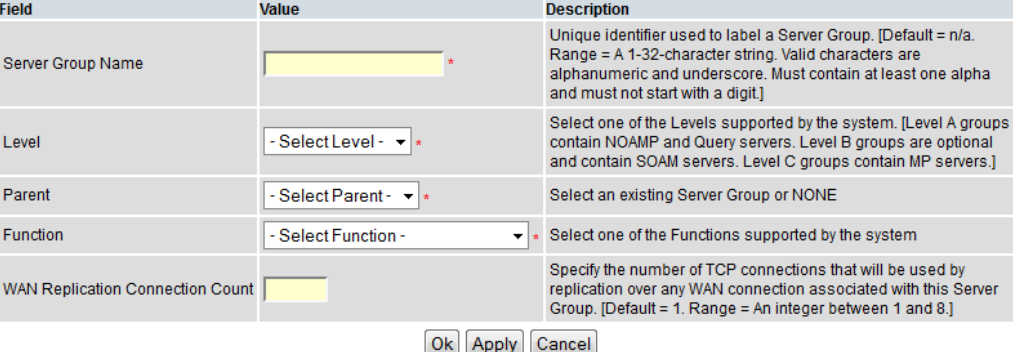
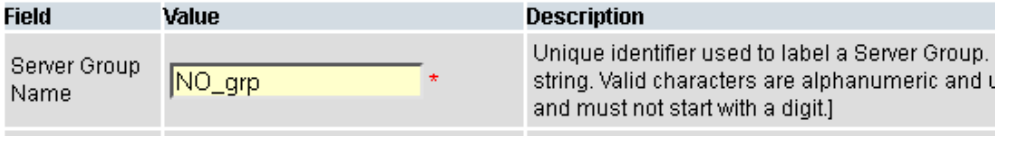
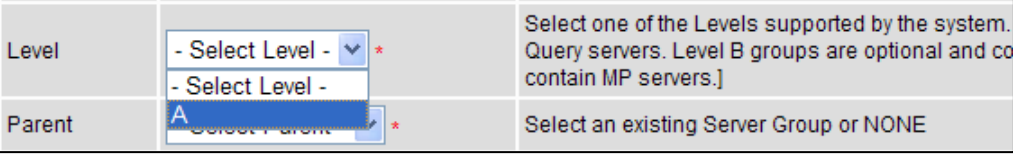
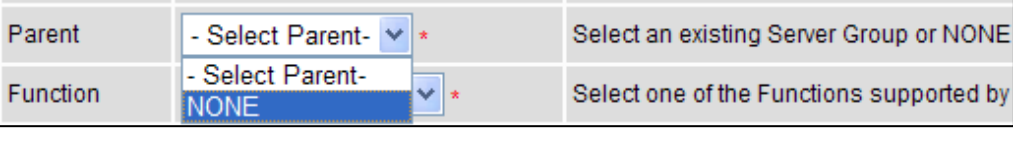
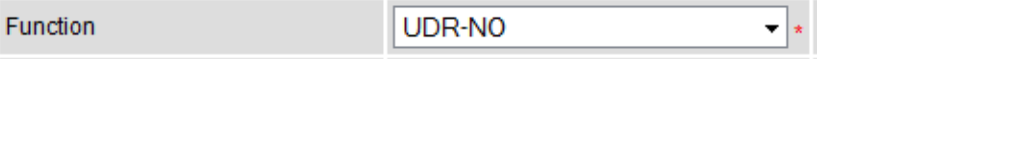
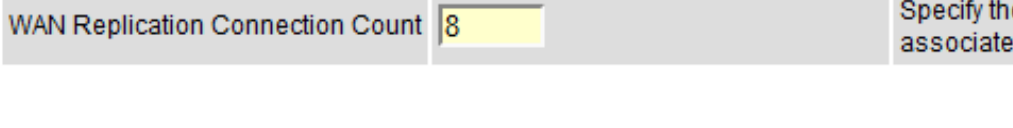
- Section 5.3 Apply Configuration To Remaining Servers has been completed

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

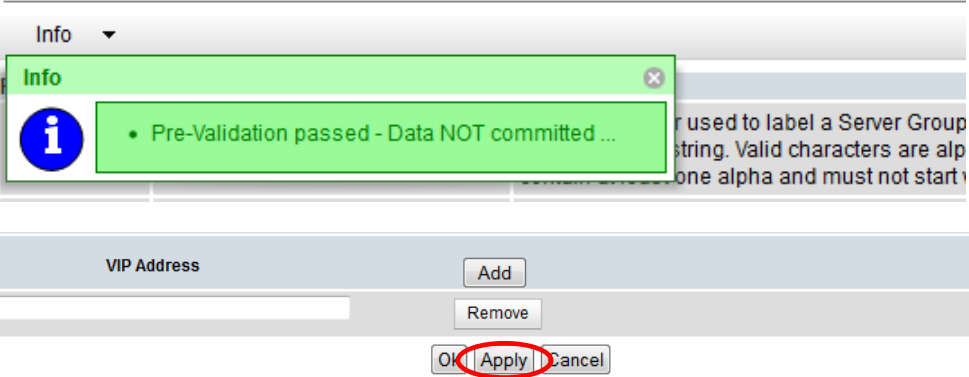
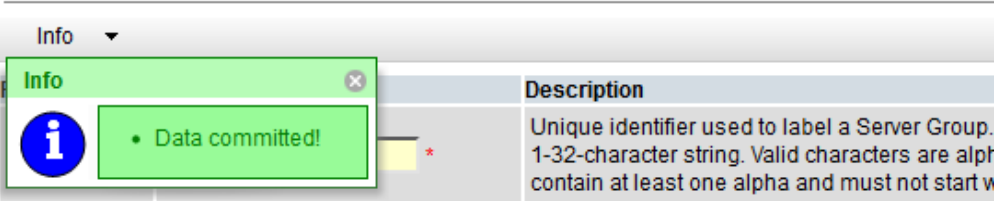
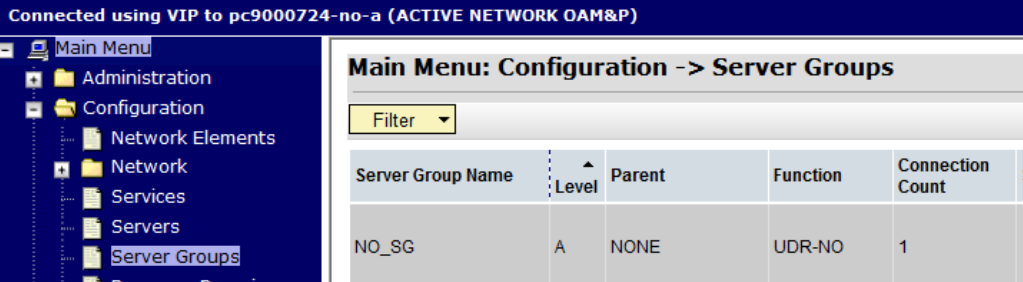
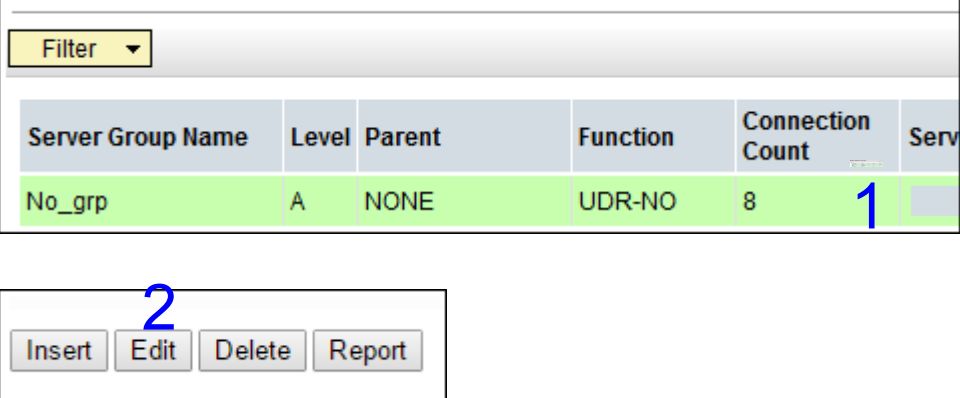
Procedure 9: OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)

Step	Procedure	Result
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: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>	
2. <input type="checkbox"/>	<p>NOAMP Server A: <i>Configuring Server Group</i></p> <p>Select...</p> <p>Main Menu → Configuration → Server Groups</p> <p>...as shown on the right.</p>	

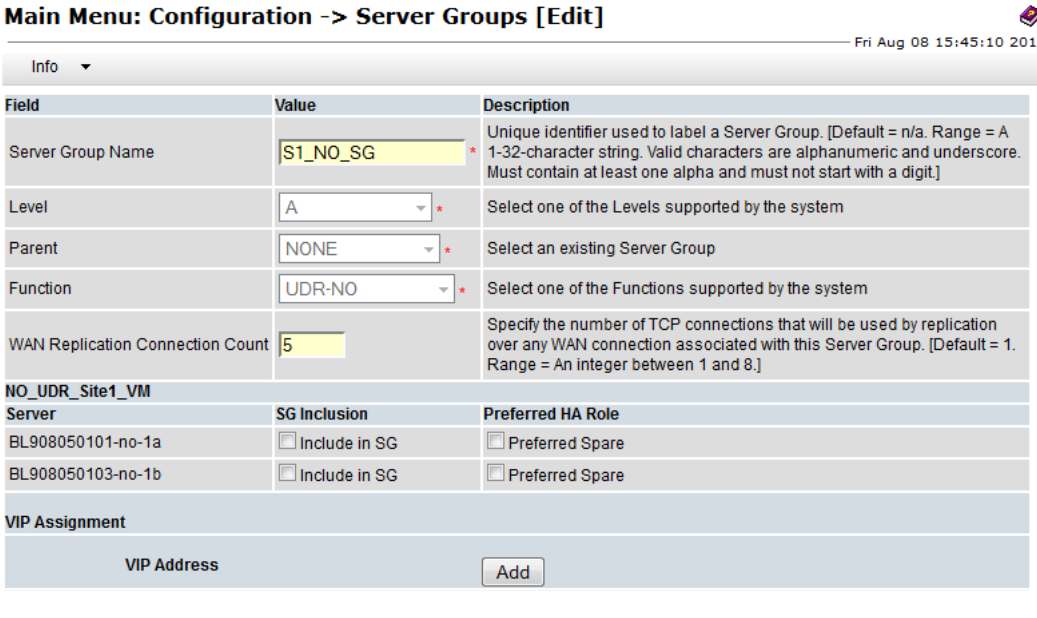
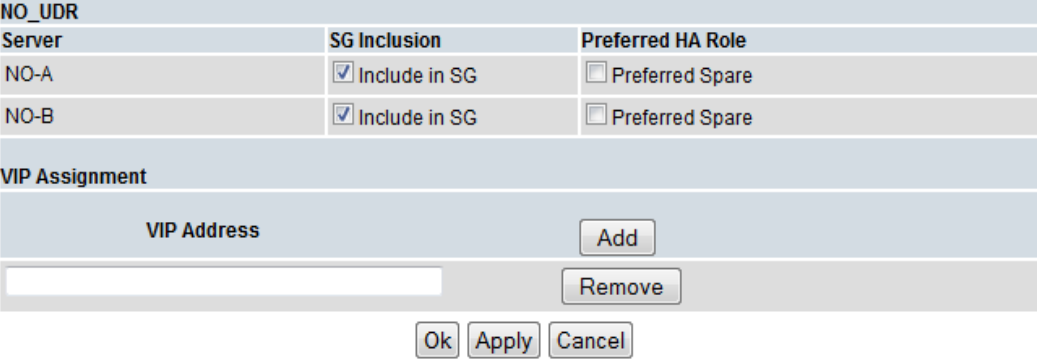
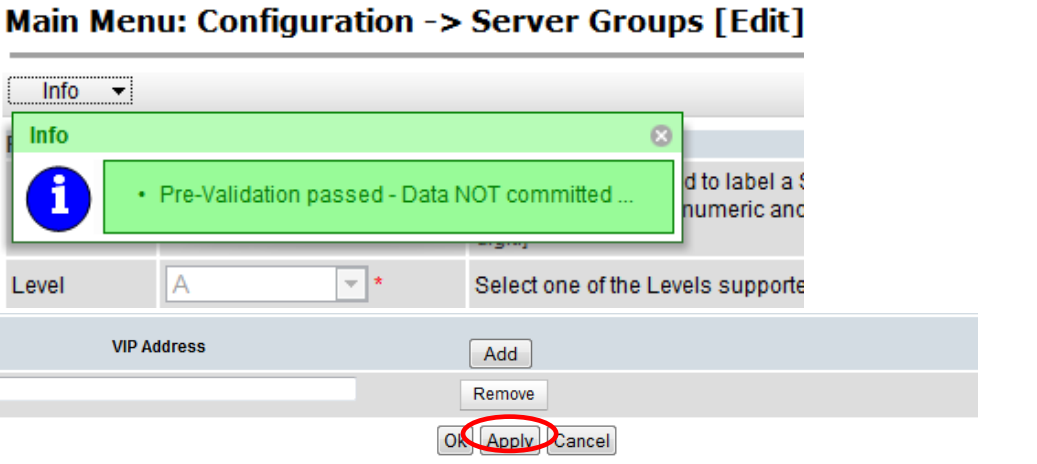
Procedure 9: OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)

Step	Procedure	Result
<p>3.</p> <input type="checkbox"/>	<p>NOAMP Server A: Click the “Insert” dialogue button from the bottom left corner of the screen.</p> <p>NOTE: <i>The user may need to use the vertical scroll-bar in order to make the “Insert” dialogue button visible.</i></p>	
<p>4.</p> <input type="checkbox"/>	<p>NOAMP Server A: The user will be presented with the “Server Groups [Insert]” screen as shown on the right.</p>	
<p>5.</p> <input type="checkbox"/>	<p>NOAMP Server A: Input the Server Group Name.</p>	
<p>6.</p> <input type="checkbox"/>	<p>NOAMP Server A: Select “A” on the “Level” pull-down menu.</p>	
<p>7.</p> <input type="checkbox"/>	<p>NOAMP Server A: Select “None” on the “Parent” pull-down menu.</p>	
<p>8.</p> <input type="checkbox"/>	<p>NOAMP Server A: Select “UDR-NO” on the “Function” pull-down menu.</p>	
<p>9.</p> <input type="checkbox"/>	<p>NOAMP Server A: Input value “8” into “WAN Replication Connection Count”.</p>	

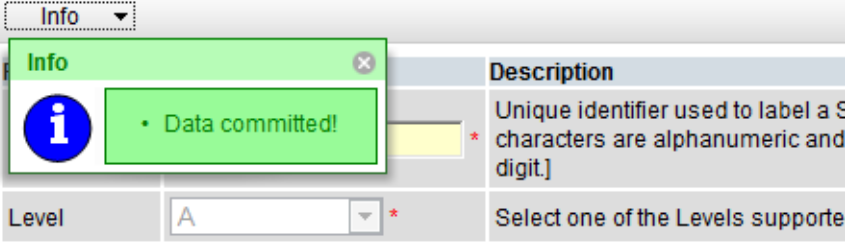
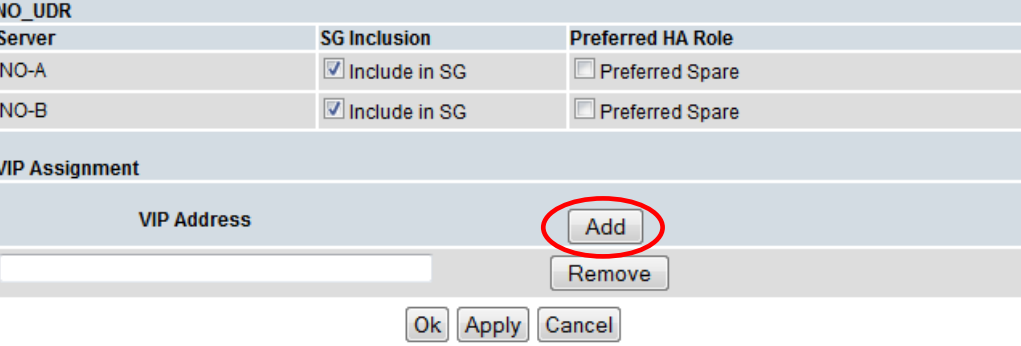
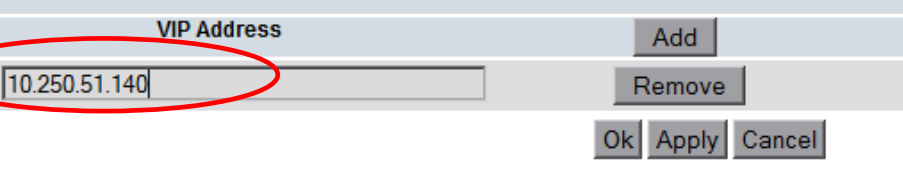
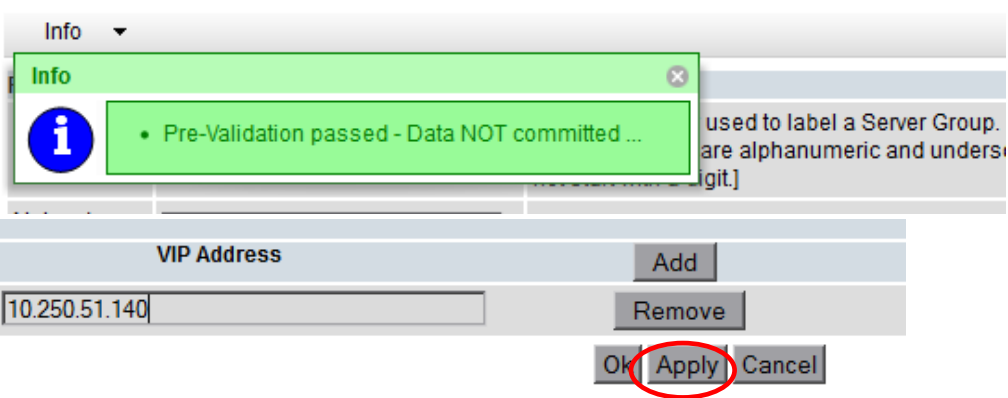
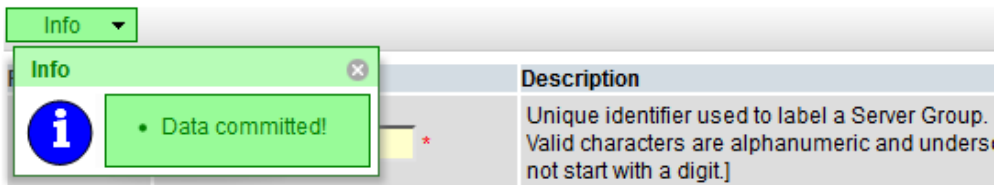
Procedure 9: OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)

Step	Procedure	Result												
10.	<p>NOAMP Server A: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>Select the “Apply” dialogue button.</p>	<p>Main Menu: Configuration -> Server Groups [Insert]</p> 												
11.	<p>NOAMP Server A: The user should be presented with a banner information message stating “Data committed”.</p>	<p>Main Menu: Configuration -> Server Groups [Insert]</p>  <table border="1" data-bbox="987 898 1458 1024"> <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_SG</td> <td>A</td> <td>NONE</td> <td>UDR-NO</td> <td>1</td> </tr> </tbody> </table>	Server Group Name	Level	Parent	Function	Connection Count	NO_SG	A	NONE	UDR-NO	1		
Server Group Name	Level	Parent	Function	Connection Count										
NO_SG	A	NONE	UDR-NO	1										
12.	<p>NOAMP Server A: Select...</p> <p>Main Menu → Configuration → Server Groups</p> <p>...as shown on the right.</p>	 <table border="1" data-bbox="813 1192 1484 1325"> <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_SG</td> <td>A</td> <td>NONE</td> <td>UDR-NO</td> <td>1</td> </tr> </tbody> </table>	Server Group Name	Level	Parent	Function	Connection Count	NO_SG	A	NONE	UDR-NO	1		
Server Group Name	Level	Parent	Function	Connection Count										
NO_SG	A	NONE	UDR-NO	1										
13.	<p>NOAMP Server A:</p> <p>1) Select the Server Group entry just added. The line entry should now be highlighted in GREEN.</p> <p>2) Select the “Edit” dialogue button from the bottom left corner of the screen.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Edit” dialogue button visible.</p>	<p>Main Menu: Configuration -> Server Groups</p>  <table border="1" data-bbox="483 1493 1422 1623"> <thead> <tr> <th>Server Group Name</th> <th>Level</th> <th>Parent</th> <th>Function</th> <th>Connection Count</th> <th>Serv</th> </tr> </thead> <tbody> <tr> <td>No_grp</td> <td>A</td> <td>NONE</td> <td>UDR-NO</td> <td>8</td> <td>1</td> </tr> </tbody> </table> <p style="text-align: center;">2</p> <p>Insert Edit Delete Report</p>	Server Group Name	Level	Parent	Function	Connection Count	Serv	No_grp	A	NONE	UDR-NO	8	1
Server Group Name	Level	Parent	Function	Connection Count	Serv									
No_grp	A	NONE	UDR-NO	8	1									

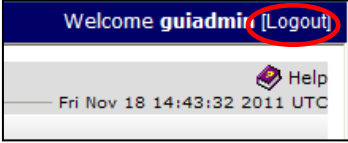
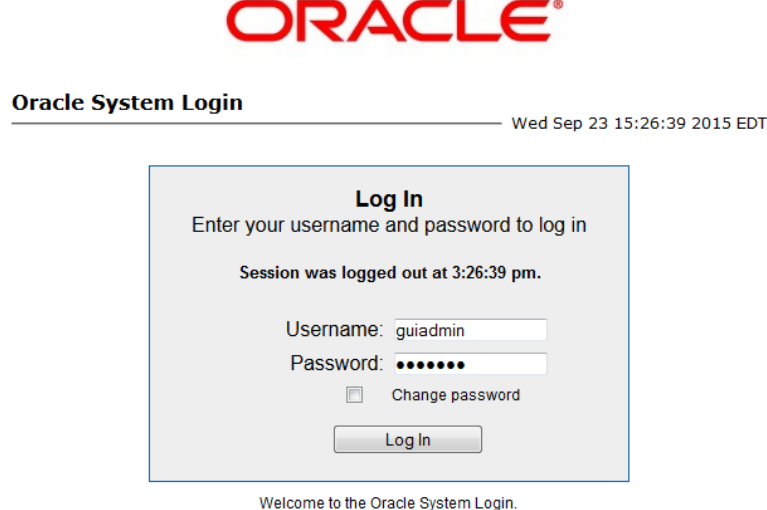


Procedure 9: OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)

Step	Procedure	Result
<p>14.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: The user will be presented with the “Server Groups [Edit]” screen as shown on the right.</p>	
<p>15.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: Check the boxes to include the “A” server and the “B” server into the NOAMP Server Group.</p> <p>Note: For Single Server Installation, only NO-A will be displayed; therefore only one box will be selected.</p>	
<p>16.</p> <p><input type="checkbox"/></p>	<p>NOAMP Server A: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>Select the “Apply” dialogue button.</p>	

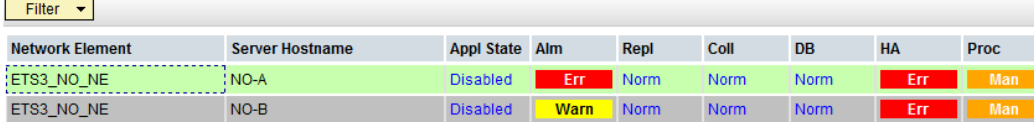
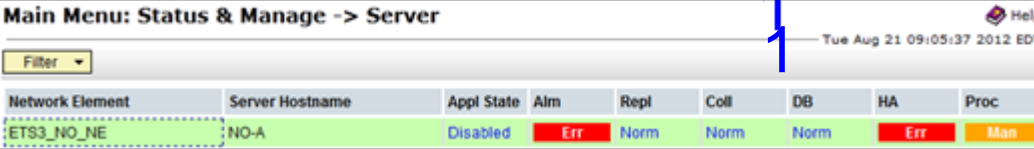

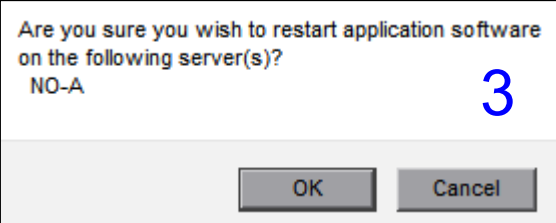
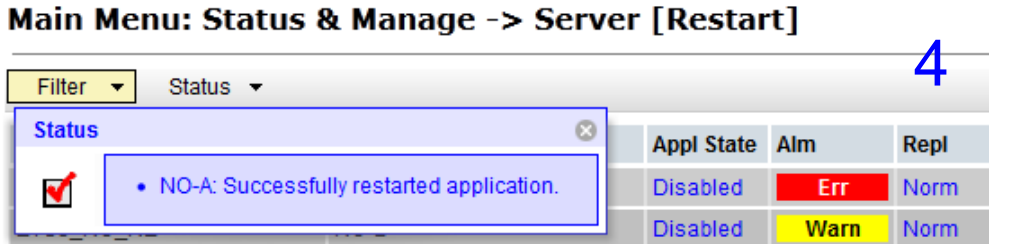
Procedure 9: OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)

Step	Procedure	Result
17.	<p>NOAMP Server A: The user should be presented with a banner information message stating “Data committed”.</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p> 
18.	<p>NOAMP Server A: Click the “Add” dialogue button for the VIP Address.</p> <p>Note: VIP Address optional for Single Server Configuration.</p>	
19.	<p>NOAMP Server A: Input the VIP Address</p>	
20.	<p>NOAMP Server A: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>Select the “Apply” dialogue button.</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p> 
21.	<p>NOAMP Server A: The user should be presented with a banner information message stating “Data committed”.</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p> 

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

Step	Procedure	Result
22.	<p>NOAMP Server A: Click the “Logout” link on the OAM A server GUI.</p>	
23.	<p>IMPORTANT: Wait at least 5 minutes before proceeding on to the next Step.</p>	<ul style="list-style-type: none"> Now that the server(s) have been paired within a Server Group they must establish a master/slave relationship for High Availability (HA). It may take several minutes for this process to be completed. Note: Single Server Configuration will not need to establish the master/slave relationship for High Availability (HA). <p>Allow a minimum of 5 minutes before continuing to the next Step.</p>
24.	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>	
25.	<p>NOAMP VIP:</p> <p><i>Restarting the NOAMP Server Application</i></p> <p>Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	<p>Normal or Low Capacity Configuration:</p>  <p>Single Server Configuration:</p> 

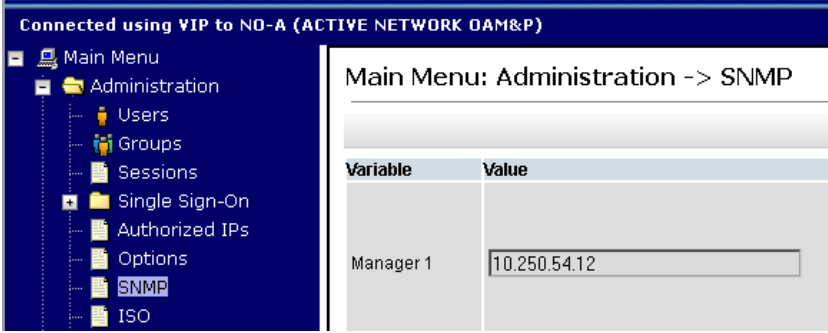
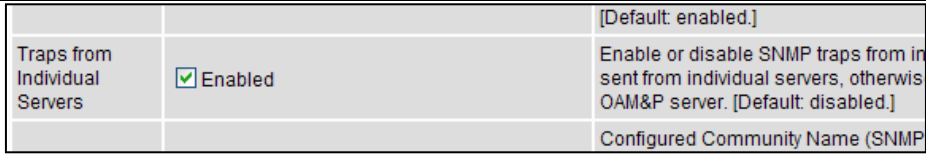
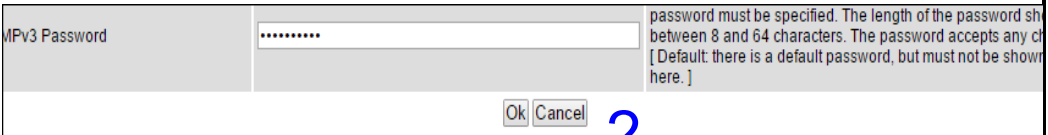
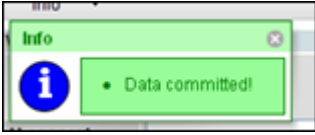
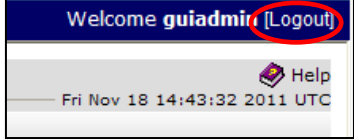
Procedure 9: OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)

Step	Procedure	Result																																			
26.	<p>NOAMP VIP:</p> <p>1) The “A” and “B” servers should now appear in the right panel. Note: For single server, only the “A” server will appear.</p> <p>2) Verify that the “DB” status shows “Norm” and the “Proc” status shows “Man” for one/both servers before proceeding to the next Step.</p>	<p>Normal or Low Capacity Configuration:</p> <table border="1" data-bbox="462 346 1461 472"> <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" data-bbox="462 535 1461 619"> <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
Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc																															
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Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc																															
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27.	<p>NOAMP VIP:</p> <p>1) Using the mouse, select NOAMP Server A. The line entry should now be highlighted in GREEN.</p> <p>2) Select the “Restart” dialogue button from the bottom left corner of the screen.</p> <p>3) Click the “OK” button on the confirmation dialogue box.</p> <p>4) The user should be presented with a confirmation message (in the banner area) for NOAMP Server A stating: “Successfully restarted application”.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.</p>	<p>Normal Configuration:</p> <p>Main Menu: Status & Manage -> Server 1</p>  <p>Single Server Configuration:</p> <p>Main Menu: Status & Manage -> Server 1</p>  <p>2</p>  <p>3</p>  <p>Main Menu: Status & Manage -> Server [Restart] 4</p> 																																			

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

Step	Procedure	Result																																																																																										
28.	<p>NOAMP VIP: Verify that the “Appl State” now shows “Enabled” and that the “DB, Reporting Status & Proc” status columns all 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 user chooses to refresh the Server status screen in advance of the default setting (15-30 sec.). This may be done by simply reselecting the “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.	<p>NOAMP VIP: Restart NOAMP Server B.</p>	<p>Note: Don’t perform this step for single server installations. Repeat steps 27 and 28 above to restart NOAMP Server B.</p>																																																																																										
30.	<p>NOAMP VIP: <i>Verifying the NOAMP Server Alarm status</i></p> <p>Select...</p> <p>Main Menu → Alarms & Events → View Active</p> <p>...as shown on the right.</p>																																																																																											
31.	<p>NOAMP VIP: Verify that the noted Event IDs are the only alarms present 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>Communication Agent Routed Service Unavailable</td> <td colspan="7">GN_INFOWRN ^^ [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>Communication Agent Routed Service Unavailable</td> <td colspan="7">GN_INFOWRN ^^ [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>No Remote RAS Client Connections</td> <td colspan="7">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>No Remote XSAS Client Connections</td> <td colspan="7">GN_NOTENAB/WRN No remote provisioning XSAS clients are connected. ^^ [1636... More...]</td> </tr> </tbody> </table> <p>Verify that only the following Event IDs are the only alarms present:</p> <ul style="list-style-type: none"> - 13075 (“<i>Provisioning Interfaces Disabled</i>”) - 19820 (“<i>Communication Agent Routed Service Unavailable</i>”) <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_INFOWRN ^^ [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_INFOWRN ^^ [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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Procedure 9: OAM Pairing for Primary NOAMP Servers (1st NOAMP site only)

Step	Procedure	Result
32.	<p>NOAMP VIP:</p> <p>Configuring SNMP for Traps from Individual Servers</p> <p>Select...</p> <p>Main Menu → Administration → Remote Servers → SNMP Trapping ...as shown on the right.</p>	
33.	<p>NOAMP VIP:</p> <p>1) Using the cursor, place a “check” in the check box for “Traps from Individual Servers”.</p> <p>2) Click the “OK” button located at the bottom in the center of the screen.</p> <p>3) Verify that a banner message stating “Data committed” is received.</p>	  
34.	<p>NOAMP VIP:</p> <p>Click the “Logout” link on the server GUI.</p>	
THIS PROCEDURE HAS BEEN COMPLETED		

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


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

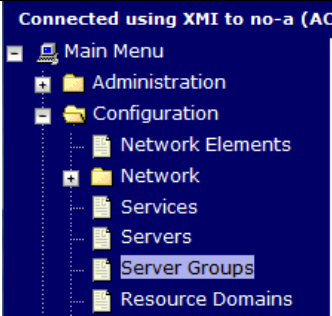
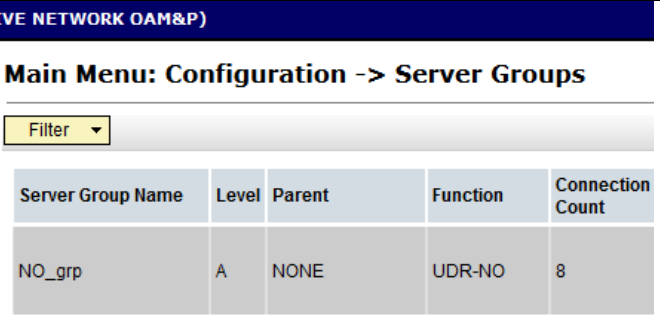
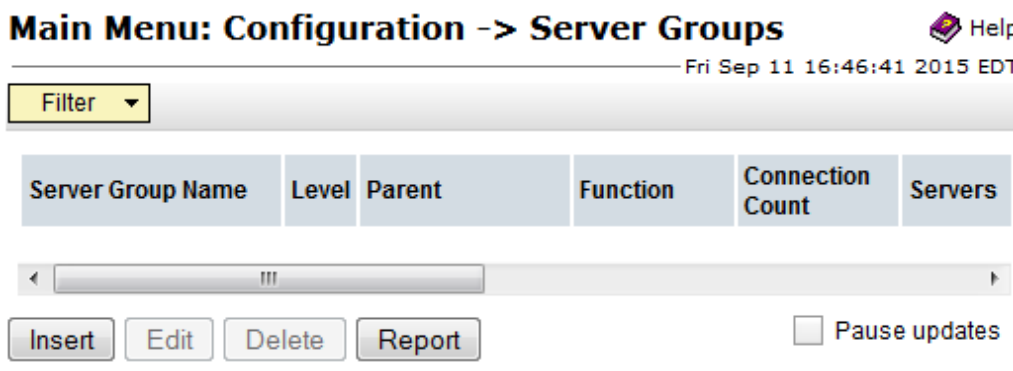
- Section 5.0 Oracle Communications User Data Repository Server Configuration has been completed
- Section 6.1 OAM Pairing for Primary NOAMP Servers (1st NOAMP site only) has been completed

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

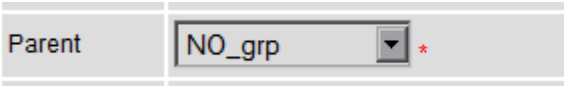
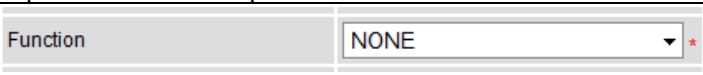
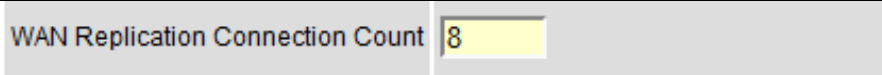
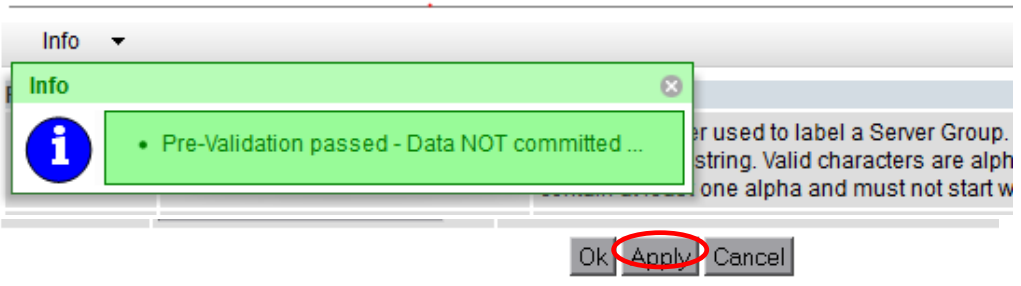
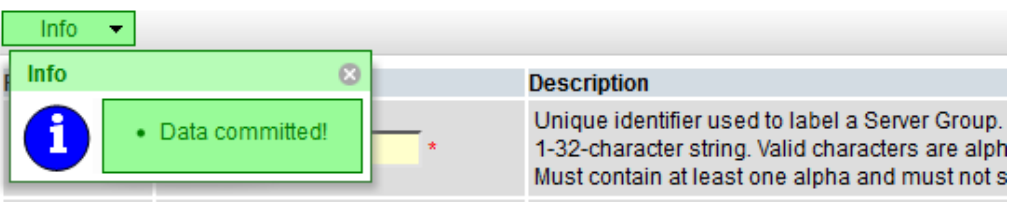
Procedure 10: OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)

Step	Procedure	Result																																																																	
<p>1.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>																																																																		
<p>2.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: <i>For Primary NOAMP Standby server only:</i> Mark the server ‘forced standby’</p> <p>Main Menu → Status & Manage → HA</p> <p>Click “Edit” button on bottom left</p> <p>Find the row for the Primary NOAMP Standby server and change “Max Allowed HA Role” to “Standby”.</p>	<p>* Note: Don’t perform this step for single server installations.</p> <p>Main Menu: Status & Manage -> HA</p> <p>Filter</p> <table border="1" data-bbox="467 993 1490 1325"> <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>Unavailable</td> <td>Unavailable</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>System OAM</td> <td></td> </tr> <tr> <td>SO-B</td> <td>Unavailable</td> <td>Unavailable</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>System OAM</td> <td></td> </tr> <tr> <td>MP1</td> <td>Unavailable</td> <td>Unavailable</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>MP</td> <td></td> </tr> <tr> <td>MP2</td> <td>Unavailable</td> <td>Unavailable</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>MP</td> <td></td> </tr> </tbody> </table> <p>Main Menu: Status & Manage -> HA [Edit]</p> <p>Info</p> <table border="1" data-bbox="467 1503 1490 1640"> <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>	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	Unavailable	Unavailable			UDR_SO_A	System OAM		SO-B	Unavailable	Unavailable			UDR_SO_A	System OAM		MP1	Unavailable	Unavailable			UDR_SO_A	MP		MP2	Unavailable	Unavailable			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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Procedure 10: OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)

Step	Procedure	Result																		
3.	<p>Active NOAMP VIP: Select...</p> <p>Main Menu → Configuration → Server Groups</p> <p>...as shown on the right.</p>	 																		
4.	<p>Active NOAMP VIP: Click the “Insert” dialogue button from the bottom left corner of the screen.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Insert” dialogue button visible.</p>																			
5.	<p>Active NOAMP VIP:</p> <p>Configuring the SOAM or DR NOAMP Server Group</p> <p>The user will be presented with the “Server Groups [Insert]” screen as shown on the right.</p>	<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>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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6.	<p>Active NOAMP VIP: Input the Server Group Name.</p>	<table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Server Group Name</td> <td>SO_grp</td> <td>Unique identifier used to label a Server Group. 1-32-character string. Valid characters are alpt contain at least one alpha and must not start w</td> </tr> </tbody> </table>	Field	Value	Description	Server Group Name	SO_grp	Unique identifier used to label a Server Group. 1-32-character string. Valid characters are alpt contain at least one alpha and must not start w												
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7.	<p>Active NOAMP VIP: Assign the correct group Level.</p>	<table border="1"> <tbody> <tr> <td>Level</td> <td>- Select Level -</td> <td>Select one of the Levels supported by the servers. Level B groups are optional and servers.]</td> </tr> <tr> <td>Parent</td> <td>B</td> <td>Select an existing Server Group or NONE</td> </tr> </tbody> </table> <p>Note: Use these setting for group level:</p> <ul style="list-style-type: none"> For DR NOAMP server group: select “A” on the “Level” pull-down menu.. For SOAM server group: select “B” on the “Level” pull-down menu. 	Level	- Select Level -	Select one of the Levels supported by the servers. Level B groups are optional and servers.]	Parent	B	Select an existing Server Group or NONE												
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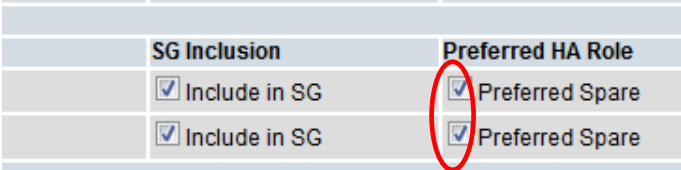
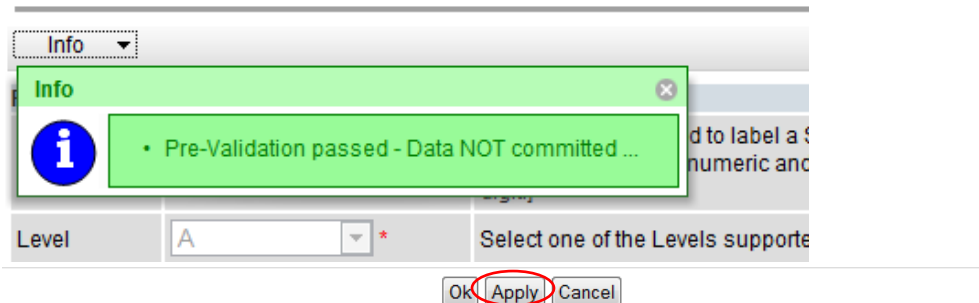
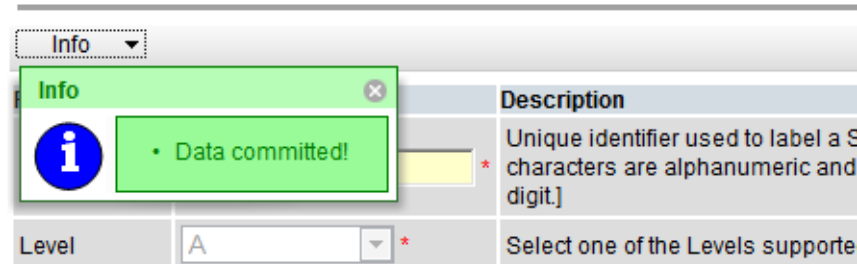
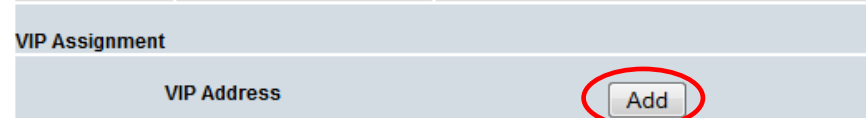
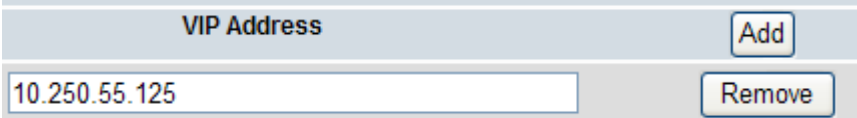
Procedure 10: OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)

Step	Procedure	Result
8.	<p>Active NOAMP VIP: Assign the correct Parent.</p>	 <p>Select an existing Server Group or NONE</p> <p>Note: Use these setting for parent:</p> <ul style="list-style-type: none"> For DR NOAMP server group: select “NONE” on the “Parent” pull-down menu. For SOAM server group: select the 1st NOAMP Site’s server group, as entered in Section 6.1 step 5 on the “Parent” pull-down menu.
9.	<p>Active NOAMP VIP: Assign the correct Function.</p>	 <p>Note: Use these setting for function:</p> <ul style="list-style-type: none"> For DR NOAMP server group: select “UDR-NO” on the “Function” pull-down menu. For SOAM server group: select “NONE” on the “Function” pull-down menu.
10.	<p>Active NOAMP VIP: <i>For DR NOAMP only:</i> Input value “8” into “WAN Replication Connection Count”.</p>	 <p>Specify the associated</p>
11.	<p>Active NOAMP VIP: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”. Select the “Apply” dialogue button.</p>	<p>Main Menu: Configuration -> Server Groups [Insert]</p> 
12.	<p>Active NOAMP VIP: The user should be presented with a banner information message stating “Data committed”.</p>	<p>Main Menu: Configuration -> Server Groups [Insert]</p> 

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

Step	Procedure	Result																								
<p>13.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Select...</p> <p>Main Menu → Configuration → Server Groups</p> <p>...as shown on the right.</p> <p>Note: Server Group entry should be shown on the “Server Groups” configuration screen as shown on the right.</p>	<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> <th>Servers</th> </tr> </thead> <tbody> <tr> <td>NO_grp</td> <td>A</td> <td>NONE</td> <td>UDR-NO</td> <td>8</td> <td>NE NO_SUN_05 NO-A</td> </tr> <tr> <td>SO_grp</td> <td>B</td> <td>NO_grp</td> <td>NONE</td> <td>1</td> <td>NE Serv</td> </tr> </tbody> </table>	Server Group Name	Level	Parent	Function	Connection Count	Servers	NO_grp	A	NONE	UDR-NO	8	NE NO_SUN_05 NO-A	SO_grp	B	NO_grp	NONE	1	NE Serv						
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<p>14.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>1) Select the Server Group entry applied in Step 7. The line entry should now be highlighted in GREEN.</p> <p>2) Select the “Edit” dialogue button from the bottom left corner of the screen.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Edit” dialogue button visible.</p>	<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> <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</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 style="text-align: center; font-size: 2em; color: blue;">2</p> <p style="text-align: right; color: blue;">↑</p> <p style="text-align: center;">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	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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<p>15.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Select the “A” server and the “B” server from the list of “Servers” by clicking the check box next to their names.</p> <p>Note: For Single Server Installation, only SO-A will be displayed; therefore only one box will be selected.</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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Procedure 10: OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)

Step	Procedure	Result
16. <input type="checkbox"/>	Active NOAMP VIP: <i>For DR NOAMP servers only:</i> Check the Preferred Spare boxes next to their names	 <p>NOTE: DR NOAMP will not be accessible via their VIP unless they become the Active NOAMP. Individual servers in the DR NOAMP server group are always accessible by their XMI addresses.</p>
17. <input type="checkbox"/>	Active NOAMP VIP: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”. Select the “Apply” dialogue button.	<p>Main Menu: Configuration -> Server Groups [Edit]</p> 
18. <input type="checkbox"/>	Active NOAMP VIP: The user should be presented with a banner information message stating “Data committed”.	<p>Main Menu: Configuration -> Server Groups [Edit]</p> 
19. <input type="checkbox"/>	Active NOAMP VIP: Click the “Add” dialogue button for the VIP Address.	
20. <input type="checkbox"/>	Active NOAMP VIP: Input the VIP Address	


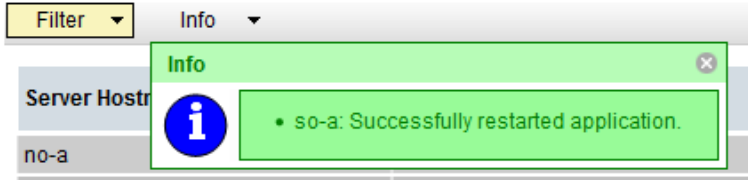
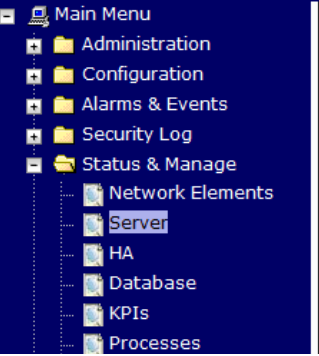
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21.	<p>Active NOAMP VIP: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>Select the “Apply” dialogue button.</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p> <p>Info</p> <p>Info</p> <p>• Pre-Validation passed - Data NOT committed ...</p> <p>Level: A</p> <p>VIP Address: 10.250.55.125</p> <p>Buttons: Add, Remove, Apply (circled), Cancel</p>																																																								
22.	<p>Active NOAMP VIP: The user should be presented with a banner information message stating “Data committed”.</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p> <p>Info</p> <p>Info</p> <p>• Data committed!</p> <p>Description: Unique identifier used to label a Server Group. Valid characters are alphanumeric and unders not start with a digit.]</p>																																																								
23.	<p>IMPORTANT: Wait at least 5 minutes before proceeding on to the next Step.</p>	<ul style="list-style-type: none"> Now that the server(s) have been paired within a Server Group they must establish a master/slave relationship for High Availability (HA). It may take several minutes for this process to be completed. Note: Single Server Configurations do not establish master/slave relationship for High Availability (HA). <p>Allow a minimum of 5 minutes before continuing to the next Step.</p>																																																								
24.	<p>Active NOAMP VIP:</p> <p>Select...</p> <p>Main Menu → Status & Manage → HA</p> <p>...as shown on the right.</p>	<p>Main Menu: Status & Manage -> HA</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>Active</td> <td>OOS</td> <td>Active</td> <td>SO-B</td> <td>UDR_SO_A</td> <td>System OAM</td> <td>10.240.15.43</td> </tr> <tr> <td>SO-B</td> <td>Standby</td> <td>OOS</td> <td>Standby</td> <td>SO-A</td> <td>UDR_SO_A</td> <td>System OAM</td> <td></td> </tr> <tr> <td>MP1</td> <td>Unavaiabl e</td> <td>Unavaiabl e</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>MP</td> <td></td> </tr> <tr> <td>MP2</td> <td>Unavaiabl e</td> <td>Unavaiabl e</td> <td></td> <td></td> <td>UDR_SO_A</td> <td>MP</td> <td></td> </tr> </tbody> </table>	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	Active	OOS	Active	SO-B	UDR_SO_A	System OAM	10.240.15.43	SO-B	Standby	OOS	Standby	SO-A	UDR_SO_A	System OAM		MP1	Unavaiabl e	Unavaiabl e			UDR_SO_A	MP		MP2	Unavaiabl e	Unavaiabl e			UDR_SO_A	MP	
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26.	<p>Active NOAMP VIP:</p> <p>Restarting the OAM Server Application</p> <p>Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	<p>Connected using XMI to no-a (ACTIVE NETWORK OAM&P)</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.	<p>Active NOAMP VIP:</p> <p>1) The “A” and “B” servers should now appear in the right panel. (Only “A” for single server installs)</p> <p>2) Verify that the “DB” status shows “Norm” and the “Proc” status shows “Man” for both servers before proceeding to the next Step. (Only “A” server for single server configuration)</p>	<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.	<p>Active NOAMP VIP:</p> <p>1) Using the mouse, select Server A. The line entry should now be highlighted in GREEN.</p> <p>2) Select the “Restart” dialogue button from the bottom left corner of the screen.</p> <p>3) Click the “OK” button on the confirmation dialogue box.</p> <p>4) The user should be presented with a confirmation message (in the banner area) for Server A stating: “Successfully restarted application”.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.</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>  <p>Are you sure you wish to restart application software on the following server(s)? SO-A</p> <p>OK Cancel</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	Disabled	Err	Norm	Norm	Man	so-b	SO_UDR_NE	Disabled	Err	Norm	Norm	Man
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29.	<p>Active NOAMP VIP:</p> <p>Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	<p>Connected using XMI to no-a (ACTIVE NETWORK OAM&P)</p>  <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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30.	<p>Active NOAMP VIP:</p> <p>Verify that the “Appl State” now shows “Enabled” and that the “Alm, DB, Reporting Status & Proc” columns all 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: If user chooses to refresh the Server status screen in advance of the default setting (15-30 sec.). This may be done by simply reselecting the “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	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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Procedure 10: OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)

Step	Procedure	Result																																			
31.	<p>Active NOAMP VIP: Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</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> </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																							
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<p>Perform steps 32 – 35 for multiple server configurations only (not single server).</p>																																					
32.	<p>Active NOAMP VIP:</p> <ol style="list-style-type: none"> Using the mouse, select Server B. The line entry should now be highlighted in GREEN. Select the “Restart” dialogue button from the bottom left corner of the screen. Click the “OK” button on the confirmation dialogue box. The user should be presented with a confirmation message (in the banner area) for Server B stating: “Successfully restarted application”. <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.</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>	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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Procedure 10: OAM Pairing for SOAM and DR Sites (All SOAM and DR sites)

Step	Procedure	Result																																			
34.	<p>Active NOAMP VIP: Verify that the “Appl State” now shows “Enabled” and that the “Alm, DB, Reporting Status & Proc” columns all 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: If user chooses to refresh the Server status screen in advance of the default setting (15-30 sec.). This may be done by simply reselecting the “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	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 steps above for each DR NOAMP and SOAM site being installed.																																					
35.	<p>Active NOAMP VIP: <i>For Primary NOAMP Standby server only:</i> Move the server back to ‘Active’</p> <p>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>	<p>Main Menu: Status & Manage -> HA [Edit]</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>Active</td> <td>The maximum desired HA Role for NO-B</td> </tr> <tr> <td>SO-A</td> <td>Active</td> <td>The maximum desired HA Role for SO-A</td> </tr> <tr> <td>SO-B</td> <td>Active</td> <td>The maximum desired HA Role for SO-B</td> </tr> </tbody> </table> <p>Ok Cancel</p>	Hostname	Max Allowed HA Role	Description	NO-A	Active	The maximum desired HA Role for NO-A	NO-B	Active	The maximum desired HA Role for NO-B	SO-A	Active	The maximum desired HA Role for SO-A	SO-B	Active	The maximum desired HA Role for SO-B																				
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36.	<p>Active NOAMP VIP: Click the “Logout” link on the server GUI.</p>																																				
THIS PROCEDURE HAS BEEN COMPLETED																																					

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


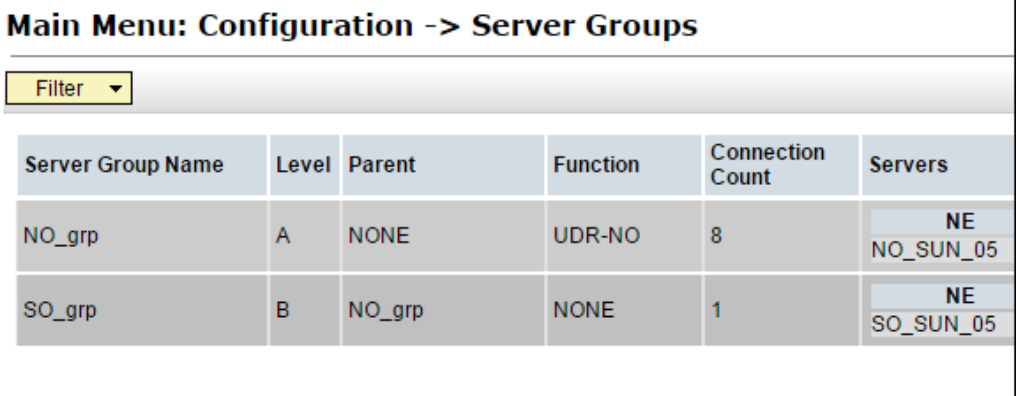
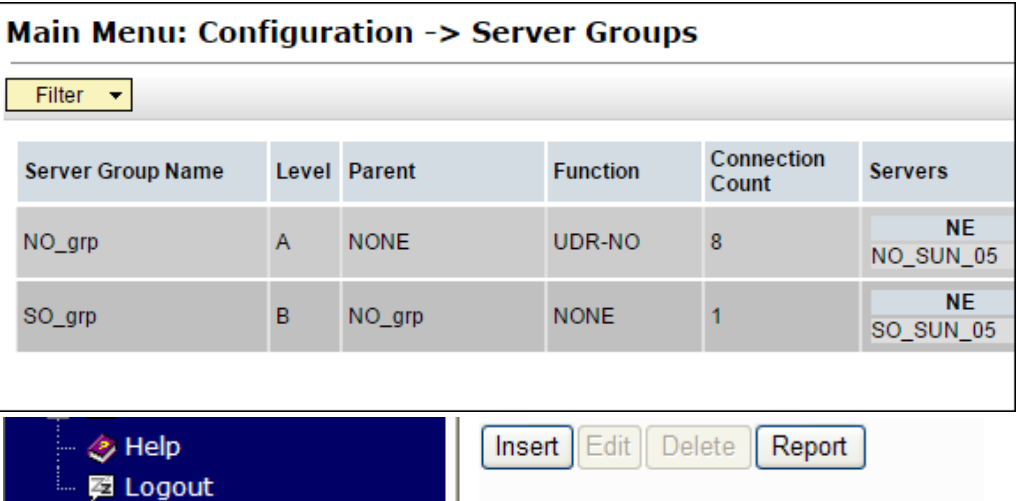
The user should be aware that during the Message Processor (MP) installation procedure, various errors may be seen at different stages of the procedure. During the execution of a step, the user is directed to ignore errors related to values other than the ones referenced by that step.

