

Oracle® Communications Tekelec HLR Router

Installation Guide for HP Hardware

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Oracle® Communications HLR Router 4.1 Initial Installation and Configuration Guide for HP Hardware

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CAUTION: Before installing any system, please access My Oracle Support (MOS) and review any Technical Service Bulletins (TSBs) that relate to these procedures.

My Oracle Support (MOS) 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.

Refer to Appendix L - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Care.

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1. INTRODUCTION

1.1 Purpose and Scope

This document describes how to install the Tekelec HLR Router 4.1 product on DL 360 (Gen6) or DL380 (Gen 9) hardware within a customer network. It makes use of AppWorks network installation and is intended to cover the initial network configuration steps for a NOAM, Query Server, SOAM and MP server which include switch configuration (Cisco 4948 E-F switches), and validation of initial configuration.

This document describes the HLR Router product SW installation on the DL 360 (Gen6) or DL380 (Gen 9) Server deployed using Cisco 4948E-F switches. It does not cover hardware installation, site survey, customer network configuration, IP assignments, customer router configurations, or the configuration of any device outside of the HLRR cabinet. The document TR007612 Ref [4] shows networking details for the HLRR 4.1 system. Users needing familiarity with these areas of interest should refer sources cited in Section 1.2, References.

1.2 References

- [1] TEKELEC Acronym Guide, MS005077
- [2] Site Survey (Domestic US), SS005955 (AC), SS005956 (DC)
- [3] Hardware Verification Plan, VP005629
- [4] Network Interconnect: HLR Router 4.1, E74584-01
- [5] Platform 6.5 Configuration Procedure Reference, 909-2249-001
- [6] HP Solutions Firmware Upgrade Pack Release Notes, Release 2.x.x, (Min 2.2.9)
- [7] HP Solutions Firmware Upgrade Pack Upgrade Guide, Release 2.x.x, (Min 2.2.9)
- [8] Manufacturing Acceptance Test Procedure Subscriber Data Management Rack Mount Servers, 820-6641-01
- [9] HLR Router Network Implementation Guide, WI006024
- [10] C-Class Platform Passwords (Password Dragon) TR006061 (Oracle Restricted)

1.3 Acronyms and Terminology

Acronym	Meaning
CSV	Comma Separated Values
DR	Disaster Recovery
HLR	Home Location Register
HLRR	Home Location Register Router
IMI	Internal Management Interface
ISL	Inter-Switch-Link
NE	Network Element
NOAM	Network Operations, Administration, Maintenance & Provisioning
iLO	HP Integrated Lights-Out
IPM	Initial Product Manufacture – the process of installing TPD or TVOE on hardware platform
Management	HP ProLiant DL360 G6 or DL380 G9 server used to host PMAC application in a virtual machine, to
Server	configure Cisco 4948E switches, and to serve other configuration purpose. This server is deployed with a
	quad serial card and is connected to both switches.
PMAC	Platform Management & Configuration
PMAC	PMAC is an application that provides platform-level management functionality for HP G6 system, such
Application	as the capability to manage and provision platform components of the system so it can host applications.
RMS	Rack Mount Server
SOAM	Systems Operations, Administration & Maintenance
TPD	Tekelec Platform Distribution (Linux OS)
TVOE	Tekelec Virtual Operating Environment
VIP	Virtual IP
VM	Virtual Machine
XMI	External Management Interface

This table provides an alphabetized list of acronyms used throughout this document:

 Table 1 – Acronyms and Terminology

1.4 My Oracle Support (MOS)

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

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

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

You 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.

1.5 Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at **1-800-223-1711** (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at <u>http://www.oracle.com/us/support/contact/index.html</u>.

The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

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

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

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

1.6 Customer Training

Oracle University offers training for service providers and enterprises. Visit our web site to view, and register for, Oracle Communications training: <u>http://education.oracle.com/communication</u>

To obtain contact phone numbers for countries or regions, visit the Oracle University Education web site: <u>www.oracle.com/education/contacts</u>

1.7 Locating Product Documentation on the Oracle Help Center Site

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

- 1. Access the OHC site at <u>http://docs.oracle.com</u>.
- 2. Click Industries.
- 3. Under the Oracle Communications subheading, click the Oracle Communications documentation link.
- 4. 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."
- 5. Click the Product and then the Release Number. A list of the entire documentation set for the selected product and release appears.
- 6. 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.

1.8 Assumptions

This installation procedure assumes the following;

- The user has reviewed the Customer specific HLR Router Network Implementation Guide [[9] and has received assigned values for all requested information related to NOAM, Query Server, SOAM and MP installation.
- The user has taken assigned values from the Customer specific HLR Router Network Implementation Guide [9] and used them to compile XML files (see Appendix D for each NOAM and SOAM site's NE prior to attempting to execute this procedure.
- The user conceptually understands HLR Router topology and network configuration as described in the HLR Router Network Implementation Guide [9].
- The user has at least an intermediate skill set with command prompt activities on an Open Systems computing environment such as Linux or TPD.

1.9 XML Files (for installing NE)

The XML files compiled for installation of the each of the NOAM and SOAM site's NE must be maintained and accessible for use in Disaster Recovery procedures. The Oracle's 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 Oracle's Customer Care Center (MOS) See Appendix L, if needed for use in Disaster Recovery operations.

1.10 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. 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;

- 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.
- 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 Oracle's Customer Care Center (MOS) See Appendix L, for assistance before attempting to continue.

2. PRE-INSTALLATION SETUP

2.1 Installation Requirements

The following items/settings are required in order to perform installation for HP DL360 and DL380 based HLRR hardware:

- A laptop or desktop computer equipped as follows;
 - o 10/100 Base-TX Ethernet Interface.
 - Administrative privileges for the OS.
 - An approved web browser (currently Microsoft Internet Explorer 7.0, 8.0, or 9.0 with support for JavaScript and cookies)
- An IEEE compliant 10/100 Base-TX Ethernet Cable, RJ-45, Straight-Through.
- USB flash drive with at least 4GB of the available space.
- TPD "root and admusr" user password.

NOTE: When using the iLO for SSH connectivity, supported terminal Emulations are VT100 or higher (i.e. VT-102, VT-220, VT-320).

2.2 Physical Connections

A connection to the VGA/Keyboard ports on the DL 360 (Gen6) or HP DL380 (Gen 9) rear panel or a connection to the iLO is required to initiate and monitor the progress of HLRR installation procedures.



Figure 1 - HP DL360 (Gen6), DC (Rear Panel)

2.3 Access Alternatives for Application Install

This procedure may also be executed using one of the access methods described below:





2.4 Activity Logging

All activity while connected to the system should be logged using a convention which notates the **Customer Name**, **Site/Node** location, **Server hostname** and the **Date**. All logs should be provided to Oracle for archiving post installation.

NOTE: Parts of this procedure will utilize a VGA Monitor (or equivalent) as the active terminal. It is understood that logging is not possible during these times. The user is only expected to provide logs for those parts of the procedures where direct terminal capture is possible (i.e. SSH, serial, etc.).

3. FIRMWARE AND BIOS SETTINGS

Prior to upgrading the Firmware of the DL360 and DL380 servers the CMOS Clock, BIOS Settings, and iLO IP Address needed to be configured. These configuration procedures are defined in **Appendix B**, **G**, **and H** of this document.

Several procedures in this document pertain to the upgrading of firmware on DL360 and DL380 servers and Cisco 4948 E-F switches that are part of the Platform 7.0.x configuration.

The required firmware and documentation for upgrading the firmware on HP hardware systems and related components are distributed as the HP *Solutions Firmware Upgrade Pack*. The minimum firmware release required for Platform 7.0.x is *HP Solutions Firmware Upgrade Pack 2.2.9 or higher*. If a firmware upgrade is needed, the current GA release of the *HP Solutions Firmware Upgrade Pack* should be used.

Each version of the *HP Solutions Firmware Upgrade Pack* contains multiple items including media and documentation. If an HP FUP 2.x.x version newer than the Platform 7.0.x minimum of HP FUP 2.2.9 is used, then the *HP Solutions Firmware Upgrade Guide* should be used to upgrade the firmware. Otherwise, the HP Solutions Firmware Upgrade Guide, Release 2.x.x should be used.

The three pieces of required firmware media provided in the HP Solutions Firmware Upgrade Pack releases are:

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

Refer to the Release Notes of the [6] HP Solutions Firmware Upgrade Pack Release Notes, Release 2.x.x, (Min 2.2.9) to determine specific firmware versions needed.

Contact My Oracle Support (MOS) for more information on obtaining the HP Firmware Upgrade Packs.

3.1 Configure the CMOS Clock, BIOS Settings, and iLO IP Address and Upgrade Firmware

The following procedure explains the steps needed to configure the CMOS Clock, BIOS Settings, and iLO IP Address of the DL360/DL80 RMS servers and upgrade the firmware. (If needed).

Procedure 1. Configure the CMOS Clock, BIOS Settings, and iLO IP Address and Upgrade Firmware

S T	The following procedure explains the steps needed to configure the CMOS Clock, BIOS Settings, and iLO IP Address of the DL360/DL80 RMS servers and upgrade the firmware. (If needed).						
E	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.						
Р	If this procedure	fails, contact My Oracle Support Appendix L - MY ORACLE SUPPORT (MOS) and ask for assistance.					
#							
1	Configure	Connect to the RMS Server using a VGA Display and USB Keyboard.					
Т	RMS Server.	For HP DL 360 (G6) Server execute:					
		Appendix B. HP DL360 Configure CMOS Clock, BIOS Settings, and iLO IP Address					
		For HP DL 380 (G9) Servers execute:					
		Appendix G. Configure the HP DL380 Server CMOS Clock/BIOS Settings					
		Appendix H. Configure the iLO/iLOM IP Address on DL380 Servers (iLO4)					
2	DMS Somore	Follow the appropriate procedure for the ProLight DL $260(C6)$ or DL $280(C9)$ hardware type to varify and					
T	Verify/Upgrade	upgrade the HP server firmware using the procedures in [7] HP Solutions Firmware Upgrade Pack					
	Firmware	Upgrade Guide, Release 2.x.x, (Min 2.2.9)					
		Check-off the associated Check Box in step 3 as the RMS server's CMOS Clock, BIOS Settings, and iLO IP Address has been configured and firmware is updated:					

3 T	RMS Server: CMOS Clock, BIOS Settings, and iLO IP Address have been configured and firmware updated	Check-off the associated Check Box as the RMS server's CMOS Clock, BIOS Settings, and iLO IP Address has been configured and firmware is updated: Primary Site: RMS-1: RMS-2: RMS-3: RMS-4: RMS-5: RMS-6: RMS-7: RMS-10: Disaster Recover Site: (Optional) RMS-2: RMS-3: RMS-4: RMS-1: RMS-2: RMS-7: RMS-10: Disaster Recover Site: (Optional) RMS-4: RMS-3: RMS-6: RMS-7: RMS-8: RMS-1: RMS-2: RMS-3: RMS-4: RMS-3: RMS-4: RMS-3: RMS-4: RMS-5: RMS-6: RMS-5: RMS-6: RMS-7: RMS-8: RMS-7: RMS-8:
4 T		Optional: Repeat on the Disaster Recovery RMS servers.

Procedure 1. Configure the CMOS Clock, BIOS Settings, and iLO IP Address and Upgrade Firmware

4. INSTALLATION

This section contains the installation overview, and includes information about required materials, strategies, and SNMP configuration. Note that IPM refers to installing TVOE on the target system. TVOE is used when virtualization is needed (e.g., for the PMAC and the NOAM/SOAM/QS/MPs). Customers are required to download all software from the Oracle Software Delivery Cloud (OSDC). A readme file which provides instructions for the customer to create required bootable USBs using the .usb file will be included with the software, also see Appendix I of this document. Please obtain required bootable USBs from the customer representative.

4.1 Required Materials

- One (1) USB of TPD 7.x, release specified by Release Notes.
- One (1) USB of PMAC 6.x, release specified by Release Notes.
- One (1) USB of TVOE 3.0, release specified by Release Notes.
- One (1) USB of HLRR 4.1.x and all configuration files
- Passwords for root and admusr users on the local system.
- Access to the iLO Terminal or direct access to the server VGA port.
- HP Solutions Firmware Upgrade Pack Upgrade Guide, Release 2.x.x, (Min 2.2.9) (the latest version should be used if an upgrade is to be performed; otherwise version 2.2.9 is the minimum).
- A 4GB or larger USB Flash Drive is required.
- NAPD and all relevant configuration materials for ALL sites involved. This includes host IP addresses, site network element XML files, and netConfig configuration files.
- Keyboard and monitor for configuring iLO addresses.

4.2 Installation Strategy

To ensure a successful product installation, carefully plan and assess all configuration materials and installation variables. After a customer site survey has been conducted, an installer can use this section to plan the exact procedure list that should be executed at each site.

The following list summarizes this process.

1. An overall installation requirement is established. This data that should be collected:

- The total number of sites and what type of hardware will be used.
- The number of servers at each site and their role(s)
- Establish the number of rack mounted servers at each site
- What time zone should be used across the entire collection of application sites?
- Will SNMP traps be viewed at the application level, or will an external NMS be used (or both)

2. A site survey is conducted to determine exact networking and site details. Additionally, IP networking options must be well understood, and IP address allocations collected from the customer and placed in the NAPD, in order to complete switch and network configurations.

4.3 SNMP Configuration

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

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

- HLRR Application Servers (NOAM, SOAM, MPs of all types)
- HLRR Auxiliary Components (Switches, TVOE hosts, and PMAC)

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

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

The following components; PMAC (App), Switches (4948E-F), and TVOE for all HLRR Servers should have their SNMP trap destinations set to the local NOAM VIP and the customer NMS, if available.

Note: All the entities MUST use the same Community String during configuration of the NMS server.

Note: SNMP community strings i.e. (Read Only or Read Write SNMP community strings) should be the same for all the components like OAM/MP servers, PMACs, TVOEs and external NMS.

Note: Default SNMP Trap port used to receive traps is 162. Customer can provide the port number from the SNMP configuration screen

4.4 NTP Strategy

The following set of general principals' capture the recommendations for NTP configuration of HLRR.

Principle 1 – NOAM/SOAM's TVOE Hosts should synchronize to the customer's NTP network

The NOAM/SOAM's TVOE Hosts should synchronize to the customer's NTP network using three separate NTP sources as a minimum. See *Figure 2: Site NTP Topology* for clarification.

Principle 2 – Provide a robust pool of sources

The pool of customer NTP server references should be of stratum 3 or above, accurate and highly reliable. If possible both local site server and backup remote site servers should be provided. Three or more customer NTP sources are required.

Principle 3 - Virtual (NOAM/SOAM/MP) guests should synchronize to their TVOE hosts

When virtualization is used in the product deployment, virtual guests (NOAM/SOAM/MP) should use their TVOE hosts as their NTP references. See *Figure 2: NTP Topology* for clarification.

Principle 4 - MP TVOE hosts should use their SOAM's TVOE hosts

MP TVOE hosts should use their SOAM's TVOE hosts and the PMAC's TVOE host as the third NTP source. See *Figure 2: Site NTP Topology* for clarification.

Principle 5 - Virtual guests should not be used as NTP servers

Avoid specifying virtual guests as NTP references. Guest emulated clocks have been shown to result in poor NTP server behavior

Principle 6 - Prefer local references

When references from multiple sites or networks are used on one server, the "prefer" keyword should be applied to the local references.

Principle 7 - Ensure connectivity

Care should be taken to ensure that all NTP references are reachable through the appropriate networking configuration. In particular firewall rules must be correctly specified to allow NTP clients to connect to their specified references.

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Figure 2: Site NTP Topology

4.5 Overview of HLRR Networks

This table presents an overview of the networks configured and used by HLRR at a site. Based on the deployment type/requirements, the networks could be physically or logically separated via VLANs.

Network Name	Default VLAN ID*	Routable	Description	
Control	1	No	Network used by PMAC to IPM the servers/blades/VMs. Refer to the	
			NAPD for site-specific IP information. (IPs are assigned via by the PMAC	
			using DHCP)	
Management	2	Yes	Network used for iLO interfaces and Management Also used to provide	
			remote access to the TVOE and PMAC servers.	
XMI	3	Yes	Network used to provide access to the HLRR entities (GUI, ssh),	
			and for inter-site communication	
IMI	4	No	Network used for intra-site communication	
XSI-1	5	Yes	Network used for HLRR Signaling Traffic	
XSI-2	6	Yes	Network used for HLRR Signaling Traffic	
XSI-3**	7	Yes	Network used for HLRR Signaling Traffic	
XSI-4**	8	Yes	Network used for HLRR Signaling Traffic	

* The VLAN ID assignments are site and deployment specific.

** Optional

5. INSTALLING HLR ROUTER ON THE CUSTOMER NETWORK

This section contains the software installation procedures, including preparation and configuration information for a HLRR site. The procedures in this section are expected to be executed in the order presented in this document. If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to **My Oracle Support (MOS)**.

Sudo - Platform 7.0.x introduces a new non-root user 'admusr'. As a non-root user, many commands --when run as admusr-- now require the use of 'sudo'. Using sudo will require a password with the first command, as well as intermittently over a period of time. Therefore, if a prompt for the "[sudo] password:" appears, the user should re-enter the admusr login password.

5.1 HLR Router Installation Matrix

Installing the HLR Router product is a task which requires multiple installations of varying types. The matrix below provides a guide to the user as to which procedures are to be performed on which site types. The user should be aware that this document only covers the necessary configuration required to complete product install. Refer to the online help or contact Oracle's Customer Care Center (MOS) See Appendix L, with post installation configuration options.

NOTE: Although the NOAM sites are fully redundant by function, we must distinguish between them during installation due to procedural changes based on the installation sequence. The user should be aware that any reference to the "NOAM" site refers to the 1^{st} installation of a NOAM pair on the customer network while references to the "DR NOAM" site refers to the 2^{nd} NOAM pair to be installed.

Server Type		PROCEDURES TO PERFORM										
		1-3	4-8	9	10-11	12	13	14	15	16	17	18-19
	Management Server		×	×	×	×	×	×	×	×	×	×
	Cisco Switches	×	×	>	×	×	×	×	×	×	×	×
	РМАС	×	>	×	×	×	×	×	×	×	×	×
	NOAM-A	×	×	×	×	>	>	×	×	\	×	×
	NOAM-B	×	×	×	✓	✓	×	✓	×	✓	×	×
	DR NOAM	✓	×	×	✓	✓	×	✓	×	×	✓	×
	SOAM	×	×	×	✓	✓	×	✓	×	×	✓	×
	MP	×	×	×	✓	✓	×	✓	1	×	×	1
	Query Server	×	×	×	\	✓	×	\	×	√	×	×

Table 2 - HLR Router Installation Matrix

Procedure No :	Title :	Page No :
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2	Install TVOE on First RMS (PMAC Host)	20
3	Configure Management Server Network (Management Server)	24
4	Deploy PMAC on Management Server (All Sites)	38
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9	Configure Cisco 4948E-F Aggregation Switches using netConfig (All Sites)	62
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HLR Router Installation: List of Procedures

 Table 3 - HLR Router Installation: List of Procedures

6. SOFTWARE INSTALLATION PROCEDURE

6.1 Install TVOE on First RMS (PMAC Host)

This procedure will install TVOE 3.0.x on the Management Server

Requirments: Procedure 1. Configure the CMOS Clock, BIOS Settings, and iLO IP Address and Upgrade Firmware

Needed material: TVOE 3.0.x Media (USB or CD/DVD)

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

Procedure 2. Install TVOE on First RMS (PMAC Host)

S T	This procedure explains the steps needed to install TVOE on the first RMS Server.					
E P	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.					
#	If this procedu	re fails, contact My Oracle Support Appendix L - MY ORACLE SUPPORT (MOS) and ask for assistance.				
1	RMS Insert the OS IPM media (CD/DVD or USB) into the CD/DVD tray/USB slot of the rack mount server. Server: Refer to Appendix I for creating a bootable USB. Insert TVOE Alternatively, ISO can be mounted using Virtual media as well. Refer to Appendix F. Server Server					
2	Power Cycle Server	Power cycle the server by holding the power button in until the button turns amber, then release. Wait 5 seconds, then press the power button and release it again to power on the system.				
3	Select Boot Method	For some servers you must select a boot method so that the server does not boot directly to the hard drive. For HP rack mount servers, hit F11 when prompted to bring up the boot menu and select the appropriate boot method.				

Procedure 2. Install TVOE on First RMS (PMAC Host)

5	RMS Once the Server reboots, it will reboot from the TVOE media and a boot prompt shall be displayed:						
	Server:						
	Begin IPM	Cupyright (D) 2003, 2014, Gracle and/or its affiliates. All rights reserved.					
	Process	Helcow to Tabular Platform Distribution! Reference: Reference: Open::::::::::::::::::::::::::::::::::::					

Procedure 2. Install TVOE on First RMS (PMAC Host)

	-	
6	RMS Server:	The IPM process takes about 30 minutes , you will see several messages and screens in the process.
	Monitor the	The following screens will be displayed:
	IPM Installation	please refer to the Initial Platform Manufacture document for this release. In addition to linux & rescue IPD provides the following kickstart profiles:
		[TPD TPDnoraid TPDblade TPDbladeraid TPDnocons T1200sol HDD]
		Commonly used options are:
		<pre>[console=<console_option>[,<console_option>]] [rdate=<server_ip>] [scrub] [reserved=<size1>[,<sizen>]] [diskconfig=HPG6[,force]] [drives=<device>[,device]]</device></sizen></size1></server_ip></console_option></console_option></pre>
		To install using a monitor and a local keyboard, add console=tty0
		boot: IPD Loading vmlinuz Loading initrd.ing Ready.
		Formatting / file system 232
		Package Installation Name : Size : Summary: Install Starting Starting install process, this may take several minutes Total Complet Remainin

Procedure 2. Install TVOE on Fi	rst RMS (PMAC Host)
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	RMS Server: Install Complete- Reboot	Once the IPM is complete, you will be prompted to press Enter as shown below to reboot the server. Remove the disk or USB from the server or unmount the TPD image from the iLO and press Enter to reboot the server. Complete Complete Complete Complete Complete Please method is use the installed system. Note that updates may be available in encore the proper functioning of year system and installation of these updates is recorrended after the reboot. Please and multiple reboots, the the server boot sequence will start and eventually display that it is booting the new IPM (TVOE) load. Attempting Boot Fron CD-ROM Attempting Boot Fron Hard Drive (C:) Press any key to continue. Press any key to continue. Pres
8	Optional: TVOE DR RMS-1 server	Optional: Repeat this procedure for the Disaster Recovery RMS-1Server.
		THIS PROCEDURE HAS BEEN COMPLETED

6.2 Configure Management Server Network (All Sites)

This procedure will configure the Network on the TVOE/Management Server

Requirements: Procedure 2. Install TVOE on First RMS (PMAC Host) has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Procedure 3: Configure Management Server Network

Step	Procedure	Result			
1.	Access the HP server's console.	Connect to the HP server's console using one of the access methods described in Section 2.3.			
2.	Determine Bridge Names and Interfaces	Determine the table below.	bridge interfaces	to be used on the TVOE server and fill in the appropriate	riate values in the
		Guest Interface Alias	TVOE Bridge Name	TVOE Bridge Interface	
		control	control	Fill in the appropriate value (default is bond0): bond0 <tvoe_control_bridge_interface></tvoe_control_bridge_interface>	
		Management (XMI)	management	Fill in the appropriate value: bond1 <tvoe_management_bridge_interface></tvoe_management_bridge_interface>	
		imi	imi	Fill in the appropriate value: bond 0.4 <tvoe_imi_bridge_interface></tvoe_imi_bridge_interface>	

Procedure 3: Configure Management Server Network

Step	Procedure	Result			
3.	TVOE Management server iLO: <i>Verify the</i> <i>Control Network</i>	Verify the control network bridge is running: \$ sudo netAdm querytype=Bridgename=control Bridge Name: control On Boot: yes Protocol: none IP Address: 192.168.1.x Netmask: 255.255.255.0 Promiscuous: no Hwaddr: d8:9d:67:1c:bc:84 MTU: 1500 Delay: 4 Bridge Interface: bond0			
		Bond0 is created by default when TVOE is installed on the server so the control bridge should have been configured; if so then skip to the next step. If bond0 is missing create the control network bond0 and assign eth01 and eth02 to it: <u>Example:</u> \$ sudo netAdm adddevice==bond0onboot=yestype=Bondingmode=active-backup miimon=100 Interface bond0 added \$ sudo netAdm setdevice=eth01type=Ethernetmaster=bond0slave=yesonboot=yes Interface eth01 updated			
		<pre>\$ sudo netAdm setdevice=eth02type=Ethernetmaster=bond0slave=yesonboot=yes Interface eth02 updated \$ sudo netAdm addtype=Bridgename=controlbootproto=dhcponboot=yes bridgeInterfaces=bond0 Verify the control network bridge is now running:</pre>			
		<pre>\$ sudo netAdm querytype=Bridgename=control Bridge Name: control On Boot: yes Protocol: none IP Address: 192.168.1.x Netmask: 255.255.255.0 Promiscuous: no Hwaddr: d8:9d:67:1c:bc:84 MTU: 1500 Delay: 4 Bridge Interface: bond0</pre>			

Procedure 3: (Configure	Management	Server	Network
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Step	Procedure	Result
4.	TVOE Management Server iLO: <i>Add the Internal</i> <i>Network</i> <i>Management</i> <i>interface bridge</i> <i>on bond0.4</i>	Create the imi network bridge: \$ sudo netAdm adddevice=bond0.4 Interface bond0.4 added \$ sudo netAdm addname=imitype=BridgebridgeInterface=bond0.4 Setting up the bridge and unsetting network info Interface bond0.4 was updated. Bridge imi added! Verify the imi network bridge is running: \$ sudo netAdm querytype=Bridgename=imi Bridge Name: imi On Boot: yes Protocol: none IP Address: Netmask: Promiscuous: no Hwaddr: d8:9d:67:1c:bc:84 MTU: Delay: 4 Bridge Interface: bond0.4

5. DI.360 Servers Only Execute this step for DI.360 servers only. For DI.380 servers skip to step 6. Add the management Server iLO: Add the management network: 3. S sudo netAdm adddevice=bond1 Interface bond1 added Add the External Management Interface (XMI) S sudo netAdm setdevice=eth11master=bond1slave=yesonboot=yes bootproto=none Interface th11 was updated. Interface th11 was updated. Interface eth12 was updated. Interface eth12 was updated. Interface eth12 was updated. Interface eth12 was updated. Interface one Horizone Interface Interface I	