Requirements:

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

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

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

Step	Procedure	Result
<p>1.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>	
<p>2.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Select...</p> <p>Main Menu → Configuration → Server Groups</p> <p>...as shown on the right.</p>	
<p>3.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>Click the “Insert” dialogue button from the bottom left corner of the screen.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Insert” dialogue button visible.</p>	

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

Step	Procedure	Result																		
4. <input type="checkbox"/>	Active NOAMP VIP: The user will be presented with the “ Server Groups [Insert] ” screen as shown on the right	<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><input type="text" value="- 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><input type="text" value="- Select Parent -"/></td> <td>Select an existing Server Group or NONE</td> </tr> <tr> <td>Function</td> <td><input type="text" value="- 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;"><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="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	<input type="text" value="- 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	<input type="text" value="- Select Parent -"/>	Select an existing Server Group or NONE	Function	<input type="text" value="- 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"/>	Active NOAMP VIP: Input 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><input type="text" value="MP1_grp"/></td> <td>Unique identifier used to label a Server Group. 1-32-character string. Valid characters are alpha Must contain at least one alpha and must not s</td> </tr> </tbody> </table>	Field	Value	Description	Server Group Name	<input type="text" value="MP1_grp"/>	Unique identifier used to label a Server Group. 1-32-character string. Valid characters are alpha Must contain at least one alpha and must not s												
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6. <input type="checkbox"/>	Active NOAMP VIP: Select “ C ” on the “ Level ” pull-down menu..	<table border="1"> <tbody> <tr> <td>Level</td> <td><input type="text" value="C"/></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> </tbody> </table>	Level	<input type="text" value="C"/>	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.]															
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7. <input type="checkbox"/>	Active NOAMP VIP: Select the desired SOAM server group on the “ Parent ” pull-down menu.	<table border="1"> <tbody> <tr> <td>Parent</td> <td><input type="text" value="SO_grp"/></td> <td>Select an existing Server Group or NONE</td> </tr> </tbody> </table>	Parent	<input type="text" value="SO_grp"/>	Select an existing Server Group or NONE															
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8. <input type="checkbox"/>	Active NOAMP VIP: Select “ UDR-MP (multi-active cluster) ” on the “ Function ” pull-down menu.	<table border="1"> <tbody> <tr> <td>Function</td> <td><input type="text" value="UDR-MP (multi-active cluster)"/></td> <td></td> </tr> </tbody> </table>	Function	<input type="text" value="UDR-MP (multi-active cluster)"/>																
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9. <input type="checkbox"/>	Active NOAMP VIP: By clicking Info the user should be presented with a banner information message stating “ Pre-Validation passed ”. Select the “ OK ” dialogue button.	<p>Main Menu: Configuration -> Server Groups [Insert]</p> <p style="text-align: right;"><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></p>																		

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

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<p>10.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>1) Using the mouse, select the MP Server Group associated with the MP being installed.</p> <p>2) Select the “Edit” dialogue button from the bottom left corner of the screen.</p>	<p>Main Menu: Configuration -> Server Groups Tue May 05 10:41:12 2015</p> <p>Filter <input type="text"/></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 style="background-color: #e0ffe0;"> <td>MP1_grp</td> <td>C</td> <td>SO_grp</td> <td>UDR-MP (multi-active cluster)</td> <td>1</td> <td> <table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>UDR_NO_A</td> <td>NO-A</td> <td></td> <td>10.240.15.40</td> </tr> <tr> <td>UDR_NO_A</td> <td>NO-B</td> <td></td> <td>10.240.15.40</td> </tr> </tbody> </table> </td> </tr> <tr> <td>No_grp</td> <td>A</td> <td>NONE</td> <td>UDR-NO</td> <td>8</td> <td> <table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>UDR_SO_A</td> <td>SO-A</td> <td></td> <td>10.240.15.43</td> </tr> <tr> <td>UDR_SO_A</td> <td>SO-B</td> <td></td> <td>10.240.15.43</td> </tr> </tbody> </table> </td> </tr> <tr> <td>SO_grp</td> <td>B</td> <td>No_grp</td> <td>NONE</td> <td>8</td> <td> <table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>UDR_SO_A</td> <td>SO-A</td> <td></td> <td>10.240.15.43</td> </tr> <tr> <td>UDR_SO_A</td> <td>SO-B</td> <td></td> <td>10.240.15.43</td> </tr> </tbody> </table> </td> </tr> </tbody> </table> <p style="text-align: right; font-size: 2em; color: blue;">1</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <table border="1"> <tr> <td style="background-color: #003366; color: white; padding: 5px;"> Help Logout </td> <td style="text-align: center; padding: 5px;"> 2 <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/> </td> </tr> </table> </div>	Server Group Name	Level	Parent	Function	Connection Count	Servers	MP1_grp	C	SO_grp	UDR-MP (multi-active cluster)	1	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>UDR_NO_A</td> <td>NO-A</td> <td></td> <td>10.240.15.40</td> </tr> <tr> <td>UDR_NO_A</td> <td>NO-B</td> <td></td> <td>10.240.15.40</td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	UDR_NO_A	NO-A		10.240.15.40	UDR_NO_A	NO-B		10.240.15.40	No_grp	A	NONE	UDR-NO	8	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>UDR_SO_A</td> <td>SO-A</td> <td></td> <td>10.240.15.43</td> </tr> <tr> <td>UDR_SO_A</td> <td>SO-B</td> <td></td> <td>10.240.15.43</td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	UDR_SO_A	SO-A		10.240.15.43	UDR_SO_A	SO-B		10.240.15.43	SO_grp	B	No_grp	NONE	8	<table border="1"> <thead> <tr> <th>NE</th> <th>Server</th> <th>HA Role Pref</th> <th>VIPs</th> </tr> </thead> <tbody> <tr> <td>UDR_SO_A</td> <td>SO-A</td> <td></td> <td>10.240.15.43</td> </tr> <tr> <td>UDR_SO_A</td> <td>SO-B</td> <td></td> <td>10.240.15.43</td> </tr> </tbody> </table>	NE	Server	HA Role Pref	VIPs	UDR_SO_A	SO-A		10.240.15.43	UDR_SO_A	SO-B		10.240.15.43	Help Logout	2 <input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/>
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

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

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13.	<p>Active NOAMP VIP: By clicking Info the user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>Select the “Apply” dialogue button.</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p>																												
14.	<p>Active NOAMP VIP: The user should be presented with a banner information message stating “Data committed”.</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p>																												
15.	<p>IMPORTANT: Wait at least 5 minutes before proceeding on to the next Step.</p>	<ul style="list-style-type: none"> Now that the Message Processor(s) have been placed within their respective 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 processs 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.	<p>Active NOAMP VIP: Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	<p>Connected using VIP to no-a (ACTIVE NETWORK OAM&P)</p> <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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17.	<p>Active NOAMP VIP: Verify that the “DB & Reporting Status” status columns show “Norm” for the MPs at this point. The “Proc” column should show “Man”.</p>	<p>Normal Capacity Configuration:</p> <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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<p>18.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>1) Select each “MP” with “Man” status using the mouse and holding the Ctrl key. The line entries should be highlighted in GREEN.</p> <p>2) Select the “Restart” dialogue button from the bottom left corner of the screen.</p> <p>3) Click the “OK” button on the confirmation dialogue box.</p> <p>4) The user should be presented with a confirmation message (in the banner area) stating: “Successfully restarted application”.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.</p>	<p>Main Menu: Status & Manage -> Server</p> <p>Help Fri Nov 01 17:05:48 2013 EDT</p> <p>Filter</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> <p>Help Logout</p> <p>Stop Restart Reboot</p> <p>Are you sure you wish to restart application software on the following server(s)? MP-1,MP-2,MP-3,MP-4</p> <p>OK Cancel</p> <p>Info</p> <p>Info</p> <ul style="list-style-type: none"> mp1: Successfully restarted application. 	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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20.	<p>Active NOAMP VIP: Verify that the “Appl State” now shows “Enabled” and that the “DB & Reporting Status” status columns all show “Norm” for the MPs. The “Alm & Proc” columns may show “Err” at this point.</p>	<p>Main Menu: Status & Manage -> Server  Help Fri Nov 01 17:02:40 2013 EDT</p> <p>Filter ▾</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
Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc																																																											
NO_UDR	NO-A	Enabled	Err	Norm	Norm	Norm																																																											
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SO_UDR	SO-A	Enabled	Norm	Norm	Norm	Norm																																																											
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SO_UDR	MP-1	Enabled	Err	Norm	Norm	Err																																																											
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SO_UDR	MP-3	Enabled	Err	Norm	Norm	Err																																																											
SO_UDR	MP-4	Enabled	Err	Norm	Norm	Err																																																											
21.	<p>Active NOAMP VIP: Click the “Logout” link on the server GUI.</p>	<p>Welcome guidmi  [Logout]</p> <p> Help Fri Nov 18 14:43:32 2011 UTC</p>																																																															
THIS PROCEDURE HAS BEEN COMPLETED																																																																	

7.0 APPLICATION CONFIGURATION

7.1 Configure Signaling Routes


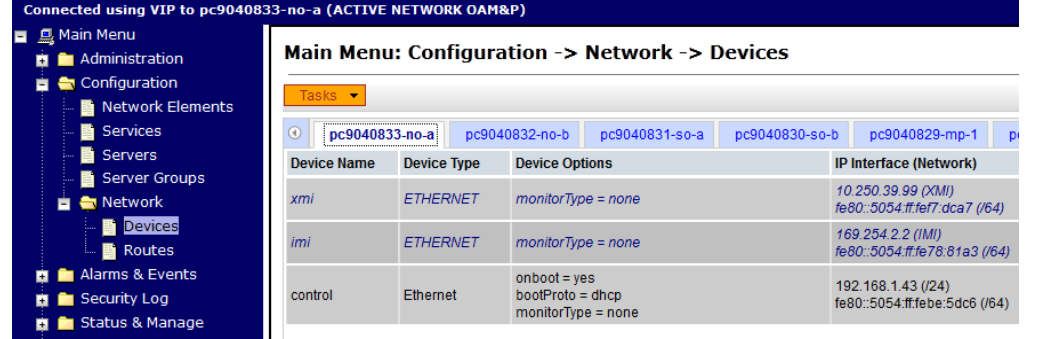
This procedure configures the XSI signaling route for all MP Servers.

Requirements:

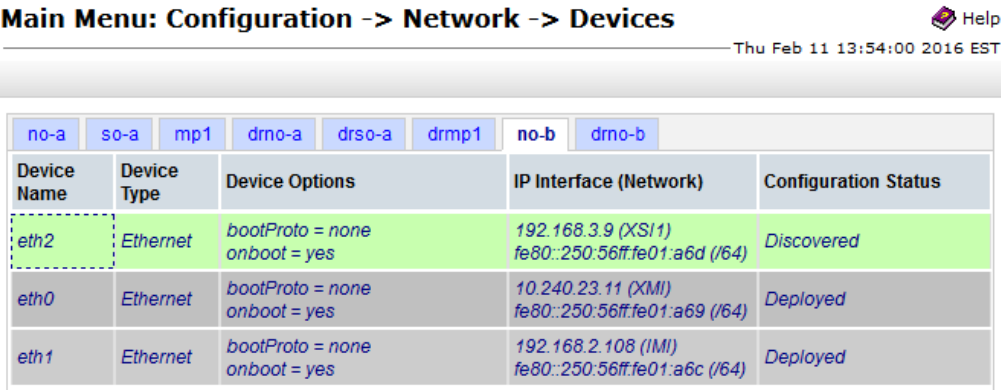
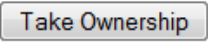
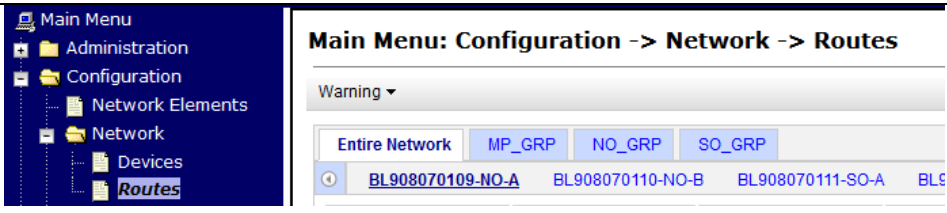
- Section 6.0 OAM Pairing has been completed

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

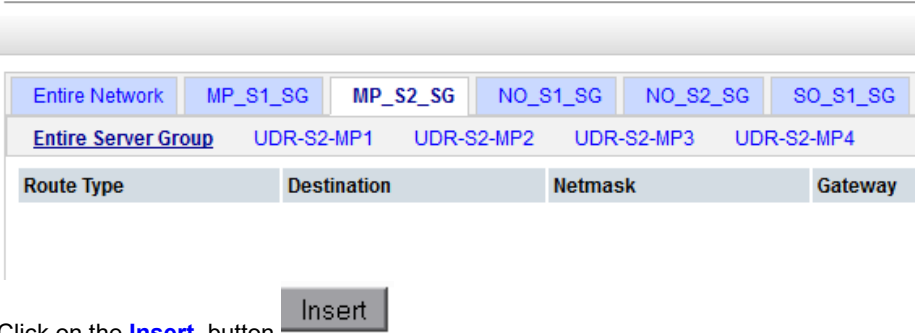
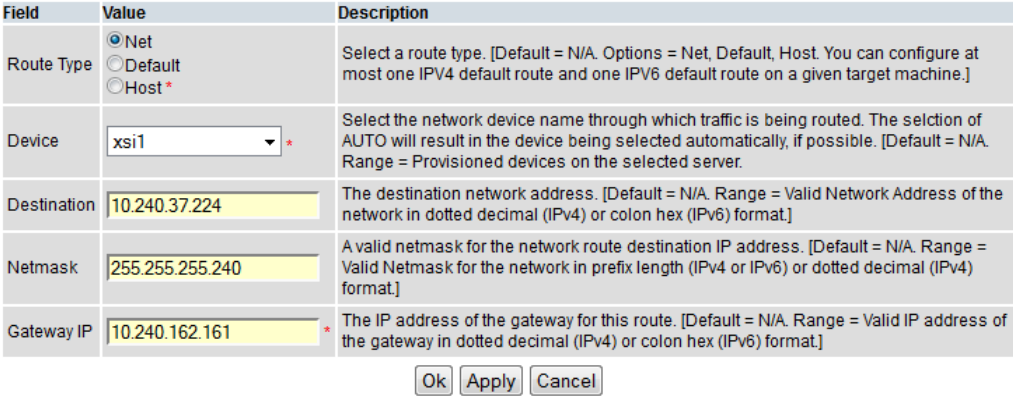
Procedure 12: Configure Signaling Routes

Step	Procedure	Result																
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: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>																	
2. <input type="checkbox"/>	<p>Active NOAMP VIP Select...</p> <p>Main Menu → Configuration → Network → Devices</p> <p>...as shown on the right.</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:dca7 (/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:dca7 (/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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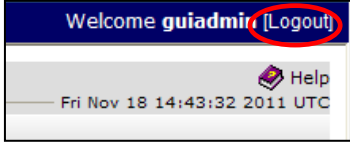
Procedure 12: Configure Signaling Routes

Step	Procedure	Result																				
3.	<p>Active NOAMP VIP</p> <p>Select the xsi device for the desired MP</p>	<p>Click on the desired MP tab. Set Device to XSI-1 device (recorded in B-3 step 3 or C-7 step 5).</p> <p>Output similar to that shown below may be observed.</p> <p>Main Menu: Configuration -> Network -> Devices</p>  <p>The screenshot shows a table with the following data:</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>• “Check off” the associated Check Box as addition is completed for each Server.</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																		
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eth1	Ethernet	bootProto = none onboot = yes	192.168.2.108 (IMI) fe80::250:56ff:fe01:a6c (/64)	Deployed																		
4.	<p>Active NOAMP VIP</p> <p>Take ownership of the xsi device for the desired MP</p>	<p>Click on the Take Ownership button.</p>  <p>• “Check off” the associated Check Box as addition is completed for each Server.</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.	<p>Active NOAMP VIP:</p> <p>Select...</p> <p>Main Menu → Configuration → Network → Routes</p> <p>...as shown on the right.</p>	 <p>The screenshot shows a navigation tree on the left with 'Routes' selected. The main content area shows the 'Main Menu: Configuration -> Network -> Routes' page with a 'Warning' dropdown and tabs for 'Entire Network', 'MP_GRP', 'NO_GRP', and 'SO_GRP'. Below the tabs, there are links for 'BL908070109-NO-A', 'BL908070110-NO-B', and 'BL908070111-SO-A'.</p>																				

Procedure 12: Configure Signaling Routes

Step	Procedure	Result
<p>6.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Insert a new route for the MP server group.</p>	<p>Click on the desired MP Server Group tab on the top line. Then click on the Entire Server Group tab on the line below Server Group line. Output similar to that shown below may be observed.</p> <p>Main Menu: Configuration -> Network -> Routes</p>  <p>Click on the Insert button</p> <p>“Check off” the associated Check Box as addition is completed for each Network.</p> <p><input type="checkbox"/> XSI-1 <input type="checkbox"/> XSI-2</p>
<p>7.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Add xsi signaling route to MP</p>	<p>Output similar to that shown below may be observed.</p> <p>Main Menu: Configuration -> Network -> Routes [Insert]</p>  <p>Set Route Type to desired value Set Device to the appropriate signaling device name (eth2 or eth3) Enter Destination: This is the network address of the Diameter Sh clients that will connect to Oracle Communications User Data Repository on the signaling network. Enter Netmask for the Diameter Sh client network. Enter Gateway IP : This is the gateway for Oracle Communications User Data Repository’s signaling network Click Apply button</p> <p>“Check off” the associated Check Box as addition is completed for each Network.</p> <p><input type="checkbox"/> XSI-1 (eth2) <input type="checkbox"/> XSI-2 (eth3)</p>

Procedure 12: Configure Signaling Routes

Step	Procedure	Result
8.	Repeat the steps above for each signaling network.	
9.	Active NOAMP VIP: Click the “Logout” link on the server GUI.	
THIS PROCEDURE HAS BEEN COMPLETED		

7.2 Configure SPR Application on MP (All SOAM Sites)


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

Requirements:

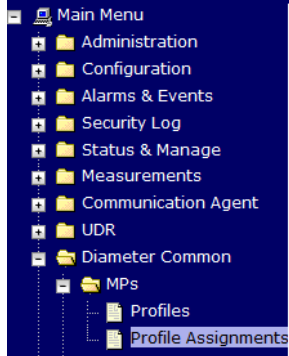
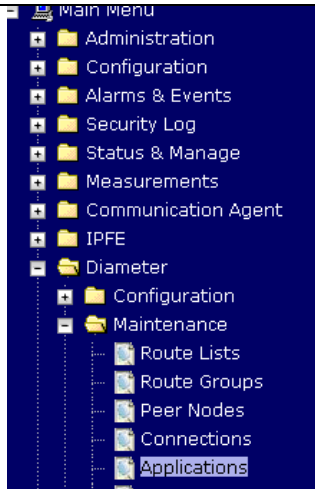
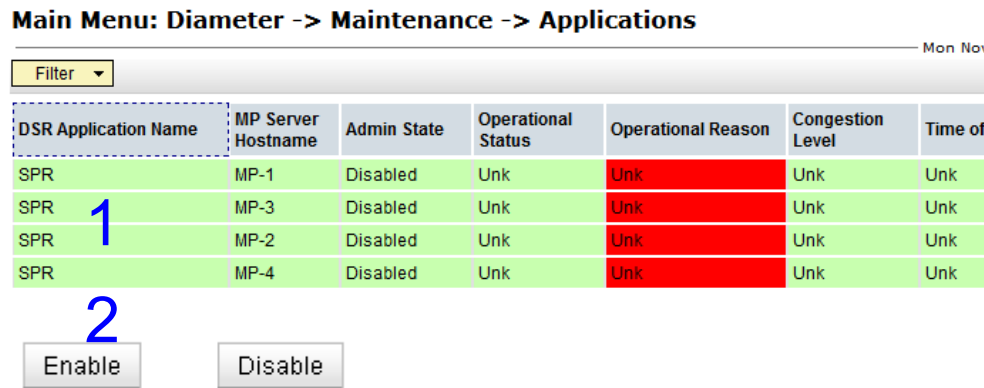
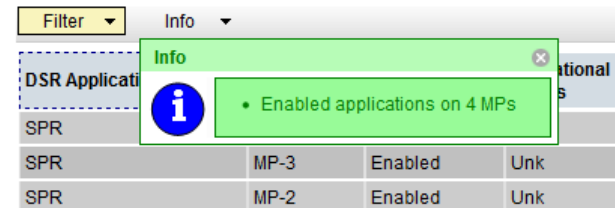
- Section 7.1 Configure Signaling Routes has been completed

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

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

Step	Procedure	Result
1.	<p>SOAM VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>	

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

Step	Procedure	Result																																			
2.	<p>SOAM VIP:</p> <p>Select...</p> <p>Main Menu → Diameter Common → MPs → Profile Assignments</p> <p>Select profile as UDRVM:Database and click on Assign</p>	<p>Normal Capacity Configuration:</p>  <p>Main Menu: Diameter Common -> MPs -> Profile Assignments</p> <table border="1"> <thead> <tr> <th>UDR-MP</th> <th>MP Profile</th> <th>current value</th> </tr> </thead> <tbody> <tr> <td>BL908050105-s1-mp1</td> <td>UDRVM:Database</td> <td>The current MP Profile for BL908050105-Virtualized UDR-MP on OCUDR Rack-M</td> </tr> <tr> <td>BL908050105-s1-mp2</td> <td>UDRVM:Database</td> <td>The current MP Profile for BL908050105-Virtualized UDR-MP on OCUDR Rack-M</td> </tr> <tr> <td>BL908050106-s1-mp3</td> <td>UDRVM:Database</td> <td>The current MP Profile for BL908050106-Virtualized UDR-MP on OCUDR Rack-M</td> </tr> <tr> <td>BL908050106-s1-mp4</td> <td>UDRVM:Database</td> <td>The current MP Profile for BL908050106-Virtualized UDR-MP on OCUDR Rack-M</td> </tr> </tbody> </table>	UDR-MP	MP Profile	current value	BL908050105-s1-mp1	UDRVM:Database	The current MP Profile for BL908050105-Virtualized UDR-MP on OCUDR Rack-M	BL908050105-s1-mp2	UDRVM:Database	The current MP Profile for BL908050105-Virtualized UDR-MP on OCUDR Rack-M	BL908050106-s1-mp3	UDRVM:Database	The current MP Profile for BL908050106-Virtualized UDR-MP on OCUDR Rack-M	BL908050106-s1-mp4	UDRVM:Database	The current MP Profile for BL908050106-Virtualized UDR-MP on OCUDR Rack-M																				
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BL908050106-s1-mp4	UDRVM:Database	The current MP Profile for BL908050106-Virtualized UDR-MP on OCUDR Rack-M																																			
3.	<p>SOAM VIP:</p> <p>Select...</p> <p>Main Menu → Diameter → Maintenance → Applications</p> <p>...as shown on the right.</p>	<p>Main Menu: Diameter -> Maintenance -> Applications</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> </tr> </thead> <tbody> <tr> <td>SPR</td> <td>MP</td> <td>Enabled</td> <td>Available</td> <td>Normal</td> </tr> </tbody> </table>	DSR Application Name	MP Server Hostname	Admin State	Operational Status	Operational Reason	SPR	MP	Enabled	Available	Normal																									
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4.	<p>SOAM VIP:</p> <p>1) Select the “SPR” Application on each “MP” using the mouse and holding the Ctrl key. The line entries should be highlighted in GREEN.</p> <p>2) Click on Enable Button</p>	<p>Main Menu: Diameter -> Maintenance -> Applications</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																															
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SPR	MP-4	Disabled	Unk	Unk	Unk	Unk																															
5.	<p>SOAM VIP:</p> <p>The user should be presented with a banner information message stating “Enabled application”.</p>	 <p>Filter Info</p> <table border="1"> <thead> <tr> <th>DSR Application Name</th> <th>MP Server Hostname</th> <th>Admin State</th> <th>Operational Status</th> </tr> </thead> <tbody> <tr> <td>SPR</td> <td></td> <td>Enabled</td> <td>Unk</td> </tr> <tr> <td>SPR</td> <td>MP-3</td> <td>Enabled</td> <td>Unk</td> </tr> <tr> <td>SPR</td> <td>MP-2</td> <td>Enabled</td> <td>Unk</td> </tr> </tbody> </table>	DSR Application Name	MP Server Hostname	Admin State	Operational Status	SPR		Enabled	Unk	SPR	MP-3	Enabled	Unk	SPR	MP-2	Enabled	Unk																			
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Procedure 13: Configure SPR Application on MP (All SOAM Sites)

Step	Procedure	Result																																				
6.	<p>SOAM VIP:</p> <p>Click the “Logout” link on the server GUI.</p>																																					
7.	<p>Active NOAMP VIP:</p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>																																					
8.	<p>Active NOAMP VIP:</p> <p>Verify service appears on NOAMP GUI page</p> <p>Select...</p> <p>Main Menu → Communication Agent → Maintenance → HA Services Status</p> <p>...as shown on the right.</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	---	---
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MP-4	Udrbe	1	User	Available	1 of 1																																	
NO-A	Udrbe	1	Provider	---	---																																	
9.	<p>Active NOAMP VIP:</p> <p>Verify service appears on NOAMP GUI page</p> <p>Select...</p> <p>Main Menu → Communication Agent → Maintenance → HA Services Status</p> <p>...as shown on the right.</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																																	
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NO-A	Udrbe	1	Provider	---	---																																	
10.	<p>Active NOAMP VIP:</p> <p>Click the “Logout” link on the server GUI.</p>																																					
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>																																						

7.3 Configure NOAMP Signaling Routes (All NOAM Sites)

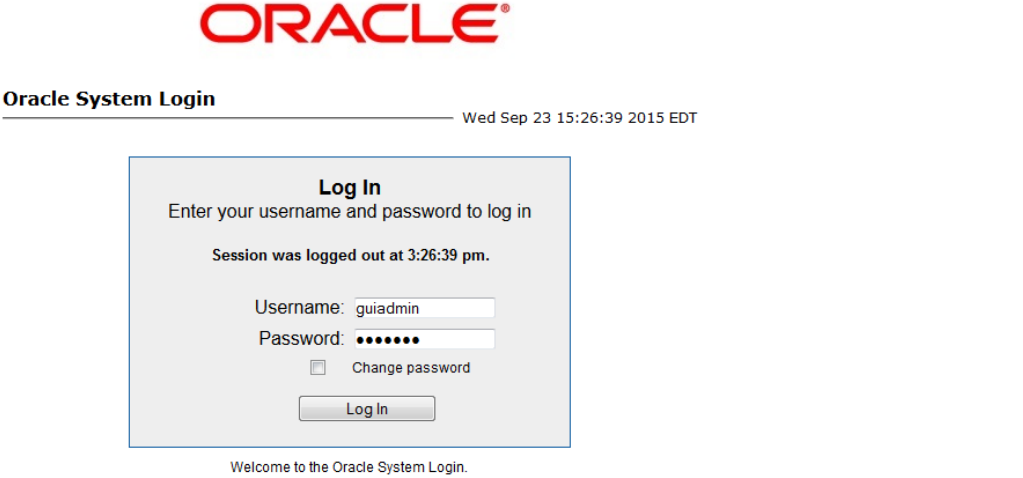

This procedure configures the XSI signaling route for the NOAMP and DR NOAMP Server Groups.

Requirements:

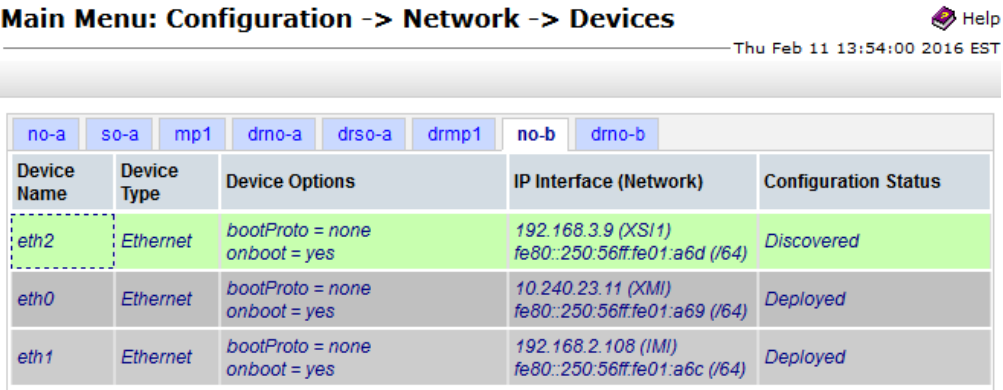
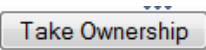
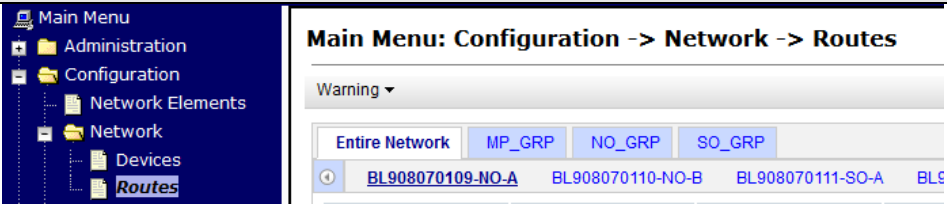
- Section 7.2 Configure SPR Application on MP (All SOAM Sites) has been completed

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


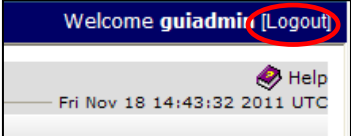
Procedure 14: Configure NOAMP Signaling Routes

Step	Procedure	Result
<p>1.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>	
<p>2.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP Select...</p> <p>Main Menu → Configuration → Network → Devices</p> <p>...as shown on the right.</p>	 <p>“Check off” the associated Check Box as addition is completed for each Server.</p> <p><input type="checkbox"/> NOAMP-A (XSI-1) <input type="checkbox"/> NOAMP-B (XSI-1)</p>

Procedure 14: Configure NOAMP Signaling Routes

Step	Procedure	Result																				
3. <input type="checkbox"/>	<p>Active NOAMP VIP Select the xsi device for the desired NOAMP</p>	<p>Click on the desired NOAMP tab. Select the XSI-1 device (recorded in B-3 step 3 or C-7 step 5). Output similar to that shown below may be observed.</p>  <p>Main Menu: Configuration -> Network -> Devices Help Thu Feb 11 13:54:00 2016 EST</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 style="background-color: #e0ffe0;"> <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>“Check off” the associated Check Box as addition is completed for each Server.</p> <p><input type="checkbox"/> NOAMP-A (XSI-1) <input type="checkbox"/> NOAMP-B (XSI-1)</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																		
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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 Edit the xsi device for the desired NOAMP</p>	<p>Click on the Take Ownership button.</p>  <p>“Check off” the associated Check Box as addition is completed for each Server.</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 - 4 for each NOAMP and its Signaling network(s). NOTE: Steps 6 - 8 are only needed for geo-redundant systems.</p>																				
6. <input type="checkbox"/>	<p>Active NOAMP VIP: Select...</p> <p>Main Menu → Configuration → Network → Routes</p> <p>...as shown on the right.</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 BLS</p>																				

Procedure 14: Configure NOAMP Signaling Routes

Step	Procedure	Result																		
<p>7.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Insert a new route for the NOAMP or DR NOAMP Server group.</p>	<p>Click on the desired Server Group tab on the top line. Then click on the Entire Server Group tab on the line below Server Group line. Output similar to that shown below may be observed.</p> <p>Main Menu: Configuration -> Network -> Routes</p>  <p>Click on the Insert button</p>																		
<p>8.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Add signaling route</p>	<p>Main Menu: Configuration -> Network -> Routes [Insert]</p> <p>Wed Sep 23 17:18:48 2011</p> <p>Insert Route on NO_grp</p> <table border="1" data-bbox="480 884 1463 1234"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Route Type</td> <td> <input type="radio"/> Net <input 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>- 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>Ok Apply Cancel</p> <p>Set Route Type to Net Set Device to XSI-1 device (recorded in B-3 step 3 or C-7 step 5). Enter Destination: This is the network address of the remote MP server group that will connect to Oracle Communications User Data Repository NOAMP for ComAgent service. Enter Netmask for the remote network. Enter Gateway IP: This is the gateway for Oracle Communications User Data Repository's signaling network. Click Apply button</p>	Field	Value	Description	Route Type	<input 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	- 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 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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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.]																		
<p>9.</p> <p><input type="checkbox"/></p>	<p>Repeat Steps 6 - 8 if MP ↔ ComAgent communication is intended to be configured on XSI1 .</p> <p>Note: Destination would be DR Site XSI1 Address if configuring Primary Site and vice-versa. Note: Netmask would be DR Site XSI1 Address if configuring Primary Site and vice-versa. Note: Gateway IP would be Primary Site XSI1 Gateway if configuring Primary Site and vice-versa.</p>																			
<p>10.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Click the “Logout” link on the server GUI.</p>																			
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>																				

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

Procedure 15: Configure Services on Signaling Network

Step	Procedure	Result																								
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: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>	 <p>Welcome to the Oracle System Login.</p>																								
2. <input type="checkbox"/>	<p>Active NOAMP VIP: Select...</p> <p>Main Menu → Configuration → Services</p> <p>...as shown on the right.</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
Name	Intra-NE Network	Inter-NE Network																								
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Replication_MP	IMI	XMI																								
ComAgent	IMI	XMI																								

Procedure 15: Configure Services on Signaling Network

Step	Procedure	Result																								
<p>3.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>1) Set two services values as shown on the right:</p> <p>Inter-NE HA_Secondary → XSI1</p> <p>Inter-NE ComAgent → XSI1</p> <p>2) Select the “Apply” dialogue button.</p> <p>3) Select the “OK” dialogue button in the popup window.</p>	<table border="1"> <thead> <tr> <th data-bbox="467 317 792 352">Name</th> <th data-bbox="792 317 1101 352">Intra-NE Network</th> <th data-bbox="1101 317 1417 352">Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td data-bbox="467 352 792 415">OAM</td> <td data-bbox="792 352 1101 415">IMI</td> <td data-bbox="1101 352 1417 415">XMI</td> </tr> <tr> <td data-bbox="467 415 792 478">Replication</td> <td data-bbox="792 415 1101 478">IMI</td> <td data-bbox="1101 415 1417 478">XMI</td> </tr> <tr> <td data-bbox="467 478 792 541">Signaling</td> <td data-bbox="792 478 1101 541">Unspecified</td> <td data-bbox="1101 478 1417 541">Unspecified</td> </tr> <tr> <td data-bbox="467 541 792 604">HA_Secondary</td> <td data-bbox="792 541 1101 604">IMI</td> <td data-bbox="1101 541 1417 604">XSI1</td> </tr> <tr> <td data-bbox="467 604 792 667">HA_MP_Secondary</td> <td data-bbox="792 604 1101 667">IMI</td> <td data-bbox="1101 604 1417 667">XMI</td> </tr> <tr> <td data-bbox="467 667 792 730">Replication_MP</td> <td data-bbox="792 667 1101 730">IMI</td> <td data-bbox="1101 667 1417 730">XMI</td> </tr> <tr> <td data-bbox="467 730 792 793">ComAgent</td> <td data-bbox="792 730 1101 793">IMI</td> <td data-bbox="1101 730 1417 793">XSI1</td> </tr> </tbody> </table> <div data-bbox="459 789 1084 1010" style="border: 1px solid gray; padding: 10px;"> <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 need to 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
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<p>4.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>The user will be presented with the “Services” configuration screen as shown on the right</p>	<table border="1"> <thead> <tr> <th data-bbox="467 1087 792 1123">Name</th> <th data-bbox="792 1087 1101 1123">Intra-NE Network</th> <th data-bbox="1101 1087 1417 1123">Inter-NE Network</th> </tr> </thead> <tbody> <tr> <td data-bbox="467 1123 792 1186">OAM</td> <td data-bbox="792 1123 1101 1186">IMI</td> <td data-bbox="1101 1123 1417 1186">XMI</td> </tr> <tr> <td data-bbox="467 1186 792 1249">Replication</td> <td data-bbox="792 1186 1101 1249">IMI</td> <td data-bbox="1101 1186 1417 1249">XMI</td> </tr> <tr> <td data-bbox="467 1249 792 1312">Signaling</td> <td data-bbox="792 1249 1101 1312">Unspecified</td> <td data-bbox="1101 1249 1417 1312">Unspecified</td> </tr> <tr> <td data-bbox="467 1312 792 1375">HA_Secondary</td> <td data-bbox="792 1312 1101 1375">IMI</td> <td data-bbox="1101 1312 1417 1375">XSI1</td> </tr> <tr> <td data-bbox="467 1375 792 1438">HA_MP_Secondary</td> <td data-bbox="792 1375 1101 1438">IMI</td> <td data-bbox="1101 1375 1417 1438">XMI</td> </tr> <tr> <td data-bbox="467 1438 792 1501">Replication_MP</td> <td data-bbox="792 1438 1101 1501">IMI</td> <td data-bbox="1101 1438 1417 1501">XMI</td> </tr> <tr> <td data-bbox="467 1501 792 1564">ComAgent</td> <td data-bbox="792 1501 1101 1564">IMI</td> <td data-bbox="1101 1501 1417 1564">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
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Procedure 15: Configure Services on Signaling Network

Step	Procedure	Result																																																															
5. <input type="checkbox"/>	Reboot all NOAMP and MP Servers	<p>Reboot all NOAMP and MP servers either by the Active NOAMP GUI's Status & Manage -> Server screen with the Reboot button:</p> <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"> <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="border: 2px dashed green;"> <td>no-b</td> <td>NO_UDR_NE</td> <td>Enabled</td> <td>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> <input type="button" value="Stop"/> <input type="button" value="Restart"/> <input type="button" value="Reboot"/> <input type="button" value="NTP Sync"/> <input type="button" value="Report"/> <input type="checkbox"/> Pause updates </p> <p>Or on the terminal of each server with the reboot command:</p> <pre>\$ sudo reboot</pre> <p>Note: This should be executed 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																																																											
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so-a	SO_UDR_NE	Enabled	Norm	Norm	Norm	Norm																																																											
THIS PROCEDURE HAS BEEN COMPLETED																																																																	

7.5 Accept Installation

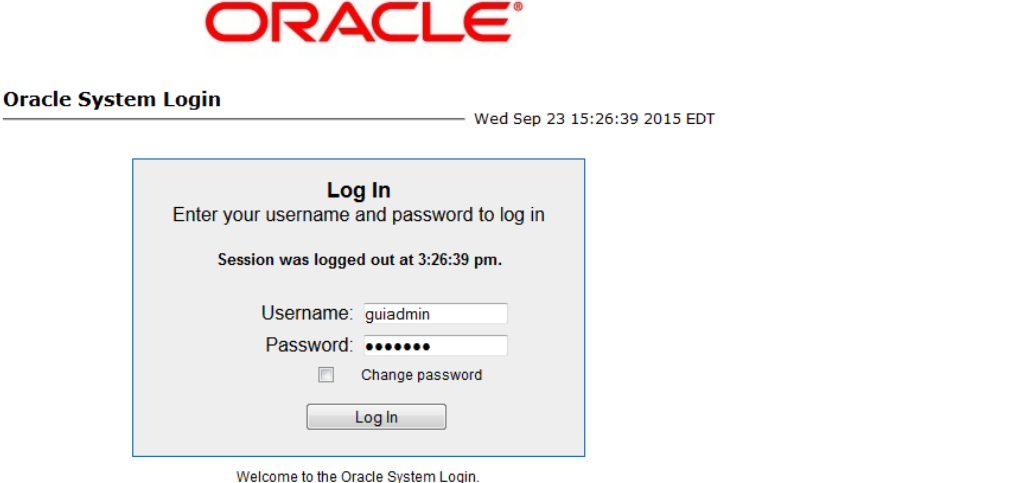
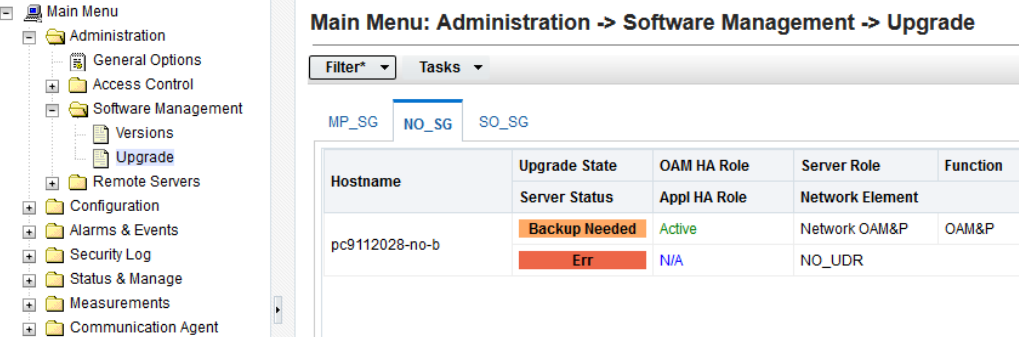
This procedure accepts the installation/upgrade on any servers that have not already been accepted. Depending on the manner of installation, there may be no servers that require acceptance at this point in installation.

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

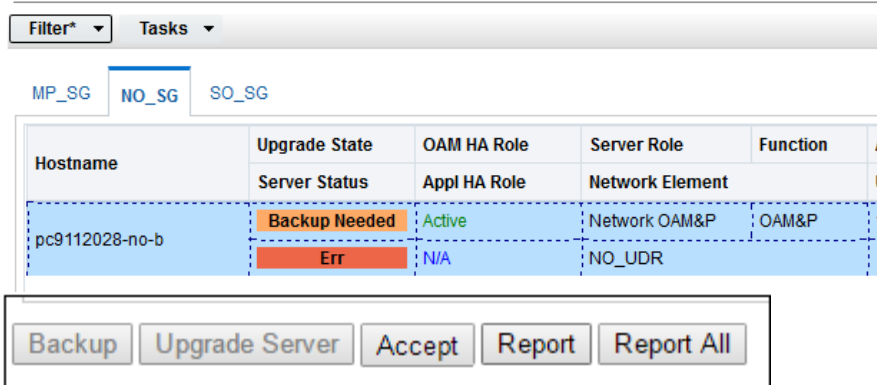
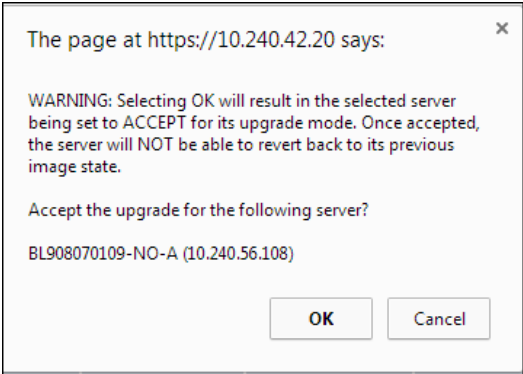
The Alarm 32532 (Server Upgrade Pending Accept/Reject) will be displayed for each server until one of these two actions (accept or reject) is performed.

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

Procedure 16: Accept Installation

Step	Procedure	Result
<p>1.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Launch an approved web browser and connect to the NOAMP Server A IP address</p> <p>NOTE: Choose “Continue to this website (not recommended)” if presented with the “security certificate” warning.</p> <p>Login to the GUI using the default user and password.</p>	
<p>2.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP: Select...</p> <p>Main Menu → Administration → Software Management → Upgrade</p> <p>...as shown on the right.</p>	

Procedure 16: Accept Installation

Step	Procedure	Result
<p>3.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP (GUI):</p> <p>Accept upgrade for selected server(s)</p>	<p>Accept upgrade of selected server(s) Select the server on which upgrade hasn't yet been accepted. Click the "Accept" button</p> <p>Main Menu: Administration -> Software Management -> Upgrade</p>  <p>A confirmation dialog will warn that once upgrade is accepted, the servers will not be able to revert back to their previous image states.</p>  <p>Click "OK" The Upgrade Administration screen re-displays. A pull-down Info message will indicate the server(s) on which upgrade was accepted.</p>
<p>4.</p> <p><input type="checkbox"/></p>	<p>Active NOAMP VIP:</p> <p>Accept upgrade of the rest of the system</p>	<p>Accept Upgrade on all remaining servers in the system:</p> <p>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> <p>Note: As upgrade is accepted on each server the corresponding Alarm ID 32532 (Server Upgrade Pending Accept/Reject) should be removed.</p>

Procedure 16: Accept Installation

Step	Procedure	Result																
5. <input type="checkbox"/>	Active NOAMP VIP: Verify accept	Check that alarms are removed: Navigate to this GUI page Alarms & Events > View Active <div style="border: 1px solid black; padding: 5px;"> <p>Main Menu: Alarms & Events -> View Active</p> <hr/> <p>Filter ▾ Tasks ▾</p> <hr/> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Seq #</th> <th style="width: 15%;">Event ID</th> <th style="width: 25%;">Timestamp</th> <th style="width: 15%;">Severity</th> <th style="width: 10%;">Product</th> <th style="width: 10%;">Process</th> <th style="width: 10%;">NE</th> <th style="width: 15%;">Server</th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2">Alarm Text</td> <td colspan="5">Additional Info</td> </tr> </tbody> </table> </div> Verify that Alarm ID 32532 (Server Upgrade Pending Accept/Reject) is not displayed under active alarms on User Data Repository system	Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server		Alarm Text		Additional Info				
Seq #	Event ID	Timestamp	Severity	Product	Process	NE	Server											
	Alarm Text		Additional Info															
THIS PROCEDURE HAS BEEN COMPLETED																		


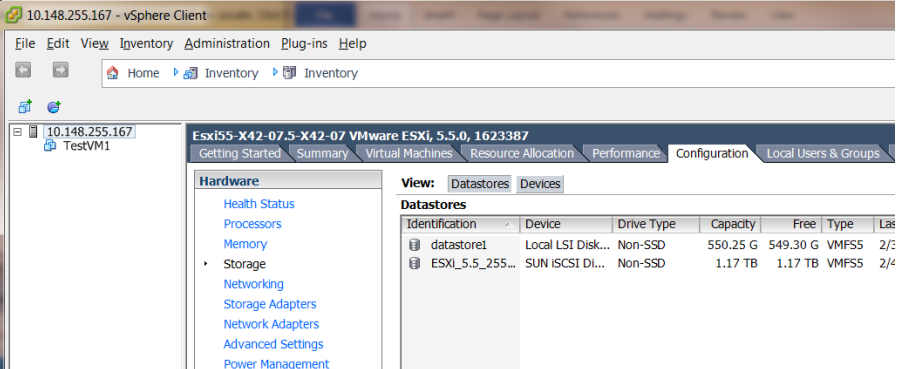
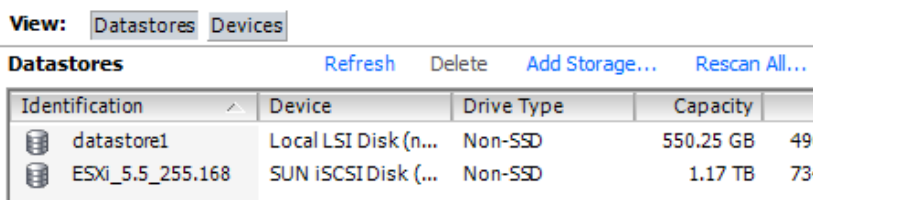
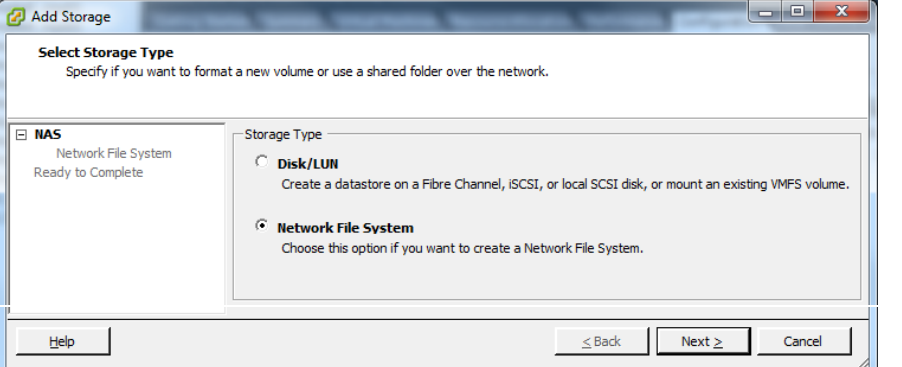
8.0 APPENDIXES

Appendix A. VMWARE VSPHERE ENVIRONMENT SETUP

A-1 Host Datastore configuration using vsphere

The following procedure is executed to properly configure a datastore on the Host so that the appropriate storage is available for Oracle Communications User Data Repository component VMs. Steps and screenshots are taken from vSphere Client.