Procedure 3: Configure Management Server Network

Step	Procedure	Result
6.	DL380 Servers Only TVOE Management Server iLO: Add the External Management Interface (XMI) bridge on bond 1 = eth05 + eth06	Execute this step for DL380 servers only. For DL360 servers return to step 5. Add the management network: \$ sudo netAdm adddevice=bond1 Interface bond1 added \$ sudo netAdm setdevice=eth03master=bond1slave=yesonboot=yesbootproto=none Interface eth03 was updated. Interface eth03 updated \$ sudo netAdm setdevice=eth04master=bond1slave=yesonboot=yesbootproto=none Interface eth04 was updated. Interface eth04 was updated. Interface eth04 was updated. Interface eth04 was updated. Interface eth04 updated \$ sudo netAdm addname=managementtype=BridgebridgeInterface=bond1 Setting up the bridge and unsetting network info Interface bond1 was updated. Bridge management added! Verify that the external management bridge (XMI) has been configured: \$ sudo netAdm querytype=Bridgename=management On Boot: yes Protocol: none IP Address: Netmask: Promiscuous: no Hwaddr: ac:16:2d:99:45:84 MTU: 1500 Delay: 4 stp: on Bridge Interface: bond1

Procedure 3: Configure Management Server Network

Procedure 3:	Configure Management	Server Network
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7. TVOE Set XMI management bridge IP address:	
Management Server iLO: Note: The output below is for illustrative purposes only. The NAPD information for this sy determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices), to determine the network interfaces, (network devices, bonds, and bond enslaved devices, bonds, and bond enslaved, and the bond enslaved, and the bond enslaved, below devices, bond, and theremine, bonds, and theremine, bonds, and ens	system will to configure. ent_ip

Procedure 3+	Configure	Management	Server	Network
I I Occuui c 5.	Configure	management	Sciver	

Step	Procedure	Result
8.	TVOE Management Server iLO: Assign gateway IP address to the default route	Add the default route on the management network. Note: The output below is for illustrative purposes only. The NAPD information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure. Syntax: \$ sudo netAdm addroute=defaultgateway= <mgmt_gateway_address> device=<tvoe_managament_bridge> Example: \$ sudo netAdm addroute=defaultgateway=10.250.43.161device=management Route to management added Verify the management network by running the following command \$ sudo netAdm queryroute=defaultdevice=management Routes for TABLE: main and DEVICE: management * NETWORK: default GATEWAY: 10.250.43.161</tvoe_managament_bridge></mgmt_gateway_address>
9.	TVOE Management Server iLO: Assign IP address to the control network	Set the control network bridge IP address: \$ sudo netAdm settype=Bridgename=controlbootproto=noneaddress=192.168.1.4 netmask=255.255.255.0 Interface bond0 was updated. Setting up the bridge and unsetting network info Interface bond0 was updated. Bridge control updated! Verify the control network bridge has been configured with IP address: \$ sudo netAdm querytype=Bridgename=control Bridge Name: control On Boot: yes Protocol: none IIP Address: 192.168.1.4 Netmask: 255.255.055.0 Promiscuous: no Hwaddr: 98:4b:e1:74:d5:78 MTU: Delay: Bridge Interface: bond0

Step	Procedure	Result
<i>10.</i>	TVOE Management Server iLO:	Note: syscheck must be configured to monitor bonded interfaces. Replace "bondedInterfaces" with "bond0" or "bond0,bond1" if segregated networks are used:
	Setup Syscheck	\$ sudo syscheckAdm net ipbondsetvar=DEVICESval=bond0,bond1
		\$ sudo syscheckAdm net ipbond -enable
		\$ sudo syscheck -v net ipbond
11.	TVOE Management	Set the server hostname:
	Server iLO:	\$ sudo su – platcfg
	Set Hostname	1. Navigate to Server Configuration ➤ Hostname
		 Server Configuration Menu Hostname Designation/Function Configure Storage Set Clock Time Zone Exit Select Edit 3. Set TVOE Management Server hostname 4. Press OK. 5. Navigate out of Hostname

Procedure 3: Configure Management Server Network

Procedure 3: Configure Management Server Network

Step	Procedure	Result
12.	TVOE Management Server iLO:	Set the time zone and/or hardware clock: 1. Navigate to Server Configuration ➤ Time Zone
	Set Time Zone and/or Hardware Clock	 Server Configuration Menu Hostname Designation/Function Configure Storage Set Clock Time Zone Exit Select Edit. Set the time zone and/or hardware clock. Press OK. Navigate out of Server Configuration

Procedure Result Step TVOE Configure SNMP trap destination: 13. Management Server iLO: **1.** Navigate to Network Configuration ➤ SNMP Configuration ➤ NMS Configuration. SNMP Configuration Menu Configure SNMP trap destination NMS Configuration SNMP Community Strings See the NAPD Exit documention for SNMP specifics. 2. Select Edit and then choose 'Add a New NMS Server'. 3. The 'Add an NMS Server' page will be displayed. Add an NMS Server Hostname or IP: Port: SNMP Community String: Cancel 4. Complete the form by entering NMS server IP, Port (default port is 162) and community string provided by the customer about the SNMP trap destination. 5. Select OK to finalize the configuration. 6. The 'NMS Server Action Menu' will now be displayed. 7. Select Exit. The following dialogue will then be presented: Modified an NMS entry in snmp.cfg file: Do you want to restart the Alarm Routing Service? 8. Select Yes and then wait a few seconds while the Alarm Routing Service is restarted. 9. At that time the SNMP Configuration Menu will be presented. Note: All alarm information will then be sent to the NMS located at the destination.

Procedure 3: Configure Management Server Network

Procedure 3:	Configure	Management	Server	Network
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Step	Procedure	Result
<i>14</i> .	TVOE Management Server iLO: <i>Configure NTP</i>	Configure NTP servers: 1. Navigate to Network Configuration ➤ NTP.
	Conjigure NTF	 Network Configuration Menu SNMP Configuration Network Interfaces Configure Network Bridges Routing NTP TPEC Configuration Modify Hosts File Exit 2. Set NTP server IP address to point to the customer provided NTP servers (3 NTP Servers are required). See paragraph 4.4 NTP Strategy for more information on NTP deployment. Impervent: 10.250.32.10 The servers interface to the server of the server
15.	TVOE Management Server iLO: Set server time	Set time based on NTP server: \$ sudo service ntpd stop \$ sudo ntpdate ntpserver1 \$ sudo service ntpd start

1 I OCCUUTE J. Configure Management Server Metwo	rocedure 3:	ure Management Server Netwo	ork
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Step	Procedure	Result
<i>16.</i>	TVOE Management Server iLO: <i>Reboot the</i> <i>server</i>	Reboot the server: \$ sudo init 6 Wait until the reboot completes and re-login with TVOE admusr credentials.
17.	TVOE Management Server iLO: <i>Verify server</i> <i>health</i>	Verify server health: \$ sudo alarmMgr -alarmStatus <i>Note:</i> This command should return no output on a healthy system. If any alarms are reported, please stop and contact Oracle's Customer Care Center before continuing.

Procedure 3: Configure Management Server Network

Step	Procedure	Result
<i>18</i> .	TVOE Management Server iLO:	Login as platcfg user. The platcfg main menu will be shown \$ sudo su - platcfg
	Perform a TVOE backup	 Navigate to Maintenance ➤ Backup and Restore ➤ Backup Platform (CD/DVD) The 'Backup TekServer Menu' page will now be shown.
		 Backup TekServer Menu Select Backup Type (plat-app) View Index Table of Contents Select Backup Media (CD-R) Build ISO file only Test Backup Backup Exit 3. Select Build ISO file only. Note: Creating the ISO image may happen so quickly that this screen may only appear for an instant. System Busy Freese wait Please wait A filer the ISO is created, platofg will return to the Backup TekServer Menu as shown in step 2. 5. The ISO has been created and is located in the /var/TKLC/bkp/ directory. An example filename of a backup file that was created is: "hostname I307466752-plat-app-201104171705.iso" 6. Exit platofg.
Procedure 3: Configure Management Server Network

Step	Procedure	Result
<i>19.</i>	Customer Server SSH: Copy backup image to the customer server	Login to the customer server and copy backup image to the customer server where it can be safely stored.
20.	Configure the DR RMS-1 server networking.	Optional: Repeat this procedure for the Disaster Recovery RMS-1 Server.
		THIS PROCEDURE HAS BEEN COMPLETED

6.3 Deploy PMAC on Management Server (All Sites)

This procedure will deploy PMAC 6.0.x on the TVOE Host

Prerequisite:

- Procedure 2. Install TVOE on First RMS (PMAC Host) has been completed.
- Procedure 3: Configure Management Server Network has been completed.

Needed material:

- PMAC 6.0.x Media on USB Drive or ISO

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

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

~···P	rioceuure	Result
1. I st LC La Int Re CC	* RMS LO/iLOM: ogin and aunch the ntegrated emote onsole	Log in to iLO/iLOM; follow Appendix A Accessing the iLO VGA Remote Console Window for instructions on how to access the iLO/iLOM . https:// <management_server_ilo_ip></management_server_ilo_ip>

2.	TVOE	Use one of the following 2 options to mount the PMAC Media:						
	iLO/iLOM:							
	Mount the	Option 1:						
	PMAC Media							
	to the TVUE	If using a USB media, insert the PMAC USB into a USB port and execute the following to mount the						
	Server	150:						
		01. /						
		5 IS /media/*/*.1SO /media/add//272.259(101 (0.0.57.2.0 mmed x^{2} (() is						
		/media/sud1/8/2-2586-101-6.0.0_5/.5.0-pmac-x86_64.180						
		Use the output of the previous command to populate the next command						
		\$ sudo mount -o loop /media/sdb1/872-2586-101-6.0.0 57.3.0-pmac-x86 64.iso						
		/mnt/upgrade						
		Option 2:						
		If using an ISO image, run the following to mount it:						
		5 sudo mount -0 100p 150_F1LENAWIE.180 /mnt/upgrade						
		Next Validate the PMAC media by executing the following commands:						
		\$ cd /mnt/upgrade/upgrade						
		\$ sudo .validate/validate cd						
		Validating cdrom						
		UMVT Validate Utility v2.2.2, (c)Tekelec, June 2012						
		Validating <device iso="" or=""></device>						
		Date&Time: 2012-10-25 10:07:01						
		Volume ID: tklc_872-2441-106_Rev_A_50.11.0						
		Part Number: 872-2441-106_Rev_A						
		Version: 60.11.0						
		Disc Label: PM&C						
		Disc description: PM&C						
		The media validation is complete; the result is: PASS						
		CDKOM IS Valid						
		Note. If the media validation fails, the media is not valid and should not be used						
		The media vandation fails, the media is not valid and should not be used.						
	1	1						

3.	TVOE	Using the pmac-deploy script, deploys the PMAC instance using the configuration captured during the
	ILO/ILOM: Deploy	site survey.
	PM&C	\$ cd /mnt/upgrade/upgrade
	Refer to the NAPD documentation for this networking information.	<pre>\$ sudo ./pmac-deployguest=<pmac _name=""> hostname=<pmac_name>controlBridge=<tvoe_control_bridge> controlIP=<pmac_control_ip_address> controlNM=<pmac_control_netmask> managementBridge=<pmac_management_bridge> managementIP=<pmac_management_ip_address> managementNM=<pmac_management_netmask prefix=""> routeGW=<pmac_management_gateway_address></pmac_management_gateway_address></pmac_management_netmask></pmac_management_ip_address></pmac_management_bridge></pmac_control_netmask></pmac_control_ip_address></tvoe_control_bridge></pmac_name></pmac></pre>
		ntpserver= <tvoe_management_server_ip_address> isoimagesVolSizeGB=20</tvoe_management_server_ip_address>
		For example: \$ sudo ./pmac-deployguest=pmachostname=pmaccontrolBridge=control controlIP=192.168.1.1controlNM=255.255.255.0managementBridge=management managementIP=10.240.241.118managementNM=255.255.255.0routeGW=10.240.241.1 ntpserver=10.240.241.105isoimagesVolSizeGB=20 The PMAC will deploy and boot. The management and control network will come up based on the settings that were provided to the pmac-deploy script. Note: This step takes between 5 and 10 minutes.
4.	TVOE iLO/iLOM: Unmounts the Media	The media should auto-unmount, if it does not, unmount the media using the following command:

5	TVOE iLO/iLOM:	Using an SSH client such as putty, ssh to the TVOE host as <i>admusr</i> .
	SSH into the Management	Login using virsh, and wait until you see the login prompt :
	Server	\$ sudo /usr/bin/virsh list
		Id Name State
		2 PMAC running
		\$ sudo /usr/bin/virsh console <pmac></pmac>
		[Output Removed]
		Starting ntdMgr: [OK]
		Starting atd: [OK] TPD Up' notification(s) already sent: [OK]
		upstart: Starting tpdProvd
		CentOS release 6.2 (Final)
		Kernel 2.6.32-220.17.1.el6prerel6.0.0_80.14.0.x86_64 on an x86_64 PMACdev7 login:
6	Virtual PMAC:	Establish an SSH session to the PMAC, login as <i>admusr</i> .
	Verify the	Run the following command (there should be no output):
	configured	<pre>\$ sudo /bin/ls /usr/TKLC/plat/etc/deployment.d/</pre>
	first boot	
7.	TVOE iLO/iLOM: Error doing	If an error was made use the following command to delete the PMAC Guest and then re-deploy the guest again:
	verification, if	<pre>\$ sudo guestMgrremove <pmac_name></pmac_name></pre>
	outputted	Determine the Time Zeres to be used for the DMAC
8.	PMAC: Set	Determine the 11me Zone to be used for the PMIAC.
	the PMAC time zone	Note: Valid time zones can be found in Appendix E.
		<pre>\$ sudo set_pmac_tz.pl <time zone=""></time></pre>
		Example:
		\$ sudo set_pmac_tz.pl Ect/UTC
		Verify that the time zone has been updated:
		\$ sudo date

Set SNMP by running the following: Virtual 9. **PMAC:** Set **SNMP** \$ sudo su - platcfg Navigate to Network Configuration -> SNMP Configuration -> NMS Configuration. landon troot 000 File Edit View Bookmarks Settings Help lations Configuration Utility 3.04 (C) Hestname: Postname1305723774 Uctions NMS Server Community String Select Edit and then choose Add a New NMS Server. The 'Add an NMS Server' page will be displayed. Complete the form by entering in all information about the SNMP trap destination. Select **OK** to finalize the configuration. The 'NMS Server Action Menu' will now be displayed. Select Exit. The following dialogue will then be presented. Select Yes and then wait a few seconds while the Alarm Routing Service is restarted. At that time the SNMP Configuration Menu will be presented. Exit platcfg. Virtual Reboot the server by running: 10. **PMAC:** Reboot the \$ sudo init 6 server Optional: Repeat this procedure for the Disaster Recovery Manageement Server. Deploy 11. PMAC on DR Management server THIS PROCEDURE HAS BEEN COMPLETED

6.4 Configure PMAC Application (All Sites)

This procedure will provide PMAC configuration using the web interface.

Requirements: Procedure 4. PMAC Deployment has been completed.

Note: The installer must be knowledgeable of the network configuration. If you make a mistake, then click "Cancel" button and try again. The finish step may take longer time because it reconfigures the network and attempts to connect may fail.

Note: After you have completed an initialization, the network parameters can no longer be changed through the GUI.

Note: If you need to reset any of the network information, you must run this command in the PMAC shell: "**sudo pmacadm resetProfileConfig**". This command will delete the existing configuration and allow you to run through the initialization wizard again.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Procedure 5: Configure PMAC Application

Step	Procedure	Result
12.	PMAC GUI:	Open web browser and enter: http:// <pmac_management_network_ip></pmac_management_network_ip>
12.	PMAC GUI: Login to PMAC GUI	Open web browser and enter: http:// <pmac_management_network_ip> Login as pmacadmin user. Coracle System Login Tes Fiel 2 20:04:00 2016 UTC Log in Enter your usemente and password to log in Seealon was logged out a 2:00:38 pro Usermanne: Processual: Compage password Description</pmac_management_network_ip>
		Courte and American regulation in a different Constraint model in the Electron Other names regulated in a difference of the Directory Constraint Constraint. Congregate V 2010, 2015, Constraint-State in Alloydia a constraint.

Step	Procedure		Result						
13.	PMAC GUI: <u>Administration</u> → PMAC	The first time that the PMAC GUI is opened, an initialization screen appears and will look similar to the screen shown below:							
	Configuration	Profiles							
	→ Feature Configuration	File Name	Name PM&C TVO	Comment		С	Version 6.0.0		
	Select a profile	Select the TVOE profile a	nd click o	on "Init i	Initialize alize" button, the following	ng screen will be	displayed:		
		Feature		descrip	otion	Role	Enabled		
		DEVICE.NETWORK.NETBO	тос	Networ	k device PXE initialization	management			
		DEVICE.NTP		PM&C as a time server		management	V		
		PMAC.MANAGED		Remote management of PM&C server		management			
		PMAC.REMOTE.BACKUP	PMAC.REMOTE.BACKUP		e server for backup	management			
		PMAC.NETBACKUP		NetBac	kup client	management			
	Add Role Apply								
		Set the Role to manageme	ent for al	l feature	S.				
		 Also make sure that the enable checkbox is checked for the following features only: 1. DEVICE.NETWORK.NETBOOT 2. DEVICE.NTP 							
		Click on "Apply" button t	to initializ	ze the Pl	MAC feature configuration	1.			
		<i>Note:</i> If you have missed to button, then navigate to the Configuration and click o	he netwo is GUI po n the "Re	rk initia age Adn econfigu	lization process, you will n ninistration → PMAC Con rre" button.	need to click on " $figuration \rightarrow N$	Apply" etwork		

Procedure 5: Configure PMAC Application

Step	Procedure		Result					
14.	PMAC GUI:	You will see this default scre	en similar to:					
	Network	Network IP	Network Mask					
	Description	192.168.1.0	255.255.255.0					
		10.250.51.0	255.255.255.0					
			Add Delete					
		Enter the Network IPs and N (XMI Network). Click on "Next" button.	etmasks for the control (192.	.168.1.0) and Management Network				
15.	PMAC GUI:	You will see this default screen similar to:						
	Network Roles	Network IP	Network Mask	Role				
		192.168.1.0	255.255.255.0	control				
		10.250.51.0	255.255.255.0	management				
			Add Delete					
	he Role field and selecting the correct role ld be control and management network							
16.	PMAC GUI:	You will see this default scre	en similar to:					
	Network	Device	IP Address	Description				
	Interface	control	192.168.1.1	Control network for managed servers				
		management	10.250.51.89	Management of system devices				
		Add Delete						
	Enter the XMI IP addresses of the PMAC in the management field and a control address of 192.168.1.1 in the control field. Click on " Next " button.							

Procedure 5: Configure PMAC Application

Step	Procedure			Result						
17.	PMAC GUI: Network Route	You will see	e this default screen simila	ar to:						
		Click on the	Click on the Add button to display the Add Route Screen:							
		Add Rou	Add Route							
			Device: management	•						
		Destinatio	on Address: 0.0.0.0							
		Destination I	lask/Prefix: 0.0.0.0							
		Gatewa	ay Address: 10.240.241.1							
		For IPv6 defa	ult routes, use the "::" addres	s and prefix 0.	Cancel Add Route					
		Select Mana Enter 0.0.0. Enter 0.0.0. Enter the XI Click on the	agement in the Device Fie 0 in the Destination Addre 0 in the Destination Mask MI Network Gateway Add Add Route button to con	ld. ess Field. /Prefix Field. dress in the Gateway Addre mmit changes.	ss Field.					
		Verify the r	oute was entered correctly	7:						
		Device	Destination Address	Network Mask/Prefix	Gateway Address					
		management	0.0.0.0	0.0.0.0	10.240.241.1					
				Add Delete						
		Click on "N	ext" button when done.							

Procedure 5: Configure PMAC Application

Step	Procedure				Resul	t			
10	PMAC GUI:	You will see this default	screen	similar to):				
18.									
	DHCP Ranges	DHCP Ranges							
		Start DHCP			End D	HCP			
		192.168.1.1			192.1	68.1.254			
				A	dd Delei	(e			
		Set the Starting address	to 192.1	68.1.5 ar	d the Endi	ng address t	to 192.16	8.1.254.	
		DHCP Ranges	5						
		Start DHCP			End E	НСР			
		192.168.1.5			192.1	168.1.254)		
		Add Delete							
		Click on "Next" button	when d	one.					
19.	PMAC GUI:	The following Configuration Summary screen will be displayed.							
	Summary	Configuration Summary							
	Settings								
		+ Network Description							
					Hetwork Address 192-101-1-0		Hetwork Nasi	kiPrefix	
					10.240 241.0		255/299 255/0		
		* Network and Roles Description							
				Hebwork Addre	EK C	Setwork Music	Prefix	Rule	
				10.240 241.0		200 200 200 200 0		nunuganan.	
		* Retwork line face Description							
			Device	•	IP Addre	M.K.	Desc	ription	
			manag control	errent	10,240,2	40.408 Ga	Vara	generi of system de relativest for measu	vicas ad secure
		v Barte Confermina							
			Device	Destinate	ar Address	Helwork	Nexkillerin	Caleway A	ddrews
			пазадата	* 0000		0000		10,240,241	1
		× EVI DICP Confermion							
		Start DHCP End DHCP							
		182 163 1.5							
						Cancel	Thick		
		Verify the values are all	correct	then click	the "Fini	sh" button	when don	e	
		, erry the values are all	Concel			Ji Outtoll			

Procedure 5: Configure PMAC Application

Step	Procedure	Result							
20.	PMAC GUI: Complete the configuration	The following sum	mary screen w ration Task	ill be displayed, click of Target Status	In Tasks to view the I	nitialization Progress			
		Navigate to GUI pa	age "Main Me Target	enu → Task Monitoria Status	ig" for status of PMA Running Time	C Initialization task.			
		Wait till the Progre	ss bar turns gr	een, that signifies that t	he PMAC Initialization	on was successful.			
21.	PMAC GUI:	Navigate to GUI pa	age: Main Mo	enu → Administration	\rightarrow GUI Site Setting	js			
Set the PMAC Application GUI Site Settings Set the "Site name" field to a descriptive name Set the "Welcome Message" field that is displayed upon login.									
		Verify values, and	click "Update	Settings" button when	1 done				

Procedure 5: Configure PMAC Application

Step	Procedure	Result			
22.	Virtual PMAC SSH: Perform PMAC application backup and save backup file	Perform PMAC application backup from the PMAC GUI: Navigate to GUI page: Main Menu → Administration → Perform Backup CRACLE: Platform Management & Configuration 50300-60230 Perform Backup NNS chloridhood from an 01at NNS chloridhood from 01at			
		 Nanage Settware Images With Manage Settware Images With Management Secrage Secrage Guid Secsions 			
		Info O	8		
		PW&C backup to the PM&C clock will proceed in the background. The ID number for this task is: 463 task	i Time		
		Communication Complete 2016	-0. V		
		458 Backup PN&C PN&C Backup successful CONPLETE 1950	-0.		
		A57 Backup PN&C PN&C Backup successful CONPLETE 2016	-0'		
		466 Backup PN&C PN&C Backup successful COMPLETE USeD	-0.		
	Ontional	Note: The PMAC backup uses a naming convention which includes a date/time stamp in the name (Example file name: backupPMAC_20111025_100251.pef). In the example provided backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time. The PMAC backup must be moved to a remote server. Transfer (sftp, scp, rsync, or preferre utility) the PMAC backup file to an appropriate remote server.	e file l, the <mark>ed</mark>		
23.	PMAC on DR Management server	Optional: Repeat this procedure for the Disaster Recovery PMAC Server.			
		THIS PROCEDURE HAS BEEN COMPLETED			

6.5 Add Cabinet to PMAC System Inventory (All Sites)

This procedure provides instructions to add a cabinet to the PMAC system inventory.

Requirements: Procedure 5: Configure PMAC Application has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Procedure 6: Add Cabinet to PMAC System Inventory

Step	Procedure	Result
1.	PMAC GUI: Login to PMAC GUI	Open web browser and enter: http:// <pmac_management_network_ip> Login as pmacadmin user. Coracle System Login Lating Provide State of the second state of the second</pmac_management_network_ip>
2.	PMAC GUI: Configure Cabinets	Navigate to this GUI page: Main Menu → Hardware → System Configuration → Configure Cabinets. Main Menu Hardware Hardware System Inventory System Configuration Configure Cabinets Configure Enclosures Software

Step Procedure Result On the Configure Cabinets panel click on "Add Cabinet" button **PMAC GUI:** 3. Navigate to Provisioned Cabinets Configure Cabinet There are no provisioned cabinets Add Cabinet Delete Cabinet **PMAC GUI:** Enter the value for CabinetID and press Add Cabinet. 4. Add Cabinet Enter Cabinet ID Cabinet ID: Cabinet ID must be from 1 to 654. **PMAC GUI:** If no error is reported to the user, you will see the following: 5. **Configure Cabinets** 🤣 Help Check Errors Thu Aug 16 11:43:51 2012 EDT Info • Provisioned Cabinets Add Cabinet Or you will see an error message: Add Cabinet Cabinet ID 900 is invalid: must be between 1 and 654 000 DR PMAC **Optional:** Repeat this procedure on the Disaster Recovery PMAC Server. 6. server THIS PROCEDURE HAS BEEN COMPLETED

Procedure 6: Add Cabinet to PMAC System Inventory

6.6 Add Rack Mount Servers to PMAC System Inventory (All Sites)

This procedure provides instructions to add a Rack-Mount Server (RMS) to the PMAC system inventory. This procedure must be run for every physical server – not for every "logical" server that runs in a VM on a physical server.

Requirements: Procedure 6: Add Cabinet to PMAC System Inventory has been completed.

Note: The installer must be knowledgeable of the network. If you make mistake, hit cancel and try again. The finish step may take longer time because it reconfigures the network and attempts to connect may fail.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Procedure 7: Add Rack Mount Servers to PMAC System Inventory

Step	Procedure	Result
1.	PMAC GUI:	Open web browser and enter: http:// <pmac_management_network_ip></pmac_management_network_ip>
	Login to PMAC	Login as pmacadmin user.
	001	ORACLE
		Dracle System Login To 18 2 2024 2010 170
		Log In Enter-your remains and excessed to log in Contraction and the destination
		Commence of the Commence of th
		Anno a title water is produced, but to regist the descent by dance. Not use the emotionic discusses
		ини и политически политическ Политически политически политически политически политически политически политически политически политически поли
		Mana and a tai se replaned team and a construction of the second se
2.	PMAC GUI:	Navigate to this GUI page: Main Menu → Hardware → System Configuration → Configure RMS
	Configure RMS	🗖 🔍 Main Menu
		🚊 🚔 Hardware
		💼 🧰 System Inventory
		 System Configuration Configure Cabinets Configure Enclosures Configure RMS Software

F

11000	aure 7. Aug Rack			
Step	Procedure	Result		
3.	PMAC GUI:	On the Configure Cabinets panel click on Add RMS		
	Add RMS	Configure RMS Thu Aug 16 11:47:12 2012 EDT RMS IP RMS Name There are no provisioned RMS		
		Add RMS Edit RMS Delete RMS Find RMS Found RMS		
		 Check-off the associated Check Box as the RMS server is added: Primary Site: RMS-1: RMS-1: RMS-3: RMS-4: RMS-5: RMS-6: RMS-7: RMS-8: 		
		□ RMS-9: □ RMS-10:		
		Disaster Recover Site: (Optional)		
		□ RMS-1: □ RMS-2:		
		□ RMS-3: □ RMS-4:		
		RMS-5: RMS-6:		
		□ RMS-7: □ RMS-8:		
		RMS-9: RMS-10:		

Procedure 7. Add Rack Mount Servers to PMAC System Inventory

Step	Procedure	Result
4.	PMAC GUI: Enter RMS Information	Enter the RMS Name, management port (iLO) IP Address, iLO user, and iLO password of the rack mount server. Select the cabinet ID. Then press Add RMS.
5.	PMAC GUI: Check Errors	If no error is reported to the user, you will see the following: Configure RMS Thu Aug Info Thu Aug Info RMS 10.250.35.28 was added to the system. pc90000632 Add RMS Edit RMS Delete RMS Find RMS Found RMS Or you will see an error message: Image: Constant of the system of the sy
6.		Repeat Steps 2-5 of this procedure for each rack mount server to be added.

Procedure 7: Add Rack Mount Servers to PMAC System Inventory

roccure 7. Add Rack Would be very to 1 MAC System inventory		
Step	Procedure	Result
7.	Add RMS on DR PMAC server	Optional: Repeat this procedure on the Disaster Recovery PMAC Server.
		THIS PROCEDURE HAS BEEN COMPLETED

Procedure 7: Add Rack Mount Servers to PMAC System Inventory

6.7 Add Software Images to PMAC Server (All Sites)

This procedure will provide PMAC configuration using the web interface.

Needed material:

- TVOE 3.0.x Media (64-bit)
- TPD 7.0.x Media (64-bit)
- HLRR 4.1.x Application Media (64-bit)
- PMAC 6.x.x Media (64-bit)
- HP Misc Firmware 2.x.x (Min 2.2.9) ISO
- HP Hardware Firmware 2.x.x (Min 2.2.9) ISO

Requirements: Procedure 4. PMAC Deployment has been completed

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Procedure 8:	Add	Software	Images to	PMAC	Server
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Step	Procedure	Result
1.	Load TVOE ISO image to PMAC server	 There are three ways to make an TVOE ISO image available to PMAC: Insert the CD containing TVOE ISO image into the removable media drive of the management (PMAC) server (DL360 Server Only). Insert the USB containing TVOE ISO image into the management (PMAC) server (DL380 or DL360 Server. Use sftp to transfer the iso image to the PMAC server in the /var/TKLC/smac/image/isoimages/home/smacftpusr/ directory as pmacftpusr user: Change into the directory where your TVOE ISO image is located Using sftp, connect to the PMAC management server \$ sftp pmacftpusr@<pmac_management_network_ip> \$ Password: <pmacftpusr_password> \$ put <image/>.iso After the image transfer is 100% complete, close the connection \$ quit </pmacftpusr_password></pmac_management_network_ip>

Step	Procedure	Result		
2.	PMAC GUI:	Open web browser and enter: http:// <pmac_management_network_ip></pmac_management_network_ip>		
	Login to PMAC GUI	Login as pmacadmin user. Coccccc Made Aptime Login Cocccccc Coccccccc Cocccccccc Cocccccccc		
3.	PMAC GUI: Attach TVOE software image to the PMAC guest	If the image was transferred directly to the PMAC via sftp, then skip the rest of this step and continue with next step 4. If the image was supplied on a CD, continue with this step 3. 1. Navigate to this GUI page: Main Menu → VM Management 2. In the "VM Entities" list, select the PMAC guest. On the resulting "View VM Guest" page, select the "Media" tab. 3. Under the Media tab, find TVOE ISO image in the "Available Media" list, and click its "Attach" button. 4. After a pause, the image will appear in the "Attached Media" list. View VM Guest Name, pmac Host: Nations Tealows Nations		

Procedure 8: Add Software Images to PMAC Server

Step	Procedure	Result
Step 4.	Procedure PMAC GUI: Navigate to Manage Software Images	Result Navigate to this GUI page: Main Menu Image: Image:
		Administration Task Monitoring Logout

Step	Procedure	Result
5.	PMAC GUI:	Press "Add Image" button.
	Add TVOE image	Use the dropdown to select the image.
		Image Name Type Architecture Description
		There are no images in repository
		Add Image Edit Image Delete Image
		If the image was supplied on a CD, then it will appear as a virtual device ("device://dev/sr").
		If the image was transferred to PMAC via sftp it will appear in the list as a local file "/var/TKLC/".
		Images may be added from any of these sources: Tekelec-provided media in the PM&C host's CD/DVD drive (See Note)
		 USB media attached to the PM&C's host (See Note) External mounts. Prefix the directory with "extfile://". These local search paths:
		 /var/TKLC/upgrade/*.iso /var/TKLC/smac/image/isoimages/home/smacftpusr/*.iso
		Note: CD and USB images mounted on PM&C's VM host must first be made accessible to the PM&C VM guest. To do this, go to the Media tab of the PM&C guest's View VM Guest page.
		Path: /var/TKLC/smac/image/isoimages/home/smacftpusr/872-2442-107-2.0.0_80.28.1-TVOE-x86_
		Add New Image
		Aud New Illiage
		Select the appropriate path, enter an appropriate image description and press "Add New Image"
		button.

Step	Procedure	Result			
6.	PMAC GUI: Monitor the Add Image status	The "Manage Software Images" page is then re-displayed with a new background task entry in t table at the top of the page:			
		Manage Software Images The Rev 17 18/28/11 2011 UTC Ind Tooks • Ind • Tooks • Ind • Software maps tranTkL.Cupgrade872-2290-101-1 0 0_72 24.0-TVCE-488_84 iso tx11 be added in the background • The ID number finities ackins 5 Inde-5 in 0_72 24 0-4385 PD4-5 0.0_72 24 0-4385 PD4-60_40_14.1-872-2291-101-4385 Upgrade 385 PD4-60_40_14.1-872-2291-101-4385 Upgrade 385 Pd4-61 mage Edit Image Delete Image			
7.	PMAC GUI: Wait until the Add Image task finishes	 When the task is complete, its text changes to green and its Progress column indicates "100%". Check that the correct image name appears in the Status column: Manage Software Images Two Rex 17 18:81:19 Two Rex 17 18:81:19 </th			
8.	PMAC GUI: Detach the image from the PMAC guest	 If the image was transferred directly to the PMAC via sftp, then skip the rest of this step and continue with step 9 (to load TPD image) or step 10 (to load HLRR image). If the image was supplied on a CD, continue with this step 8. Return to the PMAC guest's "Media" tab as shown in Step 3, locate the image in the "Attached Media" list, and click its "Detach" button. After a pause, the image will be removed from the "Attached Media" list. This will release the virtual device for future use. Remove the CD device from the Management Server. 			

Step	Procedure	Result		
9.	PMAC GUI: Load TPD 7.0.x ISO image to PMAC server	To load TPD 7.0.x ISO image to the PMAC server by repeating steps 1 through 8 of this procedure.		
10.	PMAC GUI: Load HLRR 4.1.x ISO image to PMAC server	To load HLRR 4.1.x ISO image to the PMAC server by repeating steps 1 through 8 of this procedure.		
11.	PMAC GUI: Load PMAC 6.x.x ISO image to PMAC server	To load PMAC 6.x.x ISO to the PMAC server by repeating steps 1 through 8 of this procedure.		
12.	PMAC GUI: Load HP Misc Firmware 2.2.9 ISO image to PMAC server	To load HP Misc Firmware 2.x.x ISO to PMAC server by repeating steps 1 through 8 of this procedure.		
13.	PMAC GUI: Load HP Firmware 2.2.9 ISO image ISO image to PMAC server	Load HP Hardware Firmware 2.x.x ISO to PMAC server by repeating steps 1 through 8 of this procedure.		
14.	Add software to DR PMAC server	Optional: Repeat this procedure on the Disaster Recovery PMAC Server.		
THIS PROCEDURE HAS BEEN COMPLETED				

6.8 Configure Cisco 4948E-F Aggregation Switches using netConfig (All Sites)

This procedure will configure 4948E-F frame switches with an appropriate IOS and configuration from PMAC on management server for use with the HP RMS setup as described in [4] Network Interconnect: HLR Router 4.1, TR007162.

Procedure Reference Tables: Steps within this procedure may refer to variable data indicated by text within "\$\". Refer to this table for the proper value to insert depending on your system type.

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

Variable	Cisco 4948E-E
<switch_ios_image_file></switch_ios_image_file>	Fill in the appropriate value from [6] HP Solutions Firmware Upgrade Pack Release
<switch_prom_image_file></switch_prom_image_file>	Fill in the appropriate value from HP Solutions Firmware Upgrade Pack Release

NOTE: PMAC control network will be used for Switch management

Variable	Value
<switch_platform_username></switch_platform_username>	platcfg
<switch_platform_password></switch_platform_password>	Refer to TR006061 Password Dragon [10] for this value.
<switch_console_password></switch_console_password>	<cisco password="" telnet=""> Refer to TR006061 Password Dragon [10] for this value.</cisco>
<switch_enable_password></switch_enable_password>	<cisco enable="" password=""> Refer to TR006061 Password Dragon [10] for this value.</cisco>
<management_server_mgmt_ip_address></management_server_mgmt_ip_address>	192.168.1.4 (control IP of TVOE hosting PMAC)
<pre><pmac_mgmt_ip_address></pmac_mgmt_ip_address></pre>	192.168.1.1
<switch_mgmt_id></switch_mgmt_id>	1
<switch1a_mgmt_ip_address></switch1a_mgmt_ip_address>	192.168.1.2
<mgmt_vlan_subnet_id></mgmt_vlan_subnet_id>	192.168.1.0
<netmask></netmask>	255.255.255.0
<switch1b_mgmt_ip_address></switch1b_mgmt_ip_address>	192.168.1.3
<switch_internal_vlans_list></switch_internal_vlans_list>	1,4
<switch_mgmtvlan_id></switch_mgmtvlan_id>	1
<management_server_mgmtinterface></management_server_mgmtinterface>	control
<management_server_ilo_ip></management_server_ilo_ip>	Fill in the RMS hosting PMAC's iLO IP value
<serial console="" type=""></serial>	DL-380 uses USB = u DL 360 uses PCIe = c

Variable	Value
<pre><platefg_password></platefg_password></pre>	Refer to TR006061 Password Dragon [10] for this value.
<management_server_mgmtinterface></management_server_mgmtinterface>	192.168.1.4
<switch_backup_user></switch_backup_user>	admusr
<switch_backup_user_password></switch_backup_user_password>	Refer to TR006061 Password Dragon [10] for this value.

Needed materials:

- HP Solutions Firmware Upgrade Pack Release Notes, ref [6]
- HP Misc Firmware ISO specified in ref [6].
- Application specific documentation (documentation that is referred to this procedure)
- Template xml files are on the HLRR application ISO.

Requirements:

- Procedure 2. Install TVOE on First RMS (PMAC Host) has been completed
- Procedure 4. PMAC Deployment has been completed.
- Procedure 5: Configure PMAC Application has been completed.

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

IF THIS PROCEDURE FAILS, PLEASE CONTACT ORACLE'S CUSTOMER CARE CENTER FOR THE ASSISTANCE.

Procedure 9: Configure Cisco 4948E-F Frame Switches

Step	Procedure	Result
1.	TVOE Management Server: Access the TVOE Management Server console.	Connect to the management server console using one of the access methods described in Section 2.3 .
2.	TVOE Management Server : Log into the server as the "admusr" user.	login as: admusr Password: <i><admusr_password></admusr_password></i>
3.	TVOE Management Server: Procedure pre- check - verify hardware type	Certain steps in this procedure require enabling and disabling Ethernet interfaces. This procedure supports DL360 and DL380 servers. The interfaces that are to be enabled and disabled are different for each server type. To determine the interface name, on the server, execute the following command: \$ sudo cat /proc/net/bonding/bond0 grep Interface Slave Interface: eth01
		Slave Interface: eth02 Note the slave interface names of Ethernet interfaces to use in subsequent steps. If the output from the above command is not successful, refer back to the application documentation.