Procedure 17: Host Datastore Configuration with vSphere

<p>S T E P #</p>	<p>This procedure configures host networking.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact Error! Not a valid result for table., and ask for assistance.</p>																						
<p>1.</p> <p><input type="checkbox"/></p>	<p>Log into the VMware client</p>																						
<p>2.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>1) Select the Host on the left tree menu</p> <p>2) Click the Configuration tab on right</p> <p>3) Click Storage under Hardware menu</p>																						
<p>3.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Click “Add Storage...”</p>	 <table border="1" data-bbox="423 1339 1230 1453"> <thead> <tr> <th>Identification</th> <th>Device</th> <th>Drive Type</th> <th>Capacity</th> <th>Free</th> <th>Type</th> <th>Las</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>VMFS5</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>VMFS5</td> <td>2/4</td> </tr> </tbody> </table>	Identification	Device	Drive Type	Capacity	Free	Type	Las	datastore1	Local LSI Disk (n...	Non-SSD	550.25 GB	549.30 G	VMFS5	2/3	ESXi_5.5_255.168	SUN iSCSI Disk (...	Non-SSD	1.17 TB	1.17 TB	VMFS5	2/4
Identification	Device	Drive Type	Capacity	Free	Type	Las																	
datastore1	Local LSI Disk (n...	Non-SSD	550.25 GB	549.30 G	VMFS5	2/3																	
ESXi_5.5_255.168	SUN iSCSI Disk (...	Non-SSD	1.17 TB	1.17 TB	VMFS5	2/4																	
<p>4.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>1) Select Network File System storage type</p> <p>2) Click Next</p>																						

Procedure 17: Host Datastore Configuration with vSphere

5.	<p>VMware client:</p> <p><input type="checkbox"/></p> <p>1) Enter a Server IP, Folder, and Datastore Name in the provided fields according to the resource availability in your VMware host environment</p> <p>2) Click Next</p>	
6.	<p>VMware client:</p> <p><input type="checkbox"/></p> <p>1) Review the Datastore summary</p> <p>2) Click Finish</p>	
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>		

A-2 Host networking configuration using vsphere

The following procedure is executed to properly configure the recommended Networking on the Host so that the appropriate vNICs are available for Oracle Communications User Data Repository component VMs. Steps and screenshots are taken from vSphere Client.

To view the currently available Networks on the Host, select the **Summary** tab. In the example below several OAM and Signaling Networks have been configured. Each of these is associated with vSwitch on the Host and physical ethernet. Oracle Communications User Data Repository VMs can be associated with up to 5 vLAN Networks. All 5 vNICs should be created and configured in order to be available for the Guest. The expected vNICs correspond the the following dedicated interfaces of the Oracle Communications User Data Repository and so the recommendation is the label them similarly:

XMI – OAM Management Interface for the application

XSI1 – Signaling Interface

XSI2 – Signaling Interface


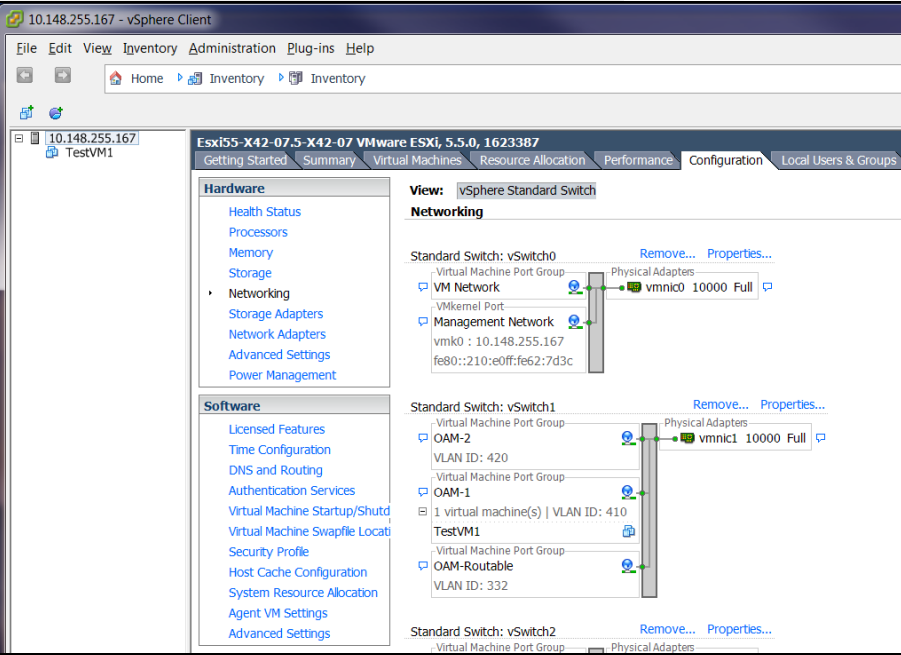
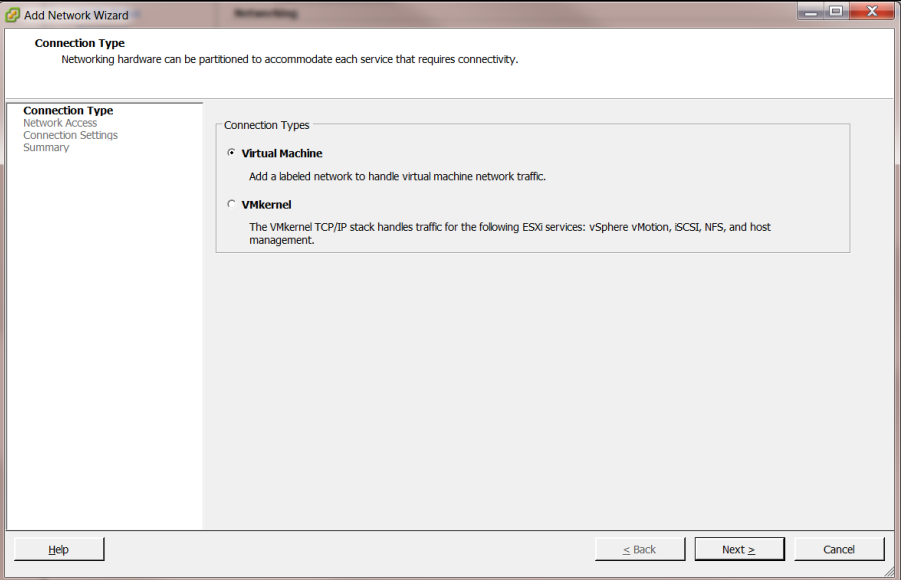
IMI – Replication Interface

Guest Management – Reserved for Guest management activities.

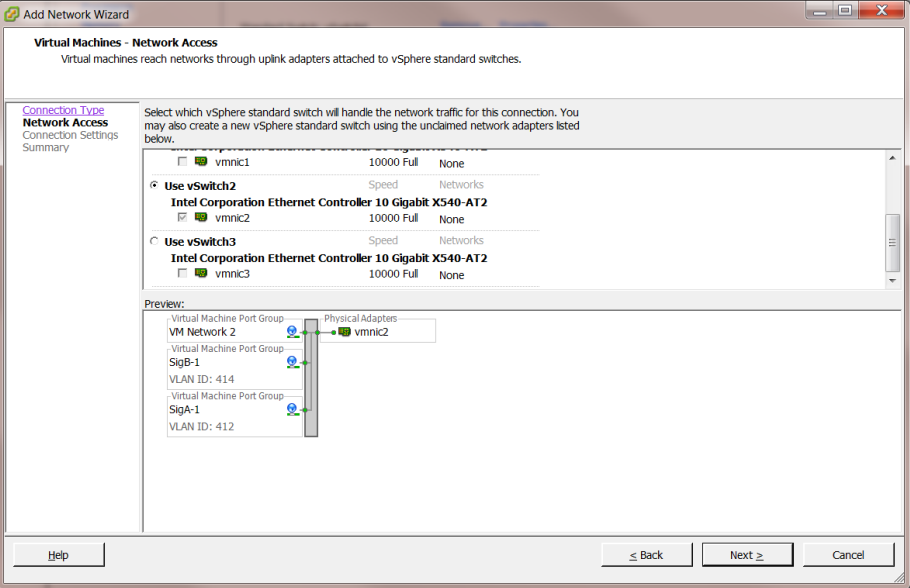
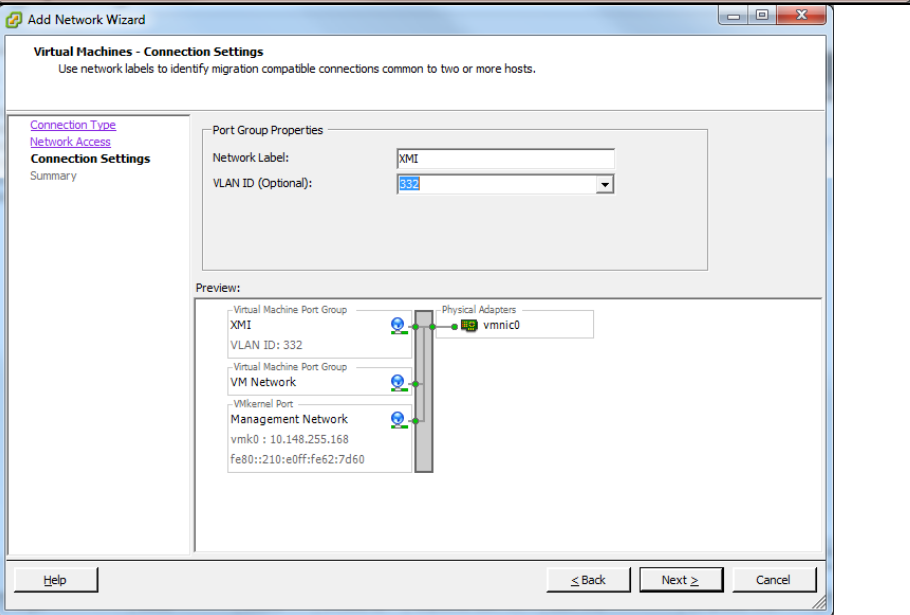
Procedure 18: Host Networking Configuration with vSphere

<p>S</p> <p>T</p> <p>E</p> <p>P</p> <p>#</p>	<p>This procedure configures host networking.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>If this procedure fails, contact Error! Not a valid result for table., and ask for assistance.</p>
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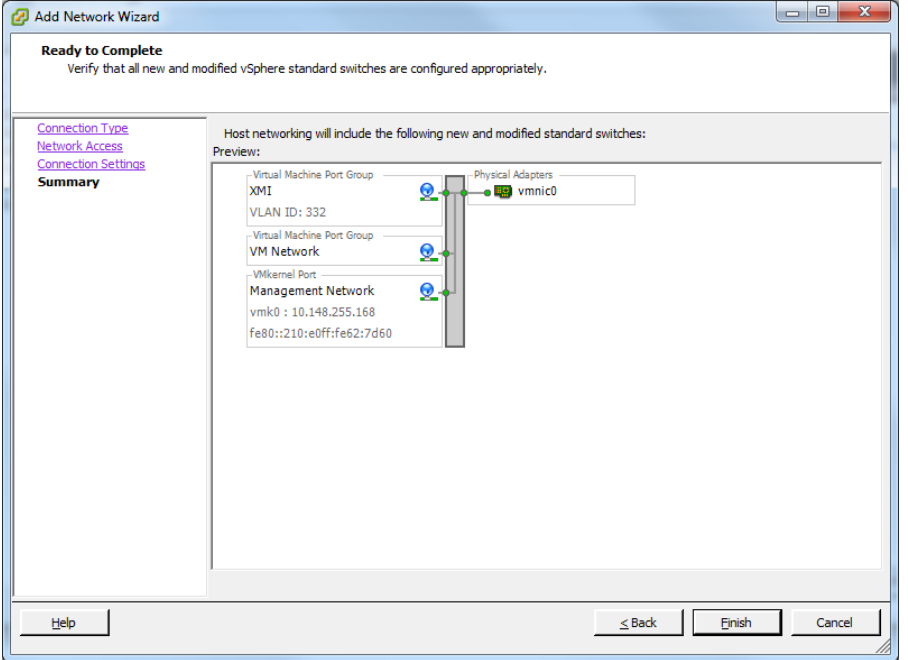
Procedure 18: Host Networking Configuration with vSphere

<p>1.</p> <p><input type="checkbox"/></p>	<p>Log into the Vmware client</p>	
<p>2.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>1) Select the Host on the left tree menu</p> <p>2) Click the Configuration tab on right</p> <p>3) Click Networking under Hardware menu</p>	
<p>3.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>1) Select Add Networking from top</p> <p>2) Chose connection type Virtual Machine and click Next</p>	

Procedure 18: Host Networking Configuration with vSphere

<p>4. VMware client:</p> <p><input type="checkbox"/> Select appropriate vSwitch type based on the Host hardware and click Next</p>	
<p>5. VMware client:</p> <p><input type="checkbox"/> Label the Network, enter its VLAN ID, click Next</p>	 <p>Note: It is recommended that the name reflect how the Network will be used or referenced from within the Guest, ie XMI, IMI, XSI1, etc.</p>

Procedure 18: Host Networking Configuration with vSphere

<p>6. <input type="checkbox"/></p>	<p>VMware client: Review input and click Finish</p>	
<p>7. <input type="checkbox"/></p>	<p>Repeat this procedure for each network</p>	<p>Repeat this procedure for each network type that will be 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>
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>		

Appendix B. VMWARE VSPHERE ORACLE COMMUNICATIONS USER DATA REPOSITORY DEPLOYMENT

B-1 Create Guests from OVA


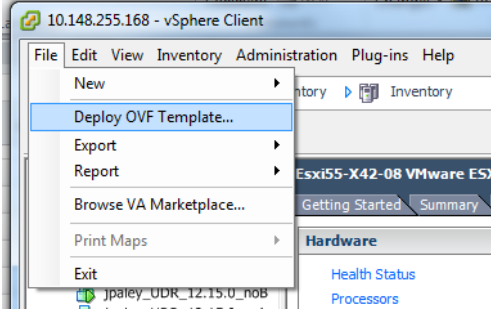
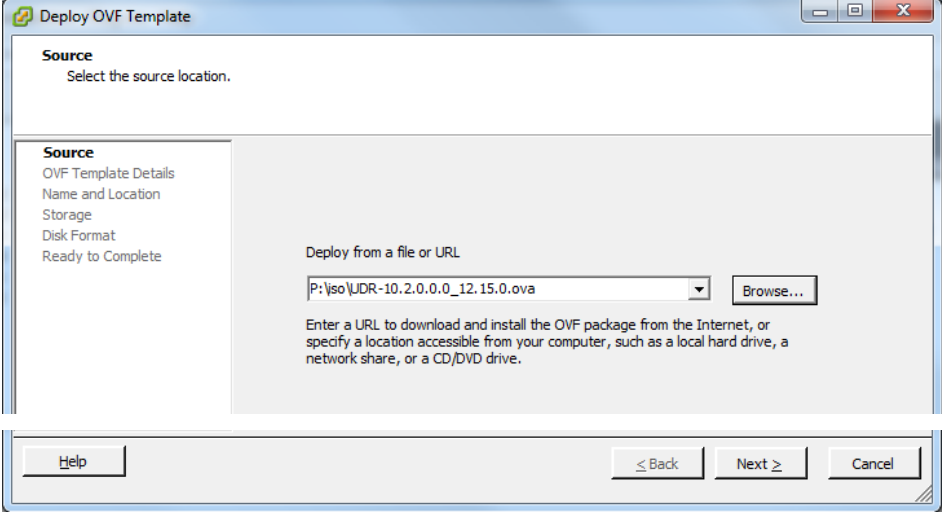
This procedure will create Oracle Communications User Data Repository virtual machines (guests) from OVA.

Needed material:

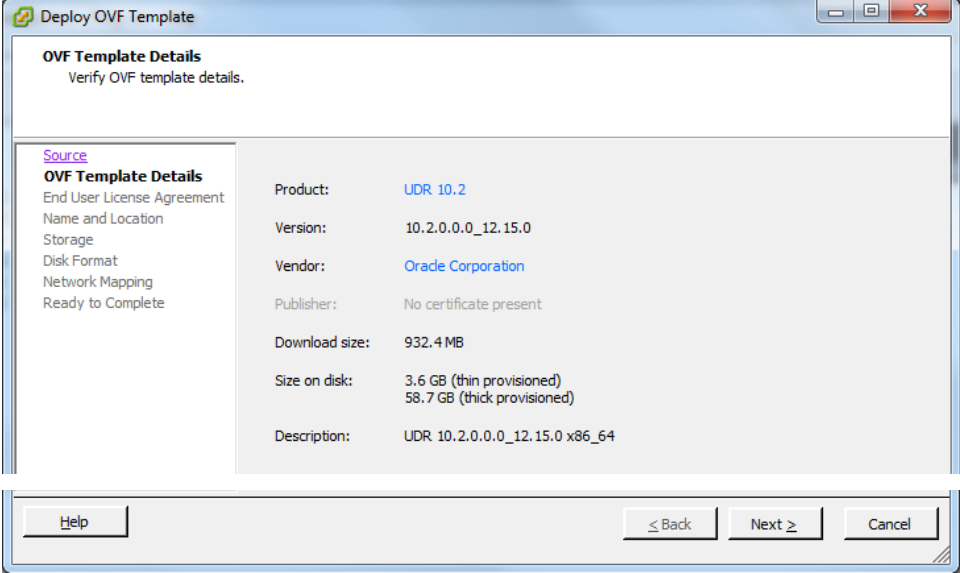
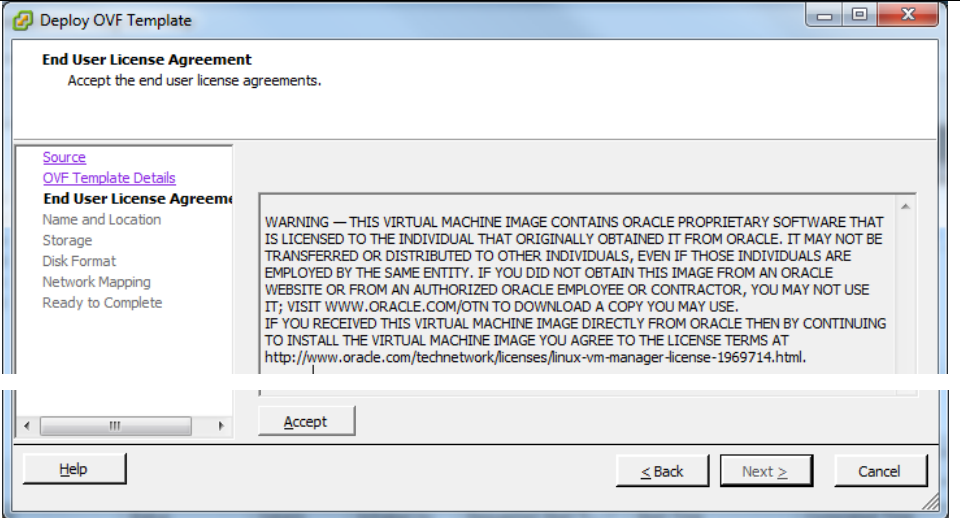
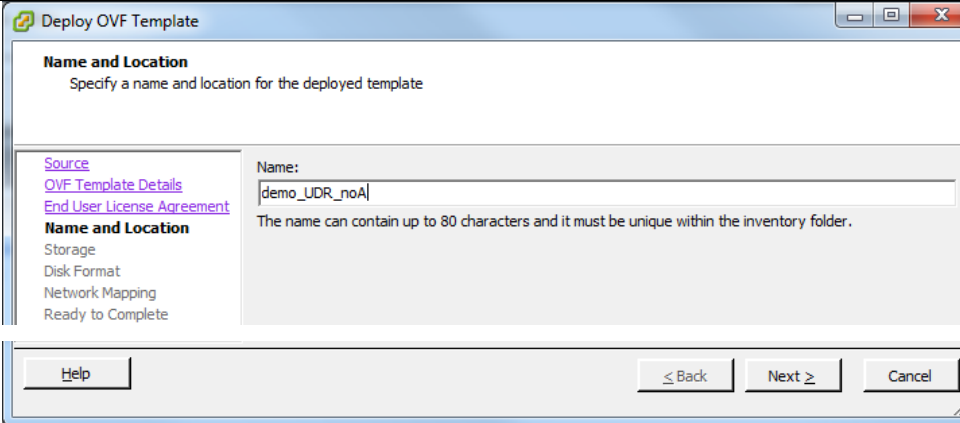
- Oracle Communications User Data Repository OVA

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

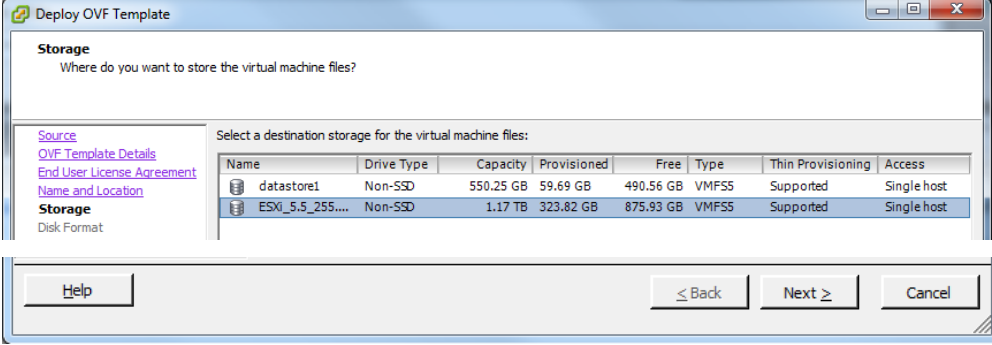
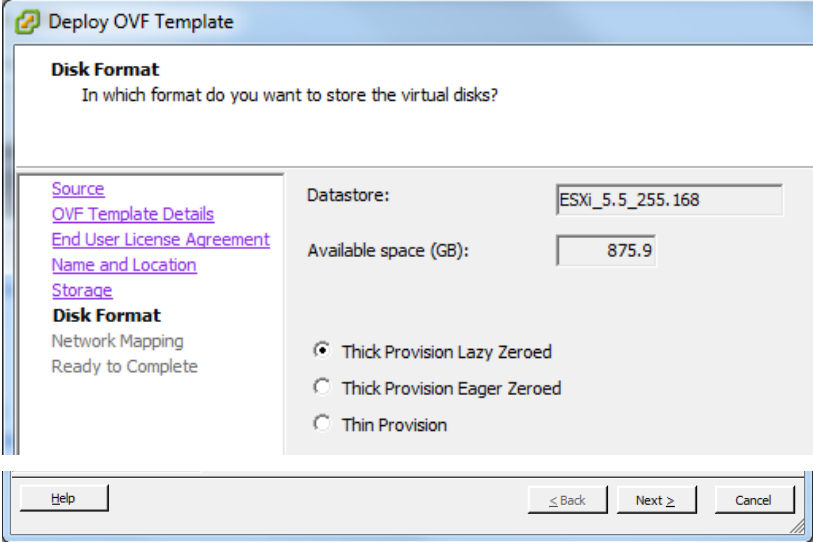
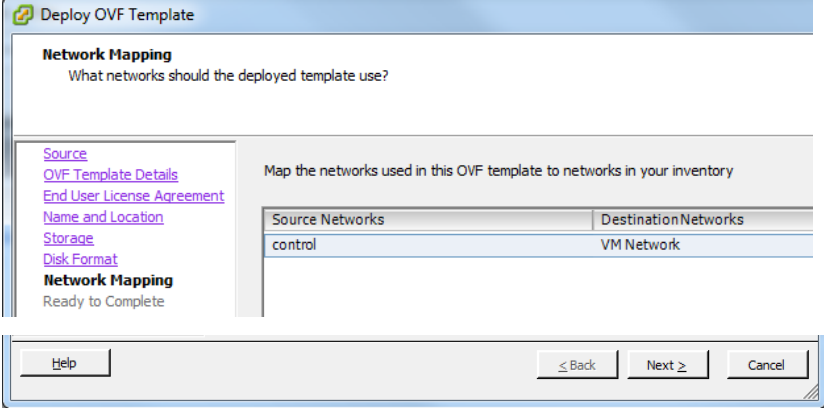
Procedure 19: Deploy Oracle Communications User Data Repository OVA

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

Procedure 19: Deploy Oracle Communications User Data Repository OVA

Step	Procedure	Result
<p>4.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Details screen displays, click Next</p>	
<p>5.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Accept End User License Agreement by clicking Accept button then click Next</p>	
<p>6.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Name the virtual machine and click Next</p>	

Procedure 19: Deploy Oracle Communications User Data Repository OVA

Step	Procedure	Result
<p>7.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Select destination storage for the virtual machine from the list of available data stores then click Next.</p>	 <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>
<p>8.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Choose Thick Provision Lazy Zeroed and click Next</p>	
<p>9.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Click Next</p>	

Procedure 19: Deploy Oracle Communications User Data Repository OVA

Step	Procedure	Result
10. <input type="checkbox"/>	VMware client: Review deployment settings and click Finish	
11. <input type="checkbox"/>	VMware client: After a wait a deployment status message is displayed. Click Close .	
THIS PROCEDURE HAS BEEN COMPLETED		

B-2 Configure Guest Resources

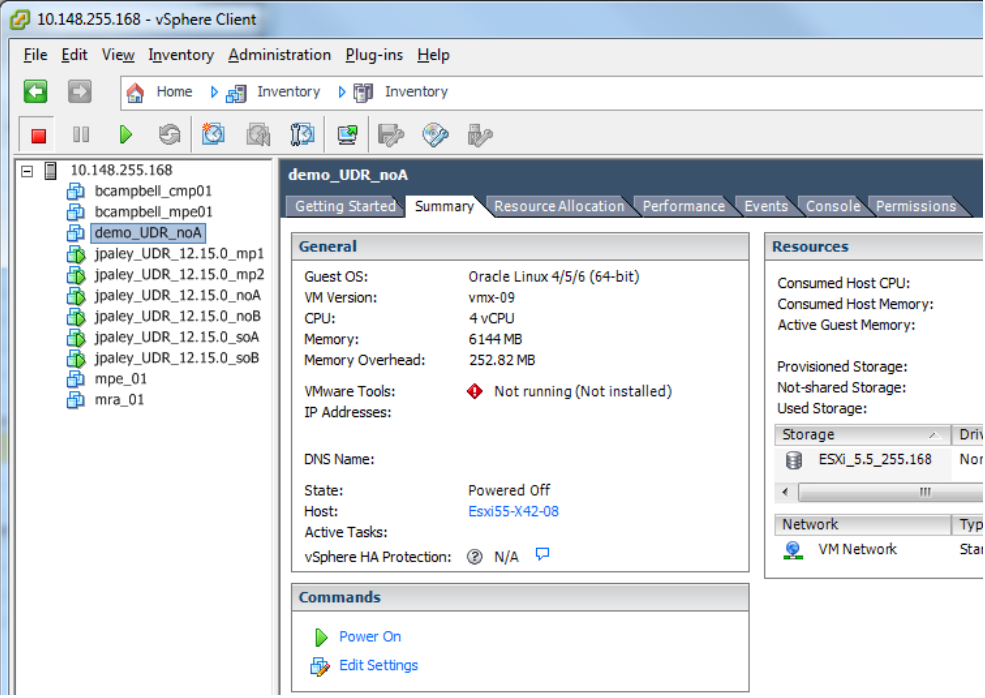
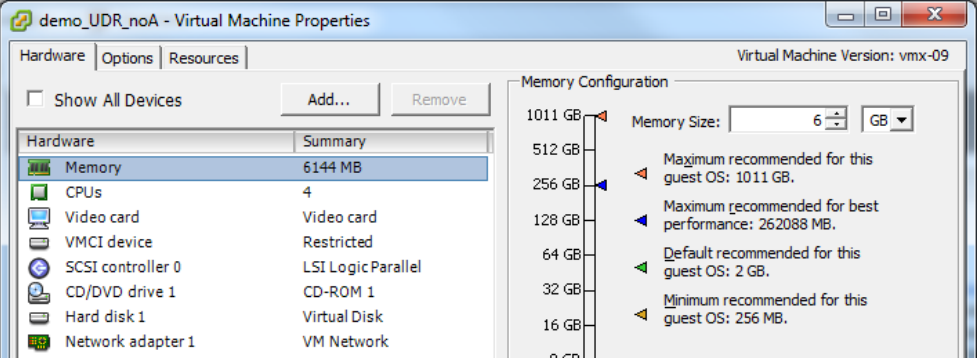
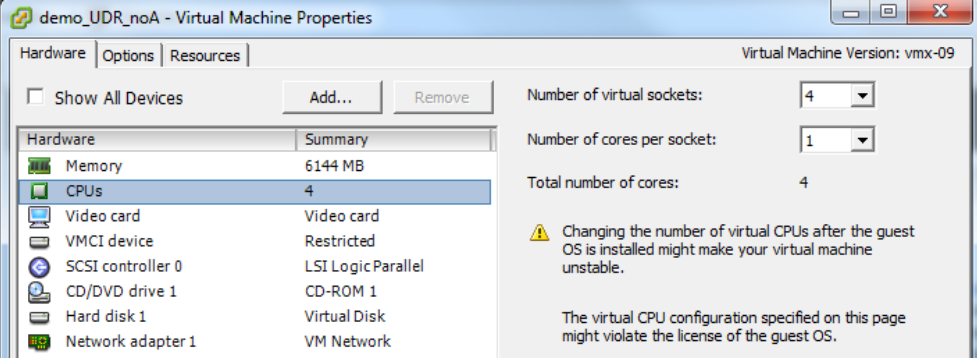
This procedure will configure the required resource allocations and associations for Oracle Communications User Data Repository virtual machines (guests) and power them on.

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

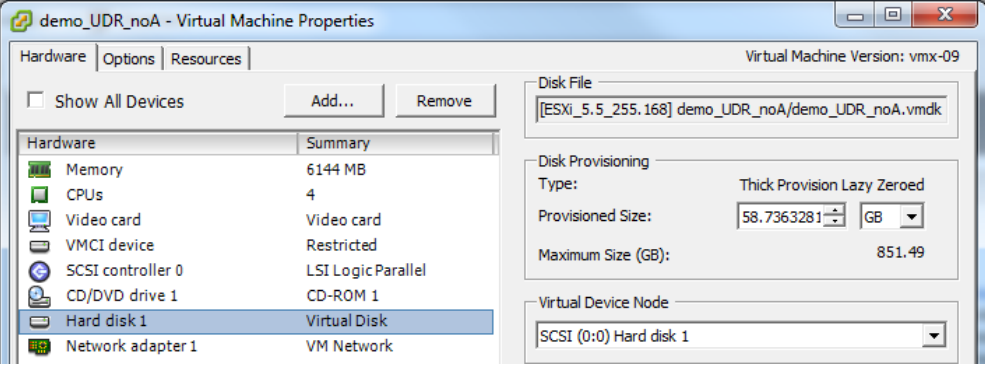
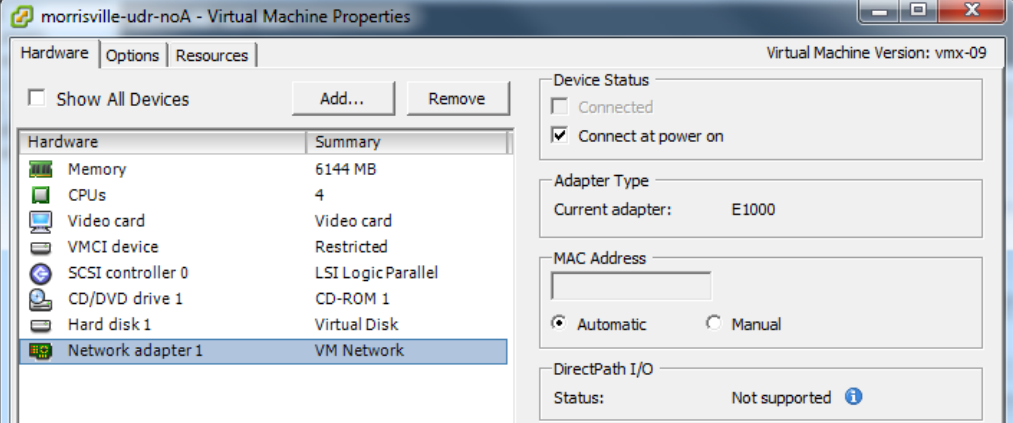
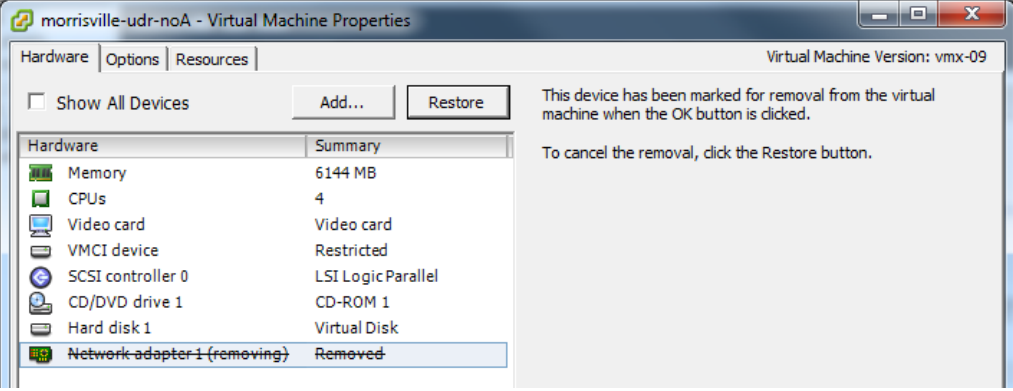
Procedure 20: Configure Guest Resources

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

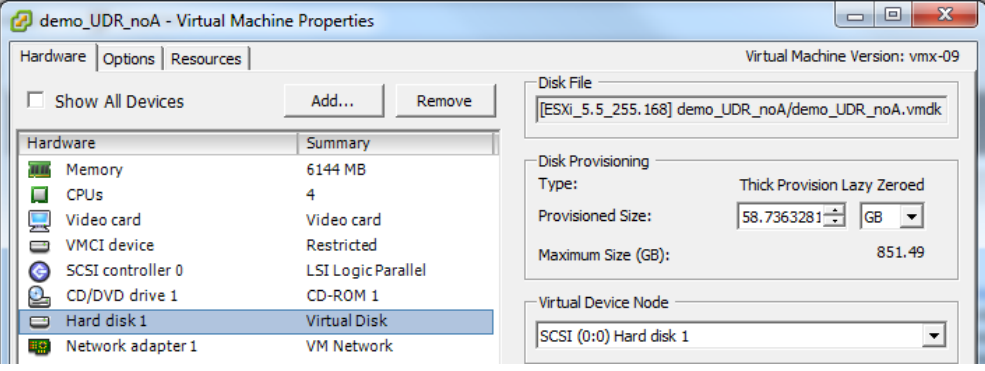
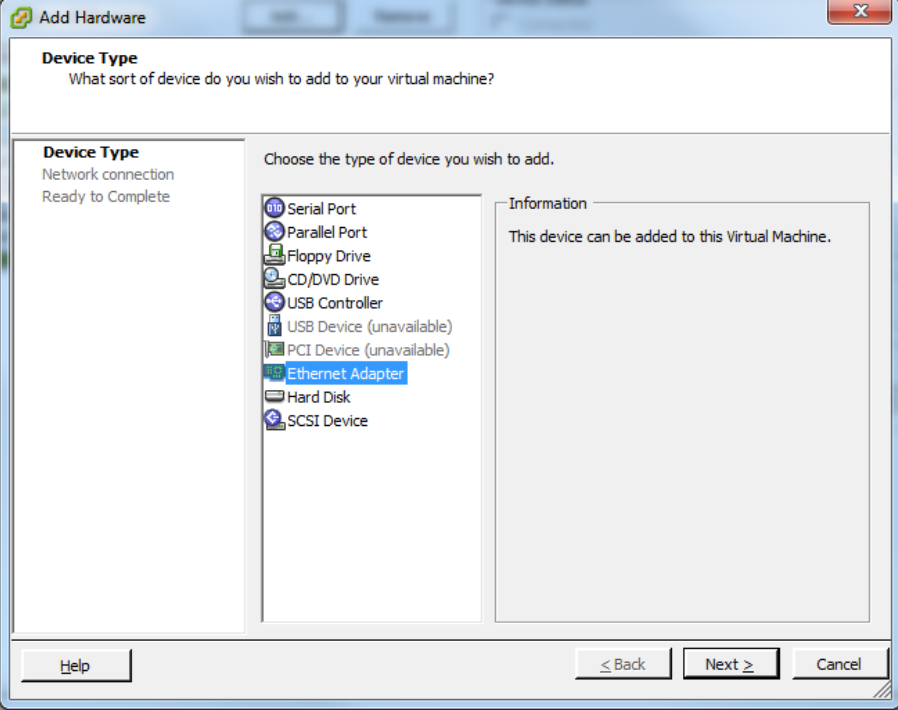
Procedure 20: Configure Guest Resources

Step	Procedure	Result
<p>2.</p> <p><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) Click the Summary tab 3) Click Edit Settings under Commands 	
<p>3.</p> <p><input type="checkbox"/></p>	<p>Select Memory from the Hardware menu and adjust Memory Size to suit the server's role</p> <p>NOAMP: 48 GB SOAM: 4 GB MP: 16 GB</p>	
<p>4.</p> <p><input type="checkbox"/></p>	<p>Select CPUs from the Hardware menu and adjust the Number of virtual sockets according to [1].</p>	

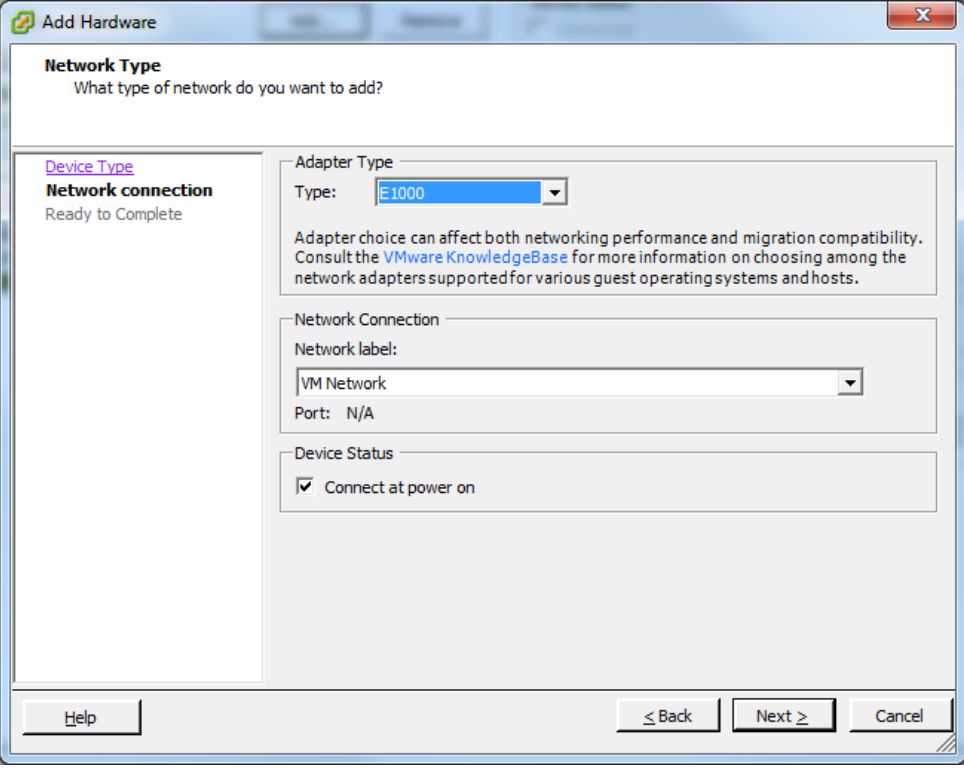
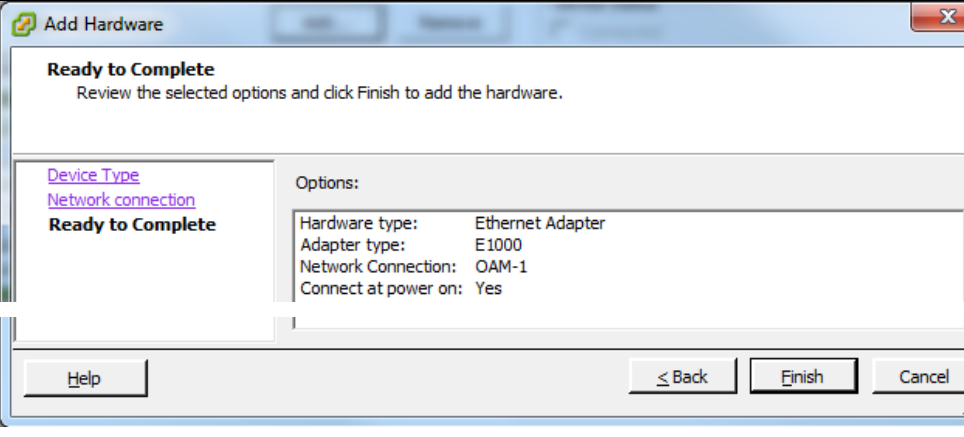
Procedure 20: Configure Guest Resources

Step	Procedure	Result															
<p>5.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Select Hard disk 1 from the Hardware menu and adjust the Provisioned Size according to [1].</p>																
<p>6.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>1) Select any Network adapter that may exist by default</p> <p>2) Click the Remove tab</p>																
<p>7.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>The network adapter will be crossed out and a removal message displayed</p>																
<p>8.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Take note of the order in which networks are added.</p>	<p>Note: The order in which networks are added by the following steps affects their device order within the virtual machine. Care should be taken to add them in the order they appear for each server:</p> <table border="1" data-bbox="435 1633 1417 1822"> <thead> <tr> <th data-bbox="435 1633 760 1682">NOAMP</th> <th data-bbox="760 1633 1089 1682">SOAM</th> <th data-bbox="1089 1633 1417 1682">MP</th> </tr> </thead> <tbody> <tr> <td data-bbox="435 1682 760 1724">1. <input type="checkbox"/> XMI</td> <td data-bbox="760 1682 1089 1724">1. <input type="checkbox"/> XMI</td> <td data-bbox="1089 1682 1417 1724">1. <input type="checkbox"/> XMI</td> </tr> <tr> <td data-bbox="435 1724 760 1766">2. <input type="checkbox"/> IMI</td> <td data-bbox="760 1724 1089 1766">2. <input type="checkbox"/> IMI</td> <td data-bbox="1089 1724 1417 1766">2. <input type="checkbox"/> IMI</td> </tr> <tr> <td data-bbox="435 1766 760 1808">3. <input type="checkbox"/> XSI-1 (optional)</td> <td data-bbox="760 1766 1089 1808"></td> <td data-bbox="1089 1766 1417 1808">3. <input type="checkbox"/> XSI-1</td> </tr> <tr> <td data-bbox="435 1808 760 1827"></td> <td data-bbox="760 1808 1089 1827"></td> <td data-bbox="1089 1808 1417 1827">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)															

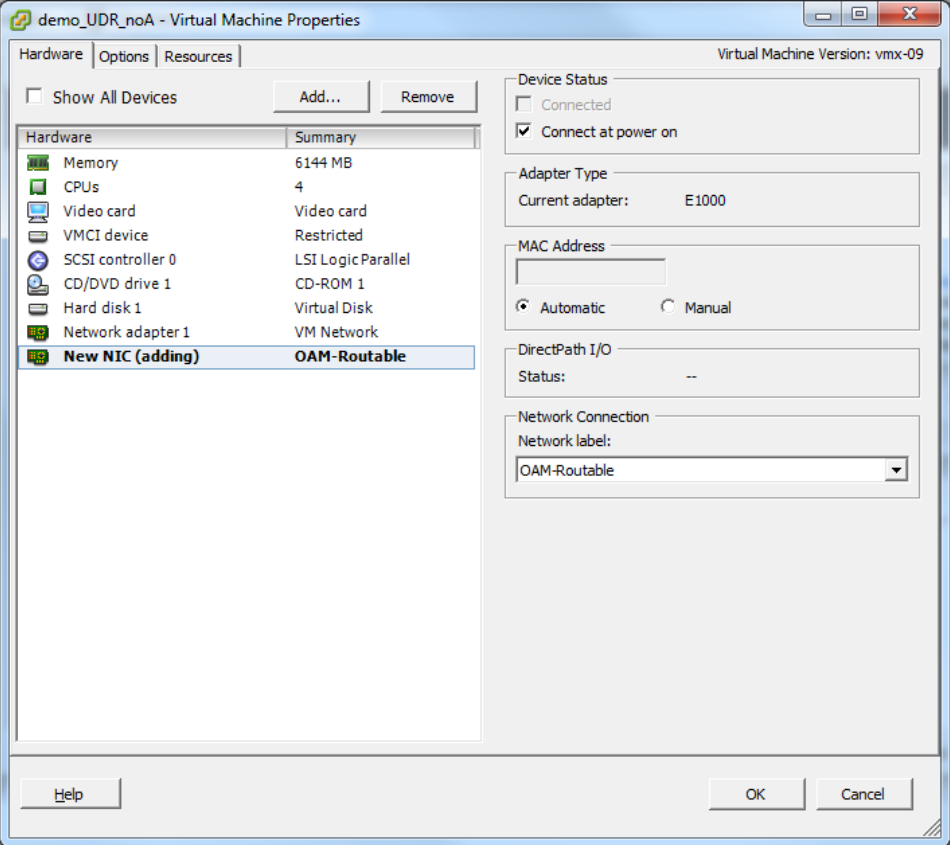
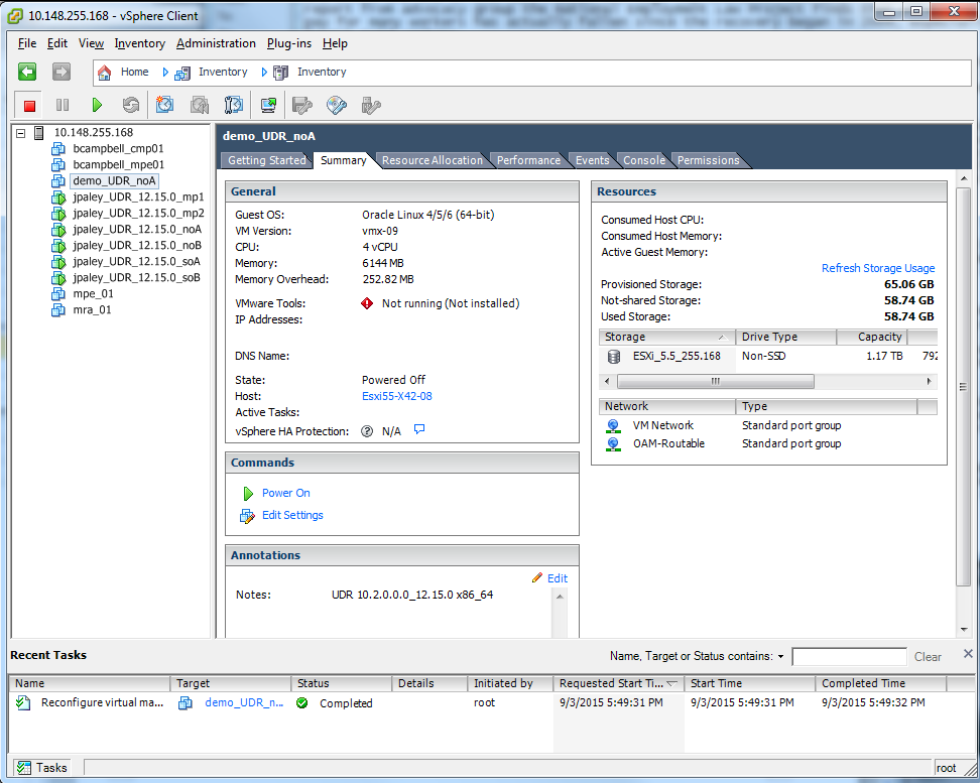
Procedure 20: Configure Guest Resources

Step	Procedure	Result
<p>9.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Click ‘Add...’ button from Hardware tab</p>	 <p>The screenshot shows the 'demo_UDR_noA - Virtual Machine Properties' window with the 'Hardware' tab selected. A table lists hardware components: Memory (6144 MB), CPUs (4), Video card, VNCI device (Restricted), SCSI controller 0 (LSI Logic Parallel), CD/DVD drive 1 (CD-ROM 1), Hard disk 1 (Virtual Disk), and Network adapter 1 (VM Network). The 'Hard disk 1' row is highlighted. To the right, the 'Disk File' is '[ESXi_5.5_255.168] demo_UDR_noA/demo_UDR_noA.vmdk'. Below that, 'Disk Provisioning' is set to 'Thick Provision Lazy Zeroed' with a 'Provisioned Size' of 58.7363281 GB and a 'Maximum Size (GB)' of 851.49. The 'Virtual Device Node' is 'SCSI (0:0) Hard disk 1'. An 'Add...' button is located above the hardware list.</p>
<p>10.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Select Ethernet Adapter from the list of devices and click Next</p>	 <p>The screenshot shows the 'Add Hardware' dialog box. The title is 'Add Hardware'. Below the title, it asks 'What sort of device do you wish to add to your virtual machine?'. There are two main sections: 'Device Type' and 'Information'. The 'Device Type' section has a list of options: Network connection (Ready to Complete), Serial Port, Parallel Port, Floppy Drive, CD/DVD Drive, USB Controller, USB Device (unavailable), PCI Device (unavailable), Ethernet Adapter (highlighted in blue), Hard Disk, and SCSI Device. The 'Information' section contains the text: 'This device can be added to this Virtual Machine.' At the bottom, there are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.</p>

Procedure 20: Configure Guest Resources

Step	Procedure	Result
<p>11.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>1) Select Adapter Type to conform to your virtual host</p> <p>2) Select the Network Label to match the desired network type</p> <p>3) Click Next</p>	
<p>12.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Confirm Option settings and click Finish</p>	
<p>13.</p> <p><input type="checkbox"/></p>	<p>VMware client:</p> <p>Repeat as required</p>	<p>Repeat Steps 9 - 12 to add every network appropriate for the server's role.</p>

Procedure 20: Configure Guest Resources

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

Procedure 20: Configure Guest Resources

Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

B-3 Configure Guest Network

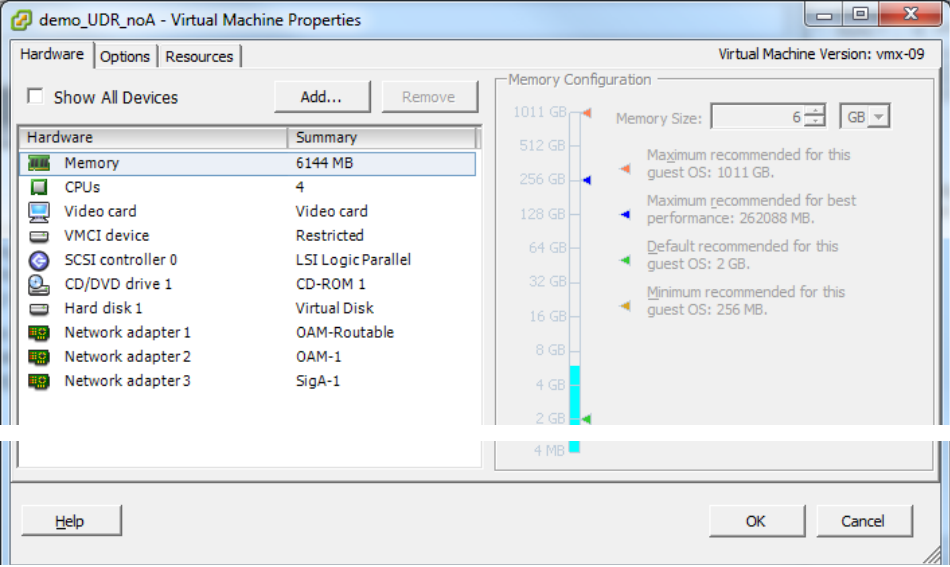
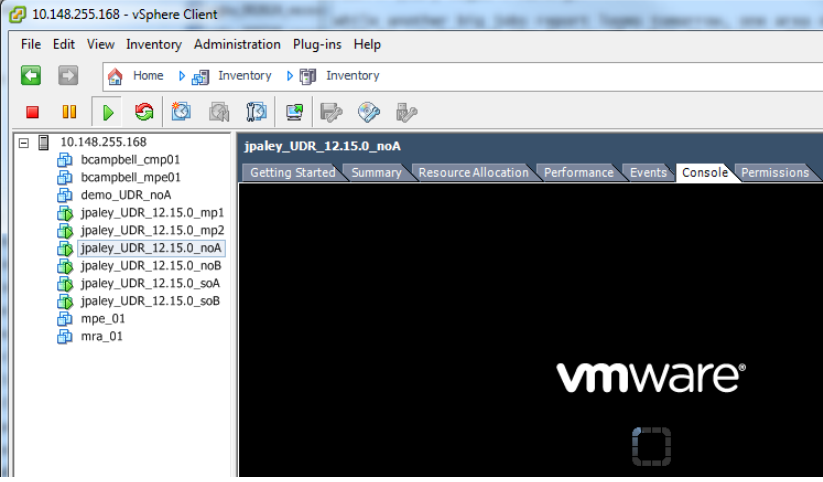
This procedure will configure the OAM network on Oracle Communications User Data Repository virtual machines (guests).

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

Procedure 21: Configure Guest OAM Network

Step	Procedure	Result
1. <input type="checkbox"/>	Log into the Vmware client	<div style="border: 1px solid gray; padding: 5px;"> <p>IP address / Name: <input type="text"/></p> <p>User name: <input type="text"/></p> <p>Password: <input type="text"/></p> </div>
2. <input type="checkbox"/>	<p>VMware client:</p> <p>1) Select the Oracle Communications User Data Repository virtual machine from the left tree menu</p> <p>2) Click the Summary tab</p> <p>3) Click Edit Settings under Commands</p>	

Procedure 21: Configure Guest OAM Network

Step	Procedure	Result
<p>3.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 10px;"></div>	<p>VMware client:</p> <p>1) Take note of the Network adapter assignment under Hardware tab for each application network.</p> <p>2) Click Cancel</p>	 <p>Network adapters are enumerated under the Hardware tab. Their adapter number in the Hardware column corresponds to their <i>zero-based</i> 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# assignment of the following networks:</p> <p>XMI: _____</p> <p>IMI: _____</p> <p>XSI-1: _____</p> <p>XSI-2 : _____ (optional)</p>
<p>4.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 10px;"></div>	<p>VMware client:</p> <p>1) Click the Console tab</p> <p>2) Click inside the console window to bring focus there</p> <p>Note: Press Ctrl-Alt keys to escape from console.</p>	

Procedure 21: Configure Guest OAM Network

Step	Procedure	Result
5. <input type="checkbox"/>	VM Console: Login to console as admusr	login as: admusr Password:
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 shown here (eth0) if the order of network adapter insertion was other 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>Set the XSI device for routable signaling network access (Only for NO & MP Servers):</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 shown here (eth2) if the order of network adapter insertion was other than shown. Refer to Step 3 for this assignment.</p>
8. <input type="checkbox"/>	VM Console: Repeat as required (MP Server Only)	Repeat Step 7 to add XSI-2 (eth3) if a second signaling network is in use (Only for MP Servers). Adjust input parameter values accordingly.
9. <input type="checkbox"/>	VM Console: Exit console	<pre>\$ exit</pre> Note: Press Ctrl-Alt keys to escape from console.
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix C. VMWARE VCLOUD DIRECTOR ORACLE COMMUNICATIONS USER DATA REPOSITORY DEPLOYMENT

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

This procedure will upload 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*):

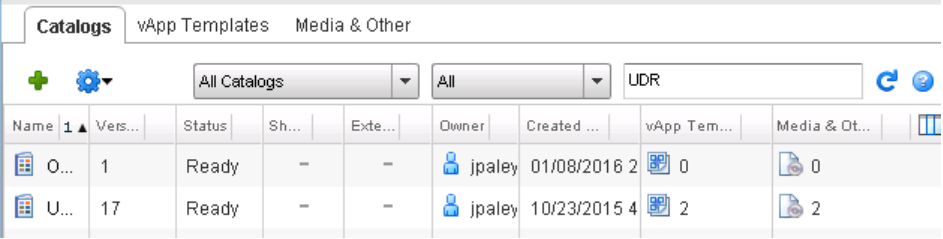
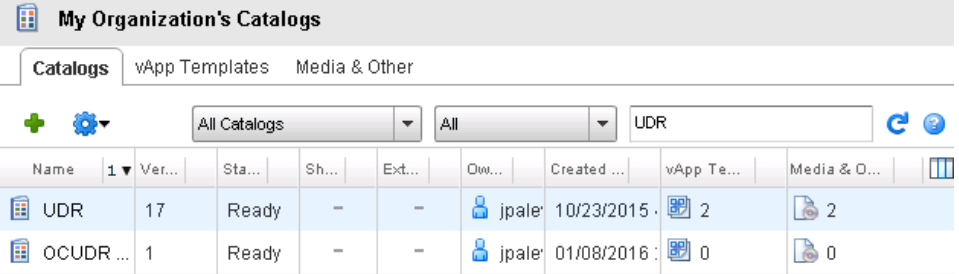
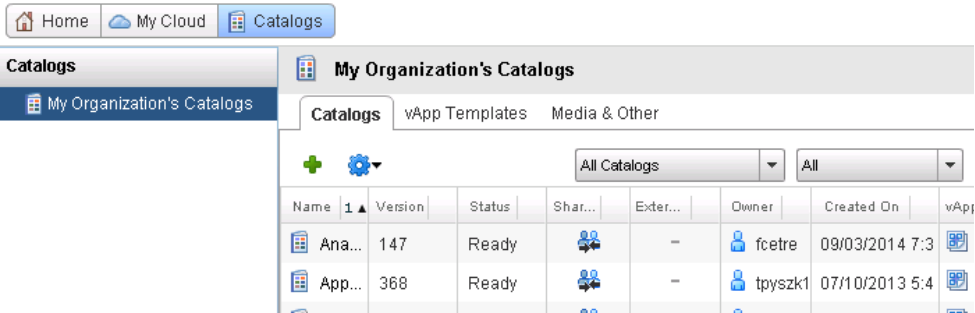
- Oracle Communications User Data Repository ISO
- TPD Platform ISO

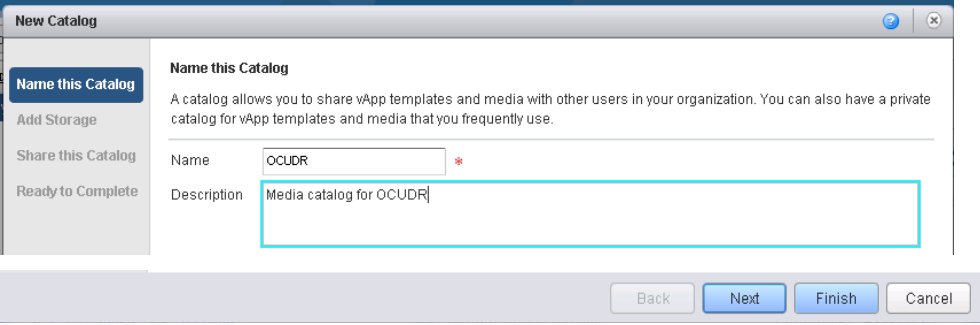

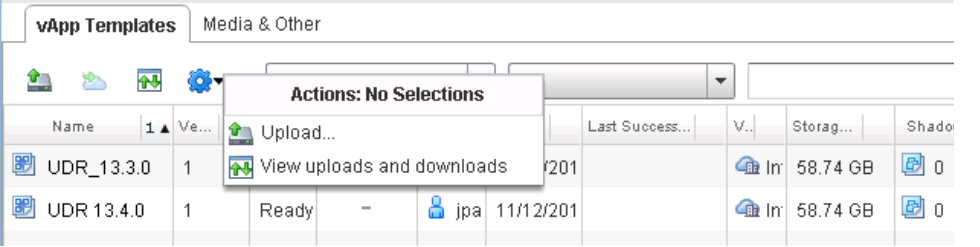
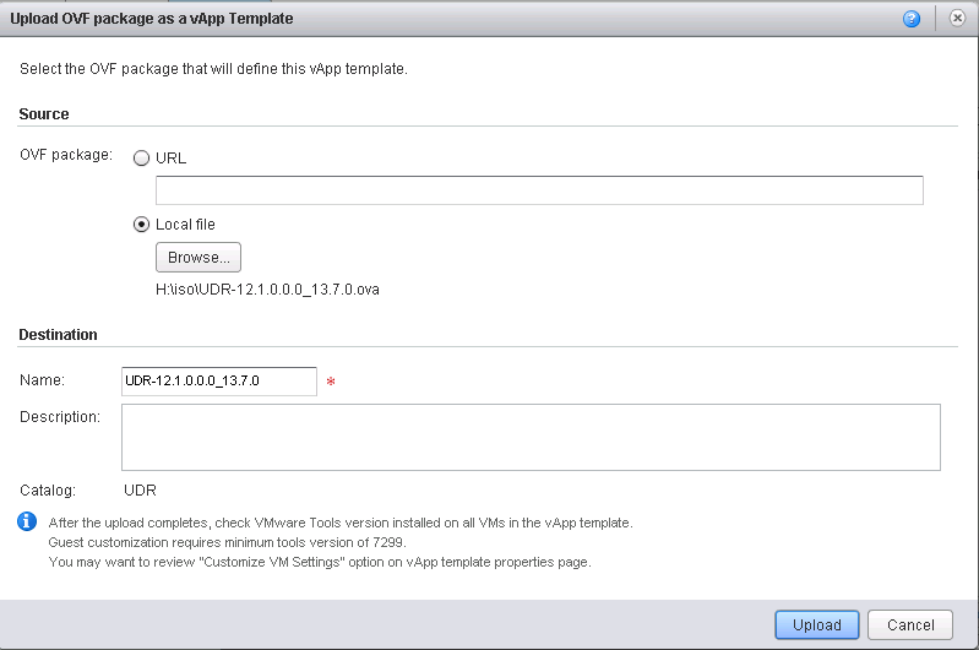
Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

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

Step	Procedure	Result
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<p>1.</p> <input data-bbox="212 226 250 275" type="checkbox"/>	<p>Log into the VMware vCloud Director</p>	
--	--	--

<p>2.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Enter Oracle Communications User Data Repository catalog name in the search field and hit Enter.</p>	 <p>The screenshot shows the 'Catalogs' tab in vCloud Director. The search field contains 'UDR'. The table below shows the results:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Ver...</th> <th>Status</th> <th>Sh...</th> <th>Ext...</th> <th>Owner</th> <th>Created ...</th> <th>vApp Tem...</th> <th>Media & Dt...</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	Ver...	Status	Sh...	Ext...	Owner	Created ...	vApp Tem...	Media & Dt...	O...	1	Ready	-	-	jpaley	01/08/2016 2	0	0	U...	17	Ready	-	-	jpaley	10/23/2015 4	2	2
Name	Ver...	Status	Sh...	Ext...	Owner	Created ...	vApp Tem...	Media & Dt...																					
O...	1	Ready	-	-	jpaley	01/08/2016 2	0	0																					
U...	17	Ready	-	-	jpaley	10/23/2015 4	2	2																					
<p>3.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Click on the name hyperlink for the appropriate catalog and proceed to Step 6</p>	 <p>The screenshot shows the 'My Organization's Catalogs' page. The 'UDR' catalog is selected. Below the screenshot is a note:</p> <p>Note: If a catalog for Oracle Communications User Data Repository does not yet exist, create one with the following two steps.</p>																											
<p>4.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Select... → Catalogs → Green Plus +</p>	 <p>The screenshot shows the navigation menu with 'Catalogs' selected. The main content area shows the 'My Organization's Catalogs' page with a table of catalogs:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Version</th> <th>Status</th> <th>Shar...</th> <th>Exter...</th> <th>Owner</th> <th>Created On</th> <th>vApp</th> </tr> </thead> <tbody> <tr> <td>Ana...</td> <td>147</td> <td>Ready</td> <td>...</td> <td>-</td> <td>fcetre</td> <td>09/03/2014 7:3</td> <td>...</td> </tr> <tr> <td>App...</td> <td>368</td> <td>Ready</td> <td>...</td> <td>-</td> <td>tpyszk1</td> <td>07/10/2013 5:4</td> <td>...</td> </tr> </tbody> </table>	Name	Version	Status	Shar...	Exter...	Owner	Created On	vApp	Ana...	147	Ready	...	-	fcetre	09/03/2014 7:3	...	App...	368	Ready	...	-	tpyszk1	07/10/2013 5:4	...			
Name	Version	Status	Shar...	Exter...	Owner	Created On	vApp																						
Ana...	147	Ready	...	-	fcetre	09/03/2014 7:3	...																						
App...	368	Ready	...	-	tpyszk1	07/10/2013 5:4	...																						

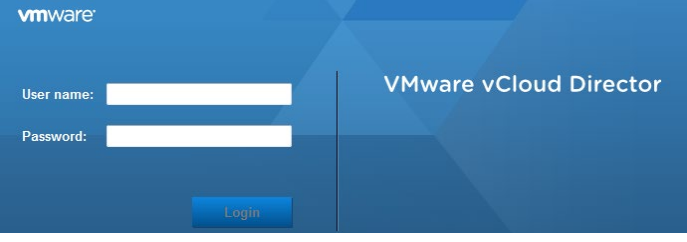
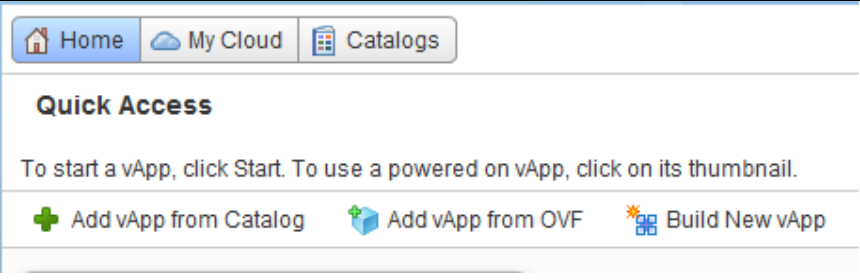
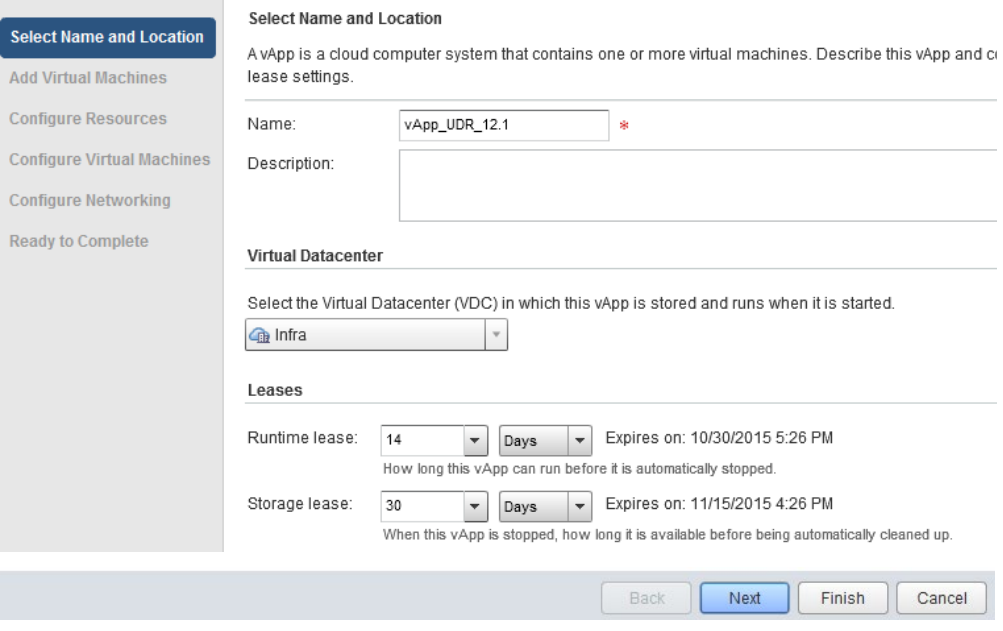
<p>5.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>1. Input catalog name and description.</p> <p>2. Unless this catalog requires special storage or sharing, click Finish.</p>	 <p>Note: After clicking Finish, return to Step 2 of this procedure to access the new catalog.</p>																								
<p>6.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Select..</p> <p>vApp Templates for OVA upload</p> <p>or</p> <p>Media & Other for ISO upload</p>																									
<p>7.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Select...</p> <p>→ Blue Gear Symbol</p> <p>→ Upload...</p>	 <table border="1" data-bbox="516 947 1490 1087"> <thead> <tr> <th>Name</th> <th>1 ▲</th> <th>Ve...</th> <th>Upload...</th> <th>Last Success...</th> <th>V..</th> <th>Storag...</th> <th>Shado</th> </tr> </thead> <tbody> <tr> <td>UDR_13.3.0</td> <td>1</td> <td></td> <td></td> <td>201</td> <td></td> <td>58.74 GB</td> <td>0</td> </tr> <tr> <td>UDR 13.4.0</td> <td>1</td> <td>Ready</td> <td>-</td> <td>jpa 11/12/201</td> <td>In</td> <td>58.74 GB</td> <td>0</td> </tr> </tbody> </table>	Name	1 ▲	Ve...	Upload...	Last Success...	V..	Storag...	Shado	UDR_13.3.0	1			201		58.74 GB	0	UDR 13.4.0	1	Ready	-	jpa 11/12/201	In	58.74 GB	0
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UDR_13.3.0	1			201		58.74 GB	0																			
UDR 13.4.0	1	Ready	-	jpa 11/12/201	In	58.74 GB	0																			
<p>8.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Select Source as either URL or local file then input a Name.</p> <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</p> <p><input checked="" type="radio"/> Local file</p> <p>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>After the upload completes, check VMware Tools version installed on all VMs in the vApp template. Guest customization requires minimum tools version of 7299. You may want to review "Customize VM Settings" option on vApp template properties page.</p> <p>Upload Cancel</p>																								
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>																										

C-2 Create vApp


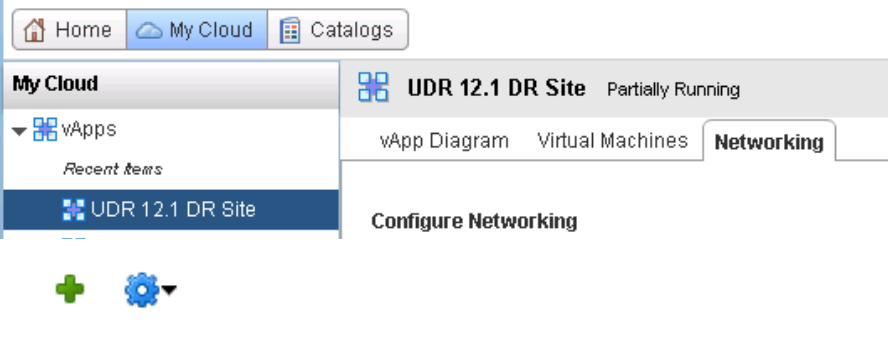
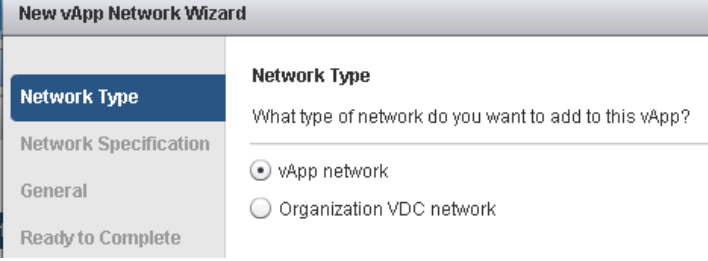
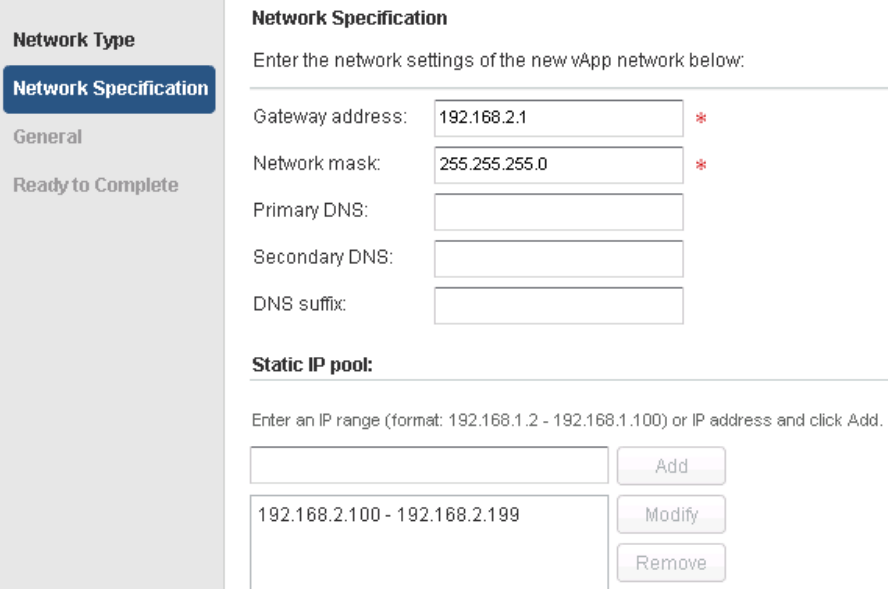
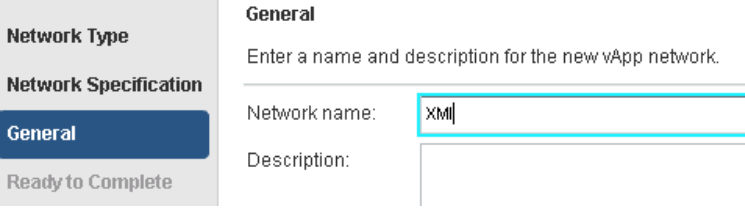
This procedure will create and configure a new vApp virtual appliance.

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

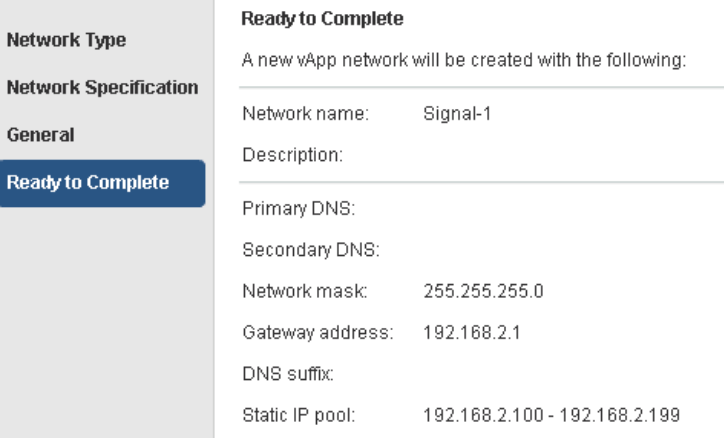
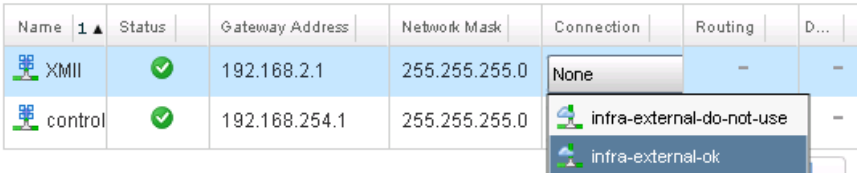
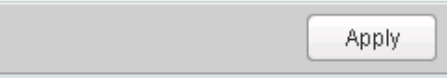
Procedure 23: Create vApp

Step	Procedure	Result
1. <input type="checkbox"/>	Log into the VMware vCloud Director	 <p>The screenshot shows the VMware vCloud Director login interface. It features a blue header with the VMware logo and the text 'VMware vCloud Director'. Below the header, there are two input fields: 'User name:' and 'Password:'. A blue 'Login' button is positioned at the bottom center of the form.</p>
2. <input type="checkbox"/>	vCloud Director: Select Home tab Build New vApp	 <p>The screenshot displays the vCloud Director Home page. At the top, there are navigation tabs for 'Home', 'My Cloud', and 'Catalogs'. Below these is a 'Quick Access' section with the instruction: 'To start a vApp, click Start. To use a powered on vApp, click on its thumbnail.' Three main actions are listed: 'Add vApp from Catalog' (with a green plus icon), 'Add vApp from OVF' (with a blue cube icon), and 'Build New vApp' (with a blue gear icon).</p>
3. <input type="checkbox"/>	vCloud Director: 1. Enter Name for the vApp and other parameters as required. 2. Click Finish .	 <p>The screenshot shows the 'Select Name and Location' configuration page in vCloud Director. On the left is a sidebar with navigation options: 'Select Name and Location' (highlighted), 'Add Virtual Machines', 'Configure Resources', 'Configure Virtual Machines', 'Configure Networking', and 'Ready to Complete'. The main content area includes: - A description: 'A vApp is a cloud computer system that contains one or more virtual machines. Describe this vApp and its lease settings.' - 'Name' field: 'vApp_UDR_12.1' with a red asterisk. - 'Description' field: empty. - 'Virtual Datacenter' section: 'Select the Virtual Datacenter (VDC) in which this vApp is stored and runs when it is started.' with a dropdown menu showing 'Infra'. - 'Leases' section: 'Runtime lease' set to 14 Days, expiring on 10/30/2015 5:26 PM; 'Storage lease' set to 30 Days, expiring on 11/15/2015 4:26 PM. - At the bottom, there are 'Back', 'Next', 'Finish', and 'Cancel' buttons.</p>

Procedure 23: Create vApp

Step	Procedure	Result
4.	<p>vCloud Director:</p> <p>Select...</p> <p>→ My Cloud</p> <p>→ <vApp Name></p> <p>→ Networking</p> <p>Then click the  icon to add a network</p>	
5.	<p>vCloud Director:</p> <p>Select the vApp network.</p> <p>Click Next.</p>	
6.	<p>vCloud Director:</p> <p>Enter desired parameters for your internal network. Be sure to have sufficient address space for the number of servers you expect to deploy.</p> <p>Click Next.</p>	
7.	<p>vCloud Director:</p> <p>Enter a Name for your network using [1] as a guide.</p> <p>Click Next.</p>	

Procedure 23: Create vApp

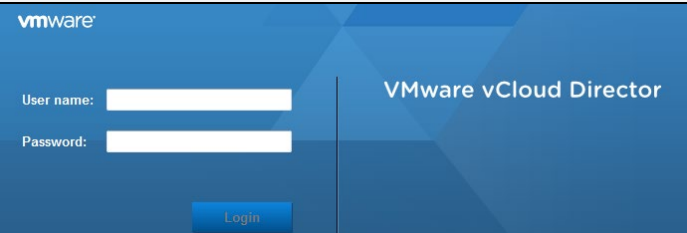
Step	Procedure	Result
8. <input type="checkbox"/>	vCloud Director: Review the network data Click Finish .	 <p>Ready to Complete</p> <p>A new vApp network will be created with the following:</p> <p>Network name: Signal-1</p> <p>Description:</p> <p>Primary DNS:</p> <p>Secondary DNS:</p> <p>Network mask: 255.255.255.0</p> <p>Gateway address: 192.168.2.1</p> <p>DNS suffix:</p> <p>Static IP pool: 192.168.2.100 - 192.168.2.199</p>
9. <input type="checkbox"/>	vCloud Director: Back on the Networking tab.	 <p>If the network is to be addressable outside the Cloud (such as XMI for administration), select an external network from the Connection drop box.</p> <p>Otherwise, leave Connection setting as None.</p>
10. <input type="checkbox"/>	vCloud Director: Click Apply .	
THIS PROCEDURE HAS BEEN COMPLETED		

C-3 Create Guests from OVA

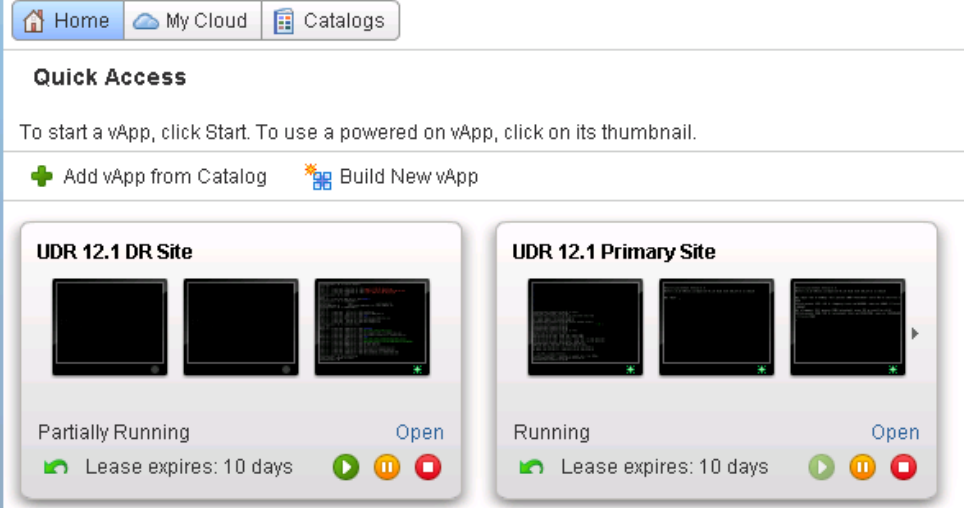
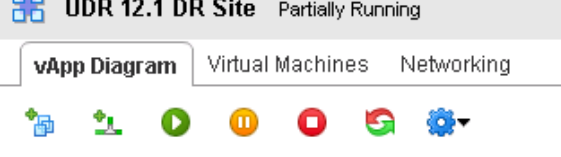
This procedure will create Oracle Communications User Data Repository virtual machines (guests) from OVA.

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

Procedure 24: Create Guests from OVA with vCloud Director

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

Procedure 24: Create Guests from OVA with vCloud Director

Step	Procedure	Result																												
<p>2.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Select Open hyperlink for the Oracle Communications User Data Repository vApp</p>	 <p>Note: Current vApps are listed on the Home Page. If a new vApp is required continue with the next step to create it.</p>																												
<p>3.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Select icon on left to Add VM</p>																													
<p>4.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>1. Enter name in the search field and press Enter</p> <p>2. Select Oracle Communications User Data Repository media name</p> <p>3. Click Add</p> <p>3. 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"/> All <input type="text" value="UDR"/></p> <table border="1" data-bbox="516 1234 1503 1367"> <thead> <tr> <th>Name</th> <th>OS</th> <th>Gold Ma...</th> <th>vApp</th> <th>Catalog</th> <th>Created On</th> <th>Disk Info</th> </tr> </thead> <tbody> <tr> <td>Meat6.0</td> <td>Other Linux (</td> <td>-</td> <td>NPx OCUDR ME</td> <td>NPx-SPR</td> <td>10/19/2014 11:01 AM</td> <td>40.00 GB</td> </tr> <tr> <td>UDR-12.1.0.0.0_13.7.0</td> <td>Oracle Linux</td> <td>-</td> <td>UDR-12.1.0.0.0</td> <td>UDR</td> <td>01/08/2016 3:06 PM</td> <td>58.74 GB</td> </tr> <tr> <td>UDR_13.3.0</td> <td>Oracle Linux</td> <td>-</td> <td>UDR_13.3.0</td> <td>UDR</td> <td>11/03/2015 3:25 PM</td> <td>58.74 GB</td> </tr> </tbody> </table> <p><input type="button" value="Add"/> <input type="button" value="Remove"/></p> <p>Note: Multiple servers may be created at once using Add.</p> <p><input type="button" value="Back"/> <input type="button" value="Next"/> <input type="button" value="Finish"/></p>	Name	OS	Gold Ma...	vApp	Catalog	Created On	Disk Info	Meat6.0	Other Linux (-	NPx OCUDR ME	NPx-SPR	10/19/2014 11:01 AM	40.00 GB	UDR-12.1.0.0.0_13.7.0	Oracle Linux	-	UDR-12.1.0.0.0	UDR	01/08/2016 3:06 PM	58.74 GB	UDR_13.3.0	Oracle Linux	-	UDR_13.3.0	UDR	11/03/2015 3:25 PM	58.74 GB
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<p>5.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>1. Check box to agree with license</p> <p>2. Click Next</p>	<p><input checked="" type="checkbox"/> I agree and accept the above license agreements. *</p> <p><input type="button" value="Back"/> <input type="button" value="Next"/> <input type="button" value="Finish"/></p>																												

Procedure 24: Create Guests from OVA with vCloud Director

Step	Procedure	Result
6. <input type="checkbox"/>	vCloud Director: 1. Rename virtual machine(s) to suit its location and role 2. Click Finish	
THIS PROCEDURE HAS BEEN COMPLETED		

C-4 Configure Guest Resources

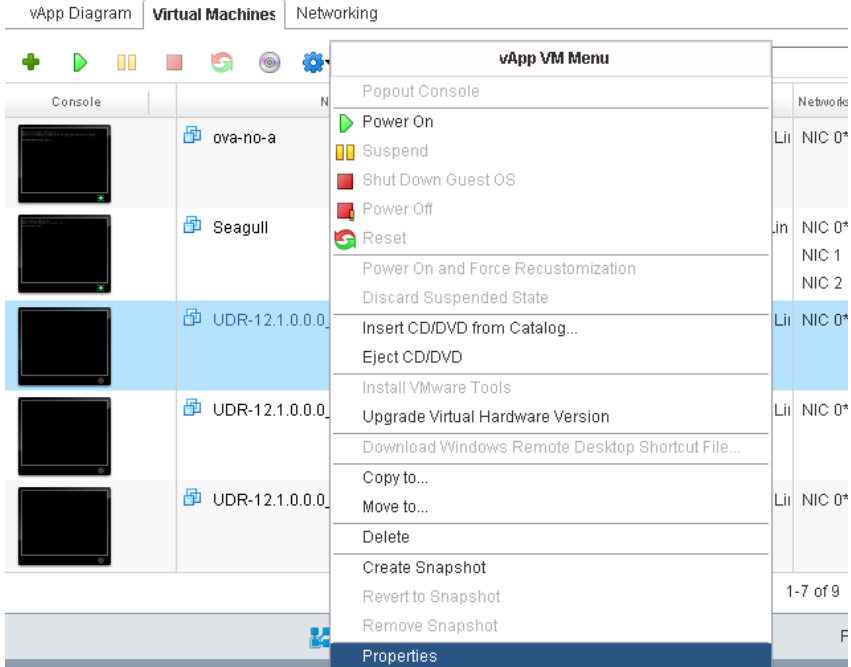

This procedure will configure Oracle Communications User Data Repository virtual machines (guests) which have been created from OVA.

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

Procedure 25: Configure Guests from OVA with vCloud Director

Step	Procedure	Result
1. <input type="checkbox"/>	Log into the VMware vCloud Director	
2. <input type="checkbox"/>	vCloud Director: Select... → My Cloud → Virtual Machines	

Procedure 25: Configure Guests from OVA with vCloud Director

Step	Procedure	Result
<p>3.</p> <p><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>4.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Under the General tab...</p> <p>Adjust Virtual Machine and Computer names to suit preference.</p>	

Procedure 25: Configure Guests from OVA with vCloud Director

Step	Procedure	Result
5.	<p>vCloud Director:</p> <p>Under the Hardware tab...</p> <p>1) Adjust the number of Virtual CPUs and Total Memory to match the server's role in [1].</p> <p>2) Check Expose hardware-assisted CPU virtualization box.</p> <p>3) Adjust NICs to match the server's role in [1].</p> <p>4) Click OK.</p>	<p>The screenshot shows the 'Hardware' tab in vCloud Director. Under 'CPU', 'Number of virtual CPUs' is set to 4, 'Cores per socket' is 1, and 'Number of sockets' is 4. The 'Expose hardware-assisted CPU virtualization to guest OS' checkbox is checked. Under 'Memory', 'Total memory' is set to 6 GB. Under 'NICs', there is an information icon and a checkbox for 'Show network adapter type'. A table lists three NICs: NIC# 0 (XMI), NIC# 1 (IMI), and NIC# 2 (XS1). NIC# 0 is the primary NIC with a static IP of 10.240.23.9. NICs 1 and 2 have 'Static - IP Pool' and 'Will be generated' MAC addresses. An 'Add' button is at the bottom right of the NICs section, and 'OK' and 'Cancel' buttons are at the bottom of the dialog.</p>
THIS PROCEDURE HAS BEEN COMPLETED		

C-5 Create Guests from ISO

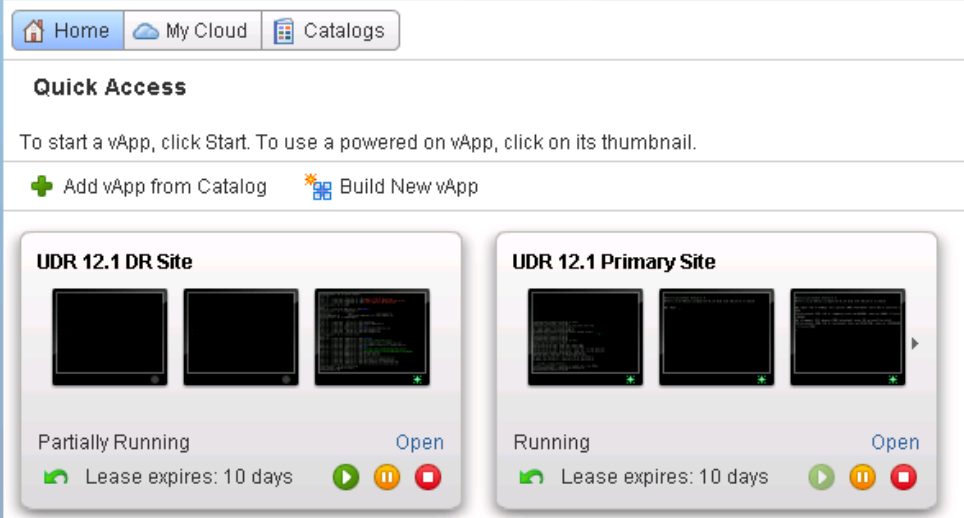
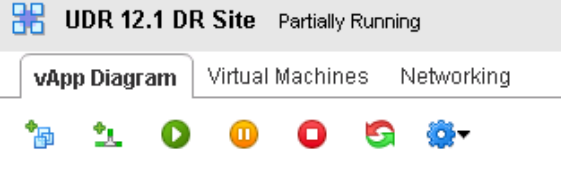
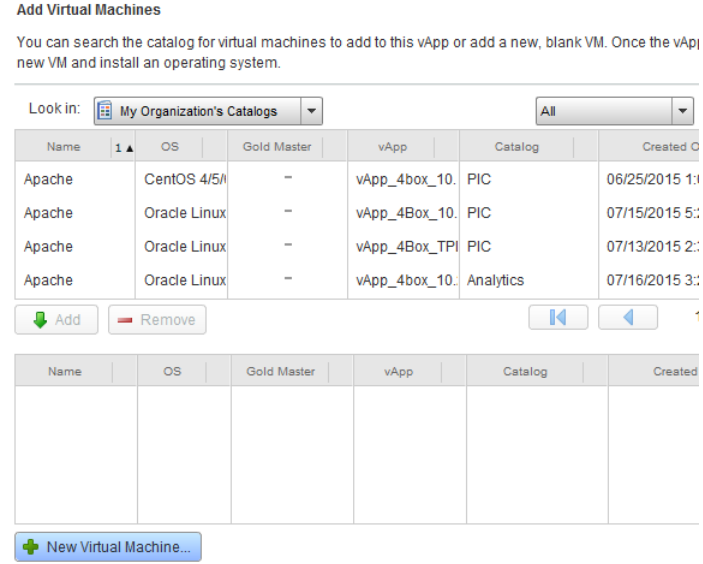
This procedure will create Oracle Communications User Data Repository virtual machines (guests) from ISO.

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

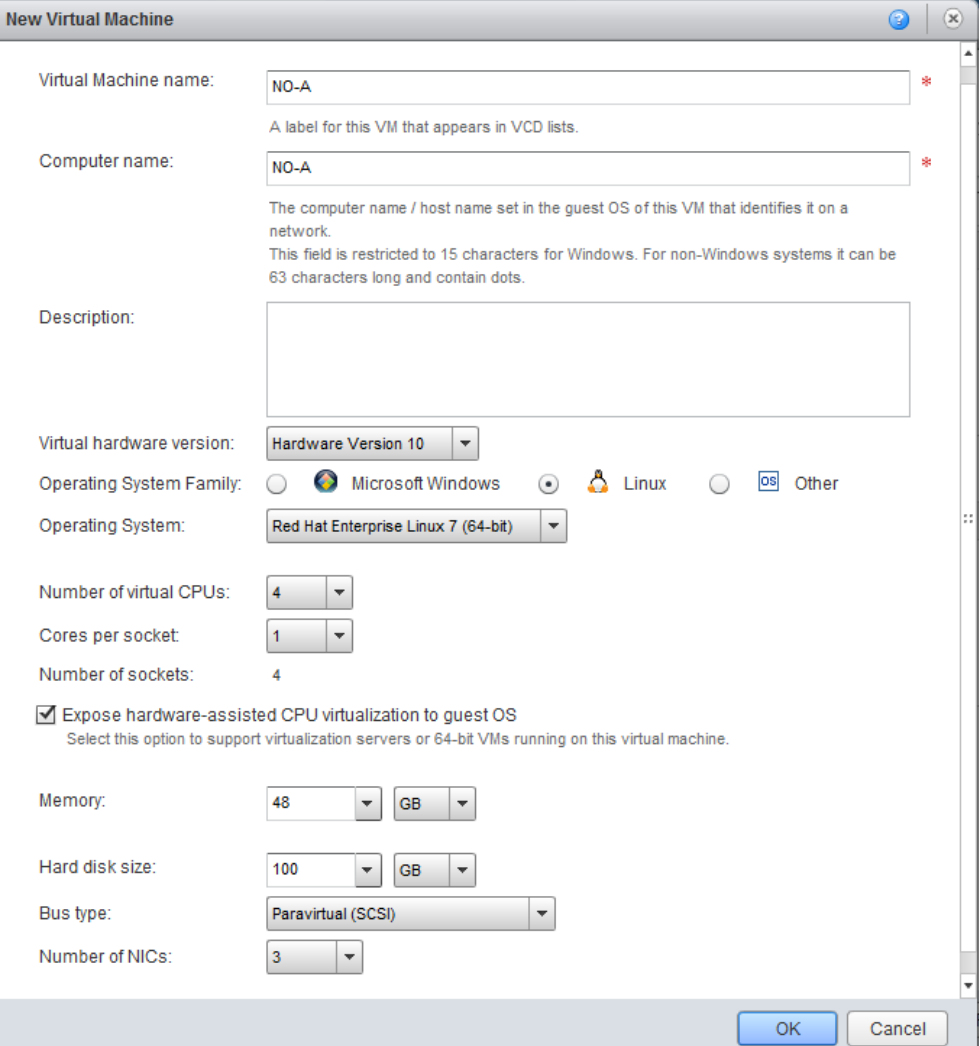
Procedure 26: Create Guests from ISO with vCloud Director

Step	Procedure	Result
1. <input type="checkbox"/>	Log into the VMware vCloud Director	<p>The screenshot shows the VMware vCloud Director login interface. It features a blue background with the VMware logo and the text 'VMware vCloud Director'. There are two input fields: 'User name:' and 'Password:'. A 'Login' button is located at the bottom center.</p>

Procedure 26: Create Guests from ISO with vCloud Director

Step	Procedure	Result																														
<p>2.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Select Open hyperlink for the Oracle Communications User Data Repository vApp</p>	 <p>Note: Current vApps are listed on the Home Page. If a new vApp is required continue with the next step to create it.</p>																														
<p>3.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Select icon on left to Add VM</p>																															
<p>4.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Click New Virtual Machine button.</p>	 <table border="1" data-bbox="527 1224 1214 1388"> <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 5:10</td> </tr> <tr> <td>Apache</td> <td>Oracle Linux</td> <td>-</td> <td>vApp_4Box_TPI</td> <td>PIC</td> <td>07/13/2015 2:10</td> </tr> <tr> <td>Apache</td> <td>Oracle Linux</td> <td>-</td> <td>vApp_4box_10.</td> <td>Analytics</td> <td>07/16/2015 3:10</td> </tr> </tbody> </table>	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 5:10	Apache	Oracle Linux	-	vApp_4Box_TPI	PIC	07/13/2015 2:10	Apache	Oracle Linux	-	vApp_4box_10.	Analytics	07/16/2015 3:10
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Procedure 26: Create Guests from ISO with vCloud Director

Step	Procedure	Result
<p>5.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 5px 0;"></div>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Enter Name and Computer Name for VM. 2. Set Operating System Family = Linux. 3. Check ‘Expose hardware-assisted CPU...’ box. 4. Enter all 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. Other settings include 4 virtual CPUs, 1 core per socket, 4 sockets, 48 GB memory, 100 GB hard disk, Paravirtual (SCSI) bus type, and 3 NICs.</p>

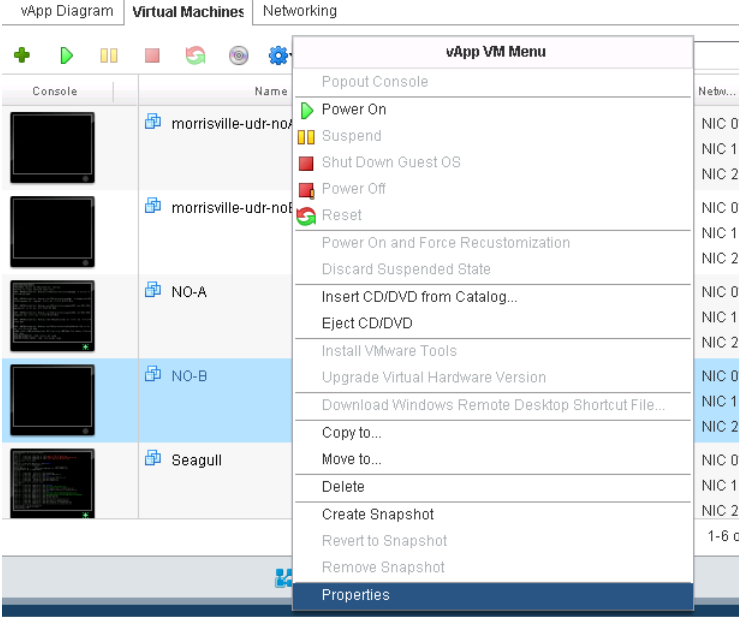

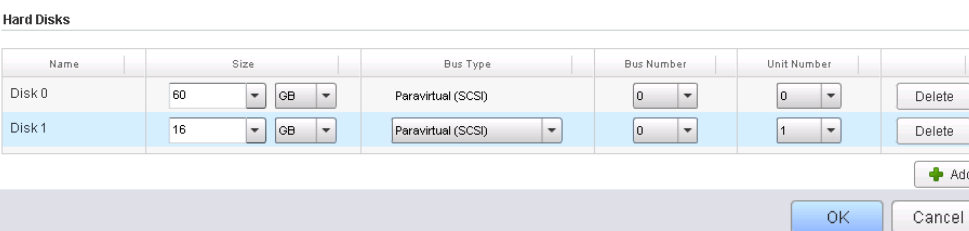
Procedure 26: Create Guests from ISO with vCloud Director

Step	Procedure	Result																																																																						
<p>6.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 10px;"></div>	<p>vCloud Director:</p> <p>Click Next.</p>	<div style="border: 1px solid gray; padding: 5px;"> <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: My Organization's Catalogs All</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <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"/> 1-5 of 627 </p> <table border="1" style="width: 100%; border-collapse: collapse;"> <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 style="text-align: right;"> <input type="button" value="Back"/> <input type="button" value="Next"/> <input type="button" value="Finish"/> <input type="button" value="Cancel"/> </p> </div>	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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Procedure 26: Create Guests from ISO with vCloud Director

Step	Procedure	Result																																																
<p>8.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>1. Select Networks and IP Assignments for VM according to the role given in Resource Profile [1].</p> <p>2. Click Next.</p>	<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 or 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</td> <td> XMI</td> <td>Static - IP Pool</td> </tr> <tr> <td></td> <td></td> <td><input type="radio"/> NIC 1</td> <td> IMI</td> <td>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	XMI	Static - IP Pool			<input type="radio"/> NIC 1	IMI	Static - IP Pool																																	
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<p>9.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>1. For each external network (XMI, XSI): Set Connection to the network a cloud administrator has granted for external communication.</p> <p>2. For each external network (XMI, XSI): Check NAT and Uncheck Firewall.</p> <p>3. Click Next.</p>	<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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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"/>																																											
<p>10.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>1. Review the settings.</p> <p>2. Click Finish.</p>	<p>Ready to Complete</p> <p>Select Name and Location</p> <p>Add Virtual Machines</p> <p>Configure Resources</p> <p>Configure Virtual Machines</p> <p>Configure Networking</p> <p>Ready to Complete</p> <p>You are about to create a vApp with these specifications. Review the settings and click Finish.</p> <p>Name: vApp_UDR_12.1</p> <p>Description:</p> <p>Owner: jpaley3</p> <p>Virtual datacenter: Infra</p> <p>Runtime lease: 14 Days</p> <p>Runtime lease expiration: 10/30/2015 5:44 PM</p> <p>Storage lease: 30 Days</p> <p>Storage lease expiration: 11/15/2015 4:44 PM</p> <p>Networks - 0:</p> <p>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)</td> <td>*(Any)</td> </tr> <tr> <td>NO-B</td> <td>Red Hat Enterprise Linux 7 (64-bit)</td> <td>*(Any)</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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Procedure 26: Create Guests from ISO with vCloud Director


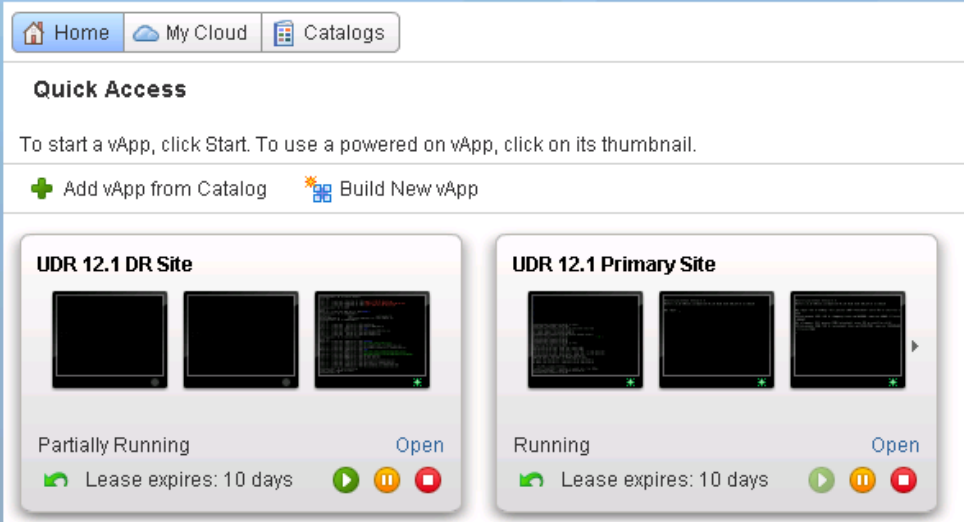

Step	Procedure	Result
11. <input type="checkbox"/>	vCloud Director: 1. Select the VM. 2. Click the Blue Gear icon. 3. Select Properties .	
12.	vCloud Director: 1. Select the Hardware tab. 2. Adjust size of Disk 0 to match VM profile [1].	
13.	vCloud Director: Only If the VM uses a second disk by [1]: 1. Click Add 2. Adjust size of Disk 1 to match VM profile [1]. 3. Click OK	
THIS PROCEDURE HAS BEEN COMPLETED		

C-6 Install Guests from ISO

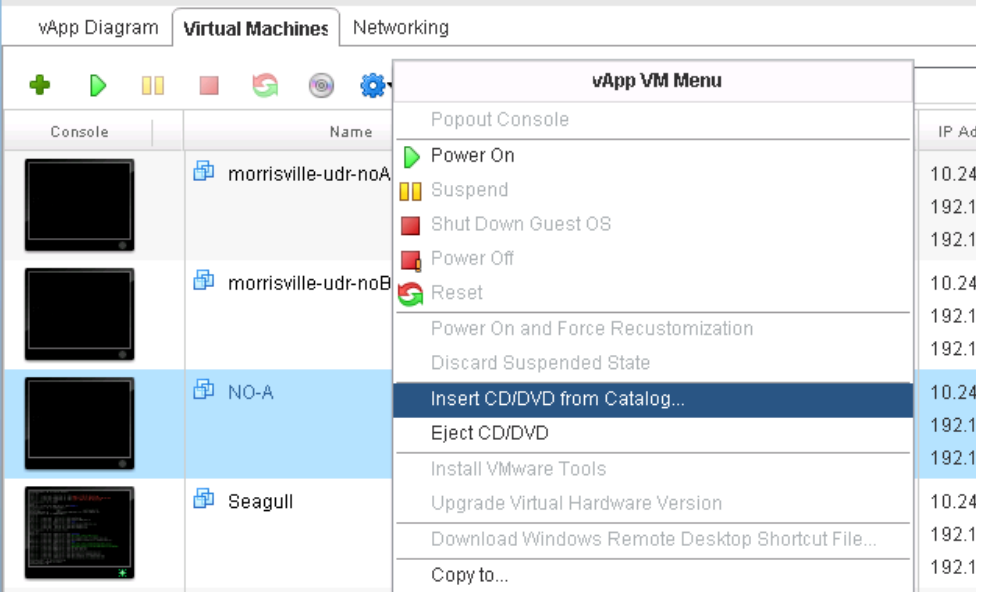
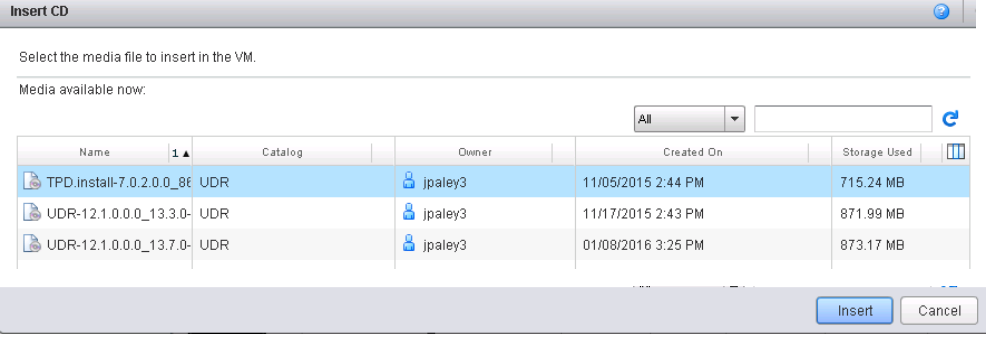
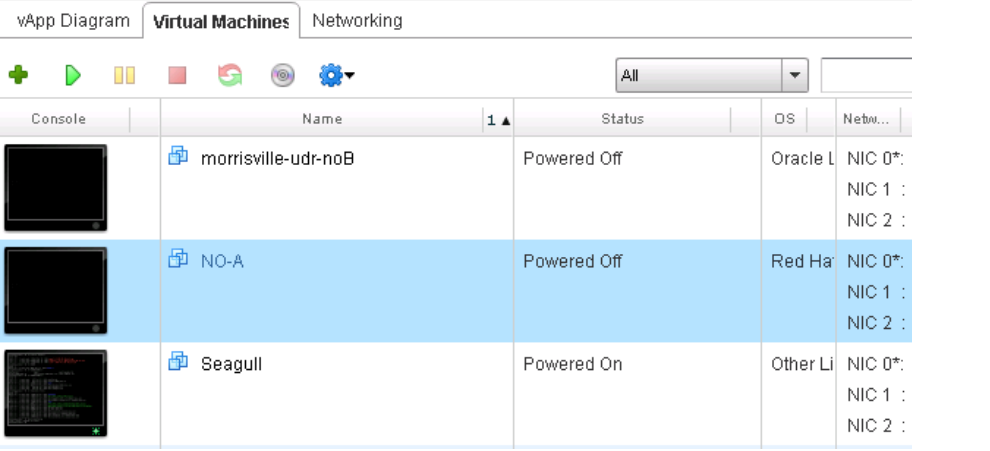
This procedure will create Oracle Communications User Data Repository virtual machines (guests) from ISO.