	Procedure 9:	Configure	Cisco 4948E-l	F Frame	Switches
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Step	Procedure	Result
4.	TVOE Management Server:	On management server, determine the Platform version of the system by issuing the following command:
	~~~~	\$ appRev
	Procedure pre- check –	If the following is shown in the output, the Platform version is <b>7.0.x</b> :
	determine Platform version	Install Time: Fri Dec 18 16:00:48 2015 Product Name: TVOE Product Release: 3.0.3.0.0_86.37.0 Base Distro Product: TPD Base Distro Release: 7.0.3.0.0_86.37.0 Base Distro ISO: TPD.install-7.0.3.0.0_86.37.0-OracleLinux6.7-x86_64.iso ISO name: TVOE-3.0.3.0.0_86.37.0-x86_64.iso
		If the command shows <b>Base Distro Release</b> version lower than 7.0 or fails to execute, stop this procedure and refer back to application procedures. It is possible the wrong version of TVOE/TPD is installed.
5.	TVOE Management Server:	PMAC is required to be installed prior to this procedure being attempted. Verify virtual PMAC was deployed on this management server by issuing the following command:
	Verify virtual PMAC is installed	\$ sudo virsh listall         Id       Name         State
6.	TVOE Management Server:	From TVOE management server, log into the console of the virtual PMAC instance found in step 5. <b>\$ sudo virsh console <pmac_name></pmac_name></b>
	Login to the console of the virtual PMAC.	Connected to domain vm-pmac1A Escape character is ^] < <b>Press ENTER key&gt;</b> CentOS release 6.2 (Final) Kernel 2.6.32-220.7.1.el6prerel6.0.0_80.13.0.x86_64 on an x86_64 vm-pmac1A login: <b>admusr</b> Password: Last login: Fri May 25 16:39:04 on ttyS4 If this command fails, it is likely that a virtual instance of PMAC is not installed. Refer to application documentation or contact Oracle's Customer Service.

Step	Procedure	Result
7.	Verify PMAC release version	Verify the PMAC release version. <b>\$ appRev</b> If the following is shown in the output, the PMAC version is 6.0: Install Time: Fri Dec 18 19:47:57 2015 Product Name: PM&C Product Release: 6.0.3.0.0_60.23.0 Base Distro Product: TPD Base Distro Release: 7.0.3.0.0_86.37.0 Base Distro Release: 7.0.3.0.0_86.37.0-OracleLinux6.7-x86_64.iso ISO name: PM&C-6.0.3.0.0_60.23.0-x86_64.iso OS: OracleLinux 6.7 If the output does not contain "Product Name: PM&C" or does not contain a PM&C version of 6.0 or higher, then stop this procedure and refer back to the application instructions or contact Oracle's Customer Service.
8.	Virtual PMAC: Set up netConfig repository with necessary ssh information.	<pre>\$ sudo /usr/TKLC/plat/bin/netConfigrepo addService name=ssh_service Service type? (tftp, ssh, conserver, oa) ssh Service host? 192.168.1.1 Enter an option name <q cancel="" to="">: user Enter the value for user: admusr Enter an option name <q cancel="" to="">: password Enter the value for password: <switch_backup_user_password> Verify Password: <switch_backup_user_password> Enter an option name <q cancel="" to="">: q Add service for ssh_service successful</q></switch_backup_user_password></switch_backup_user_password></q></q></pre>
9.	Virtual PMAC: Use the following command and inspect the output, which will be similar to the one shown.	<pre>\$ sudo /usr/TKLC/plat/bin/netConfigrepo showService name=ssh_service Service Name: ssh_service Type: ssh Host: 192.168.1.1 Options: password: C20F7D639AE7E7 user: admusr</pre>

Procedure 9: Configure Cisco 4948E-F Frame Switches

Procedure 9:	Configure	Cisco 4948E-F	<b>Frame Switches</b>
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Step	Procedure	Result
10.	Virtual PMAC: Use netConfig to create a repository entry that will use the tftp service.	This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user MUST modify. Other prompts that don't have a <variable> as an answer must be entered EXACTLY as they are shown here.  <b>\$ sudo /usr/TKLC/plat/bin/netConfigrepo addService name=tftp_service</b> Service type? (tftp, ssh, conserver, oa) tftp Service host? 192.168.1.1 Enter an option name (q to cancel): dir Enter a value for user dir: /var/TKLC/smac/image/ Enter an option name(q to cancel): q Add service for tftp_service successful</variable></variables>
11.	Virtual PMAC: Check that you entered the tftp information correctly.	To check that you entered the tftp information correctly, use the following command: <b>\$ sudo /usr/TKLC/plat/bin/netConfigrepo showService name=tftp_service</b> and check the output, which will be similar to the one shown below: Services: Service Name: tftp_service Type: tftp Host: 192.168.1.1 Options: dir: /var/TKLC/smac/image

Procedure 9:	Configure	Cisco	4948E-F	Frame	Switches

Step	Procedure	Result
12	Virtual PMAC:	sudo /usr/TKLC/plat/bin/conserverSetup - <serial console="" type=""> -s <tvoe_control_server_ip></tvoe_control_server_ip></serial>
	Run conserver setup command	Note: Serial Console Type Options: Quad Serial (DL360) = -c, USB (DL380) = -u
		An Example:
		\$ sudo /usr/TKLC/plat/bin/conserverSetup -u -s 192.168.1.4
		Enter your platcfg username, followed by [ENTER]:platcfg
		Enter your platcfg password, followed by [ENTER]: <platcfg_password></platcfg_password>
		Checking Platform Revision for local TPD installation
		The local machine is running:
		Product Name: PM&C
		Base Distro Release: 7.0.3.0.0_86.1.0
		Checking Platform Revision for remote TPD installation
		The remote machine is running:
		Product Name: TVOE
		Base Distro Release: 7.0.3.0.0_86.2.0
		Configuring switch 'switch1A_console' console serverConfigured.
		Configuring switch switch1B_console' console serverConfigured.
		Configuring iptables for port(s) 782Configured.
		Configuring iptables for port(s) 1024:65535Configured.
		Configuring console repository service
		Repo entry for "console_service" already exists; deleting entry for:
		Service Name: console_service
		Type: conserver
		Host: 192.168.1.4
		Configured.
		Slave interfaces for bond0:
		bond0 interface: eth01
		bond0 interface: eth02
		• If this command fails, contact My Oracle Support (MOS).
		• Verify the output of the script.
		• Verify that your Product Release is based on Tekelec Platform 7.0 (versions 7.0 x x x x x)
		• Note the slave interface names of bond interfaces ( <ethernet_interface_1> and</ethernet_interface_1>
		<pre><tete _1="" interface="" share=""> for use in subsequent steps.</tete></pre>

	Procedure 9:	Configure	Cisco 4948	<b>BE-F Frame</b>	Switches
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Step	Procedure	Result
13.	Virtual PMAC Server: Mount the HP Misc Firmware ISO	For this step, be sure to use the correct IOS version specified by the [6] HP Solutions Firmware Upgrade Pack Release Notes, Release 2.x.x (Min 2.2.9) for the Cisco 4948E-F switches.
		From a PMAC console window, ssh to the TVOE management server ip address with the command:
		ssh admusr@192.168.1.4
		Login in to the TVOE host with the admusr password.
		Insert the HP Misc Firmware USB into a slot on the primary NOAM-A (management) server. And make the firmware available to the TVOE host with the commands:
		\$ sudo /bin/ls /media/*/*.iso
		Example output: /media/sdb1/ FW2_MISC-2.2.9.0.0_10.44.0.iso
		<b>Note:</b> The HP Misc Firmware USB device is immediately added to the list of media devices once it is inserted into a USB slot on the TVOE Host server.
		<b>Note:</b> Note the device directory name under the media directory. This could be sdb1, sdc1, sdd1, or sde1, depending on the USB slot into which the media was inserted.
		Mount the HP Misc Firmware ISO with the following command:
		sudo /bin/mount -o loop /media/ <device directory="">/<iso name="">.iso /mnt/upgrade</iso></device>
		For example:
		\$ sudo /bin/mount -o loop /media/sdb1/FW2_MISC-2.2.9.0.0_10.44.0.iso /mnt/upgrade
14.	Virtual PMAC Server:	For this step, be sure to use the correct IOS version specified by [6] HP Solutions Firmware Upgrade Pack Release Notes, Release 2.x.x (Min 2.2.9) for the Cisco 4948E-F switches.
	4948E-F Switch firmware to the	Exit the TVOE management server to return to the PMAC command console.
	tftp_directory	Copy the firmware to PMAC's tftp_service directory and change the permissions of the file:
		sudo /usr/bin/scp –r admusr@192.168.1.4:/mnt/upgrade/files/<4948E_ISO_image_filename> /var/TKLC/smac/image/
		For example:
		sudo /usr/bin/scp –r admusr@192.168.1.4:/mnt/upgrade/files/cat4500e-entservicesk9-mz.122-
		54.WO.bin /var/TKLC/smac/image/
		Change the file permissions:
		<pre>\$ sudo /bin/chmod 644 /var/TKLC/smac/image/&lt;4948E_ISO_image_filename &gt;</pre>
		For example:
		\$ sudo /bin/chmod 644 /var/TKLC/smac/image/cat4500e-entservicesk9-mz.122-54.WO.bin

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Step	Procedure	Result
15.	TVOE Management Server	From a PMAC console window, ssh to the TVOE management server ip address with the command: <b>ssh admusr@192.168.1.4</b> Login in to the TVOE host with the admusr password.
		Unmount the HP Misc Firmware USB with the commands: cd / sudo umount /mnt/upgrade Exit the TVOE management server to return to the PMAC command console.
		Remove the HP Misc Firmware USB from the NOAM-A management server.

Step	Procedure	Result
Step 16.	Procedure Virtual PMAC: Setup netConfig repository with switch1A information	Result         Use netConfig to create a repository entry for switch1A. This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user MUST modify.         Other prompts that don't have a <variable> as an answer must be entered EXACTLY as they are shown here.         Note: The model should be a Cisco 4948E-F. If you do not know, stop now and contact Oracle's Customer Care Center.         \$ sudo /usr/TKLC/plat/bin/netConfigrepo addDevice name=switch1AreuseCredentials Device Vendor? Cisco         Device Model? 4948E-F         What is the IPv4 (CIDR notation) or IPv6 (address/prefix notation) address for management? 192.168.1.2/24         Is the management interface a port or a vlan? [vlan]: [Enter]         What is the VLAN ID of the management VLAN? [2]: 1         What is the switchport mode (acces trunk) for the management server? [GE40]: [Enter]         What is the switchport mode (acces trunk) for the management server port? [trunk]: [Enter]         What is the and of the firmware file [cat4500e-entservices/9-mz.122-54.WO.bin]: <ios_filename>         Firmware file to be used in upgrade: <ios_filename>         Enter the name of the upgrade file transfer service: tffn_service         Eile transfer service tffn_service</ios_filename></ios_filename></variable></variables>
		What is the switchport mode (access trunk) for the management server port? [trunk]: [Enter] What are the allowed vlans for the management server port? [1,2]: 1,4 Enter the name of the firmware file [cat4500e-entservicesk9-mz.122-54.WO.bin]: <ios_filename> Firmware file to be used in upgrade: <ios_filename> Enter the name of the upgrade file transfer service: tftp_service File transfer service to be used in upgrade: tftp_service Should the init oob adapter be added (y/n)? y</ios_filename></ios_filename>
		Should the init oob adapter be added (y/n)? y Adding consoleInit protocol for <switch_hostname> using oob What is the name of the service used for OOB access? console_service What is the name of the console for OOB access? switch1A_console What is the platform access username? platcfg What is the device console password? <switch_console_password></switch_console_password></switch_hostname>
		Verify password: < <b>switch_console_password&gt;</b> What is the platform user password? < <b>switch_platform_password&gt;</b> Verify password: < <b>switch_platform_password&gt;</b> What is the device privileged mode password? < <b>switch_enable_password&gt;</b> Verify password: < <b>switch_enable_password&gt;</b> Should the live network adapter be added (y/n)? y
		Adding cli protocol for switch1A using network Network device access already set: <b>192.168.1.2</b> Should the live oob adapter be added (y/n)? y Adding cli protocol for switch1A using oob OOB device access already set: console_service Device named switch1A successfully added.

Procedure 9: Configure Cisco 4948E-F Frame Switches

Step	Procedure	Result	
17.	Virtual PMAC: Verify switch 1A	sudo /usr/TKLC/plat/bin/netConfigrepo showDevice name=switch1A	
	configuration.	Example:	
		[admusr@chltnchlrrPMAC01 ~]\$ sudo /usr/TKLC/plat/bin/netConfigrepo showDevice name=switch1A	
		Device: switch1A	
		Vendor: Cisco	
		Model: 4948E-F	
		FW Ver: (cat4500e-ENTSERVICESK9-M), Version 12.2(54)WO	
		FW Filename: cat4500e-entservicesk9-mz.122-54.WO.bin	
		FW Service: tftp_service	
		Initialization Management Options	
		mgmtIP: 192.168.1.2/24	
		mgmtInt: vlan	
		mgmtVlan: 1	
		mgmtVlanName: default	
		interface: GE40	
		mode: trunk	
		allowedVlans: 1,4	
		Access: Network: 192.168.1.2	
		Access: OOB:	
		Service: console_service	
		Console: switch1A_console	
		Init Protocol Configured	
		Live Protocol Configured	

Procedure 9: Configure Cisco 4948E-F Frame Switches

Step	Procedure	Result
18.	Virtual PMAC:	Use netConfig to create a repository entry for switch1B. This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user MUST modify.</variables>
	Setup netConfig repository with switch1B information	Other prompts that don't have a <variable> as an answer must be entered EXACTLY as they are shown here.</variable>
		<b>Note:</b> The model should be Cisco 4948E-F. If you do not know, stop now and contact Oracle's Customer Care Center.
		\$ sudo /usr/TKLC/plat/bin/netConfigrepo addDevice name=switch1BreuseCredentials Device Vendor? Cisco
		Device Model? 4948E-F
		What is the IPv4 (CIDR notation) or IPv6 (address/prefix notation) address for management? 192.168.1.3/24
		What is the IPv4 (CIDR notation) or IPv6 (address/prefix notation) address for management? <b>192.168.1.3/24</b> Is the management interface a port or a vlan? [vlan]: <b>[Enter]</b> What is the VLAN ID of the management VLAN? [2]: <b>1</b> What is the NLAN ID of the management VLAN? [2]: <b>1</b> What is the name of the management vlan? [GE40]: <b>[Enter]</b> What is the switchport mode (access trunk) for the management server port? [trunk]: <b>[Enter]</b> What is the switchport mode (access trunk) for the management server port? [1,2]: <b>1,4</b> Enter the allowed vlans for the management server port? [1,2]: <b>1,4</b> Enter the name of the firmware file [cat4500e-entservices49-mz.122-54.WO.bin]: <b><ios_filename></ios_filename></b> Firmware file to be used in upgrade: <b><ios_filename></ios_filename></b> Enter the name of the upgrade file transfer service: <b>ftp_service</b> Should the init oob adapter be added (y/n)? <b>y</b> Adding consoleInit protocol for <switch_hostname> using oob What is the name of the service used for OOB access? <b>console_service</b> What is the name of the console for OOB access? <b>switch1B_console</b> What is the platform access username? <b>platfg</b> What is the device console password? <b><switch_console_password></switch_console_password></b> Verify password: <b><switch_platform_password></switch_platform_password></b> What is the platform user password? <b><switch_enable_password></switch_enable_password></b> Varify password: <b><switch_platform_password></switch_platform_password></b> Wari is the device privileged mode password? <b><switch_enable_password></switch_enable_password></b> Varify password: <b><switch_platform_password></switch_platform_password></b> What is the device privileged mode password?</switch_hostname>
		Should the live network adapter be added (y/n)? y Adding cli protocol for switch1B using network Network device access already set: <b>192.168.1.3</b> Should the live oob adapter be added (y/n)? y Adding cli protocol for switch1B using oob OOB device access already set: console_service Device named switch1A successfully added.

Procedure 9: Configure Cisco 4948E-F Frame Switches
Step	Procedure	Result
19.	Virtual PMAC: Verify switch 1B configuration	sudo /usr/TKLC/plat/bin/netConfigrepo showDevice name=switch1B
	configuration.	Example:
		[admusr@chltnchlrrpmac01 ~]\$ sudo /usr/TKLC/plat/bin/netConfigrepo showDevice name=switch1B
		Device: switch1B
		Vendor: Cisco
		Model: 4948E-F
		FW Ver: (cat4500e-ENTSERVICESK9-M), Version 12.2(54)WO
		FW Filename: cat4500e-entservicesk9-mz.122-54.WO.bin
		FW Service: tftp_service
		Initialization Management Options
		mgmtIP: 192.168.1.3/24
		mgmtInt: vlan
		mgmtVlan: 1
		mgmtVlanName: default
		interface: GE40
		mode: trunk
		allowedVlans: 1,4
		Access: Network: 192.168.1.3/24
		Access: OOB:
		Service: console_service
		Console: switch1B_console
		Init Protocol Configured
		Live Protocol Configured

Procedure 9: Configure Cisco 4948E-F Frame Switches

Procedure 9:	Configure	Cisco	4948E-F	Frame	Switches
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20.       Virtual PMAC: Copy switch configuration files from HLRR application ISO to the PMAC server       Copy the 4948E-F switch configuration xml files from the HLRR application ISO to 1 server.         Note: this step assumes that you have copied the HLRR application ISO to the PMAC server       Note: this step assumes that you have copied the HLRR application ISO into the PMAC repository as directed in Procedure 8: Add Software Images to PMAC Server.         Sudo mkdir -p /mnt/disk       Create temporary mount point: S sudo mount -o loop /var/TKLC/smac/image/repository/ <hr/> shlrr_application_iso>         For example: S sudo mount -o loop /var/TKLC/smac/image/repository/EXHR-4.1.0_41.2.0-x86 /mnt/disk       S sudo mount -o loop /var/TKLC/smac/image/repository/EXHR-4.1.0_41.2.0-x86 /mnt/disk         Create temporary directory, change file permissions and CD into it: S sudo achmod 777 /tmp/temp S sudo chmod 777 /tmp/temp S cd /tmp/temp       S cd /tmp/temp         Access the application RPM: S rpm2cpio /mnt/disk/Packages/TKLCexhr-4.1.0*.rpm   cpio -idmv [output not shown]       S cd /tmp/temp/usr/TKLC/exhr/xml/         Verify the xml files are in the directory: S ls -al -r-xr-xr-x 1 root root 725 Dec 21 23:43 mitch1B_HLRR_4948E_E-Finit.xml -r-xr-xr-x 1 root root 724 Dec 21 23:43 switch1B_HLRR_4948E_E-Finit.xml -r-xr-xr-x 1 root root 724 Dec 21 23:43 switch1A_HLRR_4948E_E-Finit.xml -r-xr-xr-x 1 root root 10857 Dec 21 23:43 switch1A_HLRR_4948E_E-Finit.xml -r-xr-xr-x 1 root root 10857 Dec 21 23:43 switch1A_HLRR_4948E_E-Finit.xml -r-xr-xr-x 1 root root 10857 Dec 21 23:43 switch1A_HLRR_4948E_E-Finit.xml	the PMAC AC software •/mnt/disk 6_64.iso

Trocedure 7. Configure Cisco 4740E-F Frame Switche	<b>Procedure 9:</b>	Configure	Cisco 4948E-F	Frame	Switches
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Step	Procedure	Result
21	Virtual PMAC:	Copy the xml files to PMAC's /usr/TKLC/exhr/xml/ directory:
	Copy switch configuration	<pre>\$ sudo cp -p *.xml /usr/TKLC/smac/etc/switch/xml/</pre>
	and NE files from HLRR	Note: If directory /usr/TKLC/smac/etc/switch/xml doesn't exist on the PMAC server, create it:
	application ISO	\$ sudo mkdir -p /usr/TKLC/smac/etc/switch/xml
	to the PMAC server and the	\$ sudo chmod 777 /usr/TKLC/smac/etc/switch/xml
	change file permissions	Verify all the xml files were copied:
		<pre>\$ ls -al /usr/TKLC/smac/etc/switch/xml/</pre>
		-r-xr-x 1 root root 725 Jan 29 16:02 HLRR_NOAMP_NE.xml
		-r-xr-x 1 root root 724 Jan 29 16:02 HLRR_SOAM_NE.xml
		-rw-rw-rw-1 admusr admgrp 13944 Jan 28 18:47 switch1A_HLRR_4948E_E-F_configure.xml
		-rw-rw-rw-1 admusr admgrp 1124 Jan 27 15:07 switch1A_HLRR_4948E_E-F_init.xml
		-rw-rw-rw-1 admusr admgrp 13953 Jan 28 18:47 switch1B_HLRR_4948E_E-F_configure.xml
		-rw-rw-rw- 1 admusr admgrp 1124 Jan 27 16:06 switch1B_HLRR_4948E_E-F_init.xml
		Change file permissions to read/write using the following commands:
		\$ sudo chmod 666 /usr/TKLC/smac/etc/switch/xml/*.xml
		Verify all the xml files permission were changed to read/write:
		<pre>\$ ls -al /usr/TKLC/smac/etc/switch/xml/</pre>
		-rw-rw-rw-1 root root 725 Jan 29 16:02 HLRR_NOAMP_NE.xml
		-rw-rw-rw-1 root root 724 Jan 29 16:02 HLRR_SOAM_NE.xml
		-rw-rw-rw- 1 admusr admgrp 13944 Jan 28 18:47 switch1A_HLRR_4948E_E-F_configure.xml
		-rw-rw-rw-1 admusr admgrp 1124 Jan 27 15:07 switch1A_HLRR_4948E_E-F_init.xml
		-rw-rw-rw- 1 admusr admgrp 13953 Jan 28 18:47 switch1B_HLRR_4948E_E-F_configure.xml
		-rw-rw-rw- 1 admusr admgrp 1124 Jan 27 16:06 switch1B_HLRR_4948E_E-F_init.xml
		Change out of the directory:
l		\$ cd /
		Remove the temporary directory:
		\$ sudo rm -rf /tmp/temp
		Unmount the application ISO:
I		\$ sudo umount /mnt/disk

Procedure 9:	Configure	Cisco 4948E-F	Frame	Switches
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Step	Procedure	Result		
22.	Virtual PMAC: Verify the 4928E-F's IOS image is on the system in the tftp_directory.	Verify the 4928E-F's IOS image is on the system in the tftp_directory and that the file permissions at set to read/write, read, read (644). <b>\$ sudo /bin/ls -al /var/TKLC/smac/image/</b> [admusr@chltnchlrrpmac01 xml]\$ sudo /bin/ls -al /var/TKLC/smac/image/ -rw-rr admusr admgrp 25948874 Jul 2 2015 cat4500e-entservicesk9-mz.122-54.WO.bin If the file exists and it has the correct file permission, then continue to the next step. If the file does not exist or the file permissions are not correct, repeat steps 13 and 14 of this procedure to copy the file from the firmware media and set its permissions		
22	Virtual PMAC:	Start the control network TFTP Process with the command:		
23.	Start the control network TFTP Process.	<pre>sudo /usr/sbin/in.tftpd -l -saddress=192.168.1.1 /var/TKLC/smac/image/ Verify that the process is running: ps -ef   grep tftp root 13433 1 0 Jan28 00:00:00 /usr/sbin/in.tftpd -l -saddress=192.168.1.1 /var/TKLC/smac/image/</pre>		
24.	<b>TVOE</b> <b>Management</b> <b>Server:</b> Manipulate host server physical interfaces.	Exit from the virtual PMAC console, by entering < ctrl-] > and you will be returned to the TVOE management server prompt. Ensure that the interface of the server connected to switch1A is the only interface up by performing the following commands: \$ sudo /sbin/ifup eth01 \$ sudo /sbin/ifdown eth02 \$ sudo netAdm settype=Bridgename=controlupdateMAC		
25.	TVOE Management Server: Login to the console of the virtual PMAC.	From TVOE management server, log into the console of the virtual PMAC instance from step 5. <b>\$ sudo virsh console <pmac_name></pmac_name></b> Connected to domain vm-pmac1A Escape character is ^] <b><press enter="" key=""></press></b> CentOS release 6.2 (Final) Kernel 2.6.32-220.7.1.el6prerel6.0.0_80.13.0.x86_64 on an x86_64 vm-pmac1A login: <b>admusr</b> Password: Last login: Fri May 25 16:39:04 on ttyS4 If this command fails, it is likely that a virtual instance of PMAC is not installed. Refer to application documentation or contact Oracle's Customer Service.		

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Step	Procedure	Result
26.	Virtual PMAC:	Determine if switch1A PROM upgrade is required.
	<i>(switch console session):</i> Determine if	<b>Note:</b> ROM & PROM are intended to have the same meaning for this procedure Connect to switch1A, check the PROM version.
	switch1A PROM upgrade is	Connect serially to switch1A by issuing the following command.
	required.	\$ sudo /usr/bin/console -M 192.168.1.4 -l platcfg switch1A_console
		Enter platcfg@pmac5000101's password: <b><platcfg_password></platcfg_password></b> [Enter `^Ec?' for help] Press Enter
		Password: (should be none)
		Switch> show version   include ROM ROM: 12.2(44r)SG11 System returned to ROM by reload
		<b>Note:</b> If the console command fails contact <i>My Oracle Support (MOS)</i>
		Note the IOS image & ROM version for comparison in a following step
		Check the version from the previous command against the version from [6] HP Solutions Firmware
		Upgrade Pack Release Notes, Release 2.x.x (Min 2.2.9).
		If the versions are different, perform the procedure in <i>Appendix J Upgrade Cisco 4948 PROM</i> to upgrade the PROM for switch1A.
27.	Virtual PMAC: (switch console session): Exit the switch console to the PMAC console.	Exit from the switch console by entering <b><ctrl-e><c>&lt;.&gt;</c></ctrl-e></b> and you will be returned to the PMAC server prompt.
28.	Virtual PMAC:	Prepare switch1A to be initialized and configured.
	Prepare switch1A to be	<pre>\$ sudo /usr/TKLC/plat/bin/netConfigdevice=switch1A setFactoryDefault</pre>
	configured.	Wait 10 minutes for the switch to complete its reboot process.
29.	Virtual PMAC: Initialize switch1A	Initialize switch1A by issuing the following command:
		<pre>\$ sudo /usr/TKLC/plat/bin/netConfigfile=/usr/TKLC/smac/etc/switch/xml/switch1A_HLRR_4948E_E-F_init.xml</pre>
		Processing file: /usr/TKLC/smac/etc/switch/xml/ switch1A_HLRR_4948E_E-F_init.xml
		Note: This step takes about 5-10 minutes to complete.
		Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact <i>My Oracle Support (MOS)</i> .
		A successful completion of netConfig will return the user to the \$ prompt.

<b>Procedure 9:</b>	Configure	Cisco 4948E-F	<b>Frame Switches</b>
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Step	Procedure	Result
30.	Virtual PMAC: Retrieve switch1A hostname.	Use netConfig to get the hostname of the switch, to verify that the switch was initialized properly, and to verify that netConfig can connect to the switch. <b>\$ sudo /usr/TKLC/plat/bin/netConfigdevice=switch1A getHostname</b> Hostname: switch1A
31.	Virtual PMAC: Verify the switch is using the proper IOS image.	Verify the switch is using the proper IOS image that was copied into the tftp_service directory. Issue the following commands to verify the IOS release on switch1A: <b>\$ sudo /usr/TKLC/plat/bin/netConfigdevice=switch1A getFirmware</b> Version: 122-54.XO License: entservicesk9 Flash: cat4500e-entservicesk9-mz.122-54.WO.bin
32.	Virtual PMAC: Configure switch 1A.	Configure switch 1A by issuing the following commands: \$ sudo /usr/TKLC/plat/bin/netConfig file=/usr/TKLC/smac/etc/switch/xml/switch1A_HLRR_4948E_E-F_configure.xml Processing file: /usr/TKLC/smac/etc/switch/xml/ switch1A_HLRR_4948E_E-F_configure.xml Note: This may take about 2-3 minutes to complete. Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact <i>My Oracle Support (MOS)</i> . A successful completion of netConfig will return the user to the \$ prompt.
33.	TVOE Management Server:	Exit from the virtual PMAC console, by entering < ctrl-] > and you will be returned to the TVOE management server prompt. Ensure that the interface of the server connected to switch1B is the only interface up by performing the following commands: \$ sudo /sbin/ifup eth02 \$ sudo /sbin/ifdown eth01 \$ sudo netAdm settype=Bridgename=controlupdateMAC

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Step	Procedure	Result
34.	TVOE Management Server: Login to the console of the virtual PMAC.	From TVOE management server, log into the console of the virtual PMAC instance from step 5. <b>\$ sudo virsh console <pmac_name></pmac_name></b> Connected to domain vm-pmac1A Escape character is ^] <b><press enter="" key=""></press></b> CentOS release 6.2 (Final) Kernel 2.6.32-220.7.1.el6prerel6.0.0_80.13.0.x86_64 on an x86_64 vm-PMAC1A login: <b>admusr</b> Password: Last login: Fri May 25 16:39:04 on ttyS4 If this command fails, it is likely that a virtual instance of PMAC is not installed. Refer to application documentation or contact <i>My Oracle Support (MOS)</i> .