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

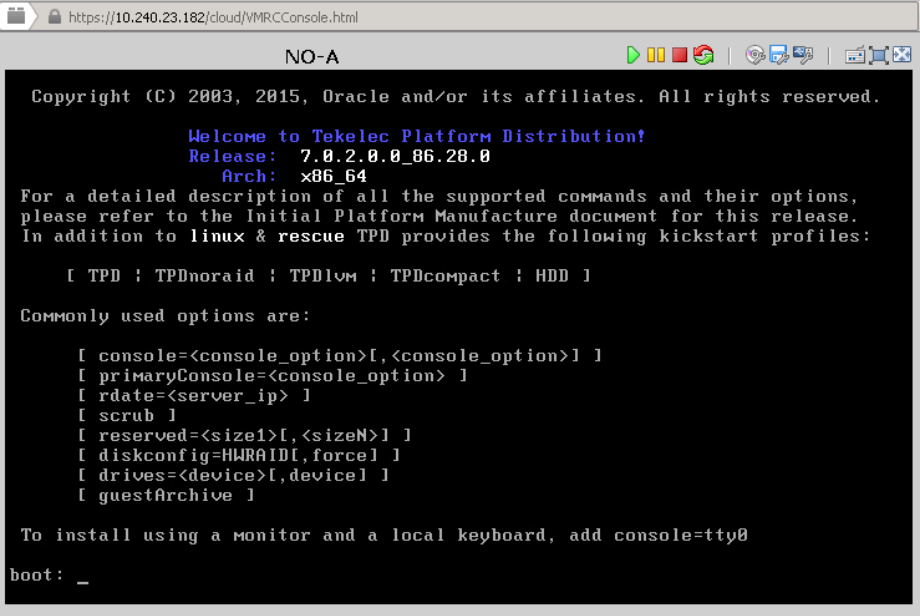
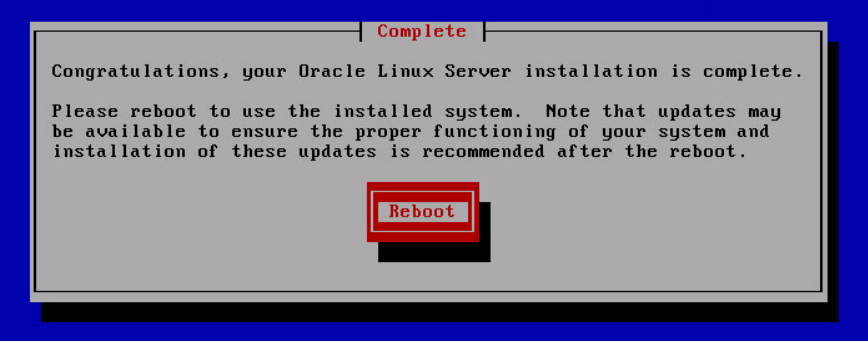
Procedure 27: Install Guests from ISO with vCloud Director

Step	Procedure	Result
1.	Log into the VMware vCloud Director	 <p>The screenshot shows the VMware vCloud Director login interface. It features a blue header with the VMware logo and the text 'VMware vCloud Director'. Below the header, there are two input fields: 'User name:' and 'Password:'. A blue 'Login' button is positioned at the bottom center of the form.</p>
2.	<p>vCloud Director:</p> <p>Select Open hyperlink for the Oracle Communications User Data Repository vApp then proceed to Step 5.</p>	 <p>The screenshot displays the vCloud Director Home page. 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 main buttons: 'Add vApp from Catalog' and 'Build New vApp'. The main content area shows two vApp thumbnails: 'UDR 12.1 DR Site' (Partially Running) and 'UDR 12.1 Primary Site' (Running). Each thumbnail includes a 'Lease expires: 10 days' indicator and an 'Open' button. Below the thumbnails, a note reads: 'Note: Current vApps are listed on the Home Page. If a new vApp is required continue with the next step to create it.'</p>
9.	<p>vCloud Director:</p> <p>Select... → My Cloud → Virtual Machines</p>	 <p>The screenshot shows the 'My Cloud' section of the vCloud Director interface. It features a navigation pane on the left with 'vApps' expanded to show 'Recent Items'. The main content area displays a summary for the 'UDR 12.1 DR Site' vApp, which is 'Partially Running'. Below the summary, there are three tabs: 'vApp Diagram', 'Virtual Machines', and 'Networking'.</p>

Procedure 27: Install Guests from ISO with vCloud Director

Step	Procedure	Result																				
<p>10.</p> <p><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 Insert CD/DVD from Catalog. 																					
<p>11.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select TPD ISO. 2. Click Insert 	 <table border="1" data-bbox="532 1024 1484 1161"> <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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<p>12.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Click on the Green Play icon to start the VM 2. Click the Console raise console window 	 <table border="1" data-bbox="532 1350 1484 1692"> <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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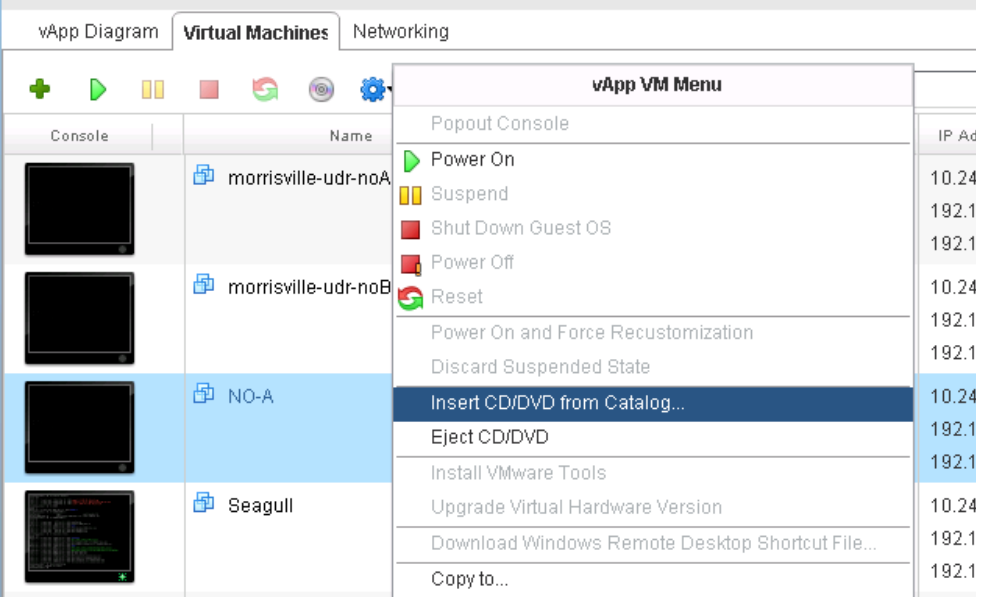
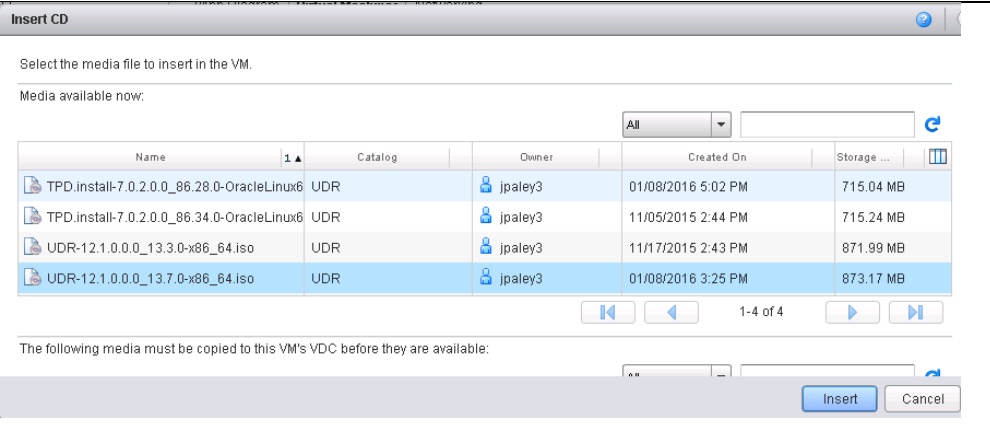
Procedure 27: Install Guests from ISO with vCloud Director

Step	Procedure	Result
<p>13.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Initiate operating system install by entering the given text into console boot prompt</p>	 <p>boot: TPDnoraidd console=tty0</p>
<p>14.</p> <p><input type="checkbox"/></p>	<p>When installation completes, press Enter to reboot</p>	 <p>Note: Escape the console session with keyboard combination Ctrl – Alt</p>
<p>15.</p> <p><input type="checkbox"/></p>	<p>After reboot, log into console</p>	<p>Hostnameb6092a316785 login: root</p> <p>password:</p>
<p>16.</p> <p><input type="checkbox"/></p>	<p>Verify that the TPD release is 7.0.2.x</p>	<pre># getPlatRev 7.0.2.0.0-86.34.0</pre>
<p>17.</p> <p><input type="checkbox"/></p>	<p>Execute “alarmMgr” command to verify health of the server before Application install.</p>	<pre># alarmMgr --alarmStatus</pre> <p><i>NOTE: This command should return no output on a healthy system.</i></p>

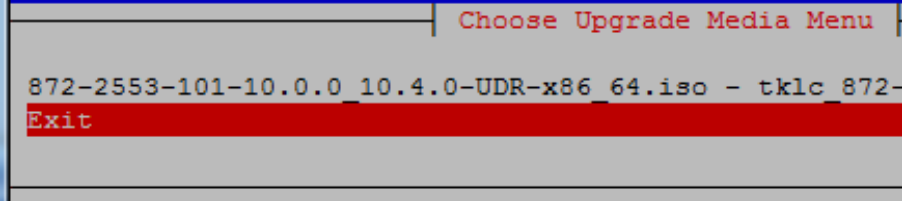
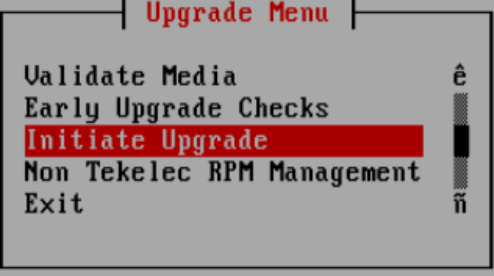
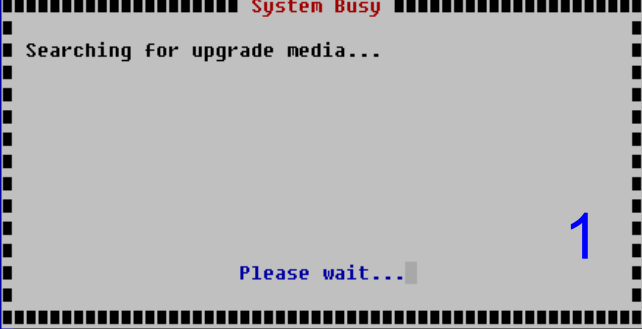

Procedure 27: Install Guests from ISO with vCloud Director

Step	Procedure	Result
18. <input type="checkbox"/>	Execute "verifyIPM" as a secondary way to verify health of the server before Application install.	# verifyIPM <i>NOTE: This command should return no output on a healthy system.</i>
19. <input type="checkbox"/>	Create physical volume sdb	# pvcreate /dev/sdb Physical volume "/dev/sdb" successfully created
20. <input type="checkbox"/>	Create volume group stripe_vg	# vgcreate stripe_vg /dev/sdb Volume group "stripe_vg" successfully created
21. <input type="checkbox"/>	Create logical volume rundb	# lvcreate -L <SIZE>G --alloc anywhere --name rundb stripe_vg Replace <SIZE> size tag with a number in gigabytes half the size of the second disk according to [1]. ISO lab second disk is 120: <SIZE> = 60 ISO production second disk is 720: <SIZE> = 360
22. <input type="checkbox"/>	Make filesystem on rundb	# mkfs -t ext4 /dev/stripvg/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.
23. <input type="checkbox"/>	Execute the following syscheck/restart steps in order	# syscheck --reconfig disk
24. <input type="checkbox"/>	Escape console	Escape the console session with keyboard combination Ctrl – Alt

Procedure 27: Install Guests from ISO with vCloud Director

Step	Procedure	Result																									
<p>25.</p> <p><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 Insert CD/DVD from Catalog. 	 <p>The screenshot shows the vCloud Director interface with the 'Virtual Machines' tab selected. A VM named 'NO-A' is selected in the list. The 'vApp VM Menu' is open, and the 'Insert CD/DVD from Catalog...' option is highlighted. Other options include Power On, Suspend, Shut Down Guest OS, Power Off, Reset, Power On and Force Recustomization, Discard Suspended State, Eject CD/DVD, Install VMware Tools, Upgrade Virtual Hardware Version, Download Windows Remote Desktop Shortcut File..., and Copy to...</p>																									
<p>26.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select Oracle Communications User Data Repository ISO. 2. 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 of available media is shown:</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 dialog also includes navigation buttons and an 'Insert' button at the bottom right.</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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<p>27.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <ol style="list-style-type: none"> 1. Re-enter the console window 2. Login to the "placfg" utility. 	<pre>[root@hostname1260476221 ~]# su - placfg</pre>																									

Procedure 27: Install Guests from ISO with vCloud Director

Step	Procedure	Result
<p>30.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>From the “platacfg” Main Menu...</p> <p>Select each option as shown on the right, pressing the Enter key after each selection.</p>	 
<p>31.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>Verify that the Application release level shown matches the target release.</p> <p>Press Enter.</p>	 

Procedure 27: Install Guests from ISO with vCloud Director

Step	Procedure	Result
<p>32.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>Output similar to that shown on the right may be observed as the Application install progresses.</p>	<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>
<p>33.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>Output similar to that shown on the right may be observed as the server initiates a post-install reboot.</p>	<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.: Restarting system. . machine restart █ </pre>
<p>34.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>After the server has completed reboot...</p> <p>Log into the server as "admusr".</p>	<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>

Procedure 27: Install Guests from ISO with vCloud Director

Step	Procedure	Result
35.	<p>VM Console:</p> <p><input type="checkbox"/> Output similar to that shown on the right will appear as the server returns to a command prompt.</p>	<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/TK LC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/udr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@hostname1260476221 ~]\$ </pre>
36.	<p>VM Console:</p> <p><input type="checkbox"/> Verify successful upgrade.</p>	<p>\$ verifyUpgrade</p> <p><i>NOTE: This command should return no output on a healthy system.</i></p>
37.	<p>VM Console:</p> <p><input type="checkbox"/> Verify that the Application release level shown matches the target release.</p>	<pre> [root@OCUDR-NOAMP-A admusr]# appRev Install Time: Thu Oct 5 01:45:25 2023 Product Name: UDR Product Release: 15.0.0.0.0_115.11.0 Base Distro Product: TPD Base Distro Release: 8.6.0.2.0_110.14.0 Base Distro ISO: TPD.install-8.6.0.2.0_110.14.0-OracleLinux8.6- x86_64.iso ISO name: UDR-15.0.0.0.0_115.11.0-x86_64.iso OS: OracleLinux 8.6 [root@OCUDR-NOAMP-A admusr]# </pre>
38.	<p><i>Change directory</i></p> <p><input type="checkbox"/></p>	<p>\$ cd /var/TKLC/backout</p>
39.	<p><i>Perform upgrade acceptance.</i></p> <p><input type="checkbox"/></p>	<p>\$ sudo ./accept</p>
40.	<p>VM Console:</p> <p><input type="checkbox"/> Reboot the server</p>	<p>Reboot the server:</p> <p>\$ sudo reboot</p> <p>Wait until the reboot completes and re-login with admusr credentials.</p>
41.	<p>VM Console:</p> <p><input type="checkbox"/> Verify server health</p>	<p>Verify server health:</p> <p>\$ alarmMgr --alarmStatus</p> <p><i>Note: This command should return only one alarm related to pending upgrade acceptance.</i></p>

Procedure 27: Install Guests from ISO with vCloud Director


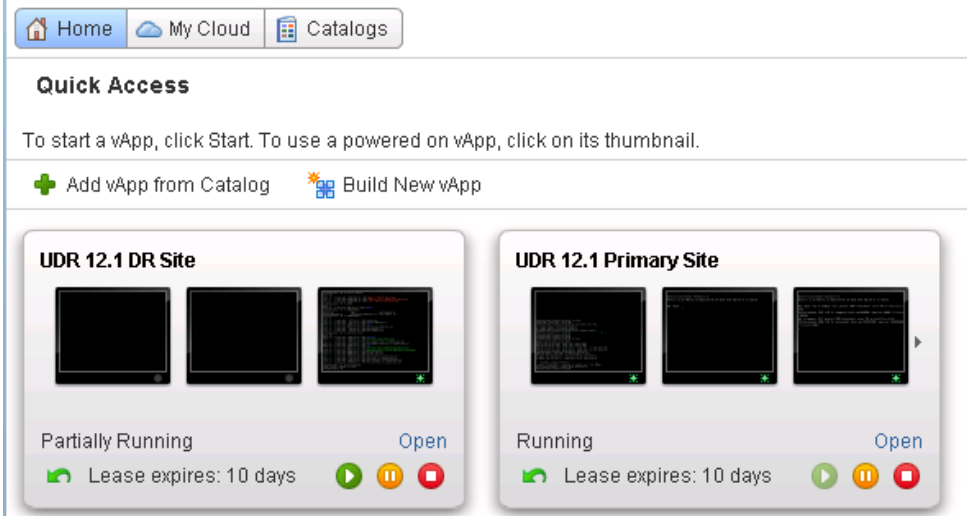

Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

C-7 Configure Guests Network

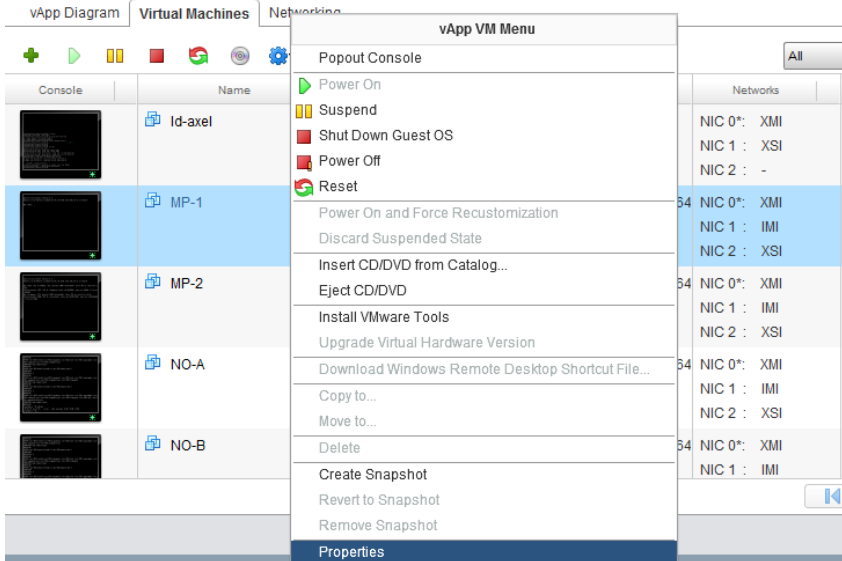
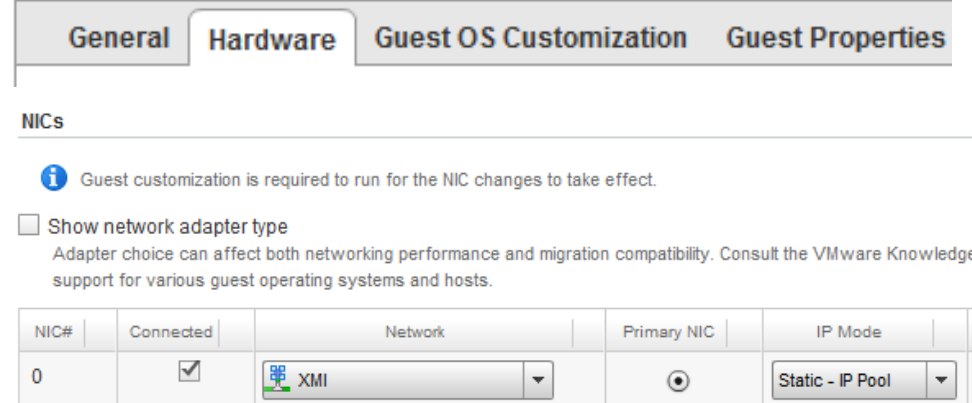
This procedure will create Oracle Communications User Data Repository virtual machines (guests) from ISO.

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

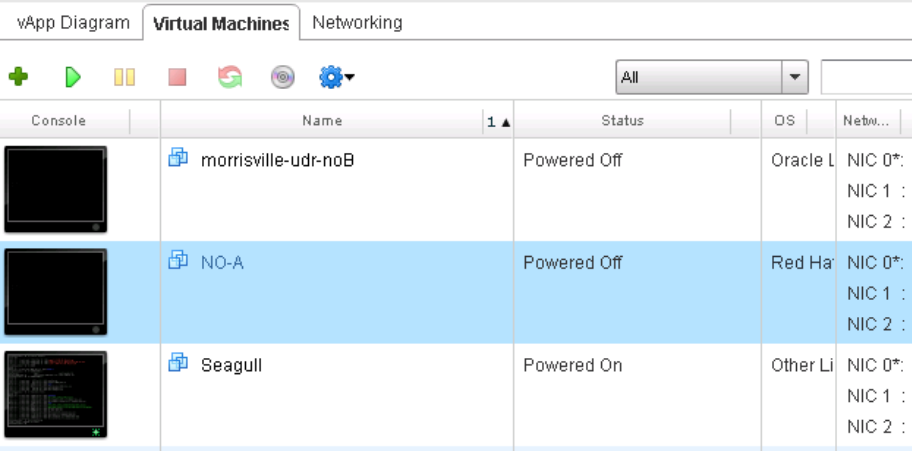
Procedure 28: Configure Guest OAM Network

Step	Procedure	Result
1. <input type="checkbox"/>	Log into the VMware vCloud Director	
2. <input type="checkbox"/>	vCloud Director: Select Open hyperlink 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 next step to create it.</p>
3. <input type="checkbox"/>	vCloud Director: Select... → My Cloud → Virtual Machines	

Procedure 28: Configure Guest OAM Network

Step	Procedure	Result
<p>4.</p> <p><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>5.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <ol style="list-style-type: none"> 1. Select Hardware tab. 2. Note the NIC# assignment of application networks 3. Click Cancel 	 <p>Note the device NIC# assignment of the following networks:</p> <p>XMI: _____</p> <p>IMI: _____</p> <p>XSI-1: _____</p> <p>XSI-2 : _____ (optional)</p> <p style="text-align: right;"><input type="button" value="OK"/> <input type="button" value="Cancel"/></p>

Procedure 28: Configure Guest OAM Network

Step	Procedure	Result																				
<p>6.</p> <p><input type="checkbox"/></p>	<p>vCloud Director:</p> <p>Click the console to raise console window</p>	 <p>The screenshot shows the vCloud Director interface with the 'Virtual Machines' tab selected. A table lists three VMs: 'morrisville-udr-noB', 'NO-A', and 'Seagull'. The 'NO-A' VM is highlighted in blue. The table columns are Console, Name, Status, OS, and Network adapters.</p> <table border="1"> <thead> <tr> <th>Console</th> <th>Name</th> <th>Status</th> <th>OS</th> <th>Netw...</th> </tr> </thead> <tbody> <tr> <td></td> <td>morrisville-udr-noB</td> <td>Powered Off</td> <td>Oracle L</td> <td>NIC 0*: NIC 1 : NIC 2 :</td> </tr> <tr style="background-color: #e6f2ff;"> <td></td> <td>NO-A</td> <td>Powered Off</td> <td>Red Ha</td> <td>NIC 0*: NIC 1 : NIC 2 :</td> </tr> <tr> <td></td> <td>Seagull</td> <td>Powered On</td> <td>Other Li</td> <td>NIC 0*: NIC 1 : NIC 2 :</td> </tr> </tbody> </table>	Console	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 :
Console	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 :																		
<p>7.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>Login to console as admusr</p>	<pre>login as: admusr Password:</pre>																				
<p>8.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>Configure XMI network</p>	<ol style="list-style-type: none"> View a list of netAdm devices <pre>\$ sudo netAdm show</pre> <ol style="list-style-type: none"> Set the XMI device for routable OAM access: <p>Note: Use 'add' if the show command did not list device eth0. Use 'set' otherwise.</p> <pre>\$ sudo netAdm add --device=eth0 --address=<Guest_XMI_IP_Address> --netmask=<XMI_Netmask> --onboot=yes --bootproto=none</pre> <ol style="list-style-type: none"> Add the default route for XMI: <pre>\$ sudo netAdm add --route=default --gateway=<Gateway_XMI_IP_Address> --device=eth0</pre> <p>Note: The network device may be different than shown here (eth0) if the order of network adapter insertion was other than shown. Refer to Step 5 for this assignment.</p>																				
<p>9.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>Configure XSI network</p> <p>(NO and MP Server Only)</p>	<p>Set the XSI device for routable signaling network access (Only for NO & MP Servers):</p> <p>Note: Where ethX is the interface associated with the signaling 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 shown here (eth2) if the order of network adapter insertion was other than shown. Refer to Step 5 for this assignment.</p>																				
<p>10.</p> <p><input type="checkbox"/></p>	<p>VM Console:</p> <p>Repeat as required</p> <p>(MP Server Only)</p>	<p>Repeat Step 7 to add XSI-2 (eth3) if a second signaling network is in use (Only for MP Servers). Adjust input parameter values accordingly</p>																				

Procedure 28: Configure Guest OAM Network

Step	Procedure	Result
11. <input type="checkbox"/>	VM Console: Exit console	\$ <code>exit</code> Note: Press Ctrl-Alt keys to escape from console.
THIS PROCEDURE HAS BEEN COMPLETED		

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

D-1 OpenStack Image Creation from OVA

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

Needed material:

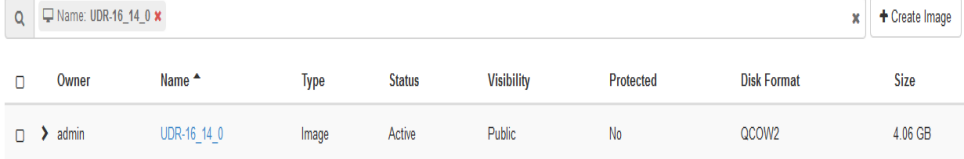
- Oracle Communications User Data Repository OVAs

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

Procedure 29: OpenStack Image Creation from OVA

Step	Procedure	Result
1. <input type="checkbox"/>	1. Login to OpenStack Controller Node using root user 2. Create /home/ova dir	login as: root root@100.65.218.136's password: <root_password> Last login: Thu Feb 9 21:10:59 2016 from 10.182.167.73 [root@pc12107008 ~]# mkdir -p /home/ova [root@pc12107008 ~]# cd /home/ova
2. <input type="checkbox"/>	Transfer OVA file this dir using sftp tool	[root@pc12107008 ova]# ll -rw-r--r-- 1 root root 1519329280 Feb 2 03:40 UDR-15.0.0.0_115.11.0.ova
3. <input type="checkbox"/>	Untar this ova file	[root@pc12107008 ova]# tar xvf UDR-15.0.0.0_115.11.0.ova UDR-16_14_0.ovf UDR-16_14_0.mf UDR-16_14_0.vmdk
4. <input type="checkbox"/>	Convert this vmdk file to qcow2 file	[root@pc12107008 ova]# qemu-img convert -O qcow2 UDR-16_14_0.vmdk UDR-16_14_0.qcow2

Procedure 29: OpenStack Image Creation from OVA

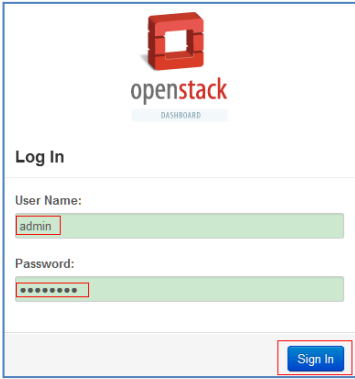
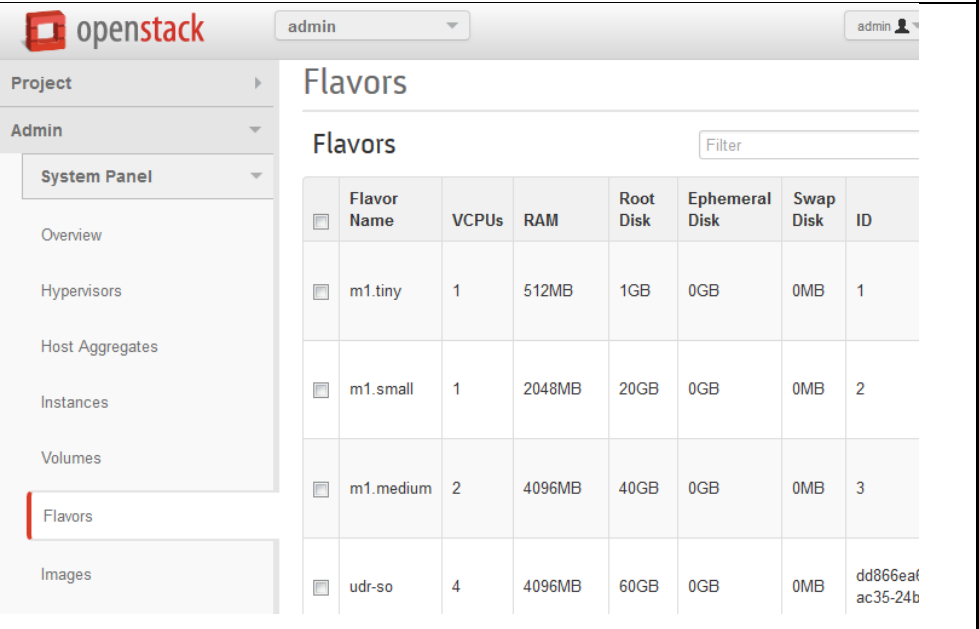
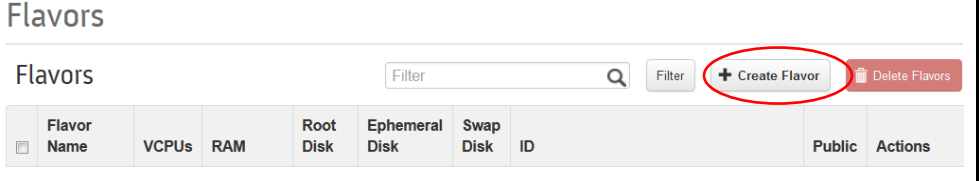
Step	Procedure	Result																
<p>5.</p> <p><input type="checkbox"/></p>	<p>Import converted qcow2 file into OpenStack</p>	<pre>[root@pc12107008 ova]# source /root/keystonerc_admin [root@pc12107008 ova (keystone_admin)]# time glance image-create --name UDR-16_14_0 --disk-format=qcow2 --container-format=bare --visibility=public--file= UDR-16_14_0.qcow2</pre> <pre>+-----+ Property Value +-----+-----+ checksum 81e7f682231b108e29053e9516ff91ac container_format bare created_at 2018-02-09T06:56:51 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-16_14_0 owner 63efbafd70864562aa6440abfca60ca5 protected False size 3615227904 status active updated_at 2016-03-29T06:57:16 virtual_size None +-----+-----+</pre> <pre>real 0m26.267s user 0m2.435s sys 0m2.691s</pre>																
<p>6.</p> <p><input type="checkbox"/></p>	<p>After image-create, this image could be seen from OpenStack GUI under</p> <p>→ Project</p> <p>→ Images</p>	 <table border="1"> <thead> <tr> <th>Owner</th> <th>Name ^</th> <th>Type</th> <th>Status</th> <th>Visibility</th> <th>Protected</th> <th>Disk Format</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>admin</td> <td>UDR-16_14_0</td> <td>Image</td> <td>Active</td> <td>Public</td> <td>No</td> <td>QCOW2</td> <td>4.06 GB</td> </tr> </tbody> </table>	Owner	Name ^	Type	Status	Visibility	Protected	Disk Format	Size	admin	UDR-16_14_0	Image	Active	Public	No	QCOW2	4.06 GB
Owner	Name ^	Type	Status	Visibility	Protected	Disk Format	Size											
admin	UDR-16_14_0	Image	Active	Public	No	QCOW2	4.06 GB											
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>																		

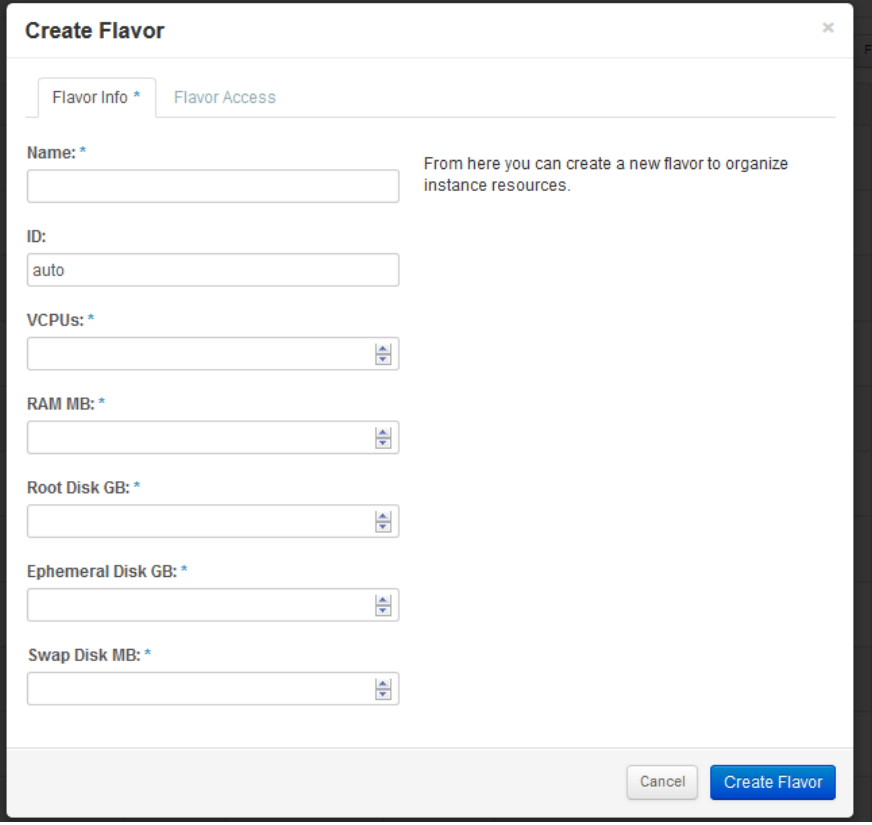
D-2 Create Resource Profiles (Flavors)

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

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

Procedure 30: Create Resource Profiles (Flavors)

Step	Procedure	Result																																			
1 <input type="checkbox"/>	Login to the OpenStack GUI Note: Flavor Profile creation may require administrative privilege.																																				
2 <input type="checkbox"/>	Select... Main Menu → Admin → System Panel → Flavors ...as shown on the right.	 <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 the “+ Create Flavor” button																																				

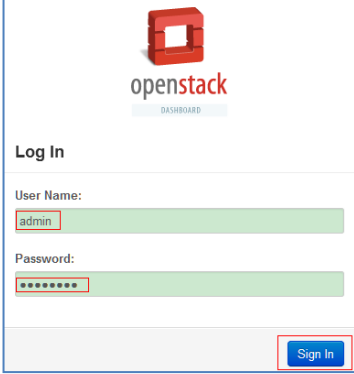

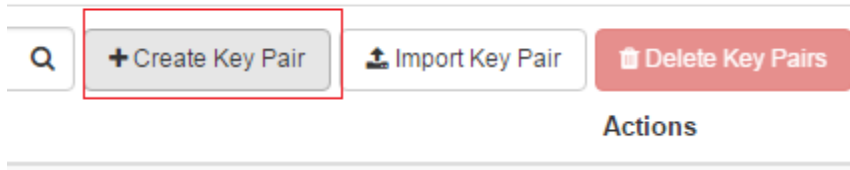
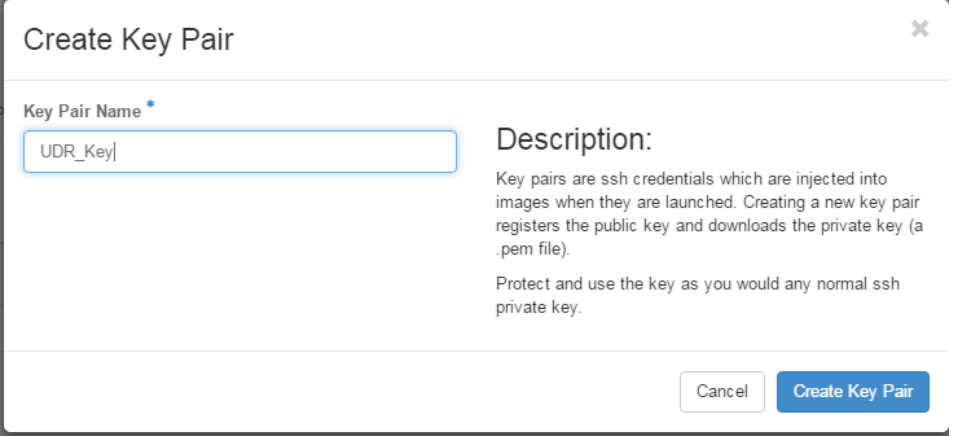
Step	Procedure	Result
<p>4</p> <p><input type="checkbox"/></p>	<p>Enter Flavor Details using Appendix G Resource Profile as a guide *</p> <p>Name:</p> <ul style="list-style-type: none"> - udr-no - udr-so - udr-mp <p>ID: auto</p> <p>VCPUs: vCPUs*</p> <p>RAM: RAM*</p> <p>Root Disk: Storage*</p> <p>Ephemeral Disk: 0</p> <p>Swap Disk: 0</p> <p><u>Note:</u> UDR does not require Ephemeral or Swap Disk.</p> <p>Then click Create Flavor.</p>	
<p>5</p> <p><input type="checkbox"/></p>	<p>Repeat for each server type</p>	<p>Repeat Steps 3 and 4 above for each additional server type: udr-so, udr-mp.</p>
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>		

D-3 Create Key Pair

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

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

Procedure 31: Create Key Pair

Step	Procedure	Result
1. <input type="checkbox"/>	Login to the OpenStack GUI Note: Flavor Profile creation may require administrative privilege.	
2. <input type="checkbox"/>	Select... Main Menu → Compute → Access & Security → Key Pairs ...as shown on the right.	
3. <input type="checkbox"/>	Click the “+ Create Key Pair” button	
4. <input type="checkbox"/>	Enter Key Pair Name Then click Create Key Pair .	

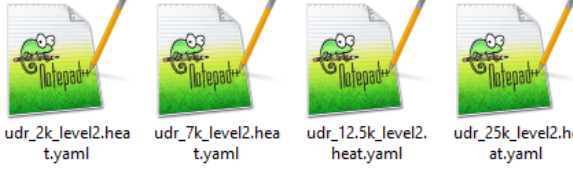
Step	Procedure	Result
5. <input type="checkbox"/>	The Key pair automatically get downloaded to your computer.	The generated Key Pair gets downloaded automatically on creation. This shall be used for SSH Access to VM Instances.
THIS PROCEDURE HAS BEEN COMPLETED		

D-4 Update UDR Stack Yaml File

This procedure updates UDR Stack Yaml File to be used in VM creation.

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

Procedure 32: Create Key Pair

Step	Procedure	Result
1. <input type="checkbox"/>	Download the yaml file	 <p>udr_2k_level2.heat.yaml udr_7k_level2.heat.yaml udr_12.5k_level2.heat.yaml udr_25k_level2.heat.yaml</p>
2. <input type="checkbox"/>	Update Image name or ID with the name of the UDR Qcow2 to be used	<p>Change the value highlighted in yellow.</p> <pre>label: Image name or ID description: UDR Image to be used for launching UDR VM default: UDR-15.0.0.0.0_115.11.0</pre>
3. <input type="checkbox"/>	Update the NTP Server IP	<p>Change the value highlighted in yellow.</p> <pre>label: NTP server description: IP address of the NTP server used for UDR VM syncing time default: 192.168.56.180</pre>
4. <input type="checkbox"/>	Update the NOAMP flavor name if different	<p>Change the value highlighted in yellow.</p> <pre>label: Flavor for NOAMP description: Type of instance (flavor) to be used for launching UDR NOAMP VM default: udr-no</pre>
5. <input type="checkbox"/>	Update the SOAM flavor name if different	<p>Change the value highlighted in yellow.</p> <pre>label: Flavor for SOAM description: Type of instance (flavor) to be used for launching UDR SOAM VM default: udr-so</pre>

Oracle Communications User Data Repository Cloud Installation and Configuration Guide

Step	Procedure	Result
6. <input type="checkbox"/>	Update the MP flavor name if different	Change the value highlighted in yellow. label: Flavor for MP description: Type of instance (flavor) to be used for launching UDR MP VM default: udr-mp
7. <input type="checkbox"/>	Update the XMI Network name if different	Change the value highlighted in yellow. label: UDR XMI network description: Network name or ID to attach UDR XMI network to. default: xmi
8. <input type="checkbox"/>	Update the IMI Network name if different	Change the value highlighted in yellow. label: UDR IMI network description: Private network name or ID to attach UDR IMI network to. default: imi
9. <input type="checkbox"/>	Update the XSI1 Network name if different	Change the value highlighted in yellow. label: UDR XSI1 network description: Network name or ID to attach UDR XSI1 network to. default: xsi1
10. <input type="checkbox"/>	Update the XSI2 Network name if different	Change the value highlighted in yellow. label: UDR XSI2 network description: Network name or ID to attach UDR XSI2 network to. default: xsi2
11. <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
12. <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
13. <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

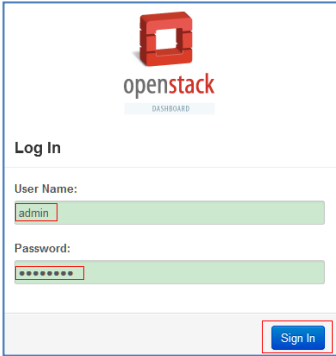
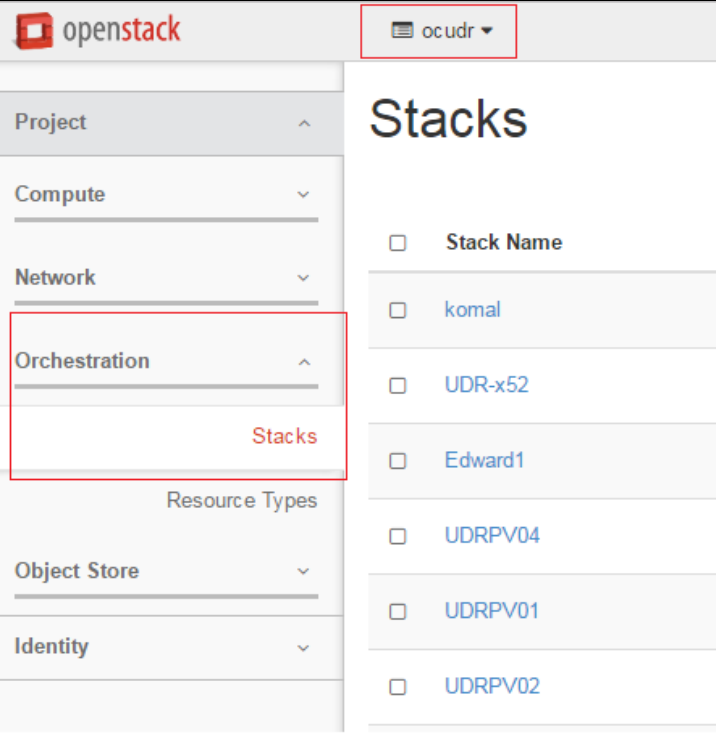
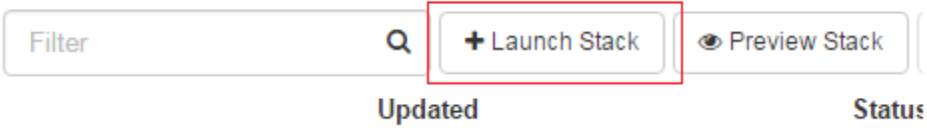
Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

D-5 Create VM Instances Using Yaml File

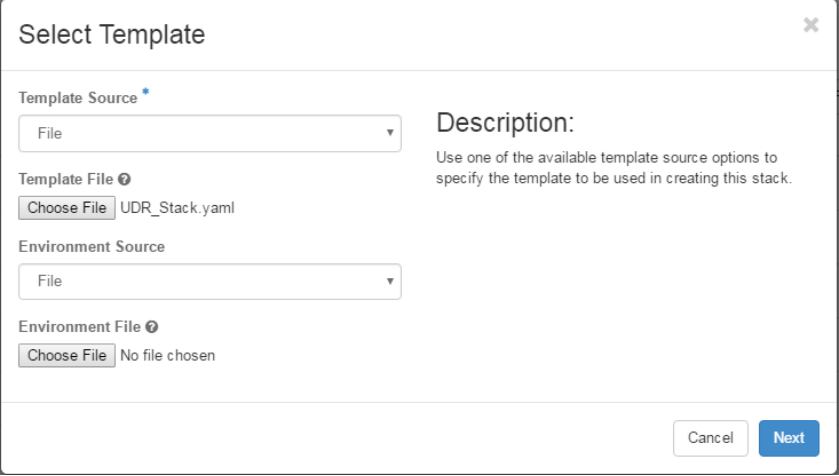
This procedure will create and configure all vm instances needed for OCUDR configuration.

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

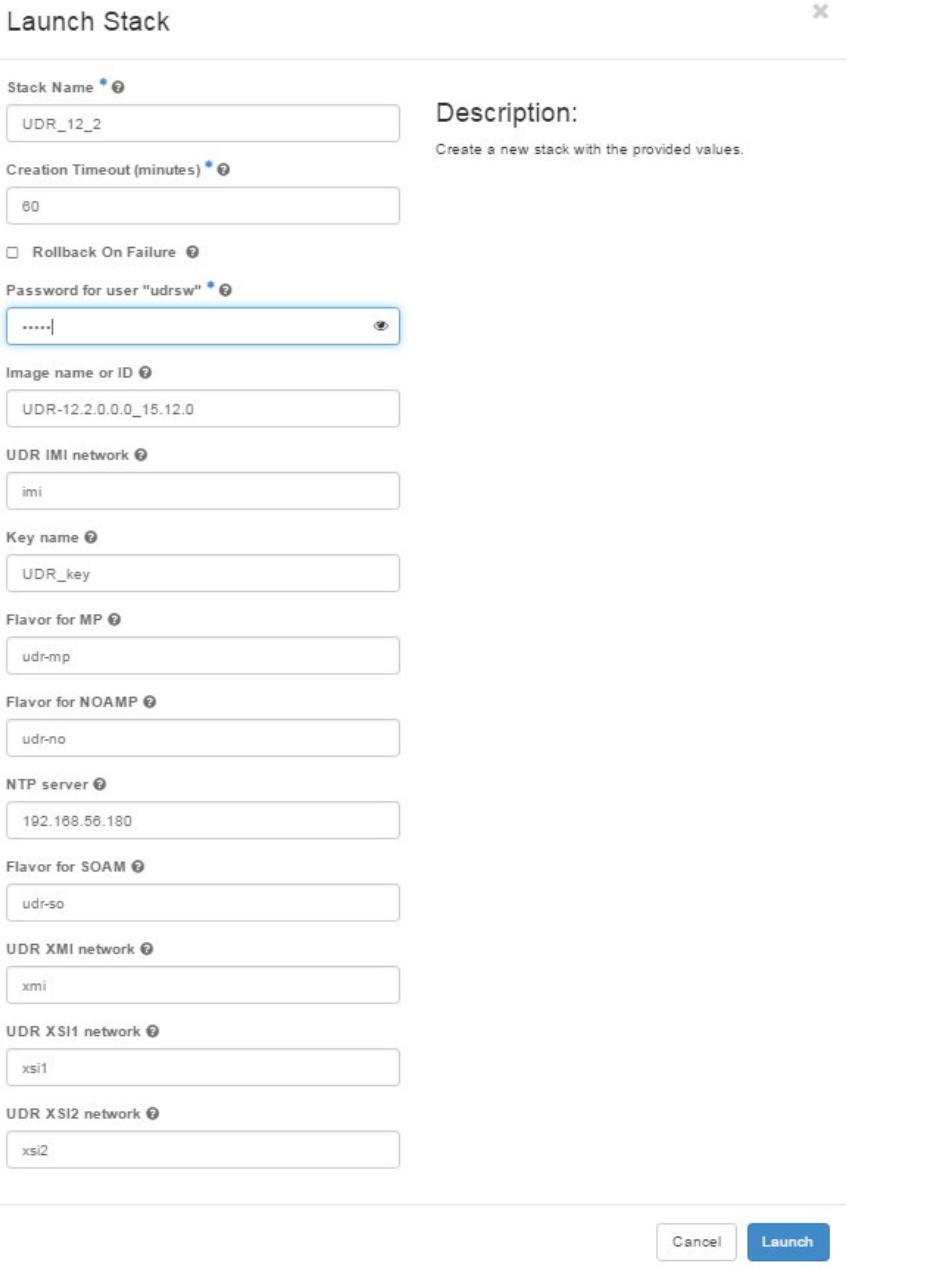
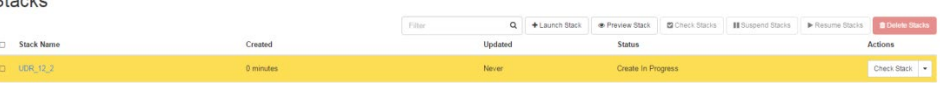
Procedure 33: Create VM Instances Using Yaml File

Step	Procedure	Result
1. <input type="checkbox"/>	Login to the OpenStack GUI	
2. <input type="checkbox"/>	<ol style="list-style-type: none"> Select project, (ex: "ocudr"). Click →Project →Orchestration →Stacks to show all Stacks created under this project: 	
3. <input type="checkbox"/>	Click Launch Stack	

Procedure 33: Create VM Instances Using Yaml File

Step	Procedure	Result
4. <input type="checkbox"/>	1. Select the Template File and Click Next	

Procedure 33: Create VM Instances Using Yaml File

Step	Procedure	Result
<p>5.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 10px;"></div>	<ol style="list-style-type: none"> 1. Enter the Stack Name 2. Enter the password for Openstack user 3. Click Launch to create UDR Stack 	
<p>6.</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 10px;"></div>	<p>Wait for stack creation to finish.</p>	
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>		

D-6 Extend VM Instance Volume Size

This procedure will extend a VM instance’s storage capacity using filesystem utilities.

Important Note: The steps here only apply to servers where storage demands exceed the server’s default size 60GB. The numbers here will vary depending on the unique needs of such deployments and specific hardware resource availability. This is to be taken as an example only. The suitability of these steps cannot be guaranteed across all deployment scenarios.

This steps below should be executed only as per following conditions:

- NOAMP Instance with Resource Profile other than Lab Profile
- SOAM Instance with 12.5K Sh Profile and 25K Sh Profile
- MP Instance with 12.5K Sh Profile and 25K Sh Profile


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

Procedure 34: Extend VM Instance Volume Size

Step	Procedure	Result																										
1. <input type="checkbox"/>	Login to the VM Instance as per D-10: Accessing VM Instance using SSH	hostnamea0c2d9aa8bce login: admusr																										
2. <input type="checkbox"/>	Switch to root user	# su - root password: <root_password>																										
3. <input type="checkbox"/>	Use fdisk to create new partition on /dev/vda NOTE: First cylinder of /dev/vda3 is calculated from End cylinder of /dev/vda2, say 124810 is the next of the End Cylinder of /dev/vda2	[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 <table border="1"> <thead> <tr> <th>Device</th> <th>Boot</th> <th>Start</th> <th>End</th> <th>Blocks</th> <th>Id</th> <th>System</th> </tr> </thead> <tbody> <tr> <td>/dev/vda1</td> <td>*</td> <td>3</td> <td>523</td> <td>262144</td> <td>83</td> <td>Linux</td> </tr> </tbody> </table> Partition 1 does not end on cylinder boundary. <table border="1"> <thead> <tr> <th>Device</th> <th>Start</th> <th>End</th> <th>Blocks</th> <th>Id</th> <th>System</th> </tr> </thead> <tbody> <tr> <td>/dev/vda2</td> <td>523</td> <td>124809</td> <td>62640128</td> <td>8e</td> <td>Linux LVM</td> </tr> </tbody> </table> 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.	Device	Boot	Start	End	Blocks	Id	System	/dev/vda1	*	3	523	262144	83	Linux	Device	Start	End	Blocks	Id	System	/dev/vda2	523	124809	62640128	8e	Linux LVM
Device	Boot	Start	End	Blocks	Id	System																						
/dev/vda1	*	3	523	262144	83	Linux																						
Device	Start	End	Blocks	Id	System																							
/dev/vda2	523	124809	62640128	8e	Linux LVM																							

Step	Procedure	Result
4. <input type="checkbox"/>	Reboot instance	[root@hostnameb267a6968148 ~]# init 6
5. <input type="checkbox"/>	After reboot, Login to the VM with admusr user and switch to root user D-10: Accessing VM Instance using SSH	hostnameb267a6968148 login: admusr # su - root password: <root_password>
6. <input type="checkbox"/>	Create pv /dev/vda3	[root@hostnameb267a6968148 ~]# pvcreate /dev/vda3 Physical volume "/dev/vda3" successfully created
7. <input type="checkbox"/>	Extend vg vgroot on /dev/vda3	[root@hostnameb267a6968148 ~]# vgextend vgroot /dev/vda3 Volume group "vgroot" successfully extended
8. <input type="checkbox"/>	Extend logical volumes for 2K profile * Only required for NOAMP VM Instance	# 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-log_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

Step	Procedure	Result
<p>9.</p> <p><input type="checkbox"/></p>	<p>Extend logical volumes for 7K or 12.5K profile</p> <p>* Only required for NOAMP VM Instance</p>	<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-log_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>
<p>10.</p> <p><input type="checkbox"/></p>	<p>Extend logical volumes for 12.5K profile</p> <p>* Only required for SOAM and MP VM Instance for 12.5K Sh Profile</p>	<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-log_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>

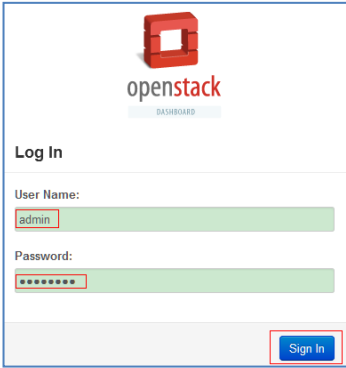
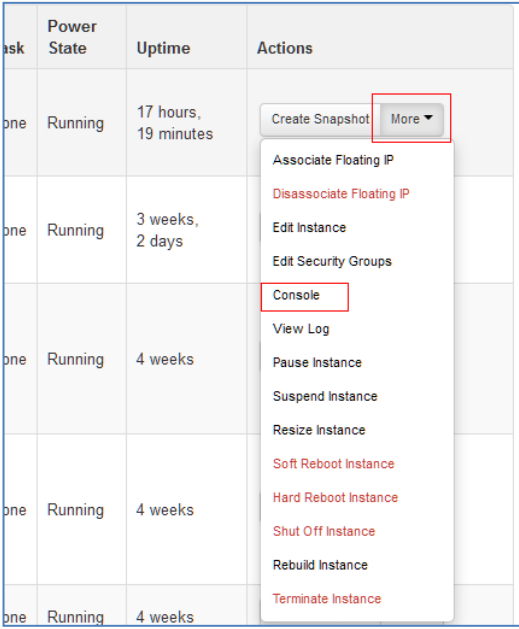
Step	Procedure	Result
11.	Extend logical volumes for 25K profile * Only required for NOAMP VM Instance	<pre># lvextend -L +230686720K /dev/vgroot/run_db # lvextend -L +209715200K /dev/vgroot/filemgmt # lvextend -L +12582912K /dev/vgroot/logs_process # lvextend -L +20971520K /dev/vgroot/apw_tmp # lvextend -L +10485760K dev/mapper/vgroot-plat_usr # resize2fs /dev/mapper/vgroot-filemgmt # resize2fs /dev/mapper/vgroot-run_db # resize2fs /dev/mapper/vgroot-logs_process # resize2fs /dev/mapper/vgroot-apw_tmp # resize2fs /dev/mapper/vgroot-plat_usr # lvs LV VG Attr LSize Pool Origin Data% Meta% Move Log Cpy%Sync Convert apw_tmp vgroot -wi-ao---- <24.68g filemgmt vgroot -wi-ao---- 210.53g logs_process vgroot -wi-ao---- 13.87g logs_security vgroot -wi-ao---- 512.00m netbackup_lv vgroot -wi-ao---- 5.00g plat_root vgroot -wi-ao---- 2.00g plat_tmp vgroot -wi-ao---- 1.00g plat_usr vgroot -wi-ao---- 18.00g plat_var vgroot -wi-ao---- 2.00g plat_var_tklc vgroot -wi-ao---- 8.00g run_db vgroot -wi-ao---- <224.68g</pre>
12.	Extend logical volumes for 25K profile * Only required for SOAM and MP VM Instance for 25K 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 # lvextend -L +5242880K /dev/mapper/vgroot-plat_usr # resize2fs /dev/mapper/vgroot-filemgmt # resize2fs /dev/mapper/vgroot-run_db # resize2fs /dev/mapper/vgroot-log_process # resize2fs /dev/mapper/vgroot-apw_tmp # resize2fs /dev/mapper/vgroot-plat_usr # 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>
13.	Reboot instance 	<pre>[root@hostnameb267a6968148 ~]# init 6</pre>
THIS PROCEDURE HAS BEEN COMPLETED		

D-7 VM Instance Network Configuration

This procedure will configure network interfaces for vm instance.

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

Procedure 35: VM Instance Network Configuration

Step	Procedure	Result
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	hostnamea0c2d9aa8bce login: root password: <root_password>
4. <input type="checkbox"/>	Use netAdm to add device and set ip address <i>(ISO installs only)</i>	Note: This step is required only for ISO installs. [root@ hostnamea0c2d9aa8bce ~]# netAdm add --device=eth0 Interface eth0 added

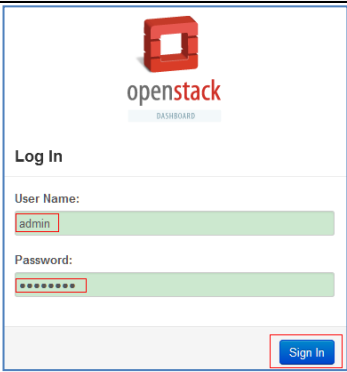
Step	Procedure	Result
5. <input type="checkbox"/>	Set ip address for this interface	<pre>[root@ hostnamea0c2d9aa8bce ~]# netAdm set --device=eth0 --onboot=yes \ --netmask=<netmask> --address=<ip_address> Interface eth0 updated</pre>
6. <input type="checkbox"/>	Add default router	<pre>[root@ hostnamea0c2d9aa8bce ~]# netAdm add --route=default --device=eth0 \ --gateway=10.240.174.1 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 & MP only	<i>Note: Execute this step only for NOAMP and MP virtual machines:</i> <pre>[root@hostnameb6092a316785 ~]# netAdm add --device=eth2 Interface eth2 added</pre>
9. <input type="checkbox"/>	Add eth3 interface MP only	<i>Note: Execute this step only for MP virtual machines for deployments that use a second signaling network (XSI2):</i> <pre>[root@hostnameb6092a316785 ~]# netAdm add --device=eth3 Interface eth3 added</pre>
THIS PROCEDURE HAS BEEN COMPLETED		

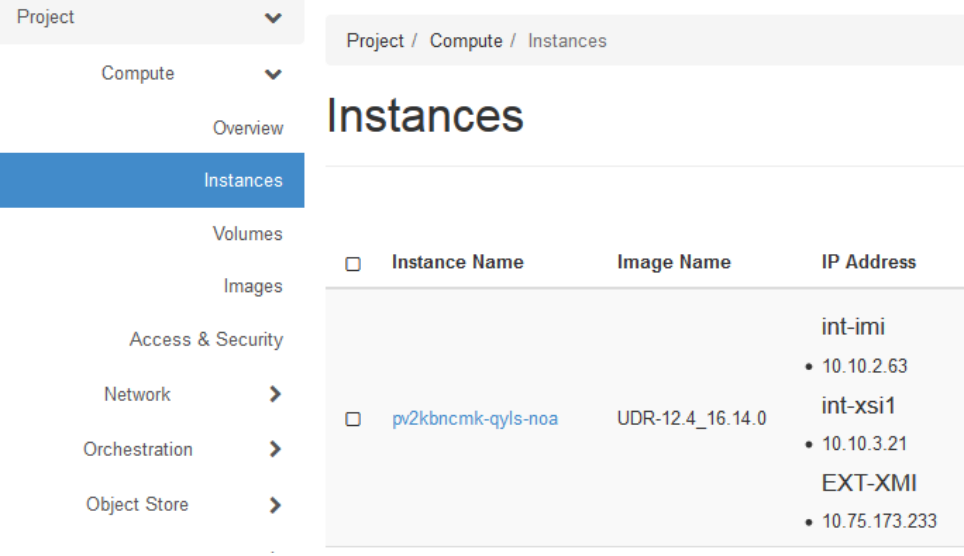
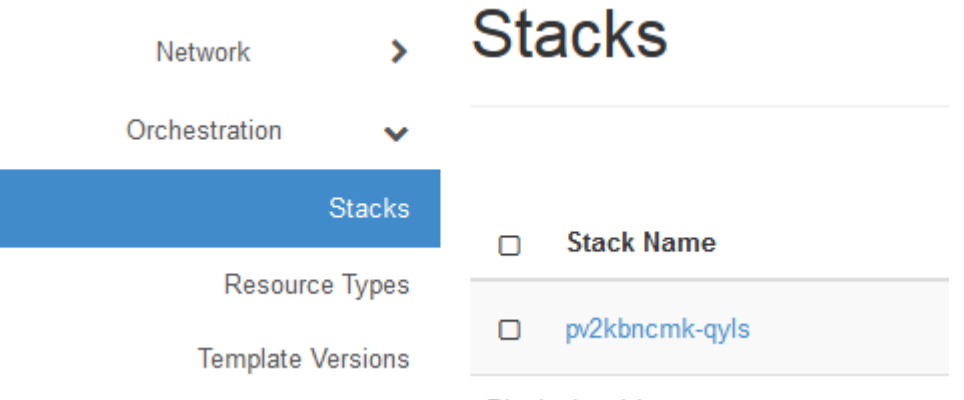
D-8 Virtual IP Address Assignment

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

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

Procedure 36: Virtual IP Address Assignment

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

Step	Procedure	Result
<p>2.</p> <p><input type="checkbox"/></p>	<p>1. Select project, (ex: “UDR”).</p> <p>2. Click</p> <p>→Project</p> <p>→Compute</p> <p>→Instances</p> <p>to show all Instances created under this project:</p>	
<p>3.</p> <p><input type="checkbox"/></p>	<p>Find the NOAMP instances</p>	<p>Record the IP addresses of the NOAMP and/or SOAM instances primary XMI network.</p> <p>NOAMP A: _____ SOAM A: _____</p> <p>NOAMP B: _____ SOAM B: _____</p>
<p>4.</p> <p><input type="checkbox"/></p>	<p>1. Select...</p> <p>→Project</p> <p>→Orchestration</p> <p>→Stacks</p> <p>2. Click the Stack Name for expandd detail</p>	

Step	Procedure	Result																						
<p>5.</p> <input data-bbox="212 275 250 323" type="checkbox"/>	<p>1. Under the Resource tab, find the VIP PORT for NOAMP and SOAM servers.</p>	 <table border="1"> <thead> <tr> <th>Stack Resource</th> <th>Resource</th> </tr> </thead> <tbody> <tr> <td>UDRSITE1_SOA_XMI_PORT</td> <td>433e74f1-8ff9-422e-89d2-5446058eaa09</td> </tr> <tr> <td>UDRSITE1_MP1_IMI_PORT</td> <td>2666c6e1-27cd-4ac9-8e55-8724a80b5113</td> </tr> <tr> <td>UDRSITE1_MP1_XMI_PORT</td> <td>16f207d8-6f30-46b9-a5d8-73b68bb59bd7</td> </tr> <tr> <td>UDRSITE1_SO_VIP_PORT</td> <td>57a63fa2-72a7-47e2-baee-29d90fd1a852</td> </tr> <tr> <td>UDRSITE1_MP1_XSI1_PORT</td> <td>d944c091-bb12-4b44-9fa5-5feb7dedf88c</td> </tr> <tr> <td>UDRSITE1_NOA_XSI1_PORT</td> <td>56343c26-5482-48f9-9d8c-90adae3cc41d</td> </tr> <tr> <td>UDRSITE1_MP2_XSI2_PORT</td> <td>35ea62a0-0f05-4019-8e4e-bca412d46485</td> </tr> <tr> <td>UDRSITE1_NOB_IMI_PORT</td> <td>7a7a9434-94fb-4213-8e2e-7d2a26b2b8ad</td> </tr> <tr> <td>UDRSITE1_SOA_IMI_PORT</td> <td>2520e87c-e335-4bba-a1ae-199089830014</td> </tr> <tr> <td>UDRSITE1_NO_VIP_PORT</td> <td>14d0ae95-65a5-4c94-bfa9-762ba9b7f006</td> </tr> </tbody> </table>	Stack Resource	Resource	UDRSITE1_SOA_XMI_PORT	433e74f1-8ff9-422e-89d2-5446058eaa09	UDRSITE1_MP1_IMI_PORT	2666c6e1-27cd-4ac9-8e55-8724a80b5113	UDRSITE1_MP1_XMI_PORT	16f207d8-6f30-46b9-a5d8-73b68bb59bd7	UDRSITE1_SO_VIP_PORT	57a63fa2-72a7-47e2-baee-29d90fd1a852	UDRSITE1_MP1_XSI1_PORT	d944c091-bb12-4b44-9fa5-5feb7dedf88c	UDRSITE1_NOA_XSI1_PORT	56343c26-5482-48f9-9d8c-90adae3cc41d	UDRSITE1_MP2_XSI2_PORT	35ea62a0-0f05-4019-8e4e-bca412d46485	UDRSITE1_NOB_IMI_PORT	7a7a9434-94fb-4213-8e2e-7d2a26b2b8ad	UDRSITE1_SOA_IMI_PORT	2520e87c-e335-4bba-a1ae-199089830014	UDRSITE1_NO_VIP_PORT	14d0ae95-65a5-4c94-bfa9-762ba9b7f006
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<p>7.</p> <input data-bbox="212 1535 250 1583" type="checkbox"/>	<p>Copy or record all required Port IDs.</p>	<p>Repeat Step 5 and Step 6 to copy or record the Port ID of both servers: NOAMP and SOAM.</p> <p>NOAMP: _____ SOAM: _____</p>																						
<p>8.</p> <input data-bbox="212 1709 250 1757" type="checkbox"/>	<p>OpenStack Controller node:</p> <p>1) Access the command prompt.</p> <p>2) Log into the controller node as a privileged user.</p>	<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>																						

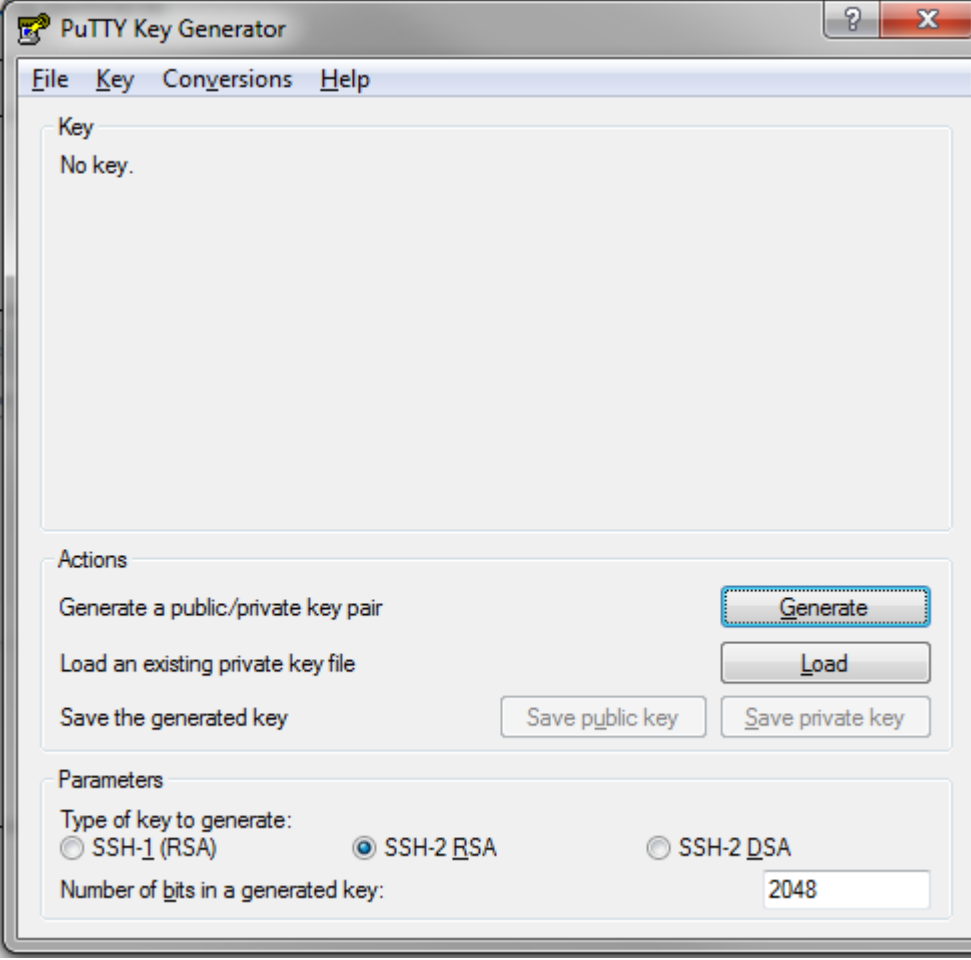
Step	Procedure	Result																																								
9. <input type="checkbox"/>	OpenStack Controller node: Initialize environment variables	<code>controller ~]# source keystone_rc_uadrsw</code>																																								
10. <input type="checkbox"/>	OpenStack Controller node: Assign VIP by Port IDs	Assign the desired VIP address to both A and B servers sharing the VIP: [root@control01 ~](keystone_uadrsw)# openstack floating ip create --port <NOAMP/SOAM_VIP_Port_ID> EXT-XMI E.g.: openstack floating ip create --port fc7b8473-b39d-477f-8b2b-7e0a3b45ce5b EXT-XMI																																								
11. <input type="checkbox"/>	OpenStack Controller node: Repeat if needed	Repeat Step 10 as required for any other server pairs requiring a VIP.																																								
12. <input type="checkbox"/>	OpenStack Controller node: Confirm VIP association	VIP associations may be confirmed with the following command by Port ID: [root@control01 ~](keystone_uadrsw)# neutron port-show <port_id> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>admin_state_up</td> <td>True</td> </tr> <tr> <td>allowed_address_pairs</td> <td>{"ip_address": "10.240.221.36", "mac_address": "fa:16:3e:ce:18:2a"}</td> </tr> <tr> <td>binding:host_id</td> <td>compute05.labafrica</td> </tr> <tr> <td>binding:profile</td> <td>{}</td> </tr> <tr> <td>binding:vif_details</td> <td>{"port_filter": true, "ovs_hybrid_plug": true}</td> </tr> <tr> <td>binding:vif_type</td> <td>ovs</td> </tr> <tr> <td>binding:vnictype</td> <td>normal</td> </tr> <tr> <td>device_id</td> <td>947457b4-46e8-43e7-8f14-79c816388e3d</td> </tr> <tr> <td>device_owner</td> <td>compute:0dds</td> </tr> <tr> <td>extra_dhcp_opts</td> <td></td> </tr> <tr> <td>fixed_ips</td> <td>{"subnet_id": "23f28095-bdb6-4fab-b13e-281d726ef3eb", "ip_address": "10.240.221.38"}</td> </tr> <tr> <td>id</td> <td>aa14b554-d0a6-413d-b77c-63e11a3c9895</td> </tr> <tr> <td>mac_address</td> <td>fa:16:3e:ce:18:2a</td> </tr> <tr> <td>name</td> <td></td> </tr> <tr> <td>network_id</td> <td>62027e77-7556-42b2-8070-ffbd61933877</td> </tr> <tr> <td>port_security_enabled</td> <td>True</td> </tr> <tr> <td>security_groups</td> <td>1e4bd44c-9ac2-4cd0-a56b-c094a52830c2</td> </tr> <tr> <td>status</td> <td>ACTIVE</td> </tr> <tr> <td>tenant_id</td> <td>d2fda814485247f795c23b9af2bc2e1c</td> </tr> </tbody> </table>	Field	Value	admin_state_up	True	allowed_address_pairs	{"ip_address": "10.240.221.36", "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:vnictype	normal	device_id	947457b4-46e8-43e7-8f14-79c816388e3d	device_owner	compute:0dds	extra_dhcp_opts		fixed_ips	{"subnet_id": "23f28095-bdb6-4fab-b13e-281d726ef3eb", "ip_address": "10.240.221.38"}	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
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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																																									
THIS PROCEDURE HAS BEEN COMPLETED																																										

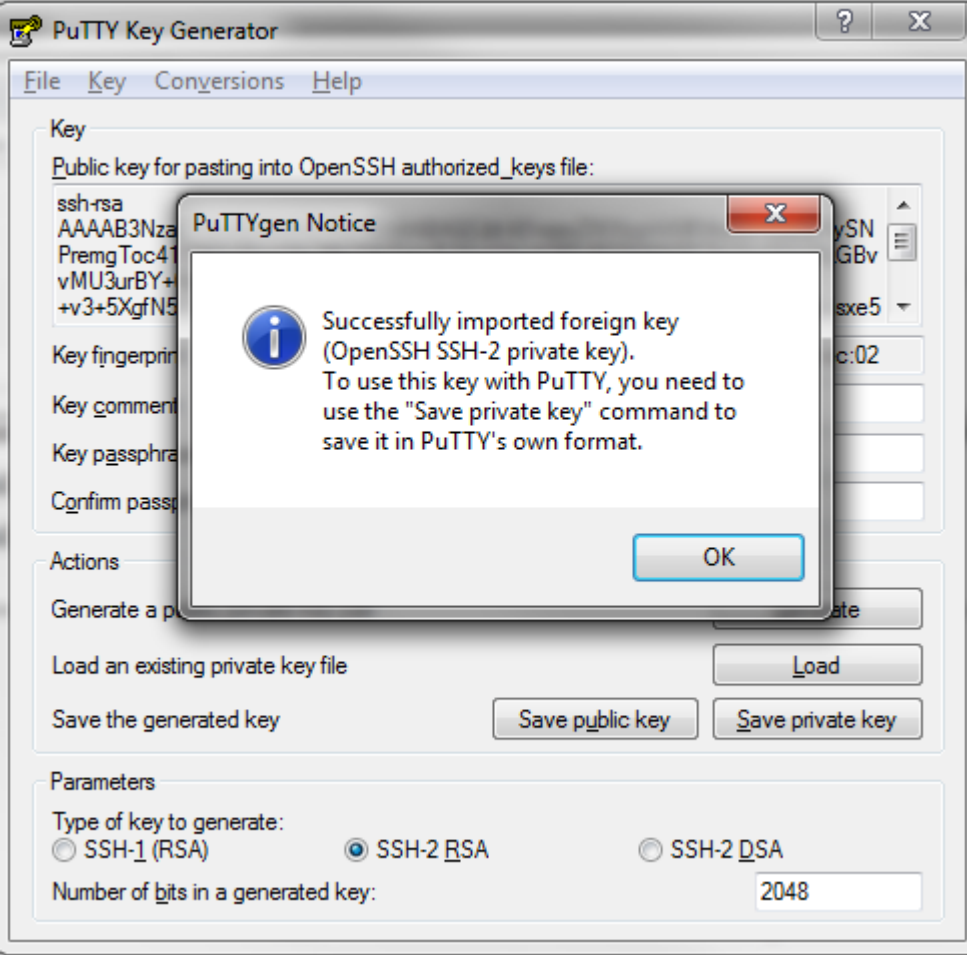
D-9 Generate Private Key for SSH Access

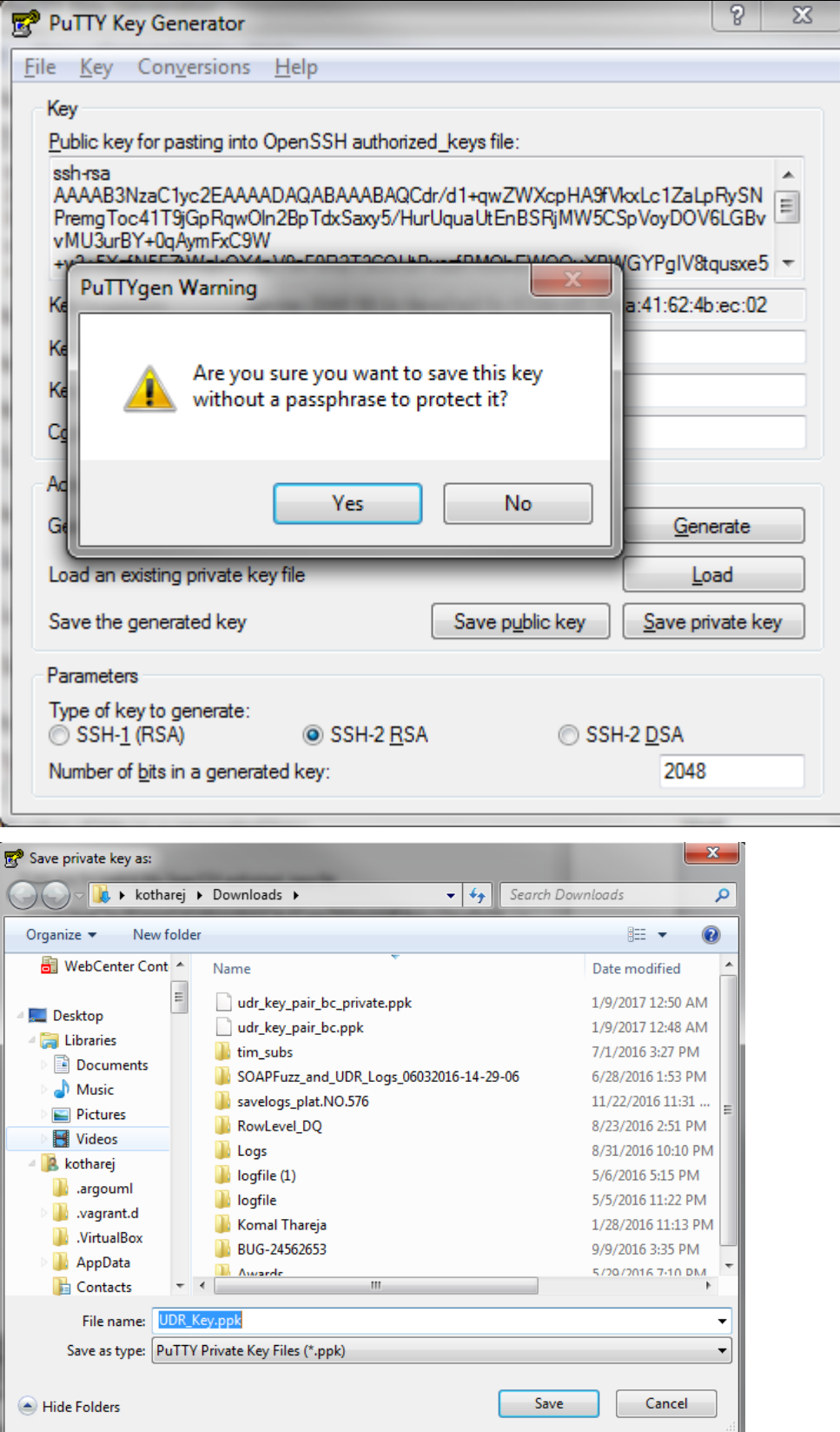
This procedure is used to generate Private Key to be used for accessing VM instance via SSH.

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

Procedure 37: Generate Private Key for SSH Access

Step	Procedure	Result
1. <input data-bbox="212 533 250 575" type="checkbox"/>	Launch PuTTYGen	 <p>The screenshot shows the PuTTY Key Generator application window. The title bar reads 'PuTTY Key Generator'. The menu bar includes 'File', 'Key', 'Conversions', and 'Help'. The main area displays 'Key' and 'No key.'. Below this, the 'Actions' section contains three options: 'Generate a public/private key pair' (with a highlighted 'Generate' button), 'Load an existing private key file' (with a 'Load' button), and 'Save the generated key' (with 'Save public key' and 'Save private key' buttons). The 'Parameters' section shows 'Type of key to generate:' with three radio buttons: 'SSH-1 (RSA)', 'SSH-2 RSA' (which is selected), and 'SSH-2 DSA'. The 'Number of bits in a generated key:' is set to '2048'.</p>

Step	Procedure	Result
<p>2.</p> <p><input type="checkbox"/></p>	<p>Load the Key file i.e *.pem generated in D-3: Create Key Pair</p> <p>Click OK</p>	 <p>The screenshot shows the PuTTY Key Generator application window. A modal dialog box titled "PuTTYgen Notice" is displayed in the foreground. The dialog contains an information icon and the following text: "Successfully imported foreign key (OpenSSH SSH-2 private key). To use this key with PuTTY, you need to use the 'Save private key' command to save it in PuTTY's own format." Below the text is an "OK" button. In the background, the PuTTY Key Generator window is visible, showing the "Key" section with a public key for pasting into an OpenSSH authorized_keys file. The "Actions" section includes buttons for "Load", "Save public key", and "Save private key". The "Parameters" section shows "Type of key to generate" set to "SSH-2 RSA" and "Number of bits in a generated key" set to "2048".</p>

Step	Procedure	Result
3.	<p>Save the Private Key by</p> <p>Clicking “Save Private Key”</p> <p>Click Yes</p> <p>Click Save</p>	 <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?" with "Yes" and "No" buttons. In the background, the PuTTY Key Generator interface is visible, showing the "Key" section with a public key for pasting into an OpenSSH authorized_keys file. The "Parameters" section shows "Type of key to generate:" set to "SSH-2 RSA" and "Number of bits in a generated key:" set to "2048". Below the warning dialog, the "Save private key as:" dialog is open, showing a file list in the Downloads folder. The file name is "UDR_Key.ppk" and the save as type is "PuTTY Private Key Files (*.ppk)".</p>

Step	Procedure	Result
THIS PROCEDURE HAS BEEN COMPLETED		

D-10 Accessing VM Instance using SSH

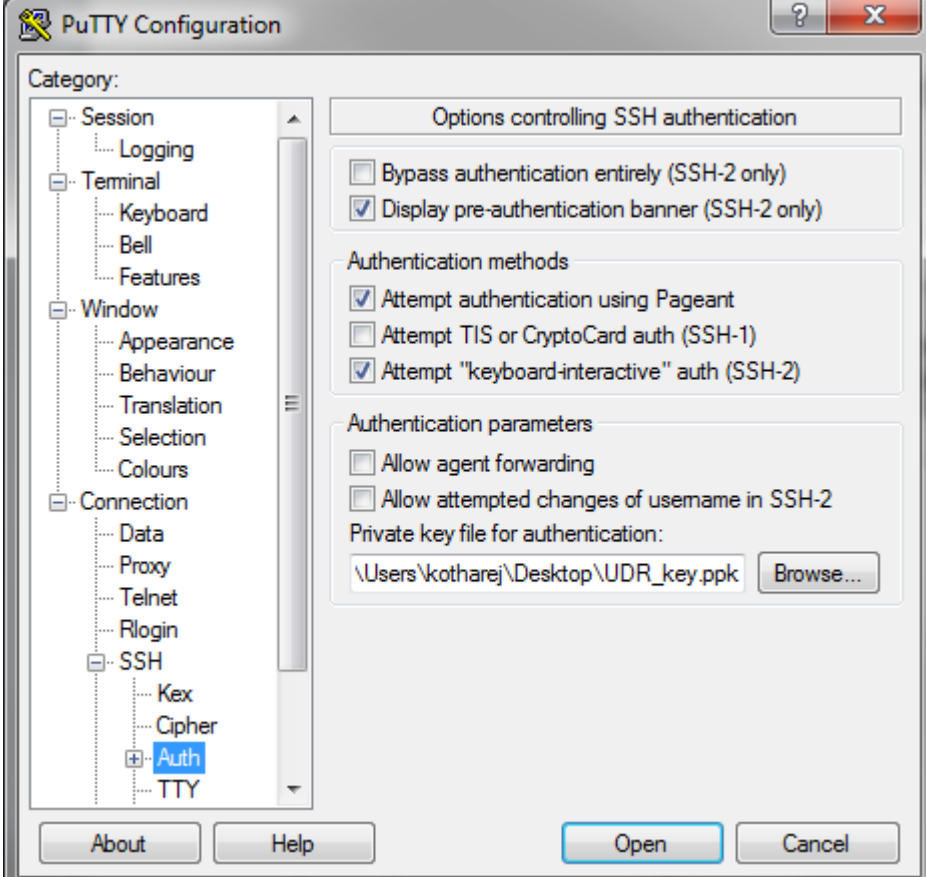
This procedure is used to access VM instance via SSH. This procedure assumes following:

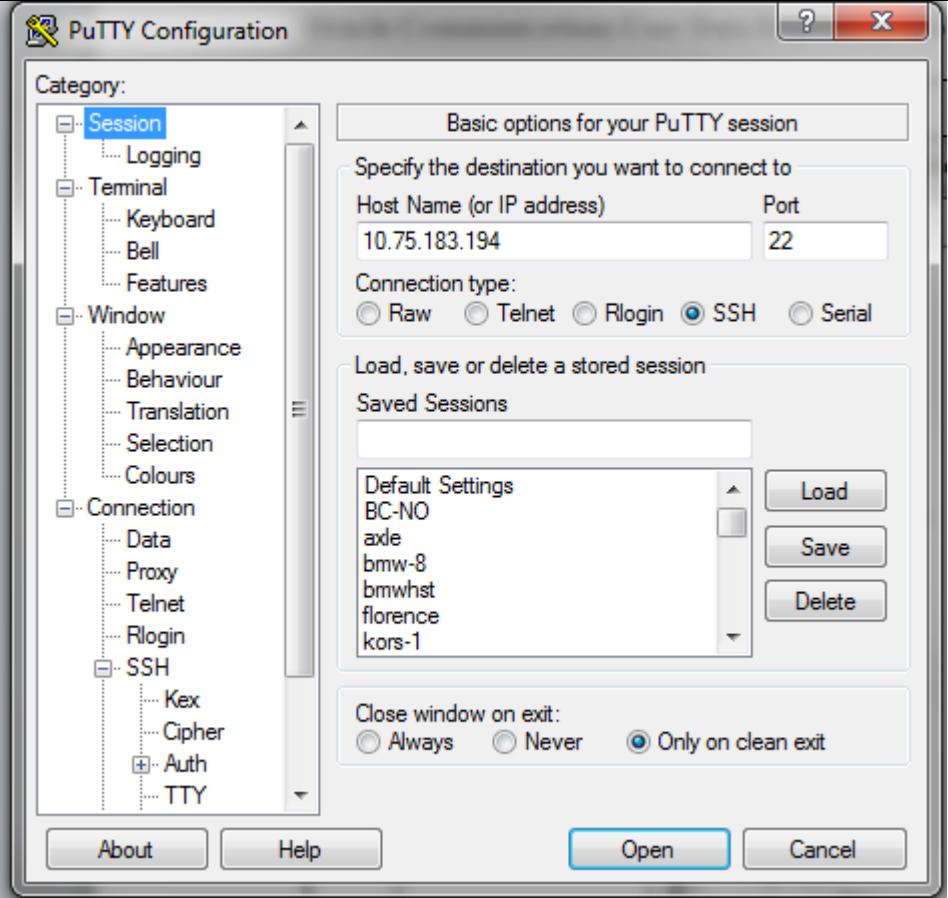
- Network configuration on VM insatance is complete or floating IPs have been associated with VM instance
- Private Key has been generated as per D-9: Generate Private Key for SSH Access

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

Procedure 38: SSH Access to VM Instance

Step	Procedure	Result
1.	<p>Launch Putty</p> <p><input type="checkbox"/></p> <p>Specify IP Address of the VM Instance</p>	

Step	Procedure	Result
<p>2.</p> <p><input type="checkbox"/></p>	<p>Under the SSH → Auth Select the *.ppk file generated by 0: Generate Private Key for SSH Access</p>	 <p>The screenshot shows the PuTTY Configuration dialog box with the 'Auth' category selected in the left-hand tree view. The right-hand pane displays the following settings:</p> <ul style="list-style-type: none"> Options controlling SSH authentication: <ul style="list-style-type: none"> <input type="checkbox"/> Bypass authentication entirely (SSH-2 only) <input checked="" type="checkbox"/> Display pre-authentication banner (SSH-2 only) Authentication methods: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Attempt authentication using Pageant <input type="checkbox"/> Attempt TIS or CryptoCard auth (SSH-1) <input checked="" type="checkbox"/> Attempt "keyboard-interactive" auth (SSH-2) Authentication parameters: <ul style="list-style-type: none"> <input type="checkbox"/> Allow agent forwarding <input type="checkbox"/> Allow attempted changes of username in SSH-2 Private key file for authentication: <ul style="list-style-type: none"> Text field: \Users\kotharej\Desktop\UDR_key.ppk Button: Browse... <p>Buttons at the bottom include 'About', 'Help', 'Open', and 'Cancel'.</p>

Step	Procedure	Result
3. <input type="checkbox"/>	<p>From Session Category, click Open to launch the SSH connection</p> <p>Specify username admusr when prompted</p>	 <p style="text-align: center;">THIS PROCEDURE HAS BEEN COMPLETED</p>

D-11 Clobber the database on VM Instance

This procedure clobbers the database on VM instance.

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

Procedure 39: Clobber Database on VM Instance

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

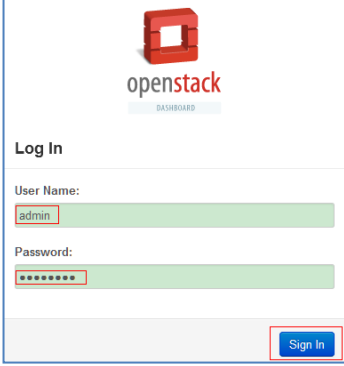
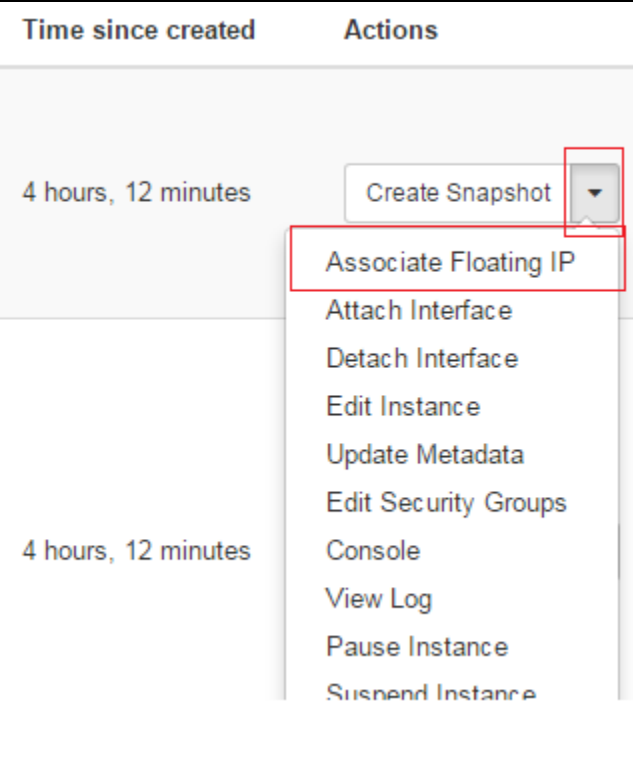
<p>3.</p> <p><input type="checkbox"/></p>	<p>Run prod.clobber on newly created instances</p>	<pre> root@hostname2c6772f9819e ~]# prod.clobber ...prod.clobber (RUNID=00)... ...getting current state... Current state: X (product under procmgr) WARNING: ABOUT TO DESTROY ALL PRODUCT DISK FILES !!!! Are you 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/TKLC/run/db/run </pre>
<p>4.</p> <p><input type="checkbox"/></p>	<p>Run prod.start on instance</p> <p>After start, use “pl” to check process status, after first start, only a few processes will start</p>	<pre> [root@hostname2c6772f9819e ~]# prod.start_ + iqt -liddtoXML -dataDictPart > /var/TKLC/run/db/dataDictPart/20160527.055813.5460.DataDictPart.tmp + edd.op --install --must-eq-current /var/TKLC/run/db/dataDictPart/20160527.055813.5460.DataDictPart.tmp created: 20160527.055813.5460.DataDictPart.xml ...starting procmgr ... [root@hostname2c6772f9819e ~]# pl S pid proctag \$1 stat spawntime N cmd Z 29470 cnha Up 05/27 01:59:29 1 cnha Z 29471 cnsoapa Up 05/27 01:59:29 1 cnsoapa Z 29473 idbsvc Up 05/27 01:59:29 1 idbsvc -H10 -HE204 -D40 -DE820 -U1 -S2 -L1 Z 29475 inetmerge Up 05/27 01:59:29 1 inetmerge Z 29477 raclerk Up 05/27 01:59:29 1 raclerk -r 3000 Z 29478 re.portmap Up 05/27 01:59:29 1 re.portmap -c100 </pre>
<p>5.</p> <p><input type="checkbox"/></p>	<p>Run prod.start again on instance, this time, all processes will be started</p>	<pre> [root@hostname2c6772f9819e ~]# prod.start ...prod.start (RUNID=00)... ...getting current state... Current state: Z (product under procmgr) ...setting state X... ...waiting for state [XBA]... Current state is X [root@hostname2c6772f9819e ~]# pl S pid proctag \$1 stat spawntime N cmd X 29586 Ingsqld Up 05/27 02:00:25 1 Ingsqld.start -force X 29587 ProcWatch Up 05/27 02:00:25 1 ProcWatch -L X 29589 apuSoapServer Up 05/27 02:00:25 1 fCH00SIGCHK=1 apuSoapServer X 29470 cnha Up 05/27 01:59:29 1 cnha X 29591 cnplatalarm Up 05/27 02:00:25 1 cnplatalarm 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 cnsoapa Up 05/27 01:59:29 1 cnsoapa 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 -U1 -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 nkdbhooks Up 05/27 02:00:25 1 nkdbhooks 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 vipngr Up 05/27 02:00:25 1 vipngr </pre>
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>		

D-12 Associating Floating IPs

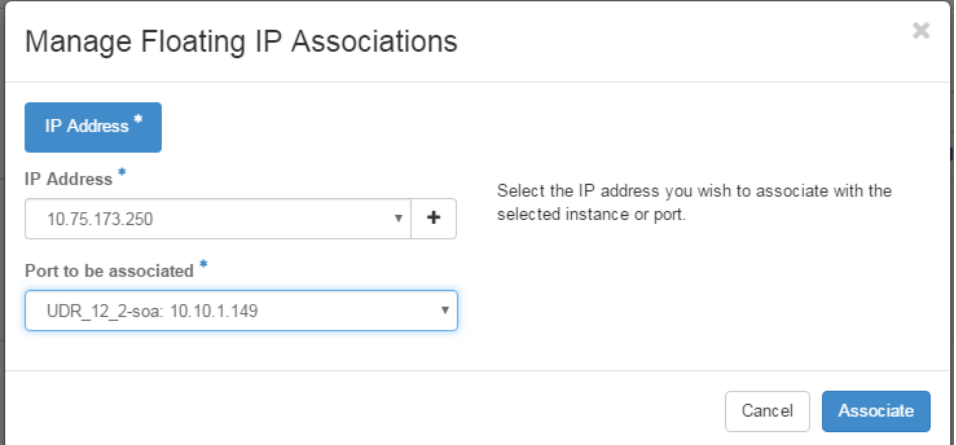
This procedure will associate Floating IP to vm instance.

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

Procedure 40: Associate Floating IP

Step	Procedure	Result
1. <input data-bbox="212 531 248 577" type="checkbox"/>	Login to the OpenStack GUI	
2. <input data-bbox="212 909 248 955" type="checkbox"/>	Login VM instance from →Project →Instances →More →Associate Floating IP	

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Step	Procedure	Result
3. <input type="checkbox"/>	Select the IP Address and Port to be associated Click Associate	 <p>Manage Floating IP Associations</p> <p>IP Address *</p> <p>IP Address *</p> <p>10.75.173.250</p> <p>Port to be associated *</p> <p>UDR_12_2-soa: 10.10.1.149</p> <p>Select the IP address you wish to associate with the selected instance or port.</p> <p>Cancel Associate</p>
THIS PROCEDURE HAS BEEN COMPLETED		

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 customer site at which it is being installed. The following is an example of a Network Element XML file.