35.	Virtual PMAC: Determine if switch1B PROM upgrade is required.	Determine if switch1B PROM upgrade is required. Note: ROM & PROM are intended to have the same meaning for this procedure Connect to switch1A, check the PROM version. Connect serially to switch1A by issuing the following command. \$ sudo /usr/bin/console -M 192.168.1.4 -l platcfg switch1B_console Enter platcfg@pmac5000101's password: <platcfg_password> [Enter `^Ec?' for help] Press Enter Password: <switch_password> Switch&gt; show version   include ROM ROM: 12.2(44r)SG11 System returned to ROM by reload Note: If the console command fails, contact <i>My Oracle Support (MOS)</i>. Note the IOS image &amp; ROM version for comparison in a following step. Check the version from the previous command against the version from [6] HP Solutions Firmware Upgrade Pack Release Notes, Release 2.x.x (Min 2.2.9). If the versions are different, perform the procedure in <i>Appendix J Upgrade Cisco 4948 PROM</i> to upgrade the PROM for switch1B.</switch_password></platcfg_password>
36.	Virtual PMAC: (switch console session): Exit the switch console to the PMAC console.	Exit from the switch console by entering <b><ctrl-e><c></c></ctrl-e></b> .> and you will be returned to the PMAC server prompt.

### Procedure 9: Configure Cisco 4948E-F Frame Switches

Step	Procedure	Result
37.	Virtual PMAC: Prepare	Prepare switch1B to be initialized and configured.
	switch1B to be	<pre>\$ sudo /usr/TKLC/plat/bin/netConfigdevice=switch1B setFactoryDefault</pre>
	configured.	Wait 10 minutes for the switch to complete its reboot process.
38.	Virtual PMAC:	Initialize switch1B by issuing the following command:
	Initialize switch1B	<pre>\$ sudo /usr/TKLC/plat/bin/netConfigfile=/usr/TKLC/smac/etc/switch/xml/switch1B_HLRR_4948E_E-F_init.xml</pre>
		Processing file: /usr/TKLC/smac/etc/switch/xml/ switch1B_HLRR_4948E_E-F_init.xml
		Note: This step takes about 5-10 minutes to complete.
		Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact <i>My Oracle Support (MOS)</i> .
		A successful completion of netConfig will return the user to the \$ prompt.
39.	Virtual PMAC: Retrieve	Use netConfig to get the hostname of the switch, to verify that the switch was initialized properly, and to verify that netConfig can connect to the switch.
	switch1B hostname.	<pre>\$ sudo /usr/TKLC/plat/bin/netConfigdevice=switch1B getHostname Hostname: switch1B</pre>
40.	Virtual PMAC:	Verify the switch is using the proper IOS image copied to the tftp_service directory.
	Verify the switch is using the	Issue the following commands to verify the IOS release on switch1B:
	proper IOS	Version: 122-54.XO
	innage.	License: entservicesk9 Flash: cat4500e-entservicesk9-mz.122-54.WO.bin
44	Virtual PMAC:	Configure switch 1B by issuing the following commands:
41.	Configure switch	\$ sudo /usr/TKLC/plat/bin/netConfig
	ID.	Processing file: /usr/TKLC/smac/etc/switch/xml/ switch1B_HLRR_4948E_E-F_configure.xml
		Note: This may take about 2-3 minutes to complete.
		Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact <i>My Oracle Support (MOS)</i> .
		A successful completion of netConfig will return the user to the prompt.

Step	Procedure	Result			
42.	Virtual PMAC: Stop the Control TFTP process.	Verify the PID of the control TFTP 192.168.1.1 process: <b>ps -ef   grep tftp</b> root 3985 1 0 20:00 00:00:00 /usr/sbin/in.tftpd -1 -saddress=10.240.241.118 /var/TKLC/smac/image/ root 3988 1 0 20:00 00:00 /usr/sbin/in.tftpd -1 -saddress=255.255.255 /var/TKLC/smac/image/ root 13433 1 0 Jan28 00:00:00 /usr/sbin/in.tftpd -1 -saddress=192.168.1.1 /var/TKLC/smac/image/ Stop the control network TFTP Process: <b>\$ sudo kill -9 <pid></pid></b> Verify the control TFTP process is stopped: <b>ps -ef   grep tftp</b> no output from the control TFTP 192.168.1.1 process should returned.			
43.	TVOE Management Server: Ensure that the interfaces of the server connected to switch1A and switch1B are up.	Exit from the virtual PMAC console, by entering < ctrl-] > and you will be returned to the TVOE management server prompt. Ensure that the interfaces of the server connected to switch1A and switch1B are up by performing the following commands: \$ sudo /sbin/ifup eth01 \$ sudo /sbin/ifup eth02 \$ sudo netAdm settype=Bridgename=controlupdateMAC			
<b>44</b> .	Configure the switches on DR Site	Optional: Repeat this procedure on the Disaster Recovery System Switches.			
<b>45</b> .	Perform Appendix	<i>K Backup Cisco 4948E-F Aggregation Switch</i> for each switch configured in this procedure.			
	THIS PROCEDURE HAS BEEN COMPLETED				

Procedure 9: Configure Cisco 4948E-F Frame Switches

## 6.9 Install TVOE on all Rack Mount Servers (All Sites)

This procedure installs TVOE 3.0 on a Rack-Mount Server (RMS) to the PMAC system inventory.

Every physical server must have TVOE 3.0 installed on it. The Management Server hosts the PMAC and NOAM-A "logical" servers running in VMs. It should already have TVOE 3.0 installed on it, which was done in Procedure 2.

All other rack mount servers (RMS) need to have TVOE installed on them by using this procedure.

Note: You do not need to run this procedure for any "logical" server (or VM) that co-exists on the same RMS as the PMAC VM. For example, if PMAC and NOAM-A run on the same RMS, you do NOT need to run this procedure for RMS-1 (management server).

#### **Requirements:**

- Procedure 6: Add Cabinet to PMAC System Inventory has been completed.
- Procedure 8: Add Software Images to PMAC Server has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

### Procedure10: Install TVOE on all Rack Mount Servers

Step	Procedure	Result			
1.	PMAC GUI:	Open web browser and enter: http:// <pmac_management_network_ip></pmac_management_network_ip>			
	Login to PMAC GUI	Login as <b>pmacadmin</b> user.			
		ORACLE'			
		Oracle System Login toe Hoh 2 20:34-34 2016 UTC			
		Log In Enter your osemerne and password to log in			
		Sension was logged out at 3:3d:38 pm.			
		Password.			
		Log In			
		Removed to the system as post-black burdle second by the descent by Charles 11 years are not an increased decrement 1 000			
		Chauthorized access is prohibited. This Charle system requires the care of Microsoft kiteried protoer 80,000, m 10 System System for University Indicatives.			
		Create and Anna are experient to stream as of Charter Corporation and the Annales. Other corporations may be independent of their respective corporation.			
		Copport 02770 2010, Date and A shades A shades at spice convers			

Step	Procedure			Resu	lt				
2.	PMAC GUI: Select server for TVOE 3.0 install Attention! Do NOT run this	Navigate to the GUI page: Software → Software Inventory.  Main Menu  Hardware  Software  Software  Software							
	step for the RMS that hosts the PMAC (Management Server)	Select the RMS servers you want to IPM. If you want to install the same TVOE image to one RMS server, you may select multiple servers by clicking multiple rows individually. rows will be highlighted in green.							
		Ident IP Address Hostname Plat Name Plat Version App Name App Ver					App Ver:		
		RMS: <u>iLO-pc9000630</u>							
		Install OS	Upgrade Ref	resh					

Procedure10: Install TVOE on all Rack Mount Servers

Step	Procedure	Result
3.		Record the server name that is IPM'ed in the space provided below:
		Primary Site:
		□ RMS-2:
		□ RMS-3: □ RMS-4:
		RMS-5:      RMS-6:
		□ RMS-7: □ RMS-8:
		□ RMS-9: □ RMS-10:
		Disaster Recovery Site:
		□ RMS-2:
		□ RMS-3: □ RMS-4:
		□ RMS-5: □ RMS-6:
		□ RMS-7: □ RMS-8:
		□ RMS-9: □ RMS-10:

## Procedure10: Install TVOE on all Rack Mount Servers

Step	Procedure			Result				
<b>4</b> .	<b>PMAC GUI:</b> Initiate TVOE 3.0 OS Install	The left side of this screen shows the servers to be affected by this OS installation. From the list of available bootable images on the right side of the screen, select TVOE 3.0 OS image to install on the selected server.						
	Attention! Do NOT run this step for the	Software Tostall -	Select Imag	let			Τ.	
	RMS that hosts	Targets		Select image				
	the PMAC	Entity	Status	image Name	Type	Architecture	Description	
	<mark>(Management</mark>	RVS: chilnchimspam01bt		872 2525 101 2.5.2_82 31.0 TVOE x85_64	Boolable	#86_64		
	<mark>Server)</mark>			110 mstall-5.5.7 (12.01 0-Cont035 5-s18) 84	Boolshie	s18-84		
				TFD.install 7.0.3.0.0_86.37.0 OracioLinux6.7 xit6_64	Doctshie	s18-84		
				IVER AVOIND DIRECT CHERK RM	Hodable	415-64		
				Su	pply Softwa	oso are install Arg	juments (Optional)	
					7	Stari Sofwara I	hand	
I		Click on Start So	ftware Inst	all button then a confirmation	n windov	w will por	מוו מ	
		Click on <b>Ok</b> butto	n to proceed	l with the install.			, <u></u> L	
			•					

### Procedure10: Install TVOE on all Rack Mount Servers

Step	Procedure				Result			
5.	<b>PMAC GUI:</b> Monitor OS Install and wait until complete	<ul> <li>Navigate to this GUI page Main Menu → Task Monitoring to monitor the progress of the OS installation background task.</li> <li>A separate task will appear for each RMS.</li> </ul>						
	Attention! Do	D	Task	Target	Status	<b>Running Time</b>	Start Time	Progress
	NOT run this sten for the	14	install OS	Enc. <u>10101</u> Bay: <u>15F</u>	Boot Install Image	0:00:01	2011-09-20 11:12:02	90%
	RMS that hosts	13	install OS	Enc: <u>10101</u> Bay: <u>8F</u>	Boot install image	0:00:01	2014-09-20 11:12:02	90%
	the PMAC (Management	12	install OS	Enc: <u>10101</u> Bay: <u>7F</u>	Boot install image	0:00:01	2014-09-20 11:12:02	50%
	Server)	11	install OS	Enc. <u>10101</u> Bay: <u>25</u>	Boot Install Image	0:00:01	2014-08-20 11:12:02	90%
		10	install OS	Enc. <u>10101</u> Bay. <u>1F</u>	Boot Install Image	0:00:02	2014-08-20 11:12:01	90%
		<b>3</b> 9	Add Image		Hone: 1P1Linatal 5.101 72.200 Cent055.6-x85_64	0:00:09	2014-09-20 11:01:50	100%
		When "100% 1598 Wait t	the installation 6". Install OS Intil all TVO	E OS Installs are 1	Done: TVOE1.0.0_72.28.087 2290-101x86_64 00% complete and the p	en and the P ⁷²⁻ 0:16:06 procedure is	finished.	r will indicate
6.	Repeat Steps 2-5 for each rack mount server. These steps can be run on multiple servers in parallel to save time.							
7.	Optional: Repeat this procedure on the Disaster Recovery Servers.							
			THIS P	ROCEDURE HA	AS BEEN COMPLETE	D		

Procedure10: Install TVOE on all Rack Mount Servers

# 6.10 Configure TVOE Host's Network on all Rack Mount Servers (All Sites)

This procedure will configure Network on the Rack Mount Servers that will host HLR Router VMs. It details the configuration for a single Rack Mount Server (RMS) and should be repeated for every RMS.

#### Requirements: Procedure10: Install TVOE on all Rack Mount Servers has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
1.	PMAC GUI: Login to PMAC	Open web browser and enter: http:// <pmac_management_network_ip></pmac_management_network_ip>
	GUI	<image/>



Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
3.	Management Server:	Using an SSH client such as putty, ssh to the pmac_management_network_ip using admusr credentials.
	SSH into the Management Server	
<b>4</b> .	<b>PMAC Server:</b> Log into server as the "admusr" user.	login as: <b>admusr</b> Password: < <i>admusr_password</i> >
5.	PMAC Server:	SSH to each RMS with admusr credentials using the <rms address="" control="" ip=""> from Step 2 of this procedure.</rms>
	SSH into each RMS Server	Check off each server from the list after steps 6-29 are completed:
	Attention! Do NOT run this step for RMS-1 which hosts the PMAC (Management Server)	Primary Site:         RMS-2:         RMS-3:       RMS-4:         RMS-5:       RMS-6:         RMS-7:       RMS-8:         RMS-9:       RMS-10:         Disaster Recovery Site: (Optional)       RMS-2:         RMS-3:       RMS-4:         RMS-5:       RMS-6:         RMS-7:       RMS-6:         RMS-7:       RMS-6:         RMS-7:       RMS-6:
		RMS-5:       RMS-6:         RMS-7:       RMS-8:         RMS-9:       RMS-10:

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Procedure 11:	Configure TVOE Host's Network on all Rack Mount Servers	
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Step	Procedure	Result
6.	RMS server:	Verify the control network by running the following command:
	Verify/create the Control Network	<i>Note:</i> The output below is for illustrative purposes only, and shows the "control" bridge fully configured.
		<pre>\$ sudo netAdm querytype=Bridgename=control Bridge Name: control On Boot: yes Protocol: none IP Address: 192.168.1.5 Netmask: 255.255.25.0 Promiscuous: no Hwaddr: d8:9d:67:1c:bc:84 MTU: 1500 Delay: 4 Bridge Interface: bond0 Bond0 is created by default when TVOE is installed on the server so the control bridge should have been configured; if so then skip to the next step. It bond0 is missing, create the control network bond0 and assign eth01 and eth02 to it: Example: \$ sudo netAdm adddevice==bond0onboot=yestype=Bondingmode=active-backup miimon=100 Interface bond0 added \$ sudo netAdm setdevice=eth01type=Ethernetmaster=bond0slave=yesonboot=yes Interface eth01 updated \$ sudo netAdm setdevice=eth02type=Ethernetmaster=bond0slave=yesonboot=yes Interface eth02 updated</pre>
		\$ sudo netAdm addtype=Bridgename=controlbootproto=dhcponboot=yes bridgeInterfaces=bond0

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
7.	RMS server: Add the Internal Network Management interface bridge on bond0.4	Create Internal Management Interface bridge \$ sudo netAdm adddevice=bond0.4 Interface bond0.4 added \$ sudo netAdm addname=imitype=BridgebridgeInterface=bond0.4 Interface bond0.4 updated Verify the imi network by running the following command \$ sudo netAdm querytype=Bridgename=imi Bridge Name: imi On Boot: yes Protocol: none IP Address: Netmask: Promiscuous: no Hwaddr: 98:4b:e1:74:26:4c MTU: Bridge Interface: bond0.4

Step	Procedure	Result
Step 8.	Procedure DL360 Servers Only RMS server: Add the External Management Interface (XMI) bridge on bond 1	Result         Execute this step for DL360 servers only. For DL380 servers skip to step 9.         Create External Management Interface bridge         \$ sudo netAdm adddevice=bond1         Interface bond1 added         \$ sudo netAdm setdevice=eth11master=bond1slave=yesonboot=yes         -bootproto=none         Interface eth11 updated.         Interface eth11 updated         \$ sudo netAdm setdevice=eth12master=bond1slave=yesonboot=yes         -bootproto=none         Interface eth11 updated         \$ sudo netAdm setdevice=eth12master=bond1slave=yesonboot=yes         -bootproto=none         Interface eth12 updated         \$ sudo netAdm addname=managementtype=BridgebridgeInterface=bond1         Setting up the bridge and unsetting network info         Interface bond1 was updated.         Bridge management added!         Verify the management network by running the following command:         \$ sudo netAdm querytype=Bridgename=management         Bridge Name: management
		Verify the management network by running the following command: <b>\$ sudo netAdm querytype=Bridgename=management</b> Bridge Name: management On Boot: yes Protocol: none IP Address: Netmask: Promiscuous: no Hwaddr: ac:16:2d:99:45:84 MTU: 1500 Delay: 4 stp: on Bridge Interface: bond1

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
9.	DL380 Servers Only	Execute this step for DL380 servers only. For DL360 servers return to step 8.
	DMG	Create External Management Interface bridge
	<b>RMS server:</b>	\$ sudo netAdm adddevice=bond1
	Add the External	Interface bond1 added
	Interface (XMI)	\$ sudo netAdm setdevice=eth03master=bond1slave=yesonboot=yes
	bridge on bond 1	bootproto=none
		Interface eth03 was updated.
		\$ sudo netAdm setdevice=eth04master=bond1slave=yesonboot=yes
		bootproto=none
		Interface eth04 was updated.
		Interface eth04 updated
		\$ sudo netAdm addname=managementtype=BridgebridgeInterface=bond1
		Setting up the bridge and unsetting network info
		Interface bond1 was updated.
		Bridge management added!
		Verify the management network by running the following command:
		\$ sudo netAdm querytype=Bridgename=management
		Bridge Name: management
		On Boot: yes
		Protocol: none
		IP Address: Netmask:
		Promiscuous: no
		Hwaddr: ac:16:2d:99:45:84
		MTU: 1500
		Delay: 4
		stp: on
		Bridge Interface: bond I
		1

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
10.	RMS server:	Set XMI management bridge IP address:
	Assign IP address to the XMI/	<b>Note:</b> The output below is for illustrative purposes only. The NAPD information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure.
	management network	<u>Syntax:</u> \$ sudo netAdm setname=managementtype=Bridgeaddress= <xmi management_ip<br="">address&gt;netmask=<netmask></netmask></xmi>
		<u>Example:</u>
		<pre>\$ sudo netAdm setname=managementtype=Bridgeaddress=10.240.37.2netmask=255.255.255.224 Interface bond1 was updated. Setting up the bridge and unsetting network info Interface bond1 was updated. Bridge management updated!</pre>
		Verify the management network bridge by running the following command:
		<pre>\$ sudo netAdm querytype=Bridgename=management Bridge Name: management On Boot: yes Protocol: none IP Address: 10.240.37.2 Netmask: 255.255.255.224 Promiscuous: no Hwaddr: ac:16:2d:99:45:84 MTU: 1500 Delay: 4 stp: on Bridge Interface: bond1</pre>

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

11000	dure III. Configure	
Step	Procedure	Result
11.	RMS server:	Add the default route on the management network.
	Set management bridge default route	<b>Note:</b> The output below is for illustrative purposes only. The NAPD information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure.
		<u>Syntax:</u>
		\$ sudo netAdm addroute=defaultgateway= <mgmt_gateway_address> device=<tvoe_managament_bridge></tvoe_managament_bridge></mgmt_gateway_address>
		<u>Example:</u>
		\$ sudo netAdm addroute=defaultgateway=10.250.43.161device=management Route to management added
		Verify the management network by running the following command
		\$ sudo netAdm queryroute=defaultdevice=management Routes for TABLE: main and DEVICE: management
		* NETWORK: default
		GATEWAY: 10.250.43.161
12.	DL360 RMS server:	This step is for DL360 RMS servers that are hosting an MP. If the server is a DL380 hosting an MP, then skip to step 14.
	Add XSI1 bridge on MP	Create External Signaling Interface bridge xsi1: <b>\$ sudo netAdm addname=xsi1type=BridgebridgeInterface=eth13</b> Interface xsi1 added
	Note: Only run this step on DL360 RMS	Verify the xsi1 network is running:
	<mark>servers that are</mark> hosting an MP.	\$ sudo netAdm querytype=Bridgename=xsi1 Bridge Name: xsi1
		On Boot: yes
		Protocol: none
		IP Address:
		Netmask:
		Promiscuous: no
		Hwaddr: e8:39:35:0f:42:ac
		MTU:
		Bridge Interface: eth13

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
13.	DL360 RMS server:	This step is for DL360 RMS servers that are hosting an MP. If the server is a DL380 hosting an MP, then skip to step 14.
	Add XSI2 bridge on MP	Create External Signaling Interface bridge xsi2: <b>\$ sudo netAdm addname=xsi2type=BridgebridgeInterface=eth14</b> Interface xsi2 added
	Note: Only run this step on DL360 RMS Servers that are	Verify the xsi2 network is running: \$ sudo netAdm querytype=Bridgename=xsi2
	<mark>hosting an MP</mark> .	Bridge Name: xsi2
		On Boot: yes
		Protocol: none
		IP Address.
		Promiscuous: no
		Hwaddr: e8:39:35:0f:42:ac
		MTU:
		Bridge Interface: eth14
14.	<mark>DL380 RMS</mark> server:	This step is for DL380 RMS servers that are hosting an MP. If the server is a DL360 hosting an MP, then return to step 12.
	Add XSI bridge on MP	Create External Signaling Interface bridge xsi1: <b>\$ sudo netAdm addname=xsi1type=BridgebridgeInterface=eth05</b> Interface xsi1 added
	Note: Only run this step on DL380 RMS	Verify the xsi1 network is running:
	servers that are hosting an MP.	\$ sudo netAdm querytype=Bridgename=xsi1 Bridge Name: xsi1
		On Boot: yes
		Protocol: none
		Netmask
		Promiscuous: no
		Hwaddr: e8:39:35:0f:42:ac
		MTU:
		Bridge Interface: eth05

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
15.	DL380 RMS server:	This step is for DL380 RMS servers that are hosting an MP. If the server is a DL360 hosting an MP, then return to step 12.
	Add XSI2 bridge on MP	Create External Signaling Interface bridge xsi2: <b>\$ sudo netAdm addname=xsi2type=BridgebridgeInterface=eth06</b> Interface xsi2 added
	Note: Only run this step on DL380 RMS	Verify the xsi2 network is running:
	Servers that are hosting an MP.	\$ sudo netAdm querytype=Bridgename=xsi2 Bridge Name: xsi2
		On Boot: yes
		Protocol: none
		IP Address:
		Netmask:
		Promiscuous: no
		Hwaddr: e8:39:35:0f:42:ac
		MTU:
		Bridge Interface: eth06
16.	DL380 RMS server:	Optional: XSI-3 (DL380 Only)
	Add VS3 bridge	This step is for DL380 RMS servers that are hosting an MP.
	on MP	Construction 1 Simultane Interferent heiden en eine
		sudo netAdm addname=xsi3type=BridgebridgeInterface=eth07
	Note: Only run this step on	Interface xsi4 added
	bL300 KMS servers that are hosting an MP.	Verify the xsi3 network is running:
		\$ sudo netAdm querytype=Bridgename=xsi3 Bridge Name: xsi3
		On Boot: yes
		Protocol: none
		IP Address:
		Netmask:
		Promiscuous: no
		Hwaddr: e8:39:35:0f:42:ac
		Bridge Interface: eth0 /

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
17.	<mark>DL380 RMS</mark> server:	Optional: XSI-4 (DL380 Only)
	Add XS4 bridge on MP Note: Only run this step on DL380 RMS servers that are hosting an MP.	This step is for DL380 RMS servers that are hosting an MP. Create External Signaling Interface bridge xsi4: \$ sudo netAdm addname=xsi4type=BridgebridgeInterface=eth08 Interface xsi4 added Verify the xsi4 network is running: \$ sudo netAdm querytype=Bridgename=xsi4 Bridge Name: xsi4 On Boot: yes Protocol: none IP Address: Netmask: Promiscuous: no Hwaddr: e8:39:35:0f:42:ac MTU: Bridge Interface: eth08
18.	<b>RMS Server:</b> Setup Syscheck	Note: syscheck must be configured to monitor bonded interfaces. Replace "bondedInterfaces" with "bond0" or "bond0,bond1" if segregated networks are used: \$ sudo syscheckAdm net ipbondsetvar=DEVICESval=bond0,bond1 \$ sudo syscheckAdm net ipbond -enable \$ sudo syscheck -v net ipbond

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
19.	<b>RMS Server:</b>	Set the server hostname:
	Set Hostname	\$ sudo su – platcfg
		1. Navigate to Server Configuration ➤ Hostname
		Server Configuration Menu Hostname Designation/Function Configure Storage Set Clock Time Zone Exit 2. Select Edit
		3. Set TVOE Management Server hostname
		<ul><li>4. Press OK.</li><li>5. Navigate out of Hostname</li></ul>
20.	<b>RMS Server:</b>	Set the time zone and/or hardware clock:
	Set Time Zone and/or Hardware Clock	1. Navigate to <i>Server Configuration</i> ➤ <i>Time Zone</i>
		Server Configuration Menu Hostname Designation/Function Configure Storage Set Clock Time Zone Exit
		<ol> <li>Select Edit.</li> <li>Set the time zone and/or hardware clock.</li> <li>Press OK.</li> <li>Navigate out of Server Configuration</li> </ol>

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
21.	RMS Server:	Configure SNMP trap destination:
	Configure SNMP trap destination See the NAPD documention for SNMP specifics.	1. Navigate to Network Configuration ➤ SNMP Configuration ➤ NMS Configuration. SNMP Configuration SNMP Community Strings Exit
		<ol> <li>Select Edit and then choose 'Add a New NMS Server'.</li> <li>The 'Add an NMS Server' page will be displayed.</li> </ol>
		Add an NMS Server IP. Hostname or IP: Port: SNMP Community String: Cancel Cancel 4. Complete the form by entering NMS server IP, Port (default port is 162) and community string provided by the customer about the SNMP trap destination. 5. Select OK to finalize the configuration. 6. The 'NMS Server Action Menu' will now be displayed. 7. Select Exit. The following dialogue will then be presented:
		<ul> <li>Modified an NMS entry in snmp.cfg file:</li> <li>Do you want to restart the Alarm Routing Service?</li> <li>Yes No</li> <li>Yes No</li> <li>Yes and then wait a few seconds while the Alarm Routing Service is restarted.</li> <li>Select Yes and then wait a few seconds while the Alarm Routing Service is restarted.</li> <li>At that time the SNMP Configuration Menu will be presented.</li> </ul>

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Step	Procedure	Result
22.	RMS Server:	Configure NTP servers:
	Configure NTP	1. Navigate to Network Configuration ➤ NTP.
		Network Configuration Menu SNMP Configuration Network Interfaces Configure Network Network Bridges Routing NTP IPSEC Configuration Modify Hosts File Exit
		<ul> <li>a. Press OK.</li> <li>4. Navigate out of Network Configuration</li> <li>5. Exit platefg.</li> </ul>
23.	RMS Server:	Set time based on NTP server:
	set server time	5 sudo service ntpd stop \$ sudo ntpdate ntpserver1 \$ sudo service ntpd start

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Proce	Procedure 11: Configure 1 vOE Host's Network on all Rack Mount Servers		
Step	Procedure	Result	
24.	RMS Server:	Reboot the server:	
	Reboot the server	\$ sudo init 6	
		Wait until the reboot completes and re-login with TVOE admusr credentials.	
25.	<b>RMS Server:</b>	Verify server health:	
	Verify server health	\$ sudo alarmMgr -alarmStatus	
		Note: This command should return no output on a healthy system. If any alarms are reported, please	

stop and contact Oracle's Customer Care Center before continuing.

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

Procedure 11: (	Configure TVOE Host's Network on all Rack Mount Servers
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for an instant.
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e filename of a
f

Step	Procedure	Result
27.	Customer Server SSH: Copy backup image to the customer server	Login to the customer server and copy backup image to the customer server where it can be safely stored.
28.	Repeat Steps 5 -27 for each rack mount server.	
29.	Optional: Repeat this procedure on the Disaster Recovery Servers.	
THIS PROCEDURE HAS BEEN COMPLETED		

Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers

## 6.11 Create, IPM and Install Application on all Virtual Machines (All Sites)

This procedure will create Virtual Machines (VMs) on the Rack Mount Servers, install the TPD operating system on each VM, and then install the HLRR 4.1 application on each VM. It details the create/IPM/install for a single VM and should be repeated for every VM.

#### Requirements: Procedure 11: Configure TVOE Host's Network on all Rack Mount Servers has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Procedure 12: Create, IPM and Install Application on all Virtual Machines

Step	Procedure	Result			
1.	PMAC GUI:	Open web browser and enter: http:// <pmac_management_network_ip></pmac_management_network_ip>			
	Login to PMAC GUI	Login as <b>pmacadmin</b> user.			
		ORACLE			
		Oracle System Login Techt 1 20:04:09 1016 LTC			
		Log in         Enter your usermanic and password to log in         Secure was legged ast at SCHEDeper         Usermanic:         Password.         Carge survey         Log in         Carge survey         Carge survey         Usermanic:         Carge survey         Carge survey         Usermanic:         Carge survey         Carge sur			