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

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 network(s) 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 to the user 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

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>
```

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```
<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
<i>NOAMP</i>	1	2	2	2	Active-Standby	Anti-affinity. NOAMPs must be hosted on different servers
<i>SOAM</i>	1	2	2	2	Active-Standby	Anti-affinity. SOAMs must be hosted on different servers
<i>MP</i>	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		vCPUs				RAM (GB)				Storage (GB)			
		2K Sh	7K Sh	12.5K Sh	25 K Sh	2k Sh	7K Sh	12.5K Sh	25K Sh	2k Sh	7K Sh	12.5K Sh	25K Sh
<i>NOAMP</i>	Network Opertation, Administration, Maintenance, and Provisioning	4	8	14	28	16	32	64	128	220	400	400	800
<i>SOAM</i>	Site (node) Opertation, Adminstration, Maintenance	2*	2*	2*	2*	4	4	16	16	120	120	120	120
<i>MP</i>	Message Processor	4	6	12	12	16	16	32	32	120	120	120	120

*- SOAM can run with only 2 CPU. This will not create a performance degradation though Server Hardware Configuration Error alarm will be raised and remain on the system.

- Lab numbers are for demonstration of functionality only and can only support 100/s SOAP provisioning with 2k/s SH traffic.

Notes:

- 1:1vCPU to CPU ratio based on Intel(R) Xeon(R) CPU E5-2699 v3 @ 2.30GHz

Deployment Type	Flavor	Max subscribers(In Milions)
2k	2k	10M
7k	7k	15M
12.5k	12.5k	30M
25k	25k	50M

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Notes: With latest TPD, we noticed that the space allocated to below files system is not enough

```
/dev/mapper/vgroot-plat_usr  
/dev/mapper/vgroot-plat_var
```

Hence we need to manually extend the size of these files system as per requirement.

Comands:

```
lvextend -L +5G <file system>  
resize2fs <file system>
```

Example:

```
lvextend -L +5G /dev/mapper/vgroot-plat_var  
resize2fs /dev/mapper/vgroot-plat_var
```

Appendix H. NETWORK DEVICE ASSIGNMENTS

Product	Role	Interface Assignment						
		Control	Platform Management	OAMP (XMI)	Local (IMI)	Signaling A (XSI1)	Signaling B (XSI2)	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.

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<i>Local</i>	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.
<i>Signaling A</i>	Application external communications	External Signaling Interface 1 (XSI1)	Mandatory	External	Yes	MP, Optional:NOAMP	Diameter (TCP/3868, SCTP/3868)	Signal A network may also be configured to host ComAgent services when the target is outside the Network Element.
<i>Signaling B</i>	Application external communications	External Signaling Interface 2 (XSI2)	Optional	External	Yes	MP	Diameter (TCP/3868, SCTP/3868)	

Red = Port values are configurable (default value shown)

Appendix J. INSTALL UDR ON ORACLE LINUX OS VIA KVM

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

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

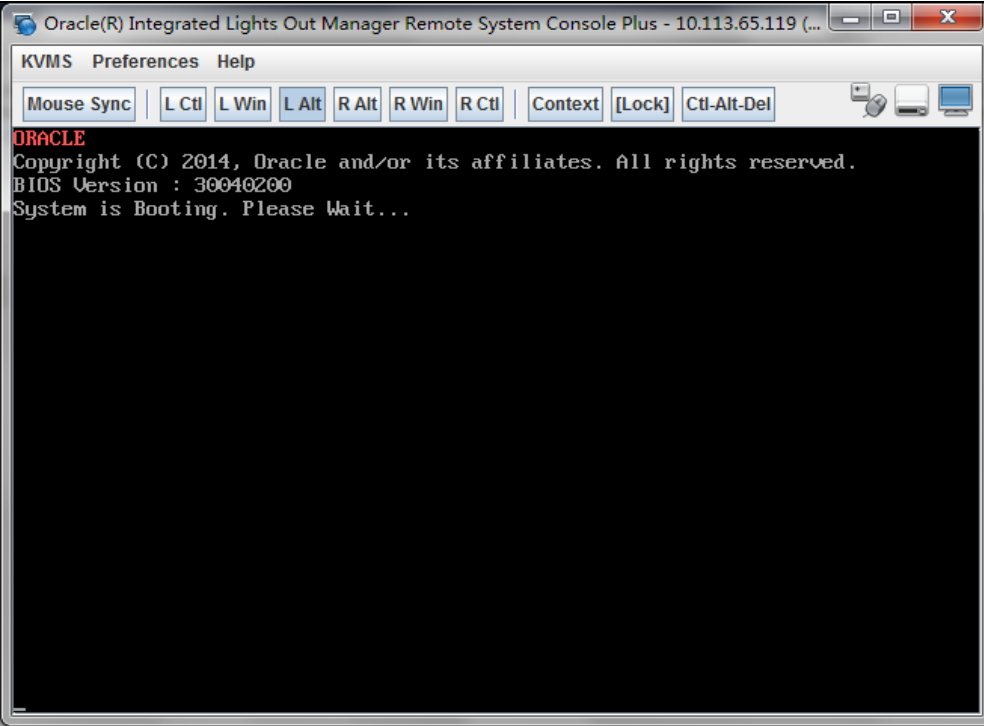


Note:

- 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.

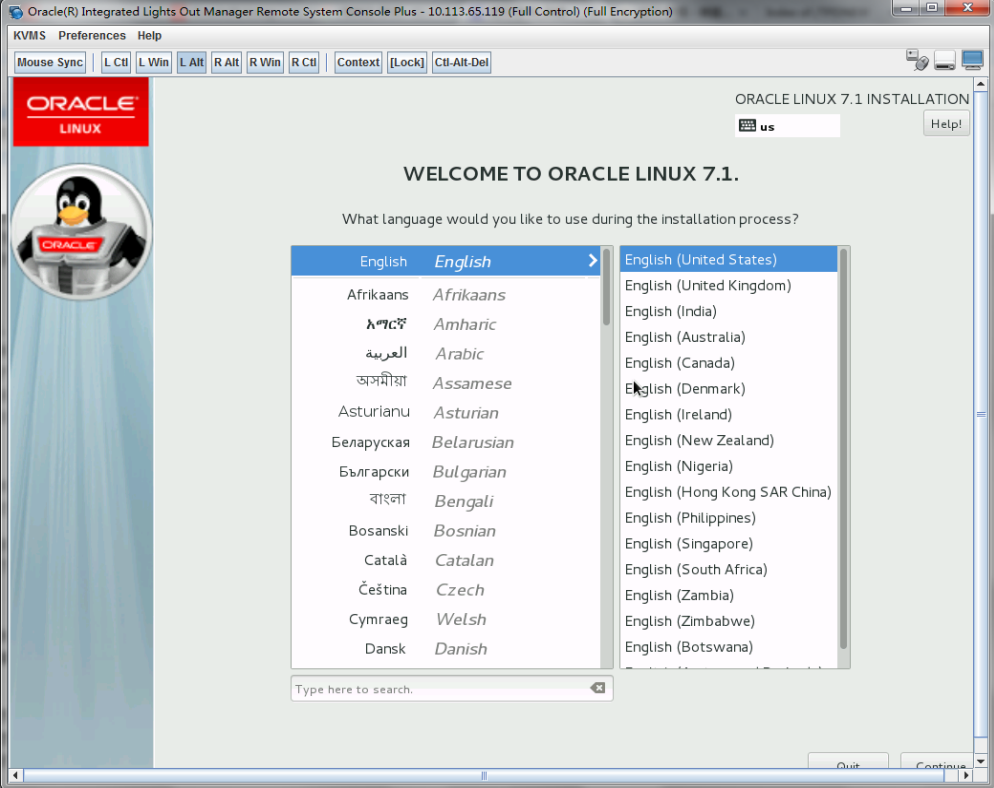
Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

Procedure 41: Install UDR on Oracle Linux/KVM

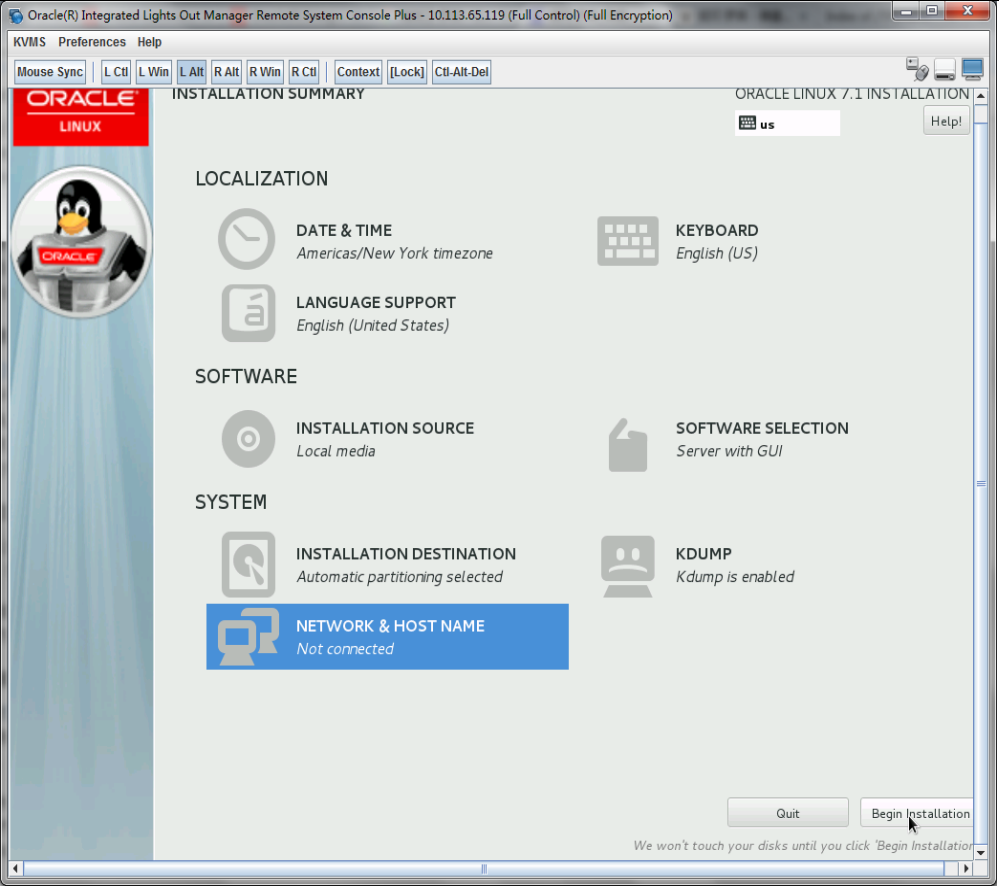
Step	Procedure	Result
1. <input type="checkbox"/>	For each Oracle X5-2 RMS: Mount virtual media contains Oracle Linux OS software	Follow steps defined in ... Appendix C.3 Mounting Virtual Media on Oracle RMS Server of [2]. ... to mount the Oracle Linux OS software ISO.
2. <input type="checkbox"/>	For each Oracle X5-2 RMS: Reboot host Login to X5-2 iLo GUI browser page and launch remote console In ILO GUI, navigate to “ Host Management ” - > “ Power Control ” menu, select “ Reset ” in dropdown menu and click “ Save ” to reboot host.	<div style="border: 1px solid #ccc; padding: 5px;"> <p>Power Control</p> <hr/> <p>Control the host power from this page. To change the power state, choose an option from the Actions drop down list. <i>Immediate Power Off</i> cuts power to the host. <i>Graceful Shutdown</i> and <i>Power Off</i> attempts to bring the OS down gracefully, then cuts power to the host. <i>Power On</i> gives the host full power. <i>Power Cycle</i> brings the host to power off, then automatically powers the host back on. <i>Reset</i> reboots the host immediately. More details...</p> <hr/> <p>Settings</p> <p>Host is currently on.</p> <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">Reset</div> </div> <p>In remote console window you'll see host is rebooting.</p>

		 <p>Oracle(R) Integrated Lights Out Manager Remote System Console Plus - 10.113.65.119 (...)</p> <p>KVMS Preferences Help</p> <p>Mouse Sync L Ctl L Win L Alt R Alt R Win R Ctl Context [Lock] Ctl-Alt-Del</p> <p>ORACLE Copyright (C) 2014, Oracle and/or its affiliates. All rights reserved. BIOS Version : 30040200 System is Booting. Please Wait...</p>
<p>3. <input type="checkbox"/></p>	<p>For each Oracle XS-2 RMS:</p> <p>Initiate Oracle Linux Platform installation</p>	<p>Wait for a couple of minutes for reboot to complete.</p> <p>Once reboot completed, host will boot with Oracle Linux installation ISO and GUI screen will be prompted for installation option.</p>  <p>Oracle(R) Integrated Lights Out Manager Remote System Console Plus - 10.113.65.119 (...)</p> <p>KVMS Preferences Help</p> <p>Mouse Sync L Ctl L Win L Alt R Alt R Win R Ctl Context [Lock] Ctl-Alt-Del</p> <p>ORACLE</p> <p>Oracle Linux 7.1</p> <p>Install Oracle Linux 7.1 Test this media & install Oracle Linux 7.1</p> <p>Troubleshooting ></p> <p>Press Tab for full configuration options on menu items.</p> <p>Oracle Linux </p> <p>Choose option of “Install Oracle Linux 7.x” to continue.</p>

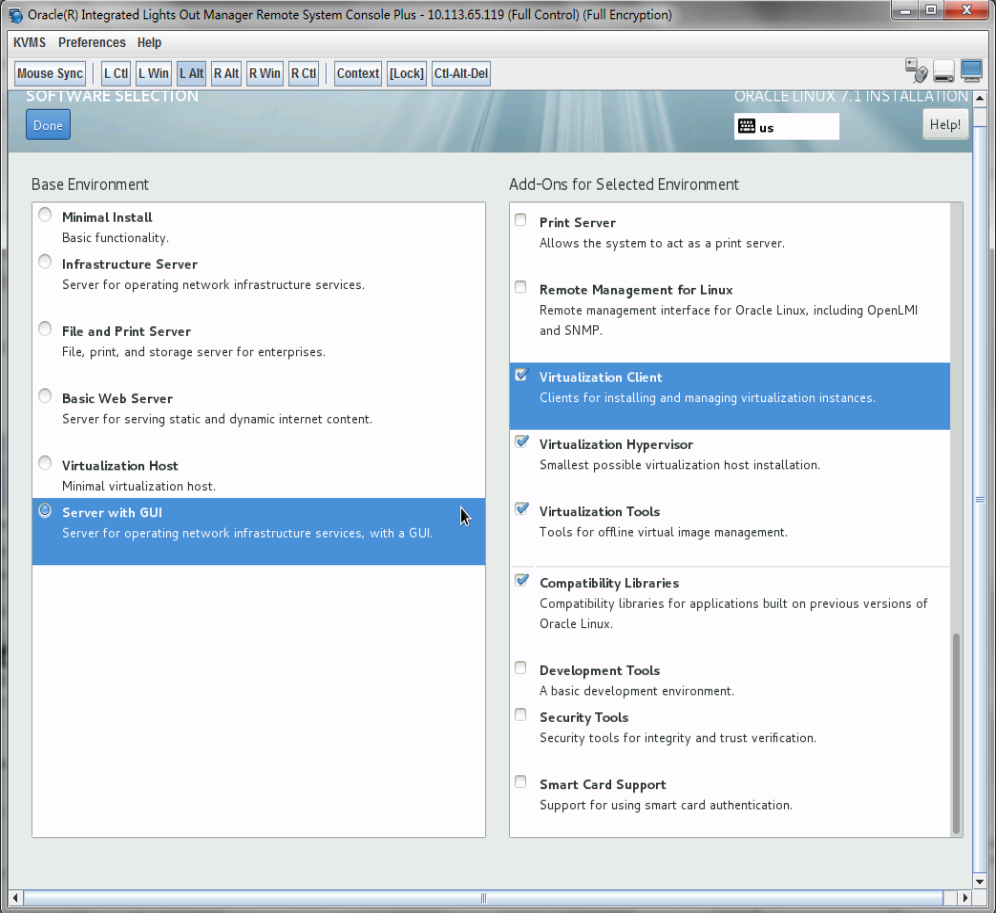
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<p>4.</p> <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Choose Oracle Linux OS language</p>	<p>When prompted, choose “English” as Oracle Linux OS language:</p>  <p>Press “Continue” button to go to next step.</p>
<p>5.</p> <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Setup time zone</p>	<p>The next page will prompt for Oracle Linux OS installation required information to start installation.</p>

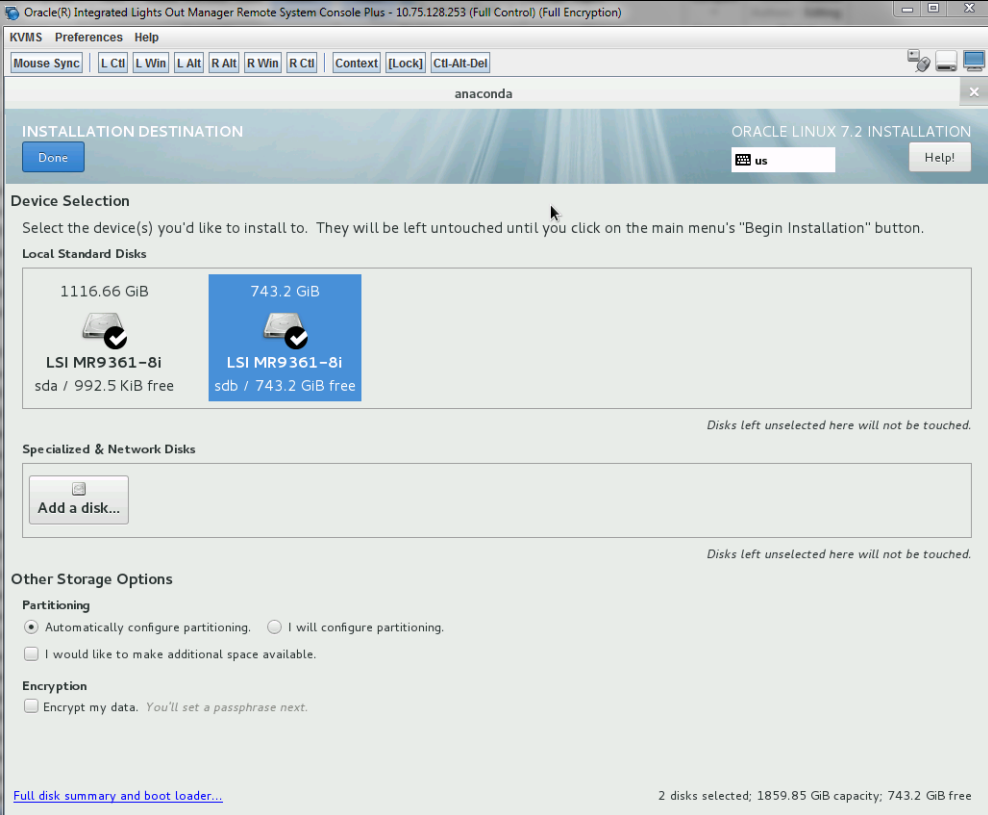
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		 <p>Click into LOCALIZATION -> DATE & TIME menu: Set time zone as Americas/New York.</p> <p>Click “Done” to save up changes and goes back to main configuration page.</p>
<p>6. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS:</p> <p>Setup installation base environment</p>	<p>Click into SOFTWARE -> SOFTWARE SELECTION menu. Choose “Server with GUI” group, and make sure following add-ons are selected:</p> <ul style="list-style-type: none"> ➤ Virtualization Client ➤ Virtualization Hypervisor ➤ Virtualization Tools ➤ Compatibility Libraries

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		 <p>Click “Done” to save up changes and goes back to main configuration page.</p>
<p>7. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS:</p> <p>Setup installation destination</p>	<p>Click into SYSTEM -> INSTALLATION DESTINATION menu. Select 'sda' and 'sdb' to use, and check “Automatically configure partitioning”, click 'Done' to continue.</p>

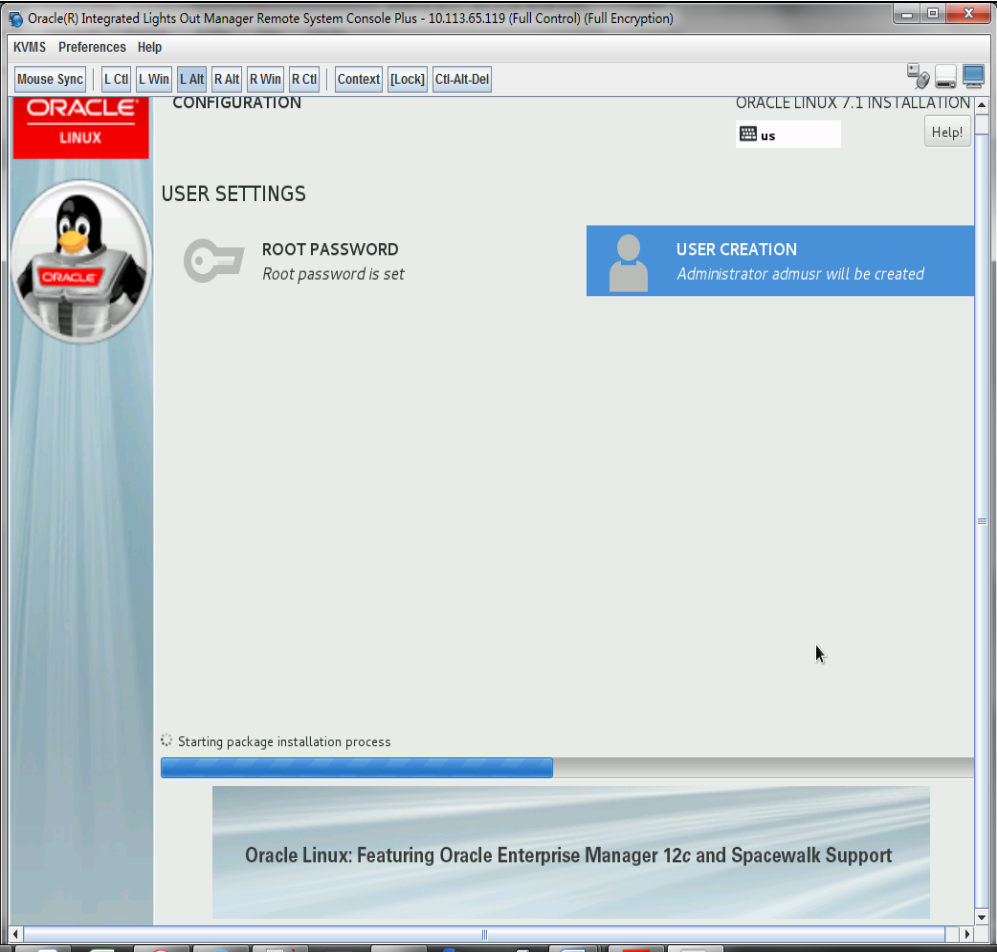
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<p>8.</p> <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Review configuration and start to install</p>	<p>Review all information before clicking “Begin Installation” button:</p> <p>(You don’t need to configure network right now, we’ll leave that part after Oracle Linux OS is installed.)</p>

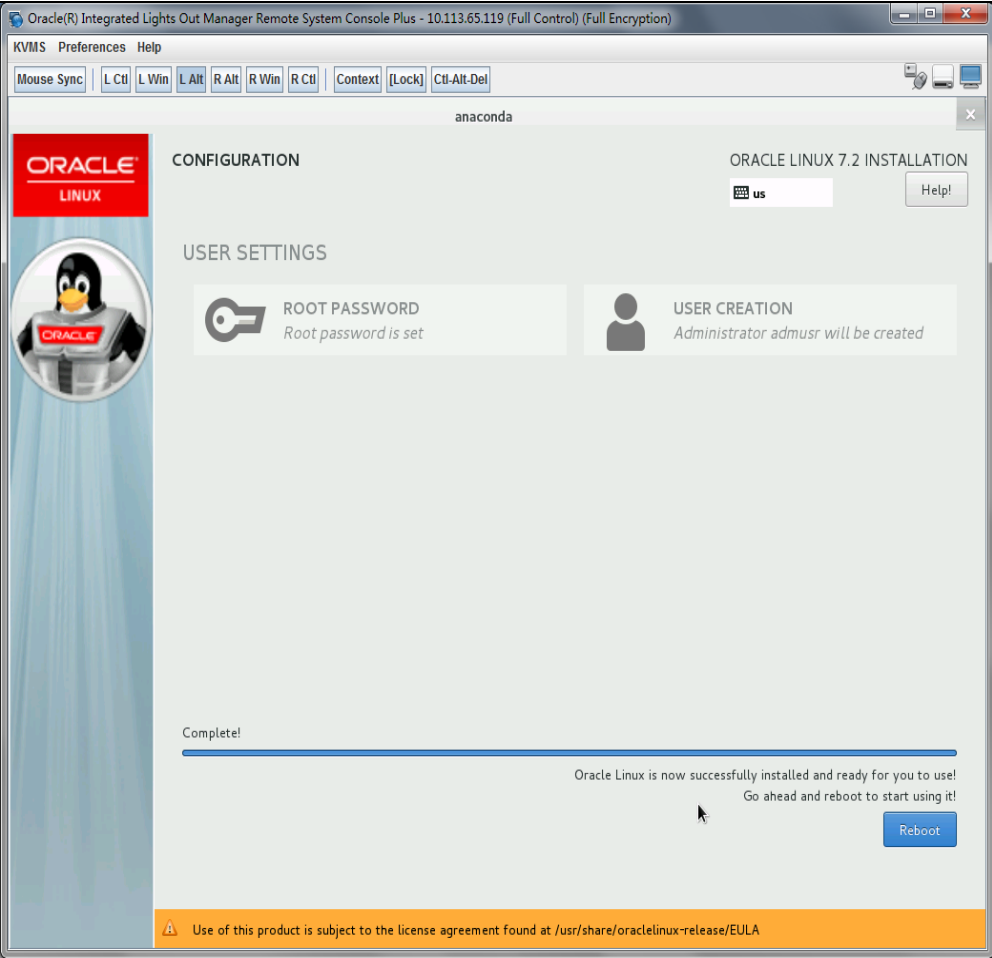
Oracle Communications User Data Repository Cloud Installation and Configuration Guide

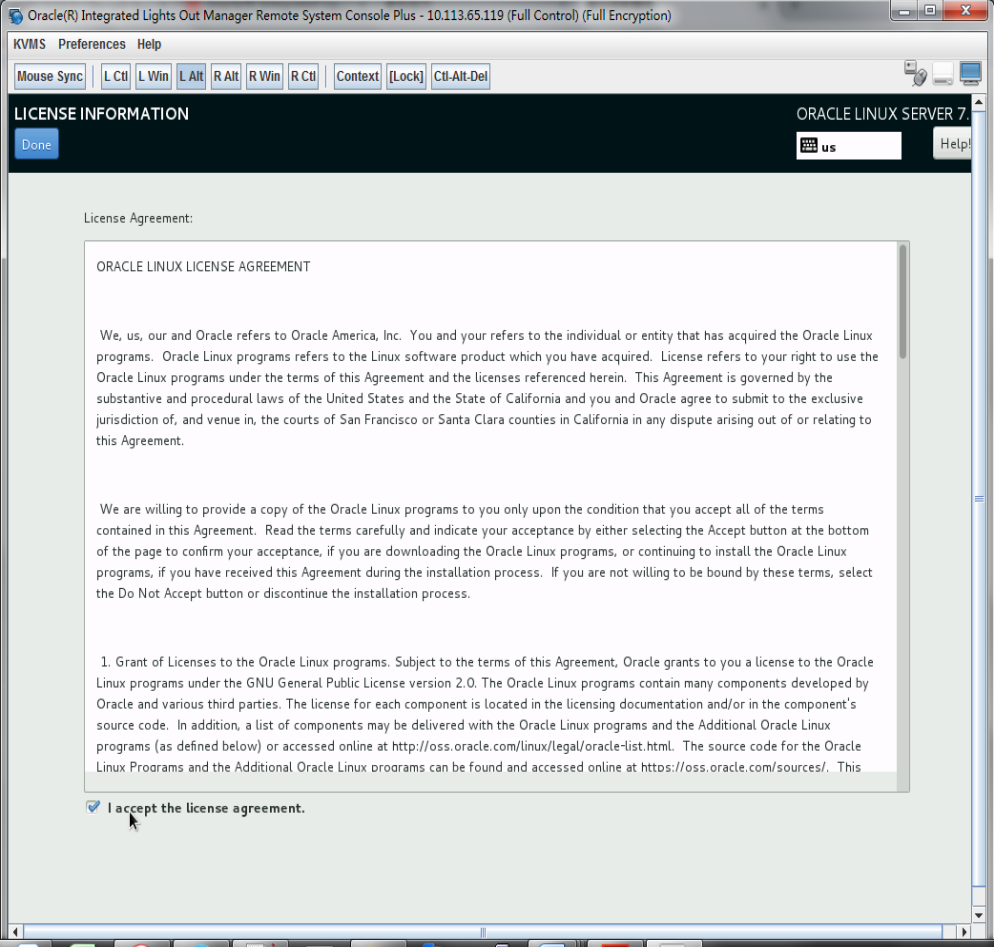
<p>9.</p> <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Create login credential</p>	<p>At the same time Oracle Linux installation software is laying down files into Oracle X5-2 local hard disk, you may configure root credential or any other login credentials per your needs:</p>

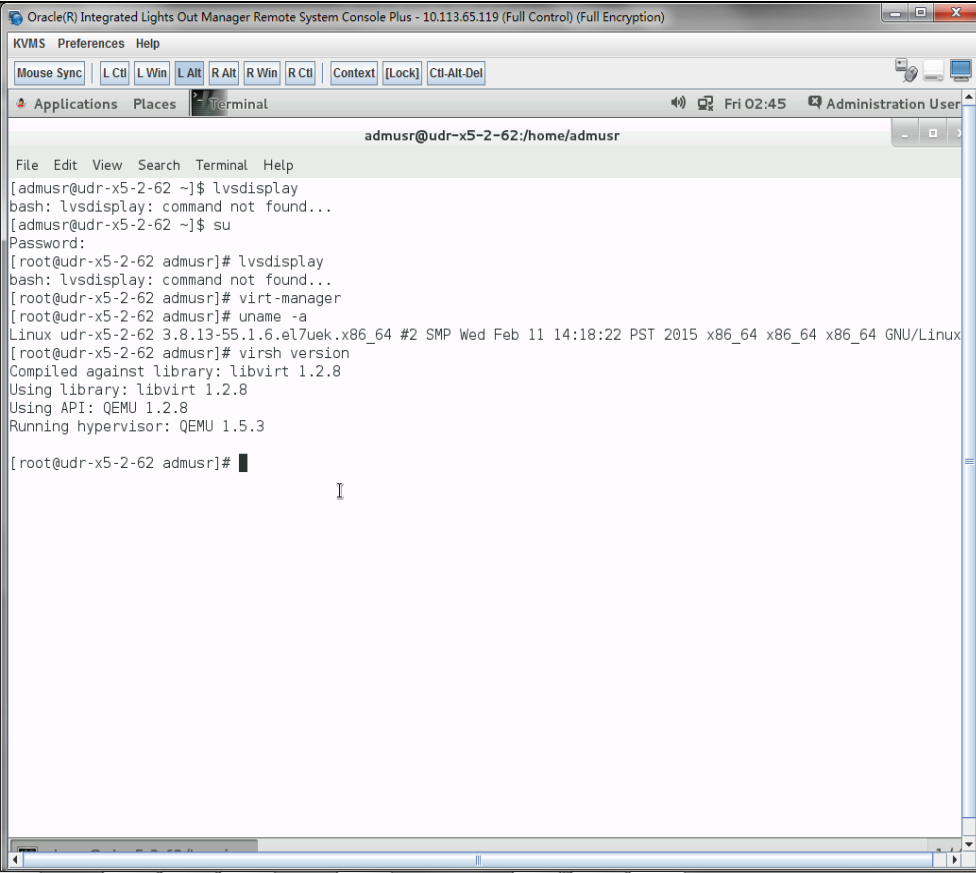
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<p>10.</p> <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Reboot host after installation completed</p>	<p>Wait for installation complete until following screen is shown:</p>

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		 <p>Click “Reboot” button to reboot.</p>
<p>11.</p> <input type="checkbox"/>	<p>For each Oracle X5-2 RMS:</p> <p>Read & Accept license agreement</p>	<p>After reboot is done, license agreement page will be prompted:</p>

		 <p>Check “I accept the license agreement”, following with “Finish Configuration” to continue.</p> <p>Later you’ll be prompted for ULN setting, skip that step.</p>
<p>12.</p> <p><input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS:</p> <p>Verify kernel version and KVM version</p>	<p>Open SSH console window and check following:</p>

		
<p>13. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS:</p> <p>Change network interface name pattern to 'ethx'</p>	<p>Edit /etc/default/grub to append 'net.ifnames=0' to option GRUB_CMDLINE_LINUX:</p> <pre>[root@udr-x5-2-62-ol7 admusr]# cat /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> <p>Recreate the grub2 config file with following command: # grub2-mkconfig -o /boot/grub2/grub.cfg</p> <p>Restart host with 'shutdown -r' command and verify that network interface are with 'ethx' name pattern now.</p>
<p>14. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS:</p> <p>Create bond0 device</p>	<p>Create device bond0 configuration file: # vim /etc/sysconfig/network-scripts/ifcfg-bond0</p> <pre>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> <p>Save up file and exit.</p>

		<p>Create device eth0 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> </p> <p>Save up file and exit.</p> <p>Create device eth1 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> </p> <p>Save up file and exit.</p> <p>Bring up devices into services: <pre># ifup <nic1> # ifup <nic2> # ifup bond0</pre> </p>
<p>15. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS: Create IMI bridge</p>	<p>Create bond0.<imi_vlan> configuration file: <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> <p>Create imi device configuration file: <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> <p>Bring up devices into services: <pre># ifup bond0.<imi_vlan> # ifup imi</pre> </p>
<p>16. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS: Create XMI bridge</p>	<p>Create bond0.<xmi_vlan> configuration file: <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>

		<p>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>Set default route for xmi network:</p> <pre># vim /etc/sysconfig/network-scripts/route-xmi default via <xmi_gateway> table main</pre> <p>Bring up devices into services:</p> <pre># ifup bond0.<xmi_vlan></pre> <pre># ifup xmi</pre>
17. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS: Create bond1 device</p>	<p>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>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>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>Bring up devices into services:</p> <pre># ifup <nic3> # ifup <nic4> # ifup bond1</pre>
18. <input type="checkbox"/>	<p>For each Oracle X5-2 RMS: Create xsi1/xsi2</p>	<p>Create device bond1.<xsi1_vlan> configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-bond1.<xsi1_vlan> BOOTPROTO=none VLAN=yes</pre>

	<p>bridge</p>	<pre>ONBOOT=yes TYPE=Ethernet DEVICE=bond1.<xsil_vlan> BRIDGE=xsil NM_CONTROLLED=no</pre> <p>Create device xsil configuration file:</p> <pre># vim /etc/sysconfig/network-scripts/ifcfg-xsil DEVICE=xsil TYPE=Bridge BOOTPROTO=none ONBOOT=yes NM_CONTROLLED=no BRIDGE_INTERFACES=bond1.<xsil_vlan></pre> <p>Bring up devices into services:</p> <pre># ifup xsil # ifup bond1.<xsil_vlan></pre> <p>Perform similar operations to create network devices for xsil2.</p>
<p>19. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS:</p> <p>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>
<p>20. <input type="checkbox"/></p>	<p>For each Oracle X5-2 RMS:</p> <p>Set NTP service</p>	<p>Modify /etc/chrony.conf, comment out all server * entries and append your NTP server IP to the list with prepending 'server ' text:</p> <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 144.25.255.140</pre> <p>Force ntp to sync with newly added server:</p> <pre># ntpdate 144.25.255.140 # timedatectl</pre> <p>Verify time synced:</p> <pre>[root@udr-x5-2-62 log]# chronyc tracking Reference ID : 144.25.255.140 (144.25.255.140) 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</pre>

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		<pre> 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 /home/ova dir	<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@pci2107008 ova]# ll total 12322888 -rw-r--r--. 1 root root 1047767040 May 2 00:51 UDR-15.0.0.0_115.11.0.ova </pre>
23. <input type="checkbox"/>	Untar this ova file	<pre> [root@pc9112020 ova]# tar xvf UDR-15.0.0.0_115.11.0.ova UDR-16_14_0.ovf UDR-16_14_0.mf UDR-16_14_0.vmdk </pre>
24. <input type="checkbox"/>	Convert this vmdk file to qcow2 file	<pre> [root@pc9112020 ova]# qemu-img convert -O qcow2 DR-UDR-15.0.0.0_115.11.0.ova.vmdk UDRNO-16_14_0.qcow2 </pre>
25. <input type="checkbox"/>	Copy the qcow2 files for SO and MP	<pre> [root@pc9112020 ova]# cp UDRNO-115_11_0.qcow2 UDRSO-115_11_0.qcow2 [root@pc9112020 ova]# cp UDRNO-115_11_0.qcow2 UDRMP-115_11_0.qcow2 </pre>
26. <input type="checkbox"/>	Configure storage for corresponding qcow2 files	<p>Configure storage qcow2 files as per corresponding VMs. Refer 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 will be:</p> <pre> qemu-img resize UDRNO-115_11_0.qcow2 220G </pre>
27. <input type="checkbox"/>	Create OCUDR VMs. Repeat this step for each VM.	<p>Create OCUDR VMs: NO, SO and MP using appendix below. Repeat the below procedure for each VM</p> <p>Appendix M : Install OCUDR VMs using KVM GUI</p> <p>“Check off” the associated Check Box as addition is completed for each Server.</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>

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		Note: eth0 is XMI, eth1 is IMI and eth2 is XSI1 and eth3 is XSI2 (create eth3 if XSI2 is required).
29. <input type="checkbox"/>	For each UDR VMs: Configure XMI network address	Set XMI network address for each UDR VM: <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	Follow instructions in... Step 5 - 6 of Appendix L.6 Configure TVOE Server (Hostname, Time Zone, SNMP, NTP, etc) in [2] to configure NTP service for each VM.
31. <input type="checkbox"/>	Extend VM Instance volume	Extend volumes for various VM Instances depending on flavor following: Appendix D-6: Extend VM Instance Volume Size “Check off” the associated Check Box as addition is completed for each Server. <input type="checkbox"/> NOAMP <input type="checkbox"/> SOAM <input type="checkbox"/> MP
THIS PROCEDURE HAS BEEN COMPLETED		

Appendix K. MY ORACLE SUPPORT (MOS)

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

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

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

You will be connected to a live agent who can assist you with MOS registration and opening a support ticket.

MOS is available 24 hours a day, 7 days a week, 365 days a year.

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 appears. Most products covered by these documentation sets will appear under the headings “Network Session Delivery and Control Infrastructure” or “Platforms.”
4. Click on your Product and then the Release Number. A list of the entire documentation set for the selected product and release appears.
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 OCUDR VM VIA KVM GUI

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

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

Note:

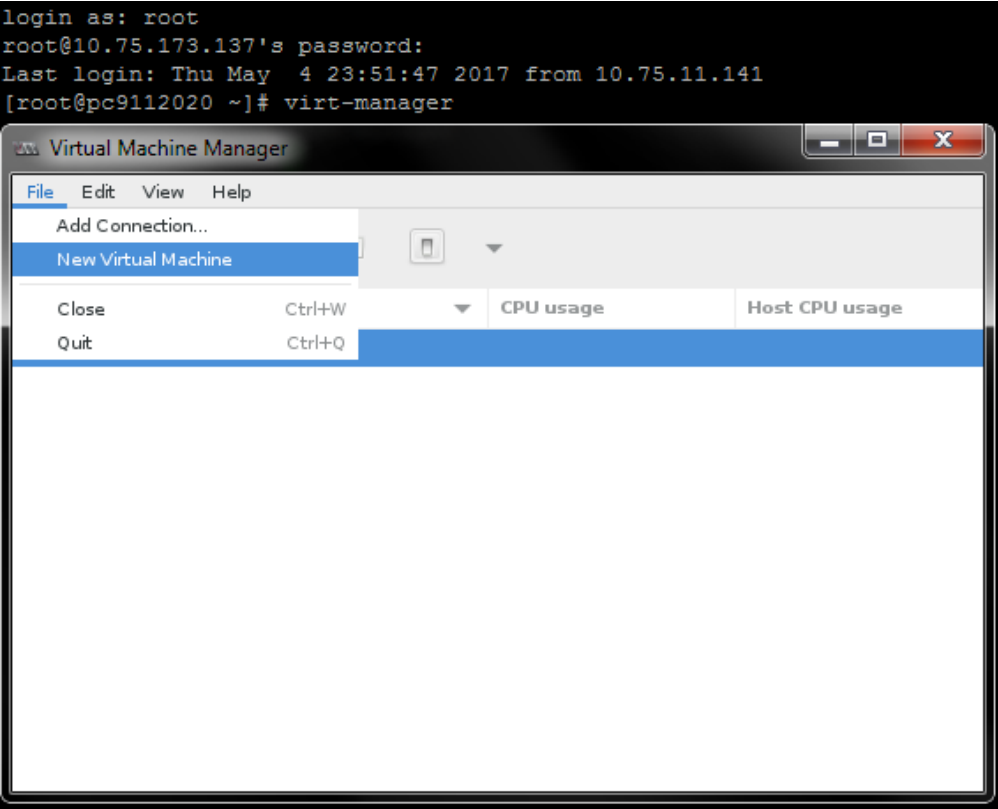
- This procedure needs to be done for each VM: NO, SO and MP

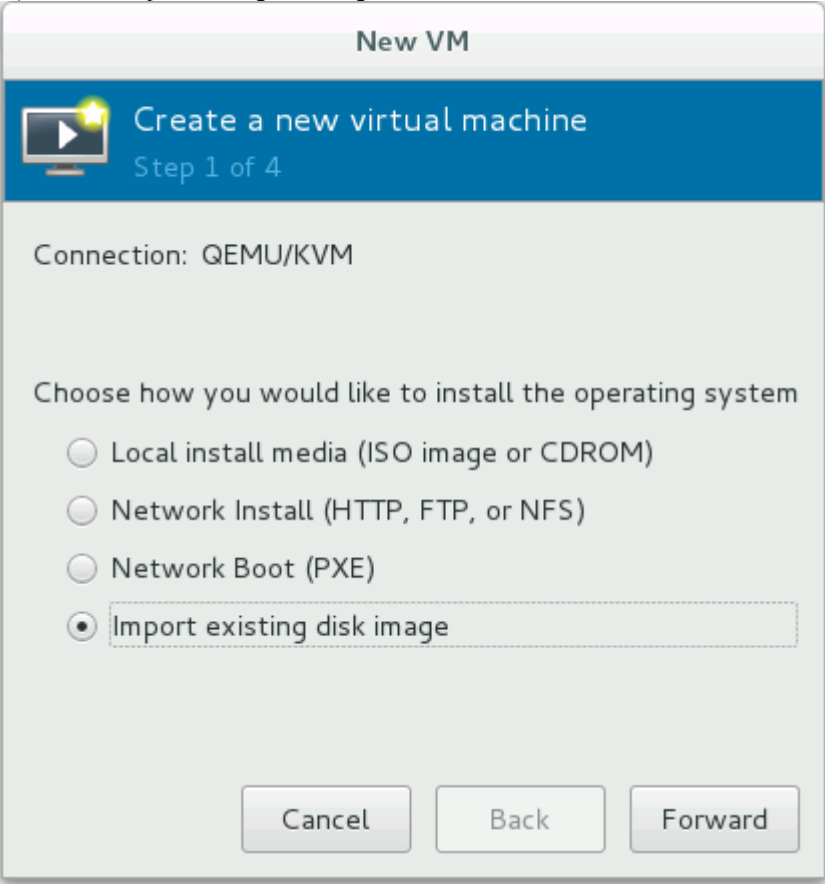
Requirements:

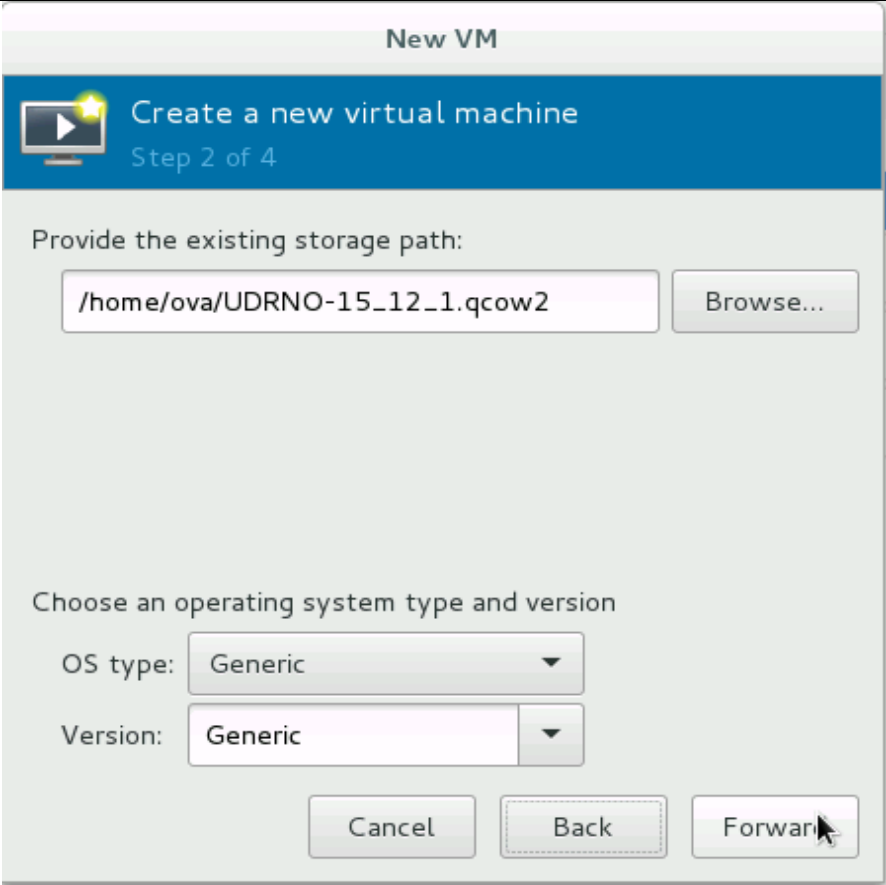
- [Appendix J Install UDR on Oracle Linux OS via KVM](#) Steps: 1-25 must be complete.

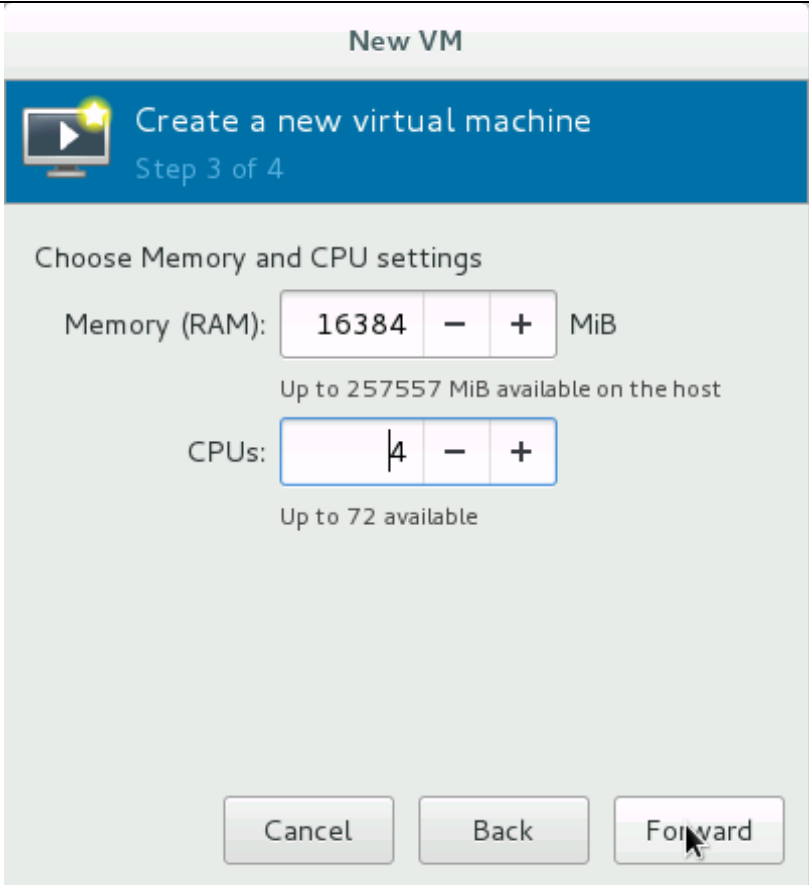
Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.

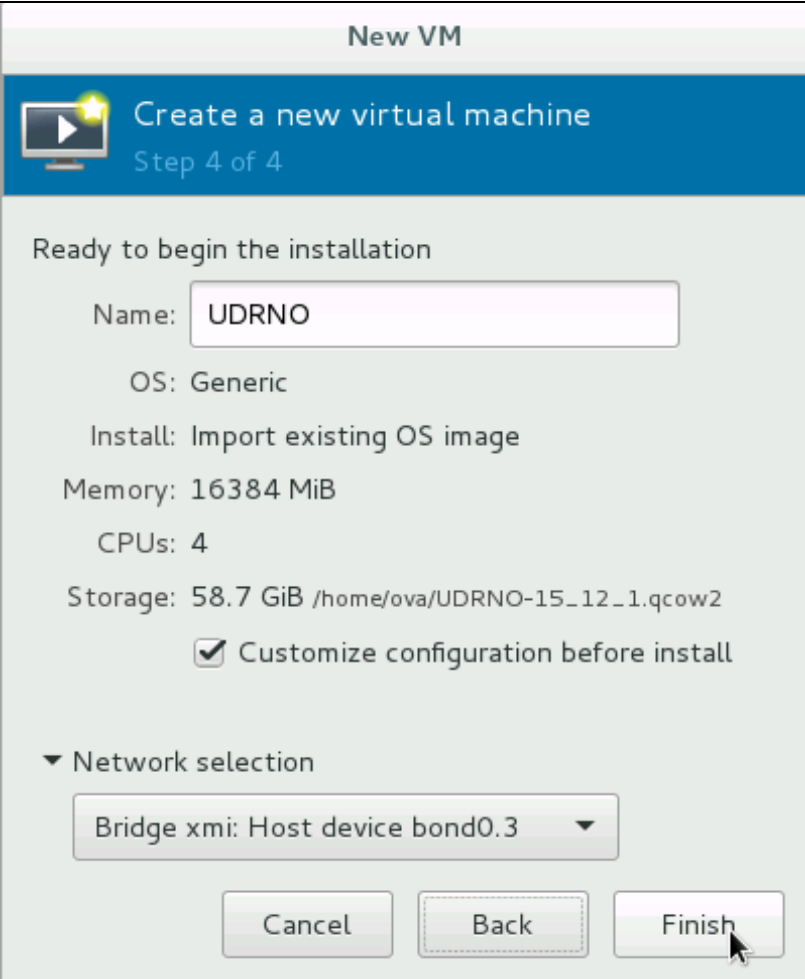
Procedure 42: Create and Install OCUDR VMs via KVM GUI

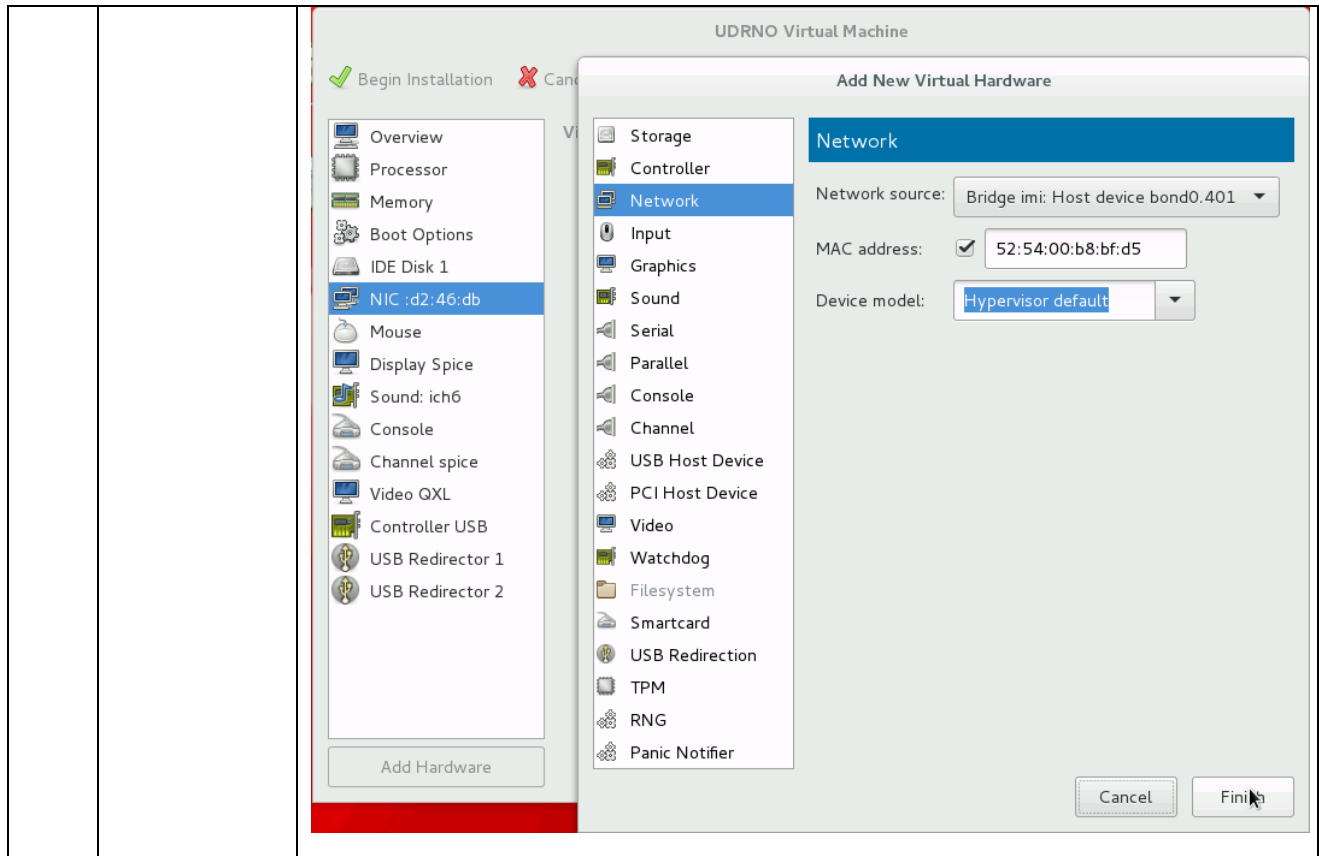
Step	Procedure	Result
1. <input type="checkbox"/>	Login to the host machine and open the Virtual Machine Manager	<p>Login to the host machine which has Oracle Linux installed and open the Virtual Machine Manager via command-line using command ‘virt-manager’ as shown below: Note: Make sure X11 forwarding is enabled before running virt-manager command on CLI.</p> 

<p>2.</p> <input type="checkbox"/>	<p>Create a new Virtual Machine using the Virtual Manager GUI</p>	<p>On Virtual Manager GUI, a.) Click File -> New Virtual Machine as below: b.) Choose "Import existing disk image"</p> 
<p>3.</p> <input type="checkbox"/>	<p>Select the image file</p>	<p>Select the qcow2 from the location:/home/ova (as done Step 24-25 in Appendix J) by browsing the location as below and Click Forward</p>

		
<p>4.</p> <input type="checkbox"/>	<p>Select RAM and vCPUs for VM</p>	<p>For each VM, select the RAM and vCPUs as per the required resource profile. Refer to Appendix G. Click Forward as below:</p>

		
<p>5.</p> <input type="checkbox"/>	<p>Verify and customize VM</p>	<p>Update the VM name and choose “Customize configuration before install”. Under Network selection, choose XMI bridge and click Finish:</p>

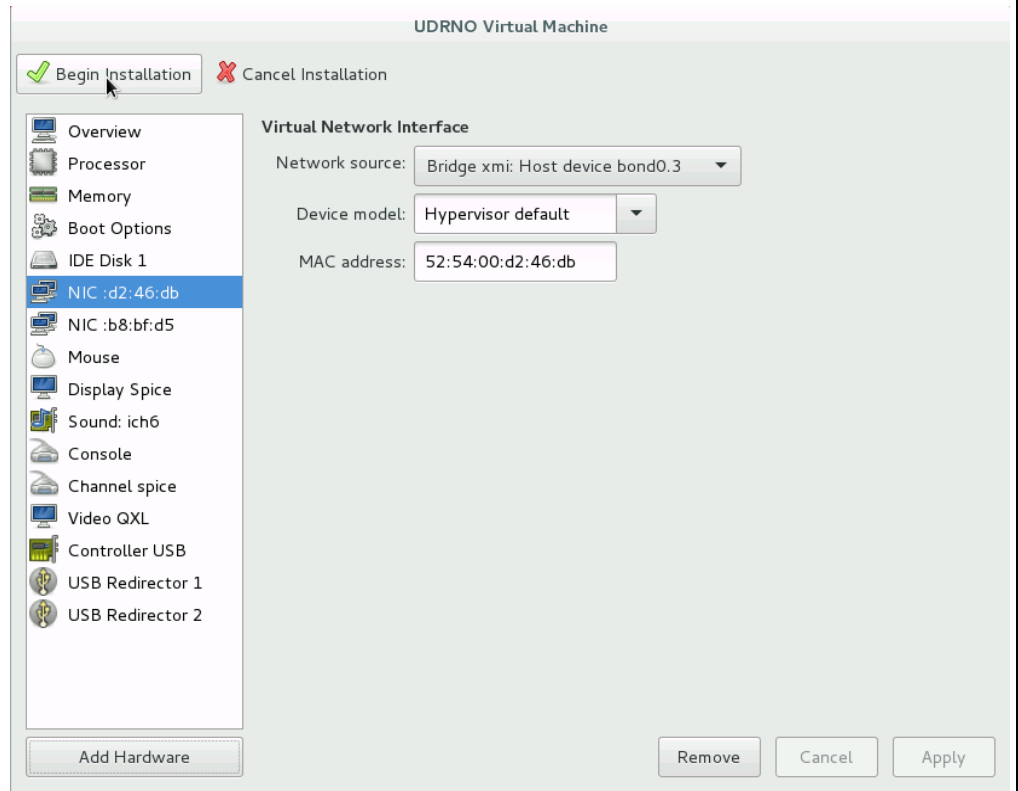
		
<p>6. <input type="checkbox"/></p>	<p>Customize the network configuration</p>	<p>On the next screen, click Add Hardware. The below screen will be seen. Under Network, choose the IMI bridge. For NO and SO, choose IMI bridge only. For MP, add XSII along with IMI by repeating this step. Click Finsh.</p>



7.

Verify and begin installation

After adding all bridges, verify and begin the VM installation:



THIS PROCEDURE HAS BEEN COMPLETED

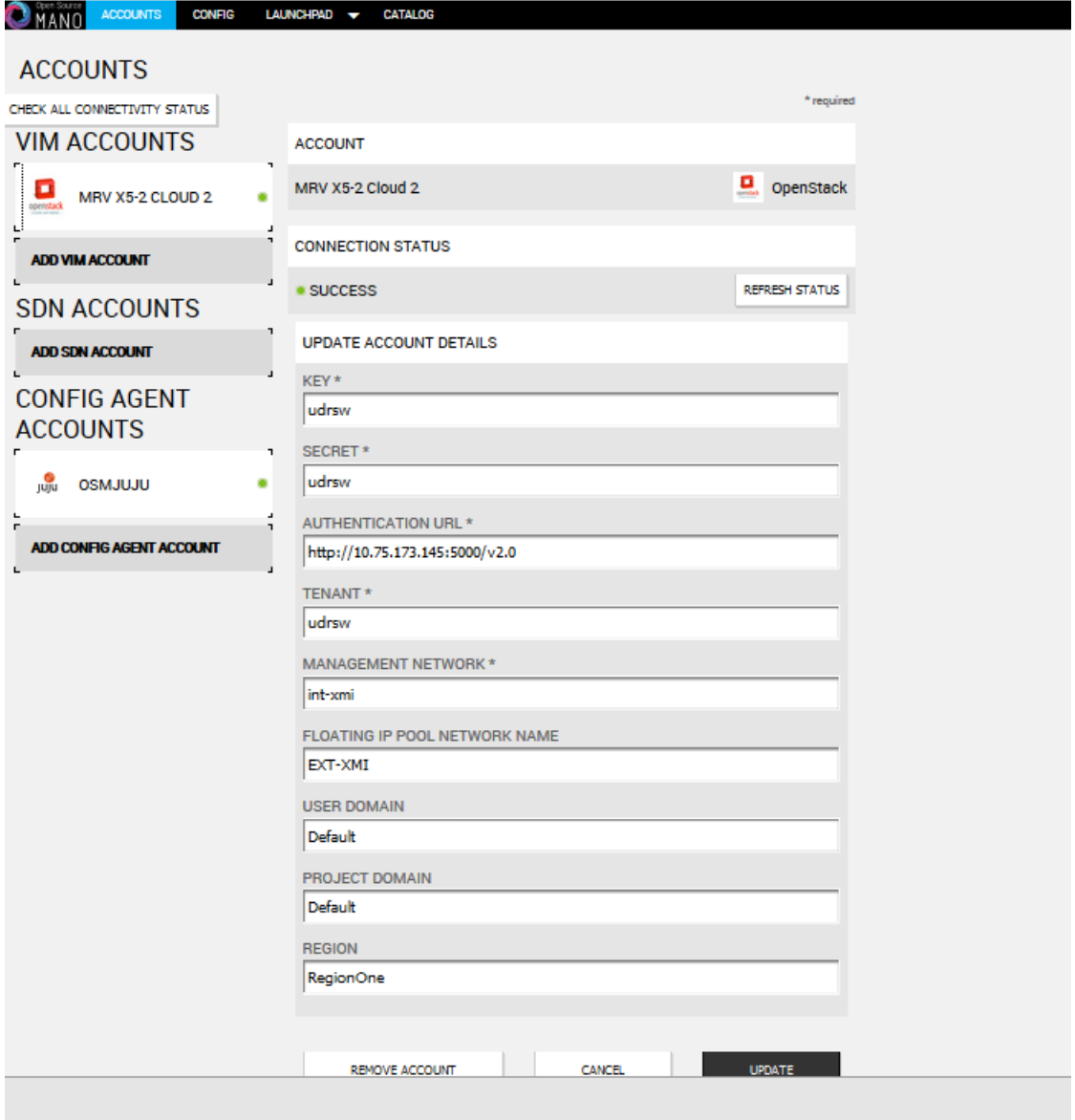
Appendix N. ORCHESTRATING UDR VIA OSM

Pre-requisites :

- OSM Release Two must be successfully installed.
- A standalone JUJU server must be successfully bootstrapped.

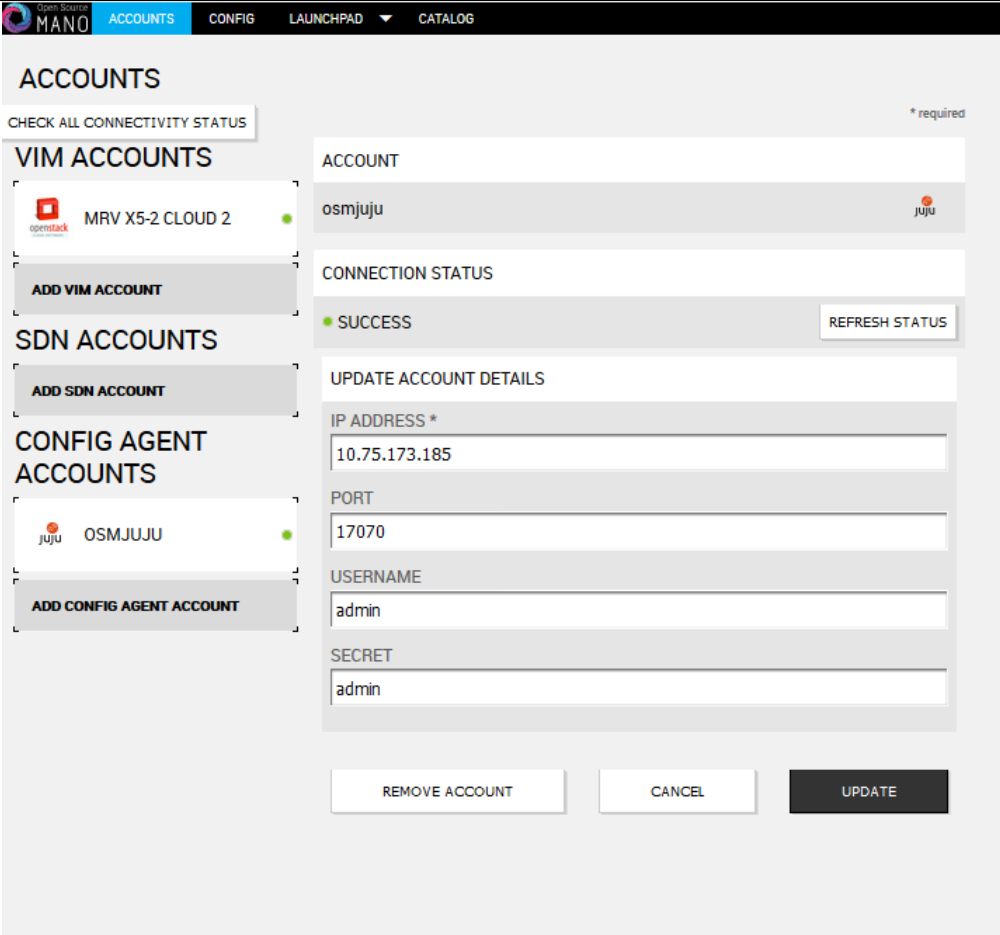
N-1 Configure Openstack VIM to run with OSM

On the OSM GUI, navigate to the Accounts Tab and click on “Add VIM Account”. A screen like the one below will appear. Fill the OpenStack VIM details and add the VIM account.

Procedure	Result
<p>Add the VIM details in the Account Tab -> VIM ACCOUNTS on OSM GUI.</p>	

N-2 Configure Config Agent Account (Juju Server)

Add the details of standalone JUJU server as a Config Agent account in order to enable OSM to communicate with JUJU Server. On the OSM GUI, navigate to Accounts tab and click on Add Config Agent Account. A screen like the one below will appear. Fill in the JUJU Server details and add the account.

Procedure	Result
<p>Add the CONFIG AGENT (juju) account details in the Account Tab -> CONFIG AGENT ACCOUNTS on OSM GUI.</p>	 <p>The screenshot shows the OSM GUI 'ACCOUNTS' page. The navigation bar includes 'MANO', 'ACCOUNTS', 'CONFIG', 'LAUNCHPAD', and 'CATALOG'. The main content area is titled 'ACCOUNTS' and includes a 'CHECK ALL CONNECTIVITY STATUS' button. There are three sections: 'VIM ACCOUNTS' with an 'MRV X5-2 CLOUD 2' account, 'SDN ACCOUNTS', and 'CONFIG AGENT ACCOUNTS' with an 'OSMJUJU' account. The 'UPDATE ACCOUNT DETAILS' form for the 'OSMJUJU' account is visible, with the following fields: IP ADDRESS * (10.75.173.185), PORT (17070), USERNAME (admin), and SECRET (admin). Buttons for 'REMOVE ACCOUNT', 'CANCEL', and 'UPDATE' are at the bottom.</p>

N-3 Build and Deploy UDR NSD/VNFD Package

Build and Deploy scripts are attached below and should be run in order to upload UDR NSDs and VNFDs to OSM.

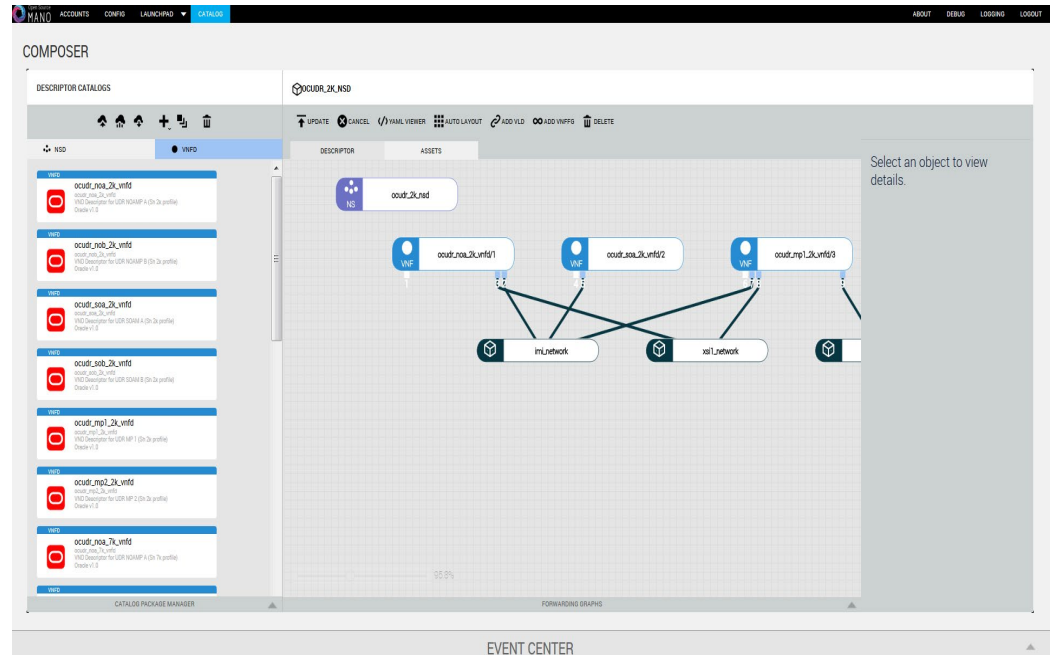
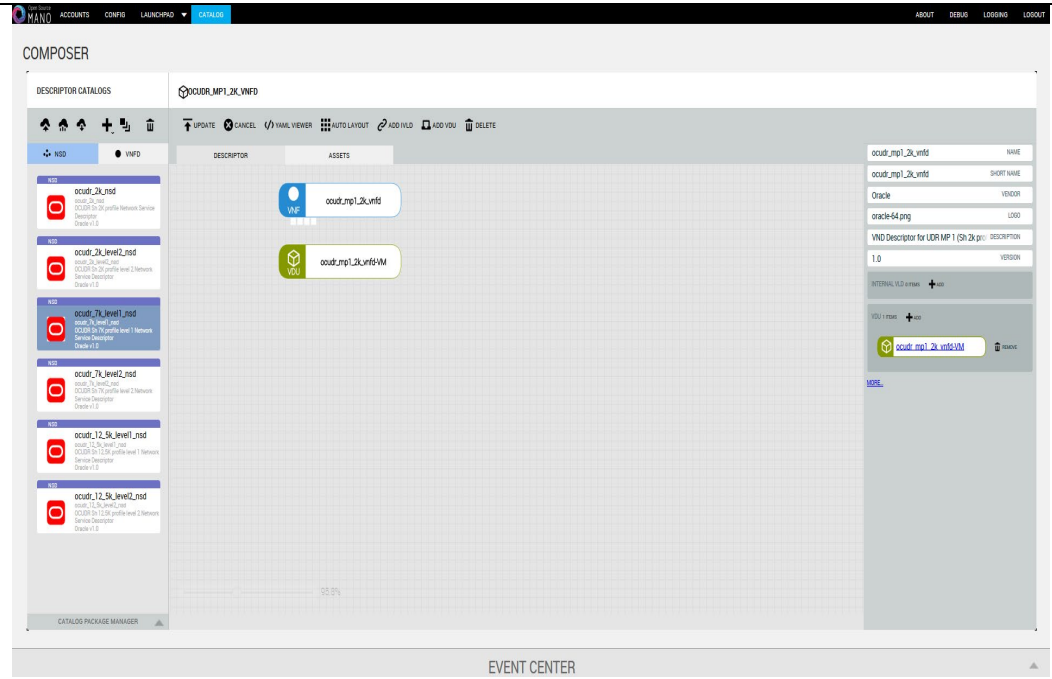
1. SSH Logon to Juju Server and fetch build and deploy source scripts :

Step	Procedure	Result
1	<p>SSH Logon to JUJU server and fetch the build and deploy source scripts</p> <p>1) Copy the qcow2 file made from the ova file of UDR image to the juju server.</p> <p>2) Run the following commands:</p> <pre>\$ sudo guestmount -a UDR- 15.0.0.0_115.11.0. qcow2 -m /dev/mapper/vgroot-plat_usr /mnt \$ sudo cp /mnt/TKLC/udr/cloud/OSM-support.tar.gz ./ \$ sudo guestunmount /mnt</pre> <p>3) These commands will extract osm-support.tar.gz file from qcow2 image</p> <p>4) Untar the file to osm-support directory</p>	<p>Copied Image on Juju Server :</p> <pre>ubuntu@edward-juju-server:~\$ ls -l UDR-12.4.0.0_16.13.0.qcow2 -rw-r--r-- 1 ubuntu ubuntu 4345757696 Jan 23 09:57 UDR-12.4.0.0_16.13.0.qcow2 ubuntu@edward-juju-server:~\$ █</pre> <p>Extracted osm-support directory from qcow2 Image</p> <pre>ubuntu@edward-juju-server:~\$ cd osm-support/ ubuntu@edward-juju-server:~/osm-support\$ ls build build.sh charms deploy.sh doc nsd vnfd ubuntu@edward-juju-server:~/osm-support\$ █</pre>
2	<p>Navigate to OSM-Support directory and Run the build script</p> <pre>\$./build.sh</pre> <p>Note : Monitor the console output make sure the build script is completed successfully</p>	<pre>ubuntu@edward-juju-server:~/osm-support\$./build.sh ocudr_soa_2k_vnf/ ocudr_soa_2k_vnf/ocudr_soa_2k_vnfd.yaml ocudr_soa_2k_vnf/README ocudr_soa_2k_vnf/icons/ ocudr_soa_2k_vnf/icons/oracle-64.png ocudr_soa_2k_vnf/checksums.txt ocudr_soa_2k_vnf/cloud_init/ ocudr_soa_2k_vnf/cloud_init/ocudr_soa_2k_vnfd-VM.init ocudr_sob_2k_vnf/</pre>

		<pre> ocudr_nob_12_5k_vnf/cloud_init/ocudr_nob_12_5k_vnfd-VM.init build: Composing into /home/ubuntu/osm-support/charms build: Destination charm directory: /home/ubuntu/osm-support/charms/nfaproxyd build: Processing layer: layer:basic build: Processing layer: layer:sshproxy build: Processing layer: layer:vnfproxy build: Processing layer: nfaproxyd (from charms/nfaproxyd) proof: I: Includes template icon.svg file. proof: W: Includes template README.ex file proof: W: README.ex includes boilerplate: Step by step instructions g the charm: proof: W: README.ex includes boilerplate: You can then browse to htt address to configure the service. proof: W: README.ex includes boilerplate: - Upstream mailing list or t information proof: W: README.ex includes boilerplate: - Feel free to add things useful for users proof: I: all charms should provide at least one thing ocudr_12_5k_level1_ns/ ocudr_12_5k_level1_ns/README ocudr_12_5k_level1_ns/icons/ ocudr_12_5k_level1_ns/icons/oracle-64.png ocudr_12_5k_level1_ns/ocudr_12_5k_level1_nsd.yaml ocudr_12_5k_level1_ns/checksums.txt ocudr_12_5k_level2_ns/ ocudr_12_5k_level2_ns/README ocudr_12_5k_level2_ns/icons/ ocudr_12_5k_level2_ns/icons/oracle-64.png ocudr_12_5k_level2_ns/checksums.txt ocudr_12_5k_level2_ns/ocudr_12_5k_level2_nsd.yaml ubuntu@edward-juju-server:~/osm-support\$ </pre>
3	<p>Once the build script is run successfully, run the deploy script inside OSM-support directory</p> <p>Pre-requisite : OSM host IP is required to run deploy.sh, Open the deploy script with a editor and change the env variable of "OSM_HOSTNAME" to your OSM host IP before running deploy.sh.</p> <p>./deploy.sh</p>	<pre> ubuntu@edward-juju-server:~/osm-support\$./deploy.sh failed to delete vnf ocudr_noa_2k_vnfd failed to delete vnf ocudr_nob_2k_vnfd failed to delete vnf ocudr_soa_2k_vnfd failed to delete vnf ocudr_sob_2k_vnfd failed to delete vnf ocudr_mp1_2k_vnfd failed to delete vnf ocudr_mp2_2k_vnfd </pre>

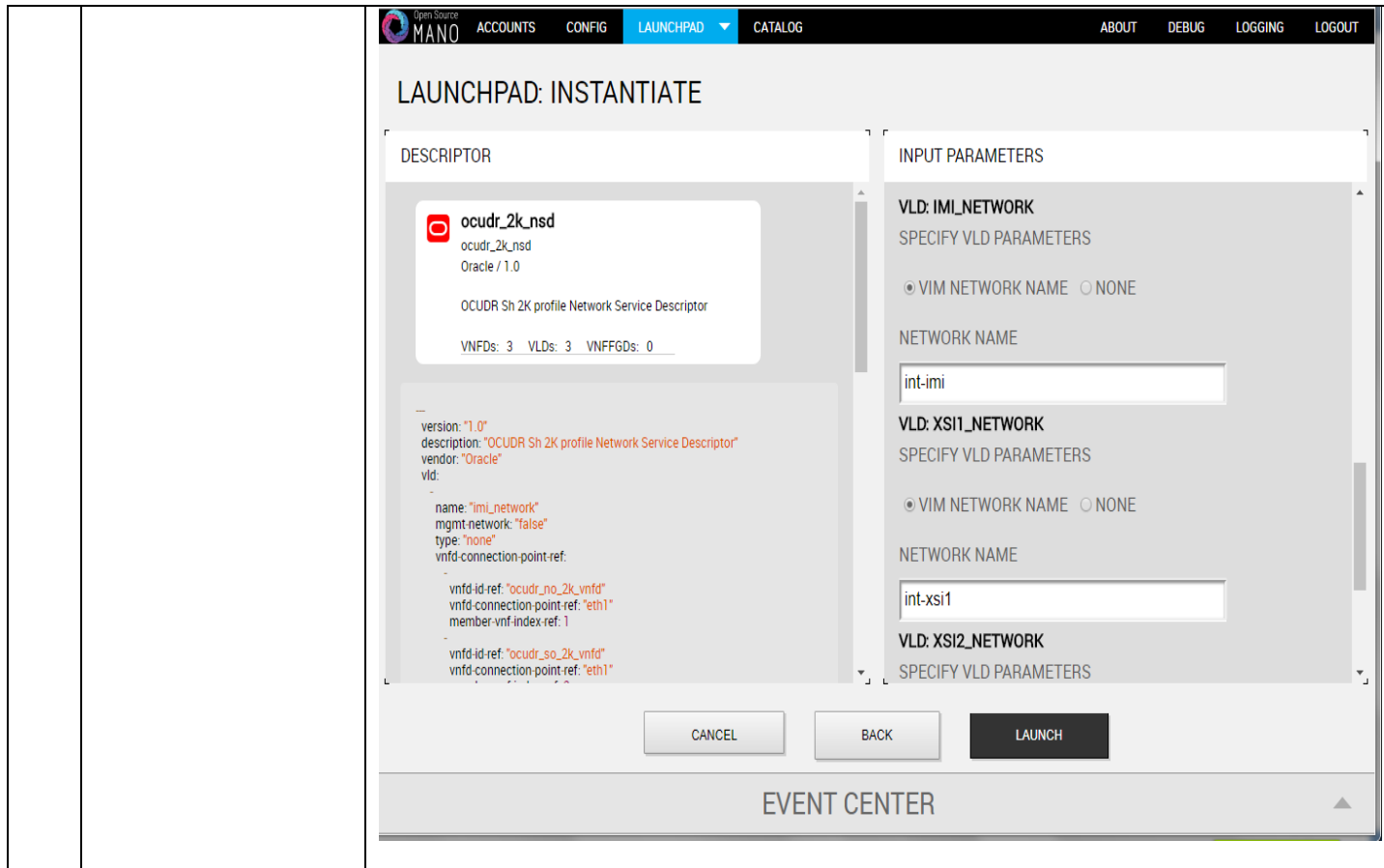
4

Logon to OSM GUI, verify that UDR NSD/VNFD has been uploaded successfully:



<p>5</p> <p>Optional Step : Change UDR image name :</p> <p>Open The OSM GUI and browse to CATALOG Tab</p> <p>Follow the steps mentioned in the image to change UDR Image Name :</p> <ol style="list-style-type: none"> 1. Double Click VNFD Tab to open edit pane 2. Double click VDU to edit its properties 3. Change Image Name 4. Click on Update button to save changes <p>NOTE : UDR image name should match with the one you intend to use and an image with the same name should be available on openstack</p>	
<p>6</p> <p>Open the OSM GUI.</p> <p>Browse to "LAUNCHPAD" tab and click "Instantiate Service" button, select "OCUDR_2k_nsd" and click "Next":</p>	
<p>7</p> <p>Fill in required information and click</p>	

<p>"Launch", fill in instance name as you prefer:</p> <p>Note : Fill in the VLD:*_network correctly: VLD:IMI_NETWORK -> int-imi, VLD:XSI1_NETWORK --> int-xsi1, VLD:XSI2_NETWORK --> int-xsi2</p>	<p>The screenshot shows the 'LAUNCHPAD: INSTANTIATE' window in the MANO interface. The top navigation bar includes 'MANO', 'ACCOUNTS', 'CONFIG', 'LAUNCHPAD', and 'CATALOG'. The main content is divided into two panes: 'DESCRIPTOR' and 'INPUT PARAMETERS'. The 'DESCRIPTOR' pane shows a card for 'ocudr_2k_nsd' with details: 'ocudr_2k_nsd', 'Oracle / 1.0', 'OCUDR Sh 2K profile Network Service Descriptor', and 'VNFs: 3 VLDs: 3 VNFFGDs: 0'. Below this is a JSON snippet: <pre> { "version": "1.0", "description": "OCUDR Sh 2K profile Network Service Descriptor", "vendor": "Oracle", "vid": "ocudr_2k_nsd", "name": "imi_network", "mgmt-network": "false", "type": "none", "vnfd-connection-point-ref": "eth1", "vnfd-id-ref": "ocudr_no_2k_vnfd", "vnfd-connection-point-ref": "eth1", "member-vnf-index-ref": 1, "vnfd-id-ref": "ocudr_so_2k_vnfd", "vnfd-connection-point-ref": "eth1" } </pre> The 'INPUT PARAMETERS' pane shows three sections for VLD configuration: 1. 'VLD: IMI_NETWORK' with 'SPECIFY VLD PARAMETERS', radio buttons for 'VIM NETWORK NAME' (selected) and 'NONE', and a 'NETWORK NAME' field containing 'int-imi'. 2. 'VLD: XSI1_NETWORK' with 'SPECIFY VLD PARAMETERS', radio buttons for 'VIM NETWORK NAME' (selected) and 'NONE', and a 'NETWORK NAME' field containing 'int-xsi1'. 3. 'VLD: XSI2_NETWORK' with 'SPECIFY VLD PARAMETERS' and no further details visible. At the bottom of the main area are three buttons: 'CANCEL', 'BACK', and 'LAUNCH'. Below this is an 'EVENT CENTER' section with an upward-pointing arrow.</p>
--	---



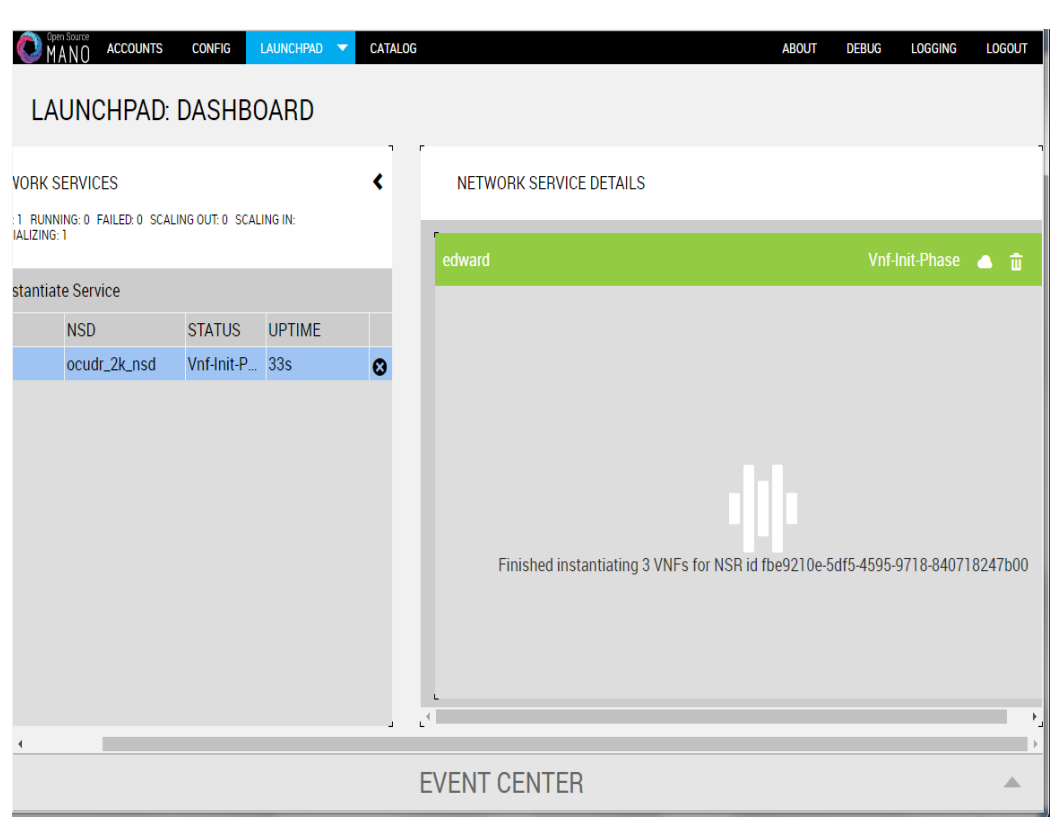
8 Wait for the instantiation operation to complete

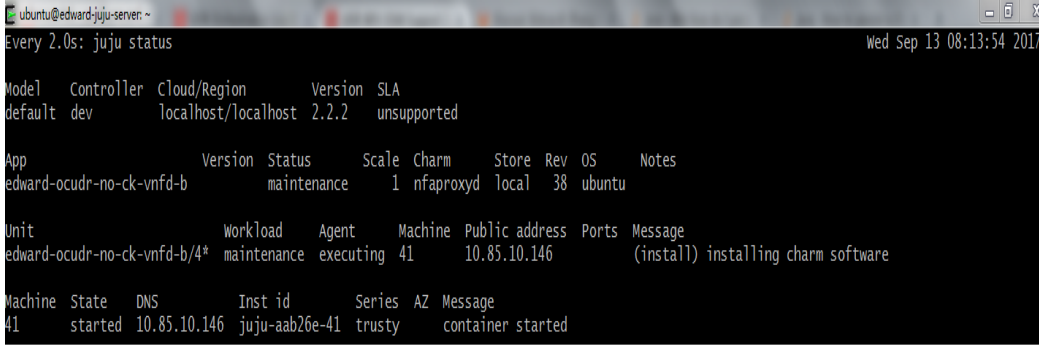
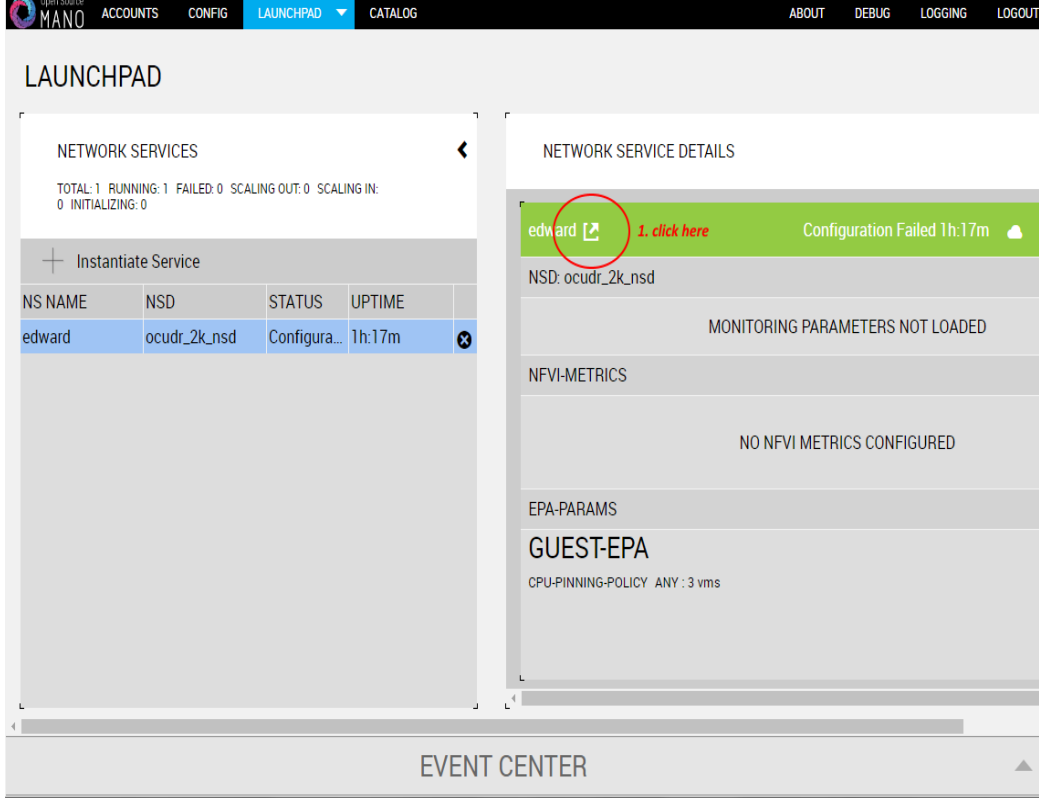
Note : In OSM Release Two, UDR NSR result can be incorrectly shown on GUI.

To check the status correctly, logon to juju server and issue the command

\$watch juju status

The screen will show a message. Wait for the cleanup of the message. The cleanup of message indicates success. (Refer to the second figure in this step)



		 <pre> ubuntu@edward-juju-seven: ~ Every 2.0s: juju status Model Controller Cloud/Region Version SLA default dev localhost/localhost 2.2.2 unsupported App Version Status Scale Charm Store Rev OS Notes edward-ocudr-no-ck-vnfd-b maintenance 1 nfaproxyd local 38 ubuntu Unit Workload Agent Machine Public address Ports Message edward-ocudr-no-ck-vnfd-b/4* maintenance executing 41 10.85.10.146 (install) installing charm software Machine State DNS Inst id Series AZ Message 41 started 10.85.10.146 juju-aab26e-41 trusty container started </pre>								
<p>9</p>	<p>After instantiation is done, query UDR NSR ID from OSM GUI and configure the parameter of 'udr-nsr-id' in NO charm:</p> <p>Follow the steps in the image to Add UDR NSR ID in NO charm</p>	 <p>MANO ACCOUNTS CONFIG LAUNCHPAD CATALOG ABOUT DEBUG LOGGING LOGOUT</p> <h3>LAUNCHPAD</h3> <p>NETWORK SERVICES</p> <p>TOTAL: 1 RUNNING: 1 FAILED: 0 SCALING OUT: 0 SCALING IN: 0 INITIALIZING: 0</p> <p>+ Instantiate Service</p> <table border="1"> <thead> <tr> <th>NS NAME</th> <th>NSD</th> <th>STATUS</th> <th>UPTIME</th> </tr> </thead> <tbody> <tr> <td>edward</td> <td>ocudr_2k_nsd</td> <td>Configura...</td> <td>1h:17m</td> </tr> </tbody> </table> <p>NETWORK SERVICE DETAILS</p> <p>edward 1. click here Configuration Failed 1h:17m</p> <p>NSD: ocudr_2k_nsd</p> <p>MONITORING PARAMETERS NOT LOADED</p> <p>NFVI-METRICS</p> <p>NO NFVI METRICS CONFIGURED</p> <p>EPA-PARAMS</p> <p>GUEST-EPA</p> <p>CPU-PINNING-POLICY ANY: 3 vms</p> <p>EVENT CENTER</p>	NS NAME	NSD	STATUS	UPTIME	edward	ocudr_2k_nsd	Configura...	1h:17m
NS NAME	NSD	STATUS	UPTIME							
edward	ocudr_2k_nsd	Configura...	1h:17m							

The top screenshot shows the 'LAUNCHPAD: COMPUTE TOPOLOGY' interface. It features a 'VIEWPORT' tab and a 'COMPUTE TOPOLOGY' tab (circled in red). Below the tabs is a 'TOPOLOGY TREE' showing a central node 'edward' connected to three other nodes: 'edward_ocudr_mp_2k_vnfd_3', 'edward_ocudr_no_2k_vnfd_1', and 'edward_ocudr_so_2k_vnfd_2'. To the right is a 'RECORD DETAILS' section showing a JSON log entry. The entry includes a 'description' field with the value 'Instantiation Request Received NSR Id fbe9210e-5df5-4595-9718-840718247b00' (circled in red) and an 'event' field with the value 'instantiating'. A red note next to it says 'Copy this unique ID'. The bottom screenshot shows the 'LAUNCHPAD: VIEWPORT' interface. It displays a list of VNF instances on the left, with 'UDRNFV1 nsr' selected. On the right, there are configuration tabs for 'VNF Data', 'Service Primitive', and 'VDU Console Links'. The 'Service Primitive' tab is active, showing configuration fields for 'instantiate-udr' and 'terminate-udr'. The 'instantiate-udr' field is labeled 'Configure with UDR NSR ID' and has a text input field containing '<udr_nsr_id>'. The 'terminate-udr' field is labeled 'Configure with UOA host IP' and has a text input field containing '10.75.173.151'. Below these are fields for 'OSM-SO-BASE-URL' with the value 'https://10.75.173.176:8008' and a 'CONFIG' button.

N-4 Perform Orchestration operations via OSM

Once the UDR NSR ID is added in the NO charm, UDR Orchestration operations can be performed. Currently OSM supports two operations , namely

Oracle Communications User Data Repository Cloud Installation and Configuration Guide

1. Instantiation
2. Termination

N.41 Instantiate OCUDR

Once the steps in [Appendix N-3](#) are completed successfully, an OCUDR instance can be instantiated either to level 1 or level 2.

Navigate to Launchpad -> Viewport -> OCUDR_NO_VM

- Click on the service Primitive Tab
- Select instantiate-udr action
- Provide the levelId to instantiate OCUDR
- Click on instantiate-UDR

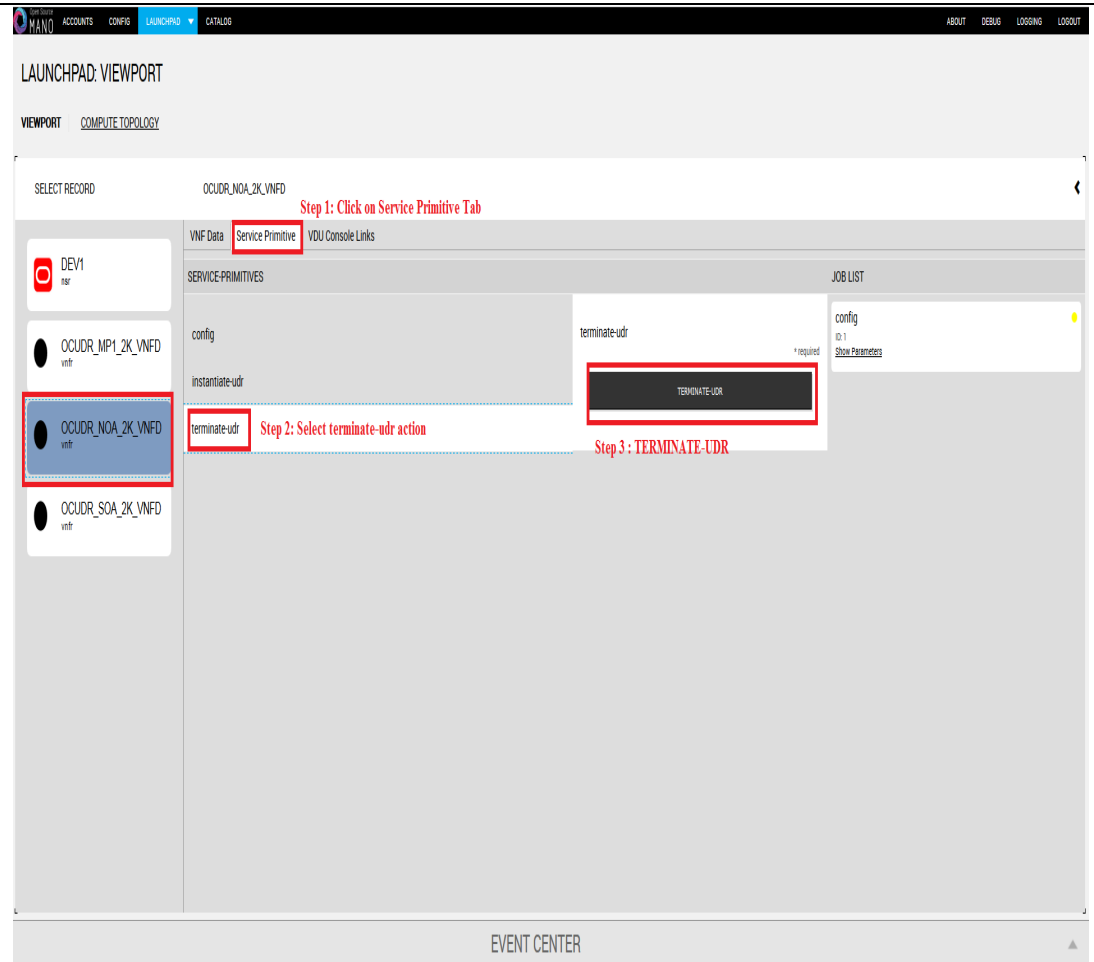
N.42 Terminate OCUDR

Navigate to Launchpad -> Viewport -> OCUDR_NO_VM

- Click on the service Primitive Tab

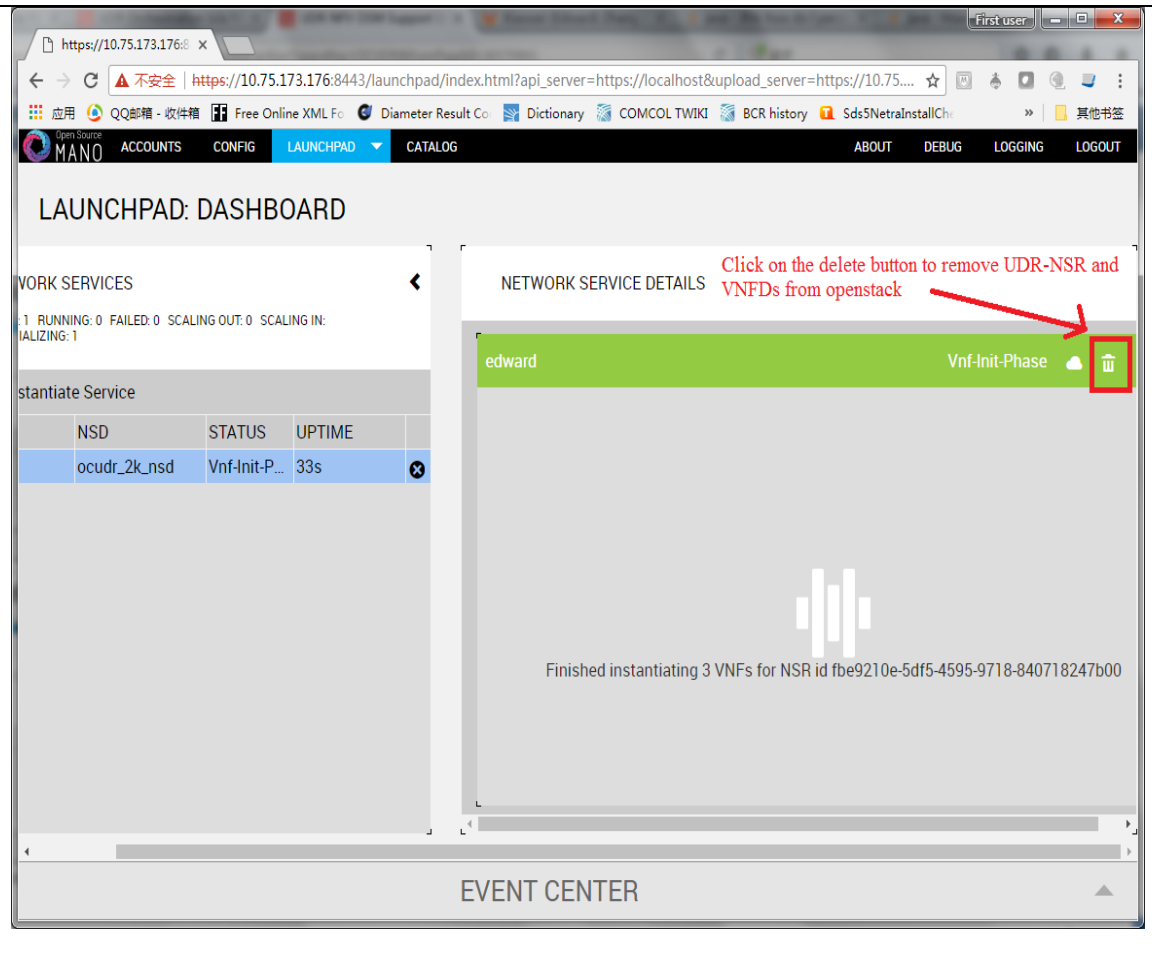
Oracle Communications User Data Repository Cloud Installation and Configuration Guide

- Select terminate-udr action
- Click on terminate-UDR



Manually remove the UDR NSR to remove the deployed VNFDs from openstack

- Naviagte to LAUNCHPAD -> DASHBOARD on OSM GUI and click on delete icon for the corresponding UDR-NSR



Appendix O. ORCHESTRATING OCUDR VIA TACKER

Pre-requisites :

1. Openstack Pike with Tacker service must be installed
2. OCPM is successfully instantiated and NFAgent service is up and running. Also a public IP should be available to access the NFAgent service.

O-1 Tacker Configuration

Edit the tacker.conf file – location : /usr/local/etc/tacker/tacker.conf – and add the following configuration options to it :