	PMAC GUI:	Navigate to this GUI page: Main Menu → VM Management			
2.	Navigate to VM Management menu	<ul> <li>Main Menu</li> <li>Hardware</li> <li>Software</li> <li>MM Management</li> <li>Storage</li> <li>Administration</li> <li>Task Monitoring</li> <li>Logout</li> </ul>			

Step     Procedure       3.     PMAC GUI:     Select the TVOE rack mounted s       Select the     The selected server's guest mach	Result
3.     PMAC GUI:     Select the TVOE rack mounted s       Select the     The selected server's guest mach	
desired Rack Mount Server (RMS) and create the VM Guest       Virtual Machine Management         Virtual Machine Management       View VM Host         Virtual Machine Management       View VM Host         Guest       Virtual Machine Management         Virtual Machine Management       View VM Host         Guest       View VM Host         Image: State S	<pre>ver from the "VM Entities" listing on the left side of the screen. e configuration will then be displayed.</pre>
Record the VM Guest Name of e	ch VM in the space provided in step 4.

Procedure 12: Create, IPM and Install Application on all Virtual Machines

Step       Procedure       Result         4.       Check off each VM as it is       Check-off the associated Check Box as each VM is completed and record the V each VM in the space provided.	
4. <i>Check off each</i> <i>VM as it is</i> <i>varmelated Check-off the associated</i> <b>Check Box</b> <i>as each</i> VM <i>is completed and record the</i> <b>V</b>	
I COMPLETE COMPLETE	VM Guest Name of
Primary Site:	
□ NOAM-A: □ NOAM-B:	
SOAM-A: SOAM-B:	
QS-1: MP-1:	
□ MP-2: □ MP-3:	
□ MP-4: □ MP-5:	
Disaster Recovery Site: (Optional)	
□ NOAM-A: □ NOAM-B:	
SOAM-A: SOAM-B:	
QS-1: MP-1:	
□ MP-2: □ MP-3:	
□ MP-4: □ MP-5:	

Procedure 12: Create, IPM and Install Application on all Virtual Machines

Step	Procedure	Result	
5.	<b>PMAC GUI:</b> Click on the <b>Import Profile</b> dialogue button	A "Create VM Guest" window is displayed that is similar to the below:	
		Create VM Guest Name: Host: RMS: pc9000738  On	
		VM Info         Num vCPUs:       Image: Comparison of the state of th	
		Virtual Disks     Add     Delete       Prim Size (MB)     Host Pool     Host Vol Name     Guest Dev Name       Image: Comparison of the state of t	
		Virtual NICs Add Delete Host Bridge Guest Dev Name	
		control control	
		Create Import Profile	
		Click "Import Profile" button .	

Procedure 12: Create, IPM and Install Application on all Virtual Machines
Procedure 12:	Create, IPM and Insta	ll Application on all	Virtual Machines
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Step	Procedure	Result	
6.	PMAC GUI:	Select the desired ISO/Profile.	
Select the - If creating a VM for a NOAM, SOAN		- If creating a VM for a NOAM, SOAM or Query Server, on a HP DL360, use the profile:	
	desired <b>ISO/Profile</b> value	"EXHR-4.1.0_41.x.0-86_64=> HLRR_NO_SO_QS"	
	- If creating a VM for an MP server on a HP DL360, use the profile:		
		"EXHR-4.1.0_41.x.0-86_64=> HLRR_MP"	
		- If creating a VM for a NOAM, SOAM or Query Server, on a HP DL380 (Gen9), use the profile:	
		"EXHR-4.1.0_41.x.0-86_64=> HLRR_GEN9_NO_SO_QS"	
		- If creating a VM for an MP server on a HP DL380 (Gen9), use the profile:	
		"EXHR-4.1.0_41.x.0-86_64=> HLRR_GEN9_MP"	
		Import Profile 🛛	
		ISO/Profile: 872-2696-101-4.0.0 40.6.0-EXHR-x86 64 => HLRR NO SC -	
		Num CPUs:12 Memory (MBs):36864	
		Virtual Disks: Prim Size (MB) Pool TPD Dev	
		✓ 409600 vgguests	
		NICs: Bridge TPD Dev	
		control control	
		imi imi 🗏	
		manageme xmi 🔻	
		Select Profile	
		Click on Select Profile button	

Step	Procedure	Result
Step           7.	Procedure         PMAC GUI:         Override the VM         Guest Name to         make it unique         for the site	Result         A "Create VM Guest" window is displayed that is similar to the below.         Image: NOA         Image: Noa
		Click <b>"Create"</b> button
8.	PMAC GUI:	Verify that the Virtual Machine successfully created.
	Verify that Create VM task successfully completes.	6       VirtAction: Create       RMS: chltnchlrmoam01at       Guest creation completed       COMPLETE       0:00:08       2014.11-21       100%         The user should see a screen similar to above with a <b>Progress</b> value of <b>100%</b> .

Procedure 12: Create, IPM and Install Application on all Virtual Machines

Step	Procedure	Result
9.	PMAC GUI:	Select the VM Guest Name from the VM Entities list, and click Install OS button
	Install the TPD operating system on the VM.	View VM Guest       Name. chitnchirmoam01a       Current Power State. Running         Terfredit       Q       Name. chitnchirmoam01a       On       Change         • • RMS: chitnchirmoam01at       On       Change       Change         • • RMS: chitnchirmoam01at       Willing       Software       Nework       Nede         • • RMS: chitnchirmoam01at       Willing       Software       Nework       Nede         • • RMS: chitnchirmoam01at       Willing       Software       Nework       Nede         • • RMS: chitnchirmoam01at       Num vCPUs. 12       Num vCPUs. 12       Memory (WBs): 36,854       Num UUD, 7f728924-a808-4#d8-888db-08947b547104         • • RMS: chitnchirmoam01at       Virtual Watchdog: V       Virtual Watchdog: V       Virtual Ulsks
		Pri Store (MID) Und Peril Real Vel Huma Gravel Day Name
		Virtual NICs     Host Bridge     Guest Dev Name     NAC Addr       control     control     02 54:00 30:5are1       min     min     22 54:00 30:54:20       management     amil     02 54:00 80:c4:20
10.	<b>PMAC GUI:</b> Select the TPD	Select the desired TPD image (highlighted in green), and click Start Software Install button.
	7.0.x image and start installing	Jmage Name
	TPD	111age Name Type Architecture Description
		TPD install-6.5.2, 82.31.0-CentOS6.5-x86, 64, Bootable x86, 64
		TPD.install-7.0.3.0.0_86.37.0-OracleLinux6.7- x86_64 x86_64
		TVOE-3.0.3.0.0_86.37.0-x86_64 Bootable x86_64
		Start Software Install

Procedure 12: Create, IPM and Install Application on all Virtual Machines

Step	Procedure	Result
11.	<b>PMAC GUI:</b> Monitor the Install OS task and wait until it successfully completes.	Navigate to this GUI page Main Menu → Task Monitoring to monitor the progress of the OS installation task.         A separate task will appear for each VM guest affected         When the installation is complete, the task will change to green and the Progress field will indicate "100%".         7       Install OS         RMS: chlttch/rmoam01at       Done: TPD.install-6.5.2_82.31.0- Guest: chlttch/rmoam01at       COMPLETE       0:14:44       2014-11-21 14:34:21       100%
12.	PMAC GUI: Record control IP address of each VM Guest	Guest chinchmoandia (Cent0565.886.64       Intering the day of the day

Procedure 12: Create, IPM and Install Application on all Virtual Machines

11000	dure 12. Create, II	wi and instan Application on an vir	
Step	Procedure		Result
13.	PMAC GUI:	Determine control IP address of each	VM Guest and record it below.
	Record control IP address of	Primary Site:	
	each VM Guest	□ NOAM-A:	□ NOAM-B:
		SOAM-A:	SOAM-B:
		QS-1:	MP-1:
		□ MP-2:	☐ MP-3:
		□ MP-4:	☐ MP-5:
		Disaster Recovery Site: (Optional)	
		□ NOAM-A:	□ NOAM-B:
		SOAM-A:	SOAM-B:
		QS-1:	MP-1:
		☐ MP-2:	MP-3:
		□ MP-4:	☐ MP-5:
		1	

Procedure 12: Create, IPM and Install Application on all Virtual Machines

Step	Procedure		Result	
14.	Virtual PMAC server SSH:	From PMAC server console, open SSH session to the VM Guest using admusr credentials and the <vm address="" control="" guest="" ip=""> obtained from Step 13 of this procedure.</vm>		
	SSH into the VM Guest	\$ ssh <vm address="" control="" guest="" ip=""></vm>		
	Record initial	Determine initial hostname of each VM Guest and record it below.		
	hostname of each VM Guest	Primary Site:		
		□ NOAM-A:	□ NOAM-B:	
		SOAM-A:	SOAM-B:	
		QS-1:	MP-1:	
		☐ MP-2:	☐ MP-3:	
		☐ MP-4:	□ MP-5:	
		Disaster Recovery Site: (Optional)		
		□ NOAM-A:	□ NOAM-B:	
		SOAM-A:	SOAM-B:	
		QS-1:	MP-1:	
		☐ MP-2:	□ MP-3:	
		☐ MP-4:	☐ MP-5:	
15.	PMAC GUI:	UI:Verify that initial hostname on each VM Guest is unique and correct.t the tname M niqueIf any two or more VM Guests on a site have identical hostnames, then delete and re-create the duplicate VM Guest as shown in steps 3-11 of this procedure. Otherwise continue to the next step.		
	Verify that the initial hostname of each VM Guest is unique			

Procedure 12: Create, IPM and Install Application on all Virtual Machines

Step	Procedure			Result			
16 PMAC GUI: Select the VM Guest Name from			me from the	VM Entities list,	and click "Upgrad	de" button	
	Install the HLRR 4.1 application on the VM.	VN Indues () Frefrech () BMS: chlanchirscem01at AMS: chlanchirscem01at AMS: chlanchirscem01at chlanchirscem01a chlanchirscem01a chlanchirscem01a Chlanchirscem01a Chlanchirscem01a Chlanchirscem01a Chlanchirscem01a	View VM Gue VM info Softw	at Name, chitro Host RMS: chitro arc Nework Vecto Num vCPUs, 12 Memory (VRs): 36,864 VM OUID, 717280 Watchdog: ⊘	chirrnoam01a ( chirrnoam01at chirrnoam01at chirrnoam01at	Coment Power Sta On - <u>Cr</u> 947b647104	le. Running ango
		<ul> <li>RMS: chitrichimmp0.1t</li> </ul>	Virtual Disks	•			
			Pri Suce (M	ID Hod Peal	Hoal Vol Nume	Great Nev Name	
			m		chInchimusur01a.uu		
			4030	ov vaguesis	9	PROVER	
			Virtual NICs				
			Но	st Bridge Guest Dev H	iame NAC Addr		
				control co	onirol 52/54:00/36:8a/e1		
			mar	agement	ami 52.54:00:80:04:25		
						]	
		- Francisco de Calendario		Fdi	Delete Clone Guest	Regenerate De	vice Mepping ISO
		Pause opeakes		insta	TOS Chigason Ac	ebi (doğusule 🦷 1	Reject Upgrade
			1 4 11 7		1 ((5) + 5 6)	TT 1 4 1	
17.	PMAC GUI:	Select the HLR Router 4.	. I Applicatio	n image, and clic	ek "Start Softwar	e Upgrade"	outton.
	Select the Application	Software Upgrade	- Select In	nage			
	image and start			5			
	installing the HLRR 4-1						
	Application	Targets		Select Image			
		Entity	Status	Image Name		Туре	Architecture D
		Host IP::e1ff:fe6e:8984		872-2525-101-2.	5.2_82.31.0-TVOE-x86_6	4 Bootable	x86_64
		Guest: chltnchlrrnoam01a		872-2696-101-4.	0.0_40.15.0-EXHR-x86_6	4 Upgrade	x86_64
				EXHR-4.1.0_41.1	.0-x86_64	Upgrade	x86_64
				PMAC-6.0.3.0.0_	60.23.0-x86_64	Upgrade	x86_64
				TPD.install-6.5.2	82.31.0-CentOS6.5-x86	_64 Bootable	x86_64
				TPD.install-7.0.3. x86_64	0.0_86.37.0-OracleLinux	6.7- Bootable	x86_64
				TVOE-3.0.3.0.0_8	6.37.0-x86_64	Bootable	x86_64
				Start Software	Upgrade		

Procedure 12: Create, IPM and Install Application on all Virtual Machines



Procedure 12: Create, IPM and Install Application on all Virtual Machines

Step	Procedure	Result
21.		Optional: Repeat this procedure on the Disaster Recovery VM Guests.
		THIS PROCEDURE HAS BEEN COMPLETED

Procedure 12:	Create, IPM	and Install A	Application or	n all Virtual Mac	hines
	)				

## 7. CONFIGURATION PROCEDURES

### 7.1 Configuring HLRR NOAM-A Server (1st NOAM site only)

This procedure configures the first NOAM server. This includes configuring a temporary interface to the NOAM-A GUI, creating Network Elements for all required networks (NOAMs, SOAMs and DR NOAMs), configuring Services and creating/configuring the first NOAM-A server.

**Requirements: Procedure 12: Create, IPM and Install Application on all Virtual Machines** has been completed for all servers.

#### Assumptions:

- This procedure assumes that the HLRR Network Element XML file for the NOAM and SOAM sites have been previously created, as described in Appendix D: Creating an XML file for Installing HLRR Network Elements.
- The HLRR Network Element XML files for the Disaster Recovery NOAM and SOAM sites (optional) should also be created as described in Appendix D: Creating an XML file for Installing HLRR Network Elements.
- 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.

This procedure requires that the user connects to the HLRR GUI prior to configuring the first HLRR server. This can be done either by one of two procedures:

- 1. Configuring a temporary external IP address, as described in **Appendix C:** Creating Temporary External IP Address for Accessing HLRR GUI
- 2. Plugging a laptop into an unused, unconfigured port on the NOAM-A server using a direct-connect Ethernet cable.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

#### Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure	Result
1.	<b>NOAM-A Server:</b> Connect to the HLRR GUI.	Execute <b>Appendix C</b> : Establishing a Local Connection for Accessing HLRR GUI.

Step	Procedure	Result
<b>2</b> .	NOAM-A GUI:	Gertifisate Error: Navigation Blocked - Windows Internet Fajdower
	Launch an approved web browser and connect to the NOAM- A Server's IP address	Image: Second
	<b>NOTE:</b> If presented with the "security certificate" warning screen shown to the right, choose the following option: <b>"Continue to this</b> website (not	The secondly certificate presented by this website was not issued by a trusted certificate authority. The security certificate presented by this website was issued for a different website's address. Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server. We recommend that you close this webpage and do not continue to this website. © Click here to close this webpage.
	recommended)".	<ul> <li>Continue to this website (not recommended).</li> <li>More information</li> </ul>
3.	NOAM-A GUI:	ORACLE
	The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Crecie System Login         End in Crecie in Crecie in Creation of the pression of the login         Sector of the rescale of the pression of the login         Crecie of the rescale of the pression of the login         Sector of the rescale of the back of the former in the of the crecie in the creation of the crecie in the creation of the cr
4.	NOAM-A GUI: The user should be presented the HLRR Main Menu as shown on the right.	ORACLE:       Tekeles ILR Routes 41.04120         Constant doug #DE to detected exact dis (Entropy Attraction doug)         Constant doug #DE to detected exact dis (Entropy Attraction doug)         State State         Configuration         Conf

# Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure	Result
5.	NOAM-A GUI: Configuring Network Element Select Main Menu → Configuration → Network Elements	Connected using VIP to chltachirmoam01b (ACTIVE NETWORK OAM&P)         Main Menu         Administration         Administration         Configuration         Network Elements         Network         Services         Servers         Servers         Server Groups         Places         Places         Place Associations
6.	NOAM-A GUI: From the Configuration / Network Elements screen Select the "Browse" dialogue button (scroll to bottom left corner of screen).	Main Menu: Configuration -> Network Elements Fri Aug 17 17;21:10 2012 UTC Filter  Network Element Network Element Network Element upload a valid configuration file: Pause updates Provide File Pause updates Provide File Provi

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure	Result
7.	NOAM-A GUI:	Ebrose tile
	<ul> <li>Note: This step assumes that the xml files were previously prepared, as described in Appendix D.</li> <li>1) Select the location containing the site .xml file.</li> <li>2) Select the .xml file and click the "Open" dialogue button.</li> </ul>	Look,:     Image: JEB IE.I     Image: Second
8.	NOAM-A GUI:	
	Select the <b>"Upload</b> <b>File"</b> dialogue button (bottom left corner of screen).	Insert Delete Edit NE Networks Delete NE Network Export Report
9.	NOAM-A GUI:	Main Menu: Configuration -> Network Elements [Upload]
	If the values in the <b>.xml</b> file pass validation rules, the user receives a banner information message showing that the data has been successfully committed to the DB.	Filter       Info         Info       Image: Second se
	<b>Note:</b> You may have to	Main Menu: Configuration -> Network Elements
	left mouse click the " <b>Info</b> " banner option	Filter    Info
	in order to see the banner output.	Network Element         ETS3_NO_NE
10.		Repeat steps 5 - 9 for the SOAM Network Element File.
11.	Optional:	Repeat steps 5 - 9 for the DR NOAM and DR SOAM Network Element files.

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Procedure 13:	۶: Configuring HLRR NOAM-A Server (1 st NOAM site o	nly)
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Step	Procedure	Result			
10	NOAM A CUIL	Connected using VIP to pc904080	US externo a (ACLIVE NETWORK DAM	au')	
	NUAM-A GUI:	🖬 🖳 Main Nenu	Main Menu: Configuration	> Services	
		<ul> <li>Configuration</li> </ul>			
	Configuring Services	- E Network Elements			
		- 🐚 Elennikser	Name	Infra-NE Network	Inter-NE Network
	Q - 1 4	- Servers	Replication	NTERSALIVI	INTERNALION
	Select	Resource Domains	Sopaling VA Concernant	Conspectived	Hospeoted
	Main Menu	Lié M.º Secondary	NT RNA 121	INTERNALINA INTERNALINA	
		Replication_MP	NTERNALIVI	INTERNALION	
	- Configuration	Scarty Log	ComAgent	Cited and	Unspected
		<ul> <li>Status &amp; Nanage</li> <li>Neasurements</li> </ul>			
	$\rightarrow$ Services	E EAGLE XG Dotabase			
		<ul> <li>Help</li> </ul>			
		Legal Notices			
13.	NOAM-A GUI:	M	<b>.</b>	. Comine	
		main menu:	Configuration -	-> Services	
					Fri Apr 29 12:
	1) The user will be				
	presented with the	Name		Intra NE Network	Inter NE Network
	configuration screen as shown on the right.	CALL.			
		OAM		INTERNALIMI	INTERNALXMI
		Replication		INTERNALIMI	INTERNALXMI
		Signaling		Unspecified	Unspecified
	dialogue button	HA_Secondary		INTERNALIMI	INTERNALXMI
	dialogue button.	HA_MP_Secondar	у	INTERNALIMI	INTERNALXMI
		Replication_MP		INTERNALIMI	INTERNALXMI
		ComAgent		Unspecified	Unspecified
		Edit Report			
14.	NOAM-A GUI:	Connected using VIP to pr9040	005-exterNO-a (ACTEVE NETWORK)	ОАМВР)	
		Alio Menu Della Administration	Main Menu: Configurat	tion -> Services [Fdit]	
		📋 🧰 Configuration			
	1) Set the services	Network Lements			
	values as shown on the		Services		
	rigni.	Server Croups	Name	Intra-NE Network	inter-NE Network
		Places	114M		
	2) Select the "Apply"	Place Associations	Signation	Unactine V	Unsected V
	dialogue button.	📮 🧰 Alarma & Eventa	D5 Seconders	INTERNALIWI 🗸	INTERNALSWI 🛩
		😨 🚞 Security Log 🗖 🚞 Status & Manage	HA ME Secondary	INTERNA IMI 😒	INTERNALIZMU 😒
		👳 🧰 Measurements	Replicator: WP	INTERNALIMI 🗸	INTERNAL SWI 🛩
		o 🧰 1761 1763 Detabase o 💼 tekelec 1000 Bouter	ComAgen	It-specified - 🗸	Dispecified V
		: 🔶 Help E Fegal Notices E Espont		Ox Apply Canco	1

Step	Procedure		Result			
15.	<ul> <li>NOAM-A GUI:</li> <li>1) The user should be presented with a banner information message stating "Data committed"</li> <li>2) Select the "Ok" dialogue button.</li> </ul>	Main Menu: Config Info OAM Replication Signaling HA_Secondary HA_MP_Secondary Replication_MP	ted!	es [Edit]	Fri Oct 25 15:( Inter-NE Network XMI	
16.	NOAM-A GUI: The user will be presented with the "Services" configuration screen as shown on the right	Connected using VIP to chiltrichirmos Nam Menu Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administratio	C HLR Router 2.0 mobile (ACTIVE RETWORK CAMBE) Main Menu: Configuratio Name CAM Replection Specific PA Secondary PA Secondary PA MP Secondary Replection NP	11 0 n -> Services	Welcome guiadmin [Log Welcome guiadmin [Log Provide 10:55:21:22:25 Inter-NE Network XVI XVI Unspecified XVI XVI XVI XVI XVI XVI XVI XVI	Hdp UTC
17.	NOAM-A GUI: Configuring HLRR Server Select <u>Main Menu</u> → Configuration → Servers	Connected using VIP to chiltochir Connected using VIP to chiltochir Main Menu Configuration Configuration Network Elements Network Services Services Services Resource Domains Places Places Place Associations	elec HLR Router -11.2.0 Main Menu: Configur Fiter • Hostname Role	MAP) ation -> Serve SystemID	ers (Filtered)	

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure	Result
18.	NOAM-A GUI: Select the "Insert" dialogue button.	Help Insert Delete Export Report Logout
19.	NOAM-A GUI: The user is now presented with the "Server [Insert]" configuration screen.	Main Menu: Configuration -> Servers [Insert]     Adding a new server   Attribute   Value   Hostname   Image: Select Role - Image:
20.	NOAM-A GUI: Input the assigned "hostname" for the NOAM-A Server. See NAPD document for this information.	Attribute     Value       Hostname     pc9000736-no-b
21.	NOAM-A GUI: Select "NETWORK OAM&P" for the server "Role" from the pull-down menu.	Role       NETWORK OAM&P •         System ID       - Select Role -         NETWORK OAM&P       -         System ID       SYSTEM OAM         MP       QUERY SERVER         Hardware Profile       TekServer T1200 •

# Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure	Re	esult	
22.	NOAM-A GUI:			
	<b>Optional:</b> Input the assigned " <b>System ID</b> "	System ID		
23.	NOAM-A GUI:			
	Select "HLRR TVOE Guest" for the Hardware Profile from the pull-down menu.	Hardware Profile TekServer T1200   TekServer T1200  TekServer T1200  HLRR TVOE Guest		
24.	NOAM-A GUI:			
	Select the <b>Network</b> Element Name from the pull-down menu.	Network Element Name - Unassigned		
		<b>NOTE:</b> After the Network Element Name is se seen in <b>Step 26</b>	lected, the Interfaces fie	lds will be displayed, as
25.	NOAM-A GUI:			
	Enter the site location.	Location Morrisville_NC Location is any tex	description [Default =  . Range t string.]	e = A 15-character string. Valid value
	<b>NOTE:</b> <i>Location is an optional field.</i>			
26.	NOAM-A GUI:			
		Interfaces:		Interface
	1) Enter the XMI and			interiace
	IMI IP addresses for	XMI (10.240.37.0/27)		xmi 👻 📄 VLAN (3)
	the HLKK NUAM-A Server	IMI (169.254.2.0/24)		imi 🔻 🔲 VLAN (4)
	Refer to the NAPD	NTP Servers:		
	documentation for this information.	NTP Server IP Address	Prefer	
			Ok Apply Cancel	
	2) Set the XMI and IMI Interfaces to "xmi" and "imi", respectively.			
	3) DO NOT check any VLAN box.			

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure			Result			
27.	ProcedureNOAM-A GUI:1) Click Add buttonand assign the IPaddress for the NTPServer.2) Click on check boxto select preferred NTPServer.NOAM-A GUI:	NTP Servers: NTP Serve A This should b See paragrap Main Menu: Con	r IP Address add be the XMI a Only one NT oh 4.4 NTP S figuration	Result address of the TV IP server should Strategy for more -> Servers [I	Prefer Remove OE server hosting be entered per gu information on N nsert]	g this VM est. VTP deplo	Guest. yment.
	<ul> <li>1) The user should be presented with a banner information message stating "Pre-Validation passed".</li> <li>2) Click the "OK" button.</li> <li>2) Click the "OK" Button.</li> <li>3) System ID</li> <li>Hardware Profile</li> <li>Network Element National Interfaces: Network</li> <li>XMI (10.240.37.0/27)</li> <li>MI (169.254.2.0/24)</li> <li>NTP Servers:</li> <li>NTP Servers:</li> <li>NTP Servers:</li> <li>NTP Servers:</li> <li>NTP Servers:</li> </ul>	Info Pre-Valida Role System ID Hardware Profile Network Element Name Location	ation passed - D NETWORK C pc9000740-n HLRR TVOE NOAMP_NE Morrisville, NC	PAM&P ▼ * D-a Guest ▼			Unique nai [Default = r character s are alphan Must start v and end wi Select the 1 System ID server. [De 64-charact any text stri Hardware p Select the n Location de Range = A Valid value
		Interfaces: Network XMI (10.240.37.0/27) IMI (169.254.2.0/24) NTP Servers: NTP Server II Add 10.250.32.51	P Address	IP Address 10.240.37.17 169.254.2.8	Prefer	Interface xmi •	VLAN (3)

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure			Result			
29. 30.	NOAM-A GUI: If the values provided match the network ranges assigned to the HLRR NE, the user will receive a banner information message showing that the data has been validated and committed to the DB. NOAM-A GUI: Applying the HLRR Server Configuration File	Main Menu: Configura Info Data committed! Main Menu Main Menu		GLE XG HLR Rout	er	<b>:rt]</b>	
	Select <u>Main Menu</u> → Configuration → Servers			Main Menu: Co Filter  Hostname pc9000738-no-a	Role Network OAM&P	System ID pc9000738-nd	y <b>ers</b> Se Gru D-a
31.	NOAM-A GUI: The "Configuration →Servers" screen should now show the newly added HLRR Server in the list.	Main Menu: Co Filter V Hostname pc9000738-no-a	Role Network OAM&P	System ID pc9000738-no-a	Server Group	Network Element NOAMP_NE	Location Morrisville NC

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure			Result				
32.	NOAM-A GUI:							
	1) Use the cursor to select the HLRR	Main Menu: Configuration -> Servers						
	Server entry	Hostname	Role	System ID	Server Group	Network Element	Location I	
	The row containing the desired <b>HLRR Server</b>	pc9000738-no-a	Network OAM&P	pc9000738-no-a		NOAMP_NE	Morrisville, NC	
	should now be highlighted in <b>GREEN</b> .	Insert Edit Delete	Export	Report	080			
	<b>2)</b> Select the <b>"Export"</b> dialogue button.							
33.	NOAM-A GUI: The user will receive a banner information message showing a download link for the HLRR Server configuration data.	Main Menu: Configuration -> Servers       Fri Oc         Filter       Info         Hostname       Info         epop000738-nc       Exported server data in TKLCConfigData.pc9000738-no-a.sh may be downloaded         pc9000738-nc       Exported server data in TKLCConfigData.pc9000738-no-a.sh may be downloaded         Insert       Edit       Delete       Export         The configurationt file was created and stored in the /var/TKLC/db/filemgmt directory. The configuration file will have a file name like TKLCConfigData.       hostname>.sh.						
34.	<b>PMAC Server:</b> Connect to the PMAC Server Console.	Connect to the PMAC server's console using one of the access methods described in <b>Section 2.3.</b> Use the PMAC_Management_ip_address.						
35.	PMAC Server:	login as: admusr admusr@10 250 xx y	v's password	∃ <admusr nasswor<="" td=""><th>-d&gt;</th><th></th><td></td></admusr>	-d>			
	1) Access the command prompt.	Last login: Mon Jul 3 [admusr@pmac-pc90	0 10:33:192 00738 ~]\$	2012 from 10.25.80.19	99			
	2) Log into the PMAC server as the "admusr" user.							

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure	Result
36.	<b>PMAC Server:</b> SSH into the NOAM-A server using the Control IP Address	Using an SSH client such as putty, ssh to the NOAM-A server using admusr credentials and the <noam-a address="" control="" ip=""> from list in, Procedure 12: Create, IPM and Install Application on all Virtual Machines, step 13. [admusr@pmac-pc9000738 ~]\$ ssh 192.168.1.xx admusr@192.168.1.6's password: <b><admusr_password></admusr_password></b></noam-a>
37.	NOAM-A Server: Output similar to that shown on the right will appear as the server access the command prompt.	<pre>*** TRUNCATED OUTPUT *** VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7 PRODPATH=/opt/comcol/prod VPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/axprox/TKLC/awptran sportmgr:/usr/TKLC/awpss7:/usr/TKLC/awptran sportmgr:/usr/TKLC/awptran sportmgr:/usr/TKLC/awp</pre>
38.	NOAM-A Server: 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. NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.	Example: TKLCConfigData<.server_hostname>.sh → will translate to →TKLCConfigData.sh \$ sudo cp -p /var/TKLC/db/filemgmt/TKLCConfigData.pc9000738-no-a.sh /var/tmp/TKLCConfigData.sh

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Step	Procedure	Result
39.	NOAM-A Server:	*** NO OUTPUT FOR ≈ 3-10 MINUTES ***
	After the configuration script completes, a broadcast message will be sent to the terminal	Broadcast message from admusr@pc9000738-no-a (Fri Oct 25 19:16:09 2013):
		Server configuration completed successfully!
	window.	See /var/TKLC/appw/logs/Process/install.log for details.
		Please remove the USB flash drive if connected and reboot the server.
		Ignore the output shown and press the <b><enter></enter></b> key to return to the command prompt.
		<b>NOTE:</b> The user should be aware that the time to complete this step varies by each server and may take from 3-10 minutes to complete.
40.	NOAM-A Server:	<b>Note:</b> The following command example uses the GMT time zone. Replace, as appropriate, with the time zone you have selected for this installation. See <b>Appendix E</b> for a list of valid
	Configure the time	time zones.
	zone	\$ sudo set_ini_tz.pl "Etc/UTC"
41.	<b>NOAM-A Server:</b> Initiate a reboot of the	\$ sudo init 6
	HLRR NOAM-A Server.	
<b>42</b> .	<b>PMAC Server:</b> The SSH session for	The previous step should cause the ssh session to the NOAM-A Server to close and user should return to the PMAC server console prompt. The user should see output similar to the below output:
	the NOAM-A server is terminated by previous	Connection to 102 168 1 x closed by remote host
	step.	Connection to 192.168.1.x closed.
43.	PMAC Server:	Wait about 5 minutes until the server reboot is done.
	Wait until server reboot is done. Then,	Using an SSH client such as putty, ssh to the NOAM-A server using admusr credentials and the <noam-a_xmi address="" ip=""></noam-a_xmi>
	son into the NOAM-A server using the XMI	\$ ssh 10.240.241.xx
	IP Address.	aumusi@10.240.241.xx s passworu. <b>\aumusr_passworu&gt;</b>
		Note: If the server isn't up, wait a few minutes and re-enter the ssh command. You can also try running the "ping 10.240.241.xx" command to see if the server is up.

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

Procedure 13:	Configuring HLRR NOAM-A	A Server (1 st NOAM site only)
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Step	Procedure	Result
44.	<b>NOAM-A Server:</b> Use the <b>"ntpq"</b> command to verify that the server has connectivity to the assigned NTP server.	\$ ntpq -np         remote       refid         st t when poll reach       delay         offset       jitter
		*10.240.241.105 192.5.41.209 2 u 651 1024 377 0.339 0.583 0.048
	-	Note: It may take a few minutes for the NTP server to connect and sync with the VM.
<b>45</b> .	<b>NOAM-A Server:</b> Verify the health of the server.	Execute the following command on the server and make sure that no errors are returned: <b>\$ sudo syscheck</b> Running modules in class hardwareOK Running modules in class diskOK Running modules in class netOK Running modules in class systemOK Running modules in class procOK LOG LOCATION: /var/TKLC/log/syscheck/fail_log



# IF CONNECTIVITY TO THE NTP SERVER(S) CANNOT BE ESTABLISHED, STOP AND EXECUTE THE FOLLOWING STEPS:

• Have the customer's IT group provide a network path from the OAM server IP to the assigned NTP IP addresses.

#### ONCE NETWORK CONNECTIVITY IS ESTABLISHED TO THE NTP IP ADDRESSES, REPEAT STEP 44

46.	NOAM Server A:	
	Execute <b>"alarmMgr"</b> to verify the current health of the server	\$ alarmMgralarmStatus NOTE: This command should return no output on a healthy system. If any alarms are reported as SNMP traps, please contact Oracle's Customer Care Center for assistance.
47.	NOAM Server A: Exit the SSH session for the NOAM-A server	\$ exit

Step	Procedure	Result
48.	NOAM-A GUI:	Launch an approved web browser and connect to the NOAM-A Server's IP address.
49.	Verify that you can log back into the GUI. <b>NOTE:</b> <i>If presented</i> <i>with the "security</i> <i>certificate" warning</i> <i>screen shown to the</i> <i>right, choose the</i> <i>following option:</i> <i>"Continue to this</i> <i>website (not</i> <i>recommended)".</i> <b>NOAM-A GUI:</b>	Cartificate Front Haripation filebood - Windows Internal Equipore   Control of the second of the sec
	The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Oracle System Login         Image: System Log
50.	<b>NOAM-A GUI:</b> Click the <b>"Logout"</b> link on the HLRR server GUI.	Welcome guiadmin [Logout]         Image: Pri Nov 18 14:43:32 2011 UTC         ge = A 1-32-character string.         at least one alpha and must
		THIS PROCEDURE HAS BEEN COMPLETED

Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only)

## 7.2 Configure Remaining HLRR Servers (All Sites)

This procedure is used to create and configure all HLRR Servers except the first NOAM-A server.

#### **Requirements:**

- **Procedure 12:** Create, IPM and Install Application on all Virtual Machines has been completed on all servers.
- Procedure 13: Configuring HLRR NOAM-A Server (1st NOAM site only) has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

#### **Procedure 14: Configuring Remaining HLRR Servers**

Step	Procedure	Result
1.	NOAM-A GUI: Launch an approved web browser and connect to NOAM- A's IP address	Certificate From Norigation Blocked - Windows Internet Explorer   Certificate From Norigation Blocked - Windows Internet Explorer   Certificate Devotes   Provides   P
2.	NOAM-A GUI: The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	<image/> <image/> <section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header>

Step	Procedure		Result
3.	NOAM-A GUI: The user should be presented the HLRR Main Menu as shown on the right.	CRACLE: Teke 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34 1.34	The transformation of the second decision of
	Note: The f	ollowing steps need	to run on all servers EXCEPT the first NOAM-A server.

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure				Result					
4.	NOAM-A GUI:		ekelec HLR Router 1.0-11.2.0			000	0	24		
	Select	converted using VIP to chibach	Importanth (Assumption	WORK OF	vine)					Acone galadmin (togot)
		🚊 Non Hera 📩 🖿 Administration	Main Menu: Co	onfigura	ation -> Serv	ers (Filte	ered)			🔗 Help
	<u>Main Menu</u>	<ul> <li>Configuration</li> <li>Network Strength</li> </ul>	Filer ×						т	Le Feb 02 20:02:06 2016 LTC
	$\rightarrow$ Configuration	<ul> <li>Metwork</li> <li>Senter</li> </ul>	Housane	Role	System ID	Server	Network Element	Location	Place	Deplie
	$\rightarrow$ Servers	- Britise	citrichimeanéta	NGWOR GAVSP		NO_diff.rc_	Котонгли	1001.33		X041.10.240.241.102 141.163.254.1.11
		<ul> <li>"Check off"</li> <li>Primary Site:</li> <li>NOAM-B</li> <li>QS-1</li> <li>MP-3</li> <li>Disaster Recover</li> </ul>	The associate SOAM MP-1 MP-4 ery Site (Opti	ional)	ECK Box : SO MF	AM-B 2-2 2-5	serve	r 15 CO	mplet	ed.
		DR-NOAM-	A DR-	NOAI	М-В	SOAN	M-A		SOAN	M-B
		QS-1	☐ MP-1		☐ MP	2-2				
		☐ MP-3	MP-4		🗌 MI	P-5				
5.	NOAM-A GUI: Select the "Insert" dialogue button.	🔷 🖗 Help 🖉 Logout			Insert	Delete	Expo	t R	eport	

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure		Result
6.	NOAM-A GUI: The user is now presented with the "Server [Insert]"	Main Menu: Cont	figuration -> Servers [Insert]
	configuration screen.	Adding a new se	erver
		Attribute Hostname	Value *
		Role	- Select Role - *
		System ID	
		Hardware Profile	HLRR TVOE Guest 🔻
		Network Element Name	- Unassigned - 💌 *
		Location	
			Ok Apply Cancel
7.	NOAM-A GUI:	Attribute	Value
	Input the assigned " <b>hostname</b> " for the	Hostname	pc9000736-no-b *
	Refer to the NAPD documentation for this information.		
8.	NOAM-A GUI:		
	Select the appropriate server <b>"Role"</b> from the pull-down menu for the type of server you are adding.	Role System ID Hardware Profile	NETWORK OAM&P ▼ - Select Role - NETWORK OAM&P SYSTEM OAM MP QUERY SERVER TekServer T1200 ▼
9.	NOAM-A GUI: Optional: Input the assigned "System ID"	System ID	

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure	Result					
10.	NOAM-A GUI: Select "HLRR TVOE Guest" for the Hardware Profile from the pull- down menu.	Hardware Profile TekServer T1200  Network Element Name HLRR TVOE Guest					
11.	NOAM-A GUI: Select the correct Network Element Name from the pull- down menu.	Network Element Name       - Unassigned - Image: Unassigned - Unassi Extended - Unassi Extended - Unassi Extended - Unassi Extended -					
12.	NOAM-A GUI: Enter the site location. NOTE: Location is an optional field.	Location       Morrisville_NC         Location description [Default = ". Range = A 15-character string. Valid value is any text string.]					
13.	<ul> <li>NOAM-A GUI:</li> <li>1) Enter the XMI and IMI IP addresses for the HLRR Server.</li> <li>Refer to the NAPD documentation for this information.</li> <li>2) Set the XMI and IMI Interfaces to "xmi" and "imi", respectively.</li> <li>3) DO NOT check</li> </ul>	Interfaces: Network IP Address Interface XMI (10.240.37.0/27) xmi VLAN (3) IMI (169.254.2.0/24) imi VLAN (4) NTP Servers: NTP Server IP Address Prefer Add Ok Apply Cancel					
	3) DO NOT check any VLAN box.						

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure			R	esult		
14.	NOAM-A GUI:	NTP Servers:					
<ul> <li>1) Click Add button and assign the IP address for the NTP Server.</li> <li>2) Click on check</li> </ul>	NTP Server	dd		Prefer	]		
	box to select preferred NTP Server.	This s	hould be the Only one N	e XMI addres TP server sho	ss of the TVOE host of out of the TVOE host of out of the entered per s	of the serv erver.	'er.
		See paragra	pn 4.4 NTP	Strategy for	more information on	N I P dep	loyment.
15.	NOAM-A GUI:		c		- [7		
	1) The user should be	Main Menu: Con	figuration	-> Server	s [Insert]		
presented with a		Info 👻					
	banner information message stating "Pre-Validation passed".	Info Pre-Valida	ation passed - C	Data NOT commit	€ ted		Unique nai [Default = r character s are alphan Must start v and end wi
	2) Click the <b>"OK"</b>	Role	NETWORK (	DAM&P 🔻 *			Select the f
	dialogue button.	System ID	pc9000740-n	10-a			System ID server. [De 64-charact any text stri
		Hardware Profile	HLRR TVOE	Guest 🔻			Hardware
		Network Element Name	NOAMP_NE	*			Select the
		Location	Morrisville, No	C			Location de Range = A Valid value
		Interfaces:					
		Network		IP Address		Interface	
		XMI (10.240.37.0/27)		10.240.37.17		xmi 💌	VLAN (3)
		IMI (169.254.2.0/24)		169.254.2.8		imi 🔻	VLAN (4)
		NTP Servers:					
		NTP Server I	P Address d		Prefer		
		10.250.32.51			Remove		
		10.250.32.10			Remove		
					Ok Apply Cancel		

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure		Result							
16.	NOAM-A GUI:	Main Menu: C	Main Menu: Configuration -> Servers [Insert]							
	If the values provided match the network ranges assigned to the HLRR NE, the user will receive a banner information message showing that the data has been validated and committed to the DB.	Info Info Data d Hostname	ommitted!	8	Des Un stri wit	s <b>criptior</b> ique na ng. Valio h an alp	n me for th d charac hanume	e serve ers are ric and	er. [Defau e alphan I end with	ult: un h a
17.	NOAM-A GUI: Applying the HLRR Server Configuration File <u>Main Menu</u> → Configuration → Servers	Carnetted using VIP to chilochirmaa Main Manu Administration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Configuration Co	es HLR Router 20 Main Menu: C Ner + Hestere differinsersite	Role Network Crists	ation -> Set	Convers (Fill Server Croup NO strate 70	11 0 tered) Herer Berer C	Leastion	Weks Trad	And quindhin (Loper) And quindhin (Loper) And to bandeds to a Life Dearb And to bandeds to a Life And to bandeds to a Interface (11)
18.	NOAM-A GUI: The "Configuration →Servers" screen should now show the newly added HLRR Server in the list.	Main Menu: Conf Filter Hostname pc9000738-no-a pc9000736-no-b	Figuratio	n ->	Servers System ID pc9000738 pc9000736	-no-a -no-b	Server Group	Netwo Eleme NOAM	nt P_NE P_NE	Location Morrisville, NC

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure			Result			
19.	NOAM-A GUI: 1) Use the cursor to select the HLRR Server entry added in Steps 6 through 16 The row containing the desired HLRR Server should now be highlighted in GREEN.	Main Menu: Configuration -> Servers         Filter       Image: Server					
	<ol> <li>Select the</li> <li>"Export" dialogue</li> <li>button.</li> </ol>	Insert Edit Delete E	xport Report				
20.	NOAM-A GUI: The user will receive a banner information message showing a download link for the configuration data.	Main Menu: Configuration -> Servers         Filter       Info         Hostname       info         i       Exported server data in TKLCConfigData.pc9000736-no-b.sh may be downloaded         pc9000738-nc       Info         Or under       or under         pc9000736-no-b       NOAMP_NE         Insert       Edit         Delete       Export         Report       or         The configuration file is created and stored in the /var/TKLC/db/filemgmt directory on the primary NOAM-A server. The configuration file will have a file name like         TKLCConfigData.       hostname>.sh					
21.	NOAM-A Server: Connect to the NOAM-A Server Console at the Primary NOAM site	Connect to the NOAM-A see 2.3. Use the Primary NOAM-A Install Application on all V	erver's console us XMI IP address t V <b>irtual Machine</b>	sing one of the acces that was entered in <b>I</b> s, Step 26	ss methods Procedure	s described in Se	ction

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure	Result
22.	<ul> <li>NOAM-A Server:</li> <li>1) Access the command prompt.</li> <li>2) Log into the Primary NOAM-A server as "admusr".</li> </ul>	login as: admusr admusr@10.250.xx.yy's password: <b><admusr_password></admusr_password></b> Last login: Mon Jul 30 10:33:19 2012 from 10.25.80.199
23.	NOAM-A Server: Output similar to that shown on the right will appear as the server access the command prompt.	*** TRUNCATED OUTPUT *** VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptransp ortmgr:/usr/TKLC/awpss7 PRODPATH=/opt/comcol/prod VPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptransp ortmgr:/usr/TKLC/awpss7:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptransp ortmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@pc9000738-no-a ~]\$
24.	<b>NOAM-A Server:</b> Change directory to the filemgmt directory and verify that the configuration file is in the filemgmt directory.	[admusr@pc9000738-no-a ~]\$ cd /var/TKLC/db/filemgmt [admusr@pc9000738-no-a filemgmt]\$ ls -ltr TKLCConfigData*.sh -rw-rw-rw- 1 root root 3570 Aug 17 14:01 TKLCConfigData.pc9000738-so-a.sh -rw-rw-rw- 1 root root 3570 Aug 17 14:30 TKLCConfigData.pc9000736-so-b.sh Verify that the configuration file was created and stored in the /var/TKLC/db/filemgmt directory on the primary NOAM-A server. The configuration file will have a file name like TKLCConfigData.< <i>hostname</i> >.sh.
25.	NOAM-A Server: Copy the configuration files found in the previous step to the "tmp" directory on the PM&C. server that manages the desired server.	Note: The below example shows copying 2 files. Any number of configuration files can be copied in one step.         [admusr@pc9040833-no-a filemgmt]\$ sudo scp -p <configuration_file-a> <configuration_file-b> admusr@<desired_pmac_ip>:/tmp admusr@10.240.39.4's password:<admusr_password>         TKLCConfigData.pc9000738-so-a.sh       100% 1741       1.7KB/s       00:00         TKLCConfigData.pc9000736-so-b.sh       100% 1741       1.7KB/s       00:00         [admusr@pc9040833-no-a filemgmt]\$</admusr_password></desired_pmac_ip></configuration_file-b></configuration_file-a>

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure	Result
<b>26</b> .	<b>PMAC Console:</b> Connect to the PMAC Server Console that manages the desired server using admusr.	Open a ssh terminal session using putty to the PMAC that manages the desired server. Use the PMAC_Management Server's IP Address that was entered in <i>Procedure 4: PMAC Deployment, Step 3</i> .
27.	<b>PMAC Console:</b> Copy the server configuration file to the Control IP for the desired server	Note: The Control IPs are listed in, <i>Procedure 12: Create, IPM and Install Application on all Virtual Machines, Step 13.</i> The name of the configuration file varies for each server. The output is just an example. admusr@pmac ~]\$ sudo scp -p /tmp/ <desired server_configuration_file=""> admusr@<desired_server_control_ip>:/tmp/ admusr@192.168.1.10's password:<admusr_password> TKLCConfigData.pc9000738-so-a.sh 100% 1741 1.7KB/s 00:00 [admusr@pmac ~]\$</admusr_password></desired_server_control_ip></desired>
28.	<b>PMAC Console:</b> Connect to the desired server console from the PM&C Server Console.	SSH to the desired server console from the PMAC console using the Control IP. <b>Note:</b> The Control IPs are listed in, <i>Procedure 12: Create, IPM and Install Application on all</i> <i>Virtual Machines, Step 13.</i> admusr@pmac ~]\$ <b>ssh <desired_server_control_ip></desired_server_control_ip></b> admusr@192.168.1.10's < <b>admusr_password&gt;</b>
29.	Desired Server: Copy the server configuration file to the "/var/tmp" directory on the desired server, making sure to rename the file by omitting the server hostname from the file name.	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. Example: TKLCConfigData<.server_hostname>.sh > will translate to > TKLCConfigData.sh [admusr@192.168.1.10 ~]\$ sudo cp -p /tmp/TKLCConfigData.pc9000738-so-a.sh /var/tmp/TKLCConfigData.sh Note: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.

Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure	Result
30.	Desired Server: After the script completes, a broadcast message will be sent to the terminal. Note: The user should be aware that the time to complete this step varies by server and may take from 3-10 minutes to complete.	<pre>*** NO OUTPUT FOR ≈ 3-10 MINUTES *** Broadcast message from admusr (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. Ignore the output shown and press the <enter> key to return to the command prompt. [admusr@ pc9000738-so-a~]\$</enter></pre>
31.	<b>Desired Server:</b> Verify config script was successful and Reboot the Server	Verify the config script was successful by checking the following file: <b>\$ sudo cat /var/TKLC/appw/logs/Process/install.log</b> Verify the following message is displayed: [SUCCESS] script completed successfully! Now Reboot the Server: <b>\$ sudo reboot</b> Wait for the server to reboot, this normally takes 3-5 minutes.
32.	<b>Desired Server:</b> Login	Open a terminal window connection to the newly created server's console by establishing a ssh session from the NOAM-A's terminal console to the newly created server's XMI address. <b>\$ ssh admusr@&lt; desired_server_XMI_IP&gt;</b> [admusr@pc9000738-so-a~]\$ <b><admusr_password></admusr_password></b>
33.	<b>Desired Server:</b> Use the <b>"ntpq"</b> command to verify that the server has connectivity to the assigned NTP server.	[admusr@ pc9000738-so-a~]\$ 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         Note: It may take a few minutes for the NTP server to connect and sync with the server.

# Procedure 14: Configuring Remaining HLRR Servers

Step	Procedure	Result		
34.	<b>Desired Server:</b> Verify Server Health	Execute the following command on the server and make sure that no errors are returned: <b>\$ sudo syscheck</b> Running modules in class hardwareOK Running modules in class diskOK Running modules in class netOK Running modules in class systemOK Running modules in class procOK LOG LOCATION: /var/TKLC/log/syscheck/fail_log		
35.	<b>Desired Server:</b> Execute a <b>"alarmMgr"</b> to verify the current health of the server	\$ sudo alarmMgralarmStatus NOTE: This command should return no output on a healthy system. If any alarms are reported as SNMP traps, please contact Oracle's Customer Care Center for assistance.		
36.	<b>Desired Server:</b> Exit the SSH session	<b>\$ exit</b> logout Connection to 10.240.241.2 closed.		
37.	Repeat steps 4 through 36 of this procedure for each of the remaining NOAM, SOAM, Query Server, and MP servers.			
38.	Optional: Repeat steps 4 through 36 of this procedure for each of the Disaster Recovery NOAM, SOAM, Query Server, and MP servers.			
THIS PROCEDURE HAS BEEN COMPLETED				

# Procedure 14: Configuring Remaining HLRR Servers
## 7.3 Configure XSI Networks (All SOAM Sites)

This procedure configures the XSI networks by adding the xsi1 and xsi2 networks.

#### Requirements: Procedure 14: Configuring Remaining HLRR Servers has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Procedure 15: Configure XSI Networks

Step	Procedure	Result				
1.	NOAM-A GUI:					
		🖉 Certificate From: Navigation Blacked - Windows Internet Explorer				
	Launch an	🌀 😳 - 📓 (10 050 95 02)				
	approved web	His Balk Dev Facentes Low Fou				
	browser and connect to the XMI	Shaveriaan Hiler -				
	IP address assigned	197 - 497 👔 Dettitions From Recipition Find an				
	to NOAM-A Server using "https://"	there is a problem with this website's security certificate.				
	intpo.//	The security definite presented by this website was not issued by a trusted definite authority. The security definite presented by this website was issued for a different website's address.				
		Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.				
		We recommend that you close this webpage and do not continue to this website.				
		📽 Click here to close this webpage.				
		Continue to this website (not recommended).				
	More information					
2.	NOAM-A GUI:	ORACLE				
	The user should be presented the login	Oracle System Login Tay Peb 2 20:04:08 2016 ITC				
	the right.	Log In Enter your username and password to log in				
	Login to the GUI	Sension was logged out at 8:34:38 pm.				
	using the default	Usernume:				
	user and password.	Password:				
		Log h				
		Access is this system is prohibited unless as picitive autoritied by Cronie. Myou are not surfaceed disconnect now.				
		Unauthorized access is prohibited. This Charle's ystem requires the use of Microsoft Internet Suptown 80, 9 (), or 10 0 with support for JavaScipt and coakles				
		Onació and Aura are regulared hadonastis of Onació Corporation analysis affaides. Onacionadas area de contexante al train regularitor concerto.				
		Conject N 2010, 2018, <u>Consideration of a Madeira</u> Affrechte nationend.				

Step	Procedure		Result						
3.	NOAM-A GUI: The user should be presented the HLRR Main Menu as shown on the right.	CRACLE Iskelet II 4.141.20 Connected using VIX has bit as bit as a Maximum State of the Sta	(Touter Wene: [Main]	44.7]			Text It can be a collace way, o (es R	die sone de Doctana sone «Nona de Doctana de Doctana Logis Theorem a States Logis Theorem a	Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Contractions Co
4.	NOAM-A GUI:SelectMain Menu $\rightarrow$ Configuration $\rightarrow$ Network	Connected using VIP to chiltechirm	Nec HLR Rout 41.2.0 Main Menu Network Name	er Horw : Con Looke d Yas	oex o/ figur Routa ble Yes	ation NLAN J		Configured Interfaces 2	Welcome guiladmin (Logod) Welcome guiladmin (Logod) Pas web of social discussion of co Network Elements NGCOHLTNC
		<ul> <li>↓ ⊢ Server Groups</li> <li>↓ ⊢ ■ Resource Domains</li> </ul>	aw.	YAA	The	a.	NG 254 1 024	2	NOLOHUTNO
		- Places	AW	Yea	na	3	70.040.247.024	2	ND DRHVINC
		<ul> <li>Place Associations</li> <li>DSCP</li> </ul>	aw	Y948	Yes	ð -	NG 254 1 024	2	NO_DRHVNC
		🗴 🧰 Alarma & Events 📩 🖿 Security Log	AW	Year	na	3	70.040.247.024	4	SC_CHLTNG
		🖨 🧰 Status & Manage	ew.	Yan	10m	4	NR 954 7 054	₹	SO_CHLING
		<ul> <li>PACI P XG Database</li> <li>Tekelec HLR Router</li> </ul>	loant Edit	LoduU	nlock	Delete	Report		Pause updates

Procedure 15: Configure XSI Networks

Step	Procedure			Result				
5.	NOAM-A GUI: Add the XSI 1 and XSI 2 networks. Use the NAPD documentation for this networking information.	Click the Insert button. Output similar to that shown below may be observed. Main Menu: Configuration -> Network [Insert] Info						
		Insert Netv	vork					
		Field	Value	Description				
		Network Name	XSI1 *	The name of this network. [Default = N/A. Range = Alphanu				
		Network Element	- Unassigned - 💌	The network element this network is a part of. If not specific				
		VLAN ID	5 *	The VLAN ID to use for this network. [Default = N/A. Range				
		Network Address	10.240.237.216 *	The network address of this network. [Default = N/A. Range (IPv6) format.]				
		Netmask	255.255.255.248 *	Subnetting to apply to servers within this network. [Default = dotted decimal (IPv4) format.]				
		Router IP	10.240.237.217	The IP address of a router on this network. If this is a defau servers with interfaces on this network. If customer router r				
		Default Network	OYes ©No	A selection indicating whether this is the network with a def				
		Routable	®Yes ⊙No	Whether or not this network is routable outside its network present in all network elements.				
				Ok Apply Cancel				
		Enter all of the above fields for the XSI 1 network and press the Apply button. Enter Network Name: XSI1 or XSI2 Network Element: Leave Unassigned VLAN ID: (NAPD document) Network Address: (NAPD document) Netmask: (NAPD document) Router IP: Gateway Address (NAPD document) Default Network: NO Routeable: Yes Enter all of the above fields for the XSI 1 network and press the Apply button. Enter all of the above fields for the XSI 2 network and press the Ok button.						
		THIS PH	ROCEDURE HAS BEEN	COMPLETED				

Procedure 15: Configure XSI Networks

## 7.4 OAM Pairing for the Primary NOAM Servers (1st NOAM 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 NOAM servers at the Primary Provisioning Site.

#### Requirements: Procedure 14: Configuring Remaining HLRR Servers has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Step	Procedure	Result
1.	NOAM-A GUI: Launch an approved web browser and connect to the XMI IP address assigned to NOAM-A Server using "https://"	Cartificate Fron: Narigt in Blocked - Winkers Internet Faplorer   Cartificate Fron: Narigt in Blocked - Winkers Internet Faplorer   Cartificate Fron: Seconds

Step	Procedure	Result
2.	NOAM-A GUI: The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Coracle System Login The Feb 2 20:34:38 2015 LTC
3.	NOAM-A GUI: The user should be presented the HLRR Main Menu as shown on the right.	Excelor HLR Router (AAH33)         Profiles         Main Monus (Main)         Main Monus (Main) <t< td=""></t<>

Step	Procedure	Result
4.	NOAM-A GUI:	
	Configuring HLRR Server Group	Connected using VIP to chitachirmoam01b (ACTIVE NETWORK OAMsP) Welcome guiddmin [logar]
	Select	Administration     Administration     Configuration     Configuration     Filter
	<u>Main Menu</u> → Configuration	Server Group Name Level Parent Function Connection Servers     Servers
	→ Server Groups	Server Groups     Server Groups     Parse Unset: Edit Dolcto: Roport     Parse upbales
		<ul> <li>Place Associations</li> <li>DSCP</li> <li>Annus &amp; Events</li> </ul>
5.	NOAM-A GUI:	
	1) The user will be presented with the "Server Groups"	Main Menu: Configuration -> Server Groups Sun Oct 27 22:12: Filter
	configuration screen as shown on the right	Server Group Name Level Parent Function Connection Count Servers
	<b>2)</b> Select the	<
	"Insert" dialogue button from the bottom left corner of	Insert Edit Delete Report
	the screen.	<b>NOTE:</b> The user may need to use the vertical scroll-bar in order to make the " <b>Insert</b> " dialogue button visible.