```
[udr]

#
# From tacker.vnfm.mgmt_drivers.udr.udr
#

# IP address on which host NFAgent service is deployed (string value)
nfagent_ip = 10.113.79.112

# user name to login NFAgent (string value)
#user = admusr

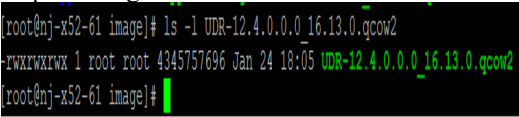
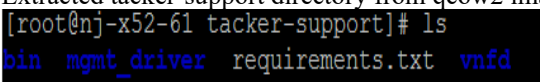
# password to login NFAgent (string value)
#password =

# time to wait for UDR VMs to be ready for application configuration (seconds)
#udr_init_wait_sec = 600
udr_init_wait_sec = 900
```

Configuration Options

- nfagent_ip : The public IP Address of the NFAgent service deployed as a pre-requisite before this step
- user : user name to login NFAgent (string value)
- password : password to login NFAgent (string value)
- udr_init_wait_sec : # time to wait for UDR VMs to be ready for application configuration (seconds)

O-2 Install UDR Tacker Support Scripts

Step	Procedure	Result
1	<p>SSH Logon to Tacker server</p> <p>1) Copy the qcow2 file made from the ova file of UDR image to the tacker server (controller Node).</p> <p>2) Run the following commands:</p> <pre>\$ sudo guestmount -a UDR-15.0.0.0_115.11.0.qcow2 -m</pre>	<p>Copied Image on Tacker server:</p>  <p>Extracted tacker-support directory from qcow2 image</p> 

	<pre> /dev/mapper/vgroot-plat_usr /mnt \$ sudo cp /mnt/TKLC/udr/cloud/Tacker- support.tar.gz ./ \$ sudo guestunmount /mnt </pre> <p>3) These commands will extract Tacker-supprt.tar.gz file from qcow2 image</p> <p>4)Untar the file to tacker-support directory</p>	
2	<p>Browse to the directory where the tacker scripts are copied on the controller Node.</p> <p>Run the following commands :</p> <pre> [1] sudo mkdir -p /usr/lib/python2.7/site- packages/tacker/vnfm/m gmt_drivers/udr [2] edit mgmt_driver/udr/udr.py to navigate to line 102: level = self.cluster_info['options'][' LEVEL'] Replace it with: level = str(self.cluster_info['options']['LEVEL']) [3] sudo cp mgmt_driver/udr/*.py /usr/lib/python2.7/site- e- packages/tacker/vnfm/m gmt_drivers/udr/ [4] sudo service openstack-tacker- server restart </pre> <p>Note : please change /usr/lib/python2.7/site-packages/tacker with the tacker script installation directory per local tacker installation path.</p>	<p>Inspect tacker.log to verify that UDR management Driver is installed successfully.</p> <pre> [root@nj-x52-61 tacker-support]# mkdir -p /usr/lib/p tacker/vnfm/mgmt_drivers/udr/ [root@nj-x52-61 tacker-support]# /bin/cp -rf mgmt_dr python2.7/site-packages/tacker/vnfm/mgmt_drivers/udr [root@nj-x52-61 tacker-support]# service openstack-t Redirecting to /bin/systemctl restart openstack-tack [root@nj-x52-61 tacker-support]# █ </pre>

<p>3</p>	<p>Deploy VNFD for UDR 2k level 2 VNF</p> <p>[1] Edit vnfd/udr-2k-vnfd.yaml and find occurrences of 'init 6' (there're 6 occurrences in total), prepend line: echo 'ifconfig eth0 mtu 1450' >> /etc/rc.d/rc.local before each occurrence of 'init 6', like following: echo 'ifconfig eth0 mtu 1450' >> /etc/rc.d/rc.local init 6</p> <p>[2] source keystone rc file of openstack: source ~/keystonerc_admin</p> <p>[3] Deploy the updated VNFD file with following command: tacker vnfd-create --vnfd-file vnfd/udr-2k-vnfd.yaml udrvnfd</p>	<p>Verify that VNFD is deployed successfully.</p> <pre>[root@nj-x52-61 tacker-support]# vim vnfd/udr-2k-vnf [root@nj-x52-61 tacker-support]# tacker vnfd-create -vnfd.yaml udr-2k-vnfd You must provide a username or user ID via --os-use or --os-user-id, env[OS_USER_ID] [root@nj-x52-61 tacker-support]# source ~/keystonerc [root@nj-x52-61 tacker-support(keystone_admin)]# tac file vnfd/udr-2k-vnfd.yaml udr-2k-vnfd Created a new vnfd: +-----+ Field Value +-----+ created_at 2018-02-05 03:47:24.167240 description Demo with udr cluster id 0874def4-0ac5-4352-bc7a-cff6139d name udr-2k-vnfd service_types vnfd template_source onboarded tenant_id 45a69279f4be47d89556b5299bdec769 updated_at +-----+ [root@nj-x52-61 tacker-support(keystone_admin)]#</pre>
----------	--	---

O-3 Perform Orchestration Operations via Tacker

After the successful completion of [Appendix O-2](#), you can proceed with the orchestration of OCUDR. Currently Tacker supports two orchestration operations, namely:

1. Instantiation (CREATE UDR VNF)
2. Termination (DELETE UDR VNF)

O.31 CREATE UDR VNF (Instantiation)

Procedure	Results
-----------	---------

Issue the following command to create UDR VNF (assumes to have sourced the keystone rc file for openstack) :

```
tacker vnf-create
--vnfd-name
udrvnfd
<udr_vnf_name> --
param-file
udrvnf-param.yaml
```

where,

udr_vnf_name should be replaced with the name you choose for udr vnf.

udrvnf-param.yaml : Configuration file used for customizing input parameters in UDR VNFD Template. Change the file parameters as required to get the desired configuration.

Example of udrvnf-param.yaml

```
xmi_network:
int-xmi
imi_network:
int-imi
xsil_network:
int-xsil
xsi2_network:
int-xsi2image:
UDR-
12.3.0.0.0_16.9
.0.2
```

```
[root@nj-x52-61 tacker-support]# source ~/keystonerc_admin
[root@nj-x52-61 tacker-support(keystone_admin)]# tacker vnf-crea
ame udr-2k-vnfd udrpv1
Created a new vnf:
+-----+
| Field | Value |
+-----+
| created_at | 2018-02-05 04:52:52.342068 |
| description | Demo with udr cluster |
| error_reason | |
| id | e60483c1-94a2-4af6-b415-1a740de59c64 |
| instance_id | 204ad65b-8835-4052-ae57-79d3859a53d7 |
| mgmt_url | |
| name | udrpv1 |
| placement_attr | {"vim_name": "tacker"} |
| status | PENDING_CREATE |
| tenant_id | 45a69279f4be47d89556b5299bdec769 |
| updated_at | |
| vim_id | 7ae4f37b-056b-45de-a131-62463bdfce6d |
| vnfd_id | 0874def4-0ac5-4352-bc7a-cff6139d6df4 |
+-----+
[root@nj-x52-61 tacker-support(keystone_admin)]# █
```

To inspect the detailed log for creating UDR VNF, refer to tacker log use following command:

```
$ sudo tail -f /var/log/tacker/tacker.log
```

O.32 DELETE UDR VNF (Termination)

Procedure	Results
-----------	---------

Issue the following command to delete UDR VNF:

```
tacker vnf-  
delete  
<udr_vnf_name>
```

where,

udr_vnf_name
should be
replaced
with
the name of
udr vnf you
want to
terminate.

```
[root@nj-x52-61 tacker-support]# source ~/keystonerc_admin  
[root@nj-x52-61 tacker-support(keystone_admin)]# tacker vnf-delete ud  
All specified vnf(s) delete initiated successfully  
[root@nj-x52-61 tacker-support(keystone_admin)]#
```