Step	Procedure	Result				
6.	NOAM-A GUI: The user will be presented with the	Main Menu: Configurati	ion -> Server Groups	s [Inser	t]	
	"Server Groups [Insert]" screen as	Field	Value	Description	1	
	shown on the right.	Server Group Name	*	Unique ide = A 1-32-ch underscore a digit.]	ntifier used to label a Server naracter string. Valid charact e. Must contain at least one a	
		Level	- Select Level - 💌 *	Select one contain NO contain SO	of the Levels supported by t AMP and Query servers. Lev AM servers. Level C groups	
		Parent	- Select Parent - 💌 *	Select an e	xisting Server Group or NON	
		Function	- Select Function -	Select one	of the Functions supported	
		WAN Replication Connection Count		Specify the replication Group. [De	number of TCP connections over any WAN connection as fault = 1. Range = An integer	
			Ok Apply	/ Cancel		
7	NOAM-A GUI:					
$\square$		Field	Value		Description	
	Input the Server Group Name.	Server Group Name	NOAMP_group	*	Unique identifier use = A 1-32-character st underscore. Must cor a digit.]	
8.	NOAM-A GUI:					
	Select <b>"A"</b> on the <b>"Level"</b> pull-down menu.	Level	A	*	Select one of the Levels sup contain NOAMP and Query s contain SOAM servers. Leve	
٥	NOAM-A GUI:					
<b>9</b> .	Select <b>"None"</b> on the <b>"Parent"</b> pull-down menu.	Parent	NONE	*	Select an existing Server Gro	
10	NOAM-A GUI:					
	Select "EAGLE XG HLR Router" on the "Function" pull- down menu.	Function	EAGLE XG HLR R	outer 💌 *	Select one of the	

Step	Procedure		Result	
11.	NOAM-A GUI: Enter value of "1" for "WAN Replication Connection Count" field.	WAN Replication Connection Count	1	Specify the number associated with this
12.	<ul> <li>NOAM-A GUI:</li> <li>1) The user should be presented with a banner information message stating "Pre-Validation passed".</li> <li>2) Select the "OK" dialogue button.</li> </ul>	Main Menu: Configuration	ata NOT committed To -> Server Groups [I rused t string. W one alp to -> Server Group	nsert] 1 o label a Server Group alid characters are alp ha and must not start s [Insert] 2
		Field	Value	Description
		Server Group Name	NOAMP_group *	Unique identifi [Default = n/a. Valid characte underscore. M and must not s
		Level	A •	Select one of t system. [Level Query servers. contain SOAM MP servers.]
		Parent	NONE *	Select an exist
		Function	EAGLE XG HLR Router 👻	* Select one of t system
		WAN Replication Connection Count	1	Specify the num be used by rep associated wit Range = An in
			Ok Apply Cano	cel

Step	Procedure	Result						
13.	NOAM-A GUI: The user should be presented with a banner information message stating "Data committed".	Main Menu: Configuration -> Server Groups [Insert]         Info         Info         Operation         Unique identifier used to label a Server Group.         1-32-character string. Valid characters are alph contain at least one alpha and must not start w						
14.	NOAM-A GUI: Select <u>Main Menu</u> → Configuration → Server Groups	CRACLE:       Tekelec HLR Roule:         4.104120       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0						
15.	NOAM-A GUI: The Server Group entry added in Steps 4 through 13 should now appear on the "Server Groups" configuration screen as shown on the right.	Main Menu: Configuration -> Server Groups         Filter       Image: Server Group Name       Level       Parent       Function       Connection Count       Server Server Group       Server Group Name       A       NONE       EAGLE XG HLR Router       1					Servers	

Step	Procedure		Result					
16.	NOAM-A GUI: 1) Select the newly	Nain Manus Configurat	ion > Com	or Crown	c			
	created Server Group The line	main menu: Configuration -> Server Groups						
	entry should now be	Filter -						
	highlighted in <b>GREEN</b> .	Server Group Name Level Pa	rent	Function	Connection Count	Servers		
	<b>2)</b> Select the <b>"Edit"</b> dialogue button from	NOAMP_group A NO	DNE	EAGLE XG HLR Router	1	NE		
	the bottom left corner of the screen.	Insert Edit Delete Report				000		
17.	NOAM-A GUI:							
	The user will be	Main Menu: Configurati	on -> Serv	er Group	s [Edit]			
	presented with the "Server Groups							
	[Edit]" screen as	Field	Value		Description			
	shown on the right.	Server Group Name	NOAMP_group *		Unique identifier used n/a. Range = A 1-32-cl alphanumeric and und alpha and must not st			
		Level	A	*	Select one of	the Leve		
		Parent	NONE	*	Select an exis	sting Sen		
		Function	EAGLE XG HI	LR Router 🔻	Select one of	the Func		
		WAN Replication Connection Count	1		Specify the nu replication ov Server Group and 8.]	umber of er any W. . [Default		
		NOAMP_NE						
		Server	SG Inclusion		Preferred HA	Role		
		pc9000738-no-a		iG		) Spare		
		pc9000736-no-b	Include in S	iG	Preferred	I Spare		
		VIP Assignment						
		VIP Address		4	٨dd			
				Ok Apply	Cancel			

Step	Procedure	Result					
18.	NOAM-A GUI:	Main Menu: Configuration -> Server Groups [Edit]					
	1) To add a server to the server group						
	select the checkbox	Field	Value	Description			
	for <b>SG Inclusion</b> . When checked, the	Server Group Name	NO_chltnc_grp *	Unique identifier used to label a Serve alphanumeric and underscore. Must c			
	server will be included in the server	Level	A •	Select one of the Levels supported by t			
	group.	Parent	NONE -	Select an existing Server Group			
	2) Select NOAM-A	Function	EAGLE XG HLR Router 👻	Select one of the Functions supported			
	and <b>NOAM-B</b> checkboxes from the	WAN Replication Connection Count	1	Specify the number of TCP connection. Server Group. [Default = 1. Range = An			
	SG Inclusion Field.	NO_CHLTNC		•			
		Server	SG Inclusion	Preferred HA Role			
	3) If a Query Server	chltnchlrrnoam01a	Include in SG	Preferred Spare			
	is part of the system	chltnchlrrnoam01b	Include in SG	Preferred Spare			
	should also be	VIP Assignment					
	included in the NO	VIP Address	A	dd			
	<ul><li>4) Click "Apply" to submit the information.</li></ul>			Ok Apply Cancel			
19.	NOAM-A GUI:	VIP Assignment					
	To add the virtual IP address, select Add in the VIP Assignment section.	VIP Address		Add			

Step	Procedure		Result					
20.	NOAM-A GUI:	Main Menu: Configurat	Main Menu: Configuration -> Server Groups [Edit]					
	1) Enter the XMI							
	<b>VITUAL IP address in</b> <b>VIP Address</b> field.	Field	Value	Description				
		Server Group Name	NO_chltnc_grp *	Unique identifier used to label a Server G alphanumeric and underscore. Must con				
	Note: Use the NAPD documentation for	Level	A •	Select one of the Levels supported by the				
	this networking information.	Parent	NONE -	Select an existing Server Group				
		Function	EAGLE XG HLR Router 👻 *	Select one of the Functions supported by				
	2) Select the "OK" dialogue button to	WAN Replication Connection Count	1	Specify the number of TCP connections t Server Group. [Default = 1. Range = An in				
	commit the	NO_CHLTNC						
	information.	Server	SG Inclusion	Preferred HA Role				
		chitnchirrnoam01a	Include in SG	Preferred Spare				
		chltnchlrrnoam01b	Include in SG	Preferred Spare				
	VIP Assignment							
		VIP Address Add						
		10.240.241.101	Rei	move				
				Ok Apply Cancel				
21.	<b>IMPORTANT:</b> Wait a few minutes before proceeding on to the next Step.	Now that the NOAM servers have master/slave relationship for High to be completed.	been paired within a Server Availability (HA). It may ta	Group they must establish a ake several minutes for this process				
22.	<b>NOAM VIP:</b> Wait for Remote Database Alarm to Clear for the NOAMs and optional Query	Wait for alarm <b>10200 Remote Database re-initialization in progress</b> to clear for both NOAM- A, NOAM-B and Query Server (Optional) before proceeding. Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b> <b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b>						
	Server.	Filter Tasks T						
		Seq # Event 10 Timestamp Event Text	Seventy Product Proce Additional Info	ea NE Server Type				
		414 10200 2015-03-20 09:30 00 090 Remote Database re-Initialization in pr	DEDT CLEARapwGe rogress Cleared because DB Re Init Con	PapS Compass_NO Compass-NOA CFG				
		413 10200 2015-03-20 00:28 16.411 Remote Database re-Initialization in pr	1 EDT	In progress				

Step	Procedure	Result
23.	NOAM-A GUI: Click the "Logout" link on the NOAM-A server GUI.	Welcome guiad nin [Logout] Help Fri Nov 18 14:43:32 2011 UTC
24.	NOAM VIP: Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) assigned in STEP 20 to the HLRR Server Group using "https://".	Cartificate Front: Narigation Blacked - Windows Internet Faglour         Cartificate Front: Narigation Blacked - Windows Internet Faglour         Cartificate Front: Narigation Blacked - Windows Internet Faglour         Cartificate Front: Narigation Street         Cartificate Fr
25.	NOAM VIP: The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	<image/> <image/> <section-header><section-header><section-header><section-header><section-header><section-header><section-header><text></text></section-header></section-header></section-header></section-header></section-header></section-header></section-header>

Step	Procedure	Result								
26.	NOAM VIP:	ORACLE' Taka 4124	iac HLR Bo 4.2.0	water						
	The user should be presented the HLRR Main Menu as shown on the right.	ve venavak oowee) oon [Main]	P ca	n se moofedka	hi bila sad gina 'Casal Lagini Laging Th Laging Hua	V ¹ ett vetterne reter øge Color i barn ander tre Vetnink fange gutefn n reterne false i 75000 net 1920 af 20	ention menu.			
27.	NOAM VIP:	ORACLE	Teke 4.1.0-	elec HLR Router 41.2.0				(	0 11 0	
	Select	Connected using VIP to chltachirmoam01b (ACTIVE NETWORK GAN&P)								
	<u>Main Menu</u> → Status & Manage <i>→ HA</i>	Main Menu     Administration     Configuration     Administration     Administration     Administration     Security Log     Security Log     Status & Manage     Figure Status     Secure     Figure Status	nts	Main Menu: Sta Filer • Hostname chlinchimoan016 chlinchimoan01a	tus & Man: CAMHA Role Active Standby Active	Applicati on HA Role COS COS	Max Allowed HA Role Active Active	Mata Hoatname List chittochirmoam01a chittochirmoam01b chittochirmoam01b	Network Element NO_CHLINC NO_CHLINC	
28.	NOAM VIP:	ORACLE	Teke	elec HLR Router					0 11 0	
	Verify that the OAM HA Role shows "Standby" and Max Allowed HA Role shows "Active" for NOAM Server B If it shows "OOS" then continue with the next step. Otherwise skip forward to Step 34 of this procedure.	Connected using VIP to chlore Main Menu Administration Configuration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Administration Admin	4.1.0-	HILLO Main Menu: Sta Film • Hostname chinchimaan01b chinchimaan01b	ORK OANAP) tus & Mana CAM HA Role Active Standar	Applicati on MA Role COS COS	HA Allowed HA Role Active Active	Mate Hostname - Liae chinchimeam01a chinchimeam01b	Network Element NO CHLING NO CHLING SO CHING	

Step	Procedure	Result									
29.	NOAM VIP:	Main Menu: Status & Manage -> HA									
	Click Edit button	Filter -									
		Hostname OAM Max HA Role Applicatio Max Mate Hostname List									
		pc9000738-no-a Active OOS Active pc9000736-no-b									
		pc9000736-no-b OOS OOS pc9000738-no-a									
		Edit									
30.	NOAM VIP:	Main Menu: Status & Manage -> HA [Edit]									
	Change the Max Allowed HA Role	Info 🔻									
	for <b>NOAM Server B</b> to <b>Active</b> and click	Hostname Max Allowed HA Role Description									
	OK button.	pc9000738-no-a Active The maximum desired									
		pc9000736-no-b Active The maximum desired									
	the Max Allowed	Ok Cancel									
	HA Role for Query Server to Observer										
	and click <b>OK</b> button.										
	NOAM VIP										
31.		ORACLE Tekelec HLR Router									
	Verify that the <b>OAM</b>	Connected using VIP to chilochirmoam01b (ACTIVE NETWORK OAN&P)									
	"Standby" and Max	B Main Menu: Status & Manage -> HA									
	Allowed HA Role shows "Active" for	a Configuration Film -									
	NOAM Server B	CAM HA Applicati Max Nate Hostname +									
	<b>Optional:</b> Verify that	Allowed Lise Network Elements     Network Elements									
	the OAM Max HA	Server chitrichimoantola Active COS Active chitrichimoantola NO CHUINC									
	Role shows "Active" and Max Allowed	shinchingasaldh 2005 Setus attacharaandda So Cultur									
	HA Role shows "Observer" for										
	Query Server.										

Step	Procedure				Res	sult					
32.	<b>NOAM VIP:</b> <i>Restarting the NOAM</i> <i>Server Application</i>	ORACLE [®]	Teka 4.1.0- • chlinchim	elec HLR Router 41.2.0 seem91b (ACTIVE N	(TWORK QANAP)		010			elcome gui	iadmin Logo
	Select	<ul> <li>Hain Henu</li> <li>Administration</li> <li>Configuration</li> <li>Atems &amp; Event</li> <li>Security Less</li> </ul>	*	Main Menu: S Filtr -	ŝtatus & Mana	age -> S	ierver			na <del>M</del> á sa si	<b>е н</b> силокилани
	<u>Main Menu</u> → Status & Manage → <i>Server</i>	Status & Naray Manatak Ba Status Manatak Ba Status Ma Ma Database	je mana	Server Hostname shileshimosofi21a shifteshimosofi21a domoshimosofi21a shirosofi21a	Notwor NO.CH NO.CH NO.DR NO.DR	Notwork Benefit NO_CHEINC NO_CHEINC NO_DRHVNO NO_CHEIVNO		ote Alm I Marin I Warn I Marin I Marin	D9 Nam Nam Nam Nam	Reporting Status Norm Norm Norm	Proc Nem Nem Nem Nem
33.	NOAM VIP: 1) The "A" and "B" NOAM servers	Main Mer Filter 🔻	nu: St	atus & N	lanage	-> S	erver				
	should now appear in the right panel.	Network Element	Serve	r Hostname	Appl State	Alr	n	DB	Repo Statu	rting Is	Proc
	<b>2)</b> Verify that the	NOAMP_NE	pc900	0738-no-a	Disabled		Warn	Norm	Norm		Man
	"Appl State" now shows "Disabled" "DB" status shows "Norm" and the "Proc" status shows "Man" for both servers before proceeding to the next Step.	Stop Rest	art R	leboot	P Sync	Report	t vvarn	Norm	Norm	••	Man

Step	Procedure	Result								
34.	NOAM VIP:									
	1) Select <b>NOAM</b> Server A. The line entry should now be	Main Menu: Status & Manage -> Server								
	highlighted in <b>GREEN</b> .	Network Element         Server Hostname         Appl State         Alm         DB         Reporting Status         Proc								
	2) Select the "Restart" dialogue	NOAMP_NE pc9000738-no-a Disabled Warn Norm Norm 1 Man								
	button from the bottom left corner of the screen.	Stop Restart Reboot NTP Sync Report								
	<b>3)</b> Click the <b>"OK"</b> button on the confirmation dialogue box.	2								
	4) The user should be presented with a confirmation message (in the banner area) for NOAM-A Server stating: Successfully restarted application".	Are you sure you wish to restart application software on the following server(s)? pc9000738-no-a OK Cancel								
	NOTE: The user	Main Menu: Status & Manage -> Server								
	may need to use the vertical scroll-bar in order to make the <b>"Restart"</b> dialogue button visible.	Filter     Info     4       Network Elem     Info     Info       NOAMP_NE     pc9000738-no-a: Successfully restarted application.     Is								
35.	NOAM VIP: Verify that the "Appl State" now shows "Enabled" and the	Main Menu: Status & Manage -> Server								
	<b>"Proc"</b> status column shows <b>"Norm"</b> for <b>NOAM-A Server</b> before proceeding to the next Step.	Network ElementServer HostnameAppl StateAlmDBReporting StatusProcNOAMP_NEpc9000738-no-aEnabledErrNormNorm								
		NOAMP_NE pc9000736-no-b Disabled Warn Norm Norm Man								

Step	Procedure	Result									
36.	NOAM VIP: Repeat Step 34 of this Procedure for NOAM Server B.	Repeat Step 34 of th	Repeat Step 34 of this Procedure to restart application on NOAM Server B.								
37.	NOAM VIP: Verify that the "Appl State" now shows "Enabled" and the	Main Menu: S	Main Menu: Status & Manage -> Server								
	<b>"Proc"</b> status column shows <b>"Norm"</b> for	Network Element	Server Hostname	Appl State	Alm	DB	Reportin Status	Proc			
	NOAM Server B before proceeding to the next step.	NOAMP_NE	pc9000738-no-a	Enabled	Err	Norm	Norm	Norm			
		NOAMP_NE	pc9000736-no-p	Enabled	Norm	Norm	Norm	Norm			
38.	NOAM VIP: Optional: Repeat Step 34 of this Procedure for Query Server.	<b>Optional:</b> Repeat St	<b>Optional:</b> Repeat <b>Step 34</b> of this Procedure to restart application on <b>Query Server</b> .								
39.	<b>NOAM VIP:</b> <b>Optional:</b> Verify that	Main Menu: 9	Status & Mar	nage -> Se	erver						
	the "Appl State" now shows	Filter -									
	"Enabled" and the "Proc" status column	Network Element	Server Hostname	Appl State	Alm	DB	Reportin Status	Proc			
	shows "Norm" for the Query Server	NOAMP_NE	pc9000738-no-a	Enabled	Err	Norm	Norm	Norm			
	before proceeding to the next step.	NOAMP_NE	pc9000736-no-b	Enabled	Norm	Norm	Norm	Norm			
<b>40</b> .	<b>NOAM VIP:</b> Verifying the NOAM	ORACLE' Teke 4.1.0	elec HLR Router ⊨41.2.0		011						
	Server Alarm status	Connected using VIP to chitochin	moam@lb (ACTIVE NETWORK GAM	RP)			Welcome	guladmin (Lopou			
	Select	🛊 🖿 Administration 🛓 🐂 Configuration	Main Menu: Alarms & E	vents > View Activ	/e (Filtered)			🕐 Helj 16/19/00 2016 D.B			
	Main Manu	<ul> <li>Alarms &amp; Events</li> <li>Structure</li> <li>View History</li> </ul>	NO_chthic_grp								
	→ Alarms & Events	📑 View Trap Log 💼 🖿 Security Log	Seq # Alarm Test	Seventy Produc Additional Info	d Process N	Server	Турн	Instance			
	→ View Active	<ul> <li>Status &amp; Manage</li> <li>Measurements</li> <li>EAGLE XG Database</li> <li>Tekeled UTC floater</li> </ul>	2016 02 04 202500 14100 16 07 54 28 No Renote Connecto	DUIC NALCH LAIR IIIX CN_DOWNWRN NURL	polos - NO CO No remole provisionin	INC chlinchim giclionts are connects	nosm015   1103 ed. ²⁴ (21967: FdbiCo.				
		🚽 🎸 Holp 📑 Tregal National L 📭 Logout	Lxpot Report	Clear Selections	Capyoph	8 2010, 2016, Davis	e and/ante, affiliates	. Al uples a second			

Step	Procedure	Result
41.	NOAM VIP: Verify that Event ID 14101 ("No remote provisioning clients are connected") is the only alarm present on system at this time.	Seq #         Event ID         Timestamp         Severity         Product         Process         NE         Server         Type         Instance           Alarm Text         Additional Info         Additional Info
42.	NOAM VIP: Configuring SNMP for Traps from Individual Servers Select Main Menu → Administration → Remote Servers → SNMP Trapping	Connected asked VIP to difficult/means01b (ACTIVE NETWORK CANKE)       Image: Connected asked VIP to difficult/means01b (ACTIVE NETWORK CANKE)         Connected asked VIP to difficult/means01b (ACTIVE NETWORK CANKE)       Main Menu:       Main Menu:         Connected asked VIP to difficult/means01b (ACTIVE NETWORK CANKE)       Main Menu:       Main Menu:         Connected asked VIP to difficult/means01b (ACTIVE NETWORK CANKE)       Main Menu:       Administration -> Remote Servers -> SNMP Trappic         Connected asked VIP to difficult/means01b (ACTIVE NETWORK CANKE)       Main Menu:       Administration -> Remote Servers -> SNMP Trappic         Connected asked VIP to difficult/means01b (ACTIVE NETWORK CANKE)       Main Menu:       Administration -> Remote Servers -> SNMP Trappic         Software Network       Main Menu:       Main Menu:       Main Menu:       Main Menu:         Construction       Software Network       Main Menu:       Main Menu:       Main Menu:         Construction       Construction       Network       Main Menu:       Main Menu:         Construction       Construction       Software Network       Main Menu:       Main Menu:         Construction       Construction       Software Network       Main Menu:       Main Menu:         Construction       Software Network       Main Menu:       Main Menu:       Main Menu:       Main Menu:         <
43.	NOAM VIP: 1) Using the cursor, place a "check" in the check box for "Traps from Individual Servers".	Traps from Individual Servers
	2) Enter the values for the SNMPv2c Read-Only and Read-Write Community Strings. Click the "OK" dialogue button located at the bottom of the screen.	SNMPv2c Read-Only Community Name       snmppublic       2       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C       C </th
	3) Check the "Check to confirm" box on the popup window, and then click on the "OK" button to commit the changes.	Confirm edit WKKNNG: Company dCNV/F Community Simps on the server meshad have often Conde products communicate with the server. Community Simp changes should be done on a system base WKKNNG: Decover of public / prode (presend i simp-hap are common and used by alacters. Are eon sure you even for assign and a poetword?           WKKNNG: Decover of public / prode (presend i simp-hap are common and used by alacters. Are eon sure you even for assign and a poetword?         If Check to confirm         <

Step	Procedure	Result					
44.	NOAM VIP: Click the "Logout" link on the server GUI.	Welcome guiadmin [Logout] Pri Nov 18 14:43:32 2011 UTC ge = A 1-32-character string. at least one alpha and must					
	THIS PROCEDURE HAS BEEN COMPLETED						

## 7.5 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 optional DR NOAM servers. This procedure creates active/standby pair for the SOAM servers at any site or the optional DR NOAM Servers.

#### **Requirements:**

- Procedure 14: Configuring Remaining HLRR Servershas been completed.
- Procedure 16: OAM Pairing for the Primary NOAM Servers has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

Step	Procedure	Result
1.	Active NOAM VIP: Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active NOAM site using "https://"	A Conditions function of the set of
2.	Active NOAM VIP: The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Correction         Image: System Login

Step	Procedure	Result									
3.	Active NOAM VIP:										
	The user should be presented the HLRR Main Menu as shown on the right.	<ul> <li>II, Paus Haus</li> <li>III, Paus Haus</li> <li>III: Admitus Schwarts</li> <li>III: Configuration</li> <li>III: Configuration</li> <li>III: Constant Los</li> </ul>	Nain Menu	: [Main]	ra.	Disk si Transford sektor näm and training, för Staars di syke Logi si Name Loss Logi förans Loss Logi (2014) Teatran för las Lo	Lettiner terkigt Without terkigt 1940 - State 1940 - Stat	na fam.			
4.	Active NOAM VIP: Select	TP: ORACLE Tekelec HLR Router									
	<u>Main Menu</u> → Configuration	Administration	- chithenirri	Main Menu: Confi	gural	tion -> Server	Groups				
	$\rightarrow$ Server Groups	- Network Lier	nents	Filter 💌							
	1) The user will be	Network Devices		Server Group Name	Level	Parent 🔺	Function	Connection Count			
	presented with the "Server Groups"	<ul> <li>B Routes</li> <li>Services</li> <li>Servers</li> </ul>		NO_dthmnc_grp	A	NONE	EAGLE XG HLR Router	1			
	configuration screen as shown on the right.	<ul> <li>Server Stoup</li> <li>Resource Do</li> <li>Places</li> </ul>	22 mains	NO_chitne_grp	A	NONE	EAGLE XG HLR Router	1			
	2) Select the	<ul> <li>Place Associa</li> <li>DSCP</li> </ul>	ations	SO_chitnc_grp	8	NO_chitric_grp	EAGLE XG HLR Router	0			
	<b>"Insert"</b> dialogue button from the bottom left corner of the screen.	<ul> <li>Alarms &amp; Events</li> <li>Security Log</li> <li>Status &amp; Manag</li> </ul>	e	Insert Edit Delete	Report						

Procedure 17: OAM Pairing for SOAM or DR NOAM sites

Step	Procedure		Result	
5.	Active NOAM VIP:	Main Menu: Configurati	ion -> Server Groups	s [Insert]
	The user will be			
	presented with the "Server Groups	Field	Value	Description
	[Insert]" screen as shown on the right.	Server Group Name	*	Unique identifier used to label a Server = A 1-32-character string. Valid charact underscore. Must contain at least one a a digit.]
		Level	- Select Level - 💌 *	Select one of the Levels supported by t contain NOAMP and Query servers. Lev contain SOAM servers. Level C groups
		Parent	- Select Parent - 💌 *	Select an existing Server Group or NON
		Function	- Select Function -	Select one of the Functions supported
		WAN Replication Connection Count		Specify the number of TCP connections replication over any WAN connection as Group. [Default = 1. Range = An integer
			Ok Apply	y Cancel
6.	Active NOAM VIP:	Field	Value	Description
	Input the Server Group Name.	Server Group Name	SOAM_group	* Unique ident     Valid charact     not start with
7.	Active NOAM VIP:			
	For SOAM server group, select <b>"B"</b> on the <b>"Level"</b> pull- down menu	Level	B	*
	<b>Optional:</b> For DR NOAM server group, select " <b>A</b> " on the " <b>Level</b> " pull-down menu.			
8.	Active NOAM VIP:			
	Select a <b>Parent</b> from the pull-down menu.	Parent	NOAMP_group	*
	<b>Optional:</b> For DR NOAM server group, select <b>"None"</b> on the <b>"Parent"</b> pull-down menu.			

Procedure 17: OAM Pairing for SOAM or DR NOAM sites

Step	Procedure		Re	esult						
9.	Active NOAM VIP: Select a Function from the pull-down menu.	Function EAGLE XG HLR Router • •								
10.	Active NOAM VIP: Enter a WAN Replication Connection Count	WAN Replication Count								
11.	Active NOAM VIP:	Main Menu: Configuration -> Server Groups [Insert]								
	Click <b>OK</b> button to	Info 🔫								
	information.	Field	Value		D	escription				
		Server Group Name	SOAM_grou	p	* U	Inique identifier us re alphanumeric a	ed to label a Serv nd underscore. N			
		Level	В	B • *			Select one of the Levels supported b groups are optional and contain SO/			
		Parent	NO_chltnc_g	grp 👻 *	S	Select an existing Server Group or N				
		Function	EAGLE XG HLR Router 💌			* Select one of the Functions supporte				
		WAN Replication Connection Count 1 Specify the number of TCP connection this Server Group. [Default = 1. Rang								
						Ok Apply Cancel				
				* * * *						
12.	Active NOAM VIP:	ORACLE Tekele	c HLR Router 2.0							
	Select						<b>8-8-8-8-8-</b> 8-			
		Connected using VIP to chiltrichirmoa	m01b (ACTIVE NETW	ORK OAN	&P)					
	<u>Main Menu</u>	Administration	lain Menu: Cor	nfigurat	tion -> S	erver Groups				
	$\rightarrow$ Configuration	Configuration Image: Configuration Image: Configuration Image: Configuration	Filer 🔹							
	- Server Groups	Network Devices	Server Group Name	Level	Parent	- Function	Connection Count			
		- Services - Services - Servers	NO_debesine_gaps	A	NONE	EAGLE XG H Router	UR 1			
		Server Groups     Server Groups     Server Groups     Server Groups	NO_chitne_grp	A	NONE	EAGLE XG H Router	^{LR} 1			
		Proces     Proces     Proces     Proces     Proces     Doce     Doce	SO_chinc_grp	в	NO_chinc_g	rp EAGLE XG H Router	LR 0			
		<ul> <li>Alarma &amp; Events</li> <li>Security Log</li> <li>Status &amp; Manage</li> </ul>	Insert Edit Delete	Report	]					

Step	Procedure		Result									
13.	Active NOAM VIP: The Server Group entry should be shown on the	Main Menu: Con	Main Menu: Configuration -> Server Groups									
	<b>"Server Groups"</b> configuration screen	Server Group Name	e Level Parent Function		Connection Count S	ervi						
	as shown on the right.	NOAMP_group	A	NONE	EAGLE XG HLR Router	1	IOA					
		SOAM_group	в	NOAMP_group	EAGLE XG HLR Router	1						
14.	NOAM Server A:	Main Menu: Configuration -> Server Groups										
	1) Select the Server	Filter -										
	in STEP 5 through STEP 11. The line	Server Group Name	Leve	el Parent	Function	Connection Count	Servers					
	entry should now be highlighted in <b>GREEN</b> .	NOAMP_group	A	NONE	EAGLE XG HLR Router	, 1	NOAMP_NE NOAMP_NE					
	2) Select the "Edit" button from the	SOAM_group	в	NOAMP_group	EAGLE XG HLR Router	, 1	NE					
	bottom left corner of the screen.	Insert Edit Delete	Repo	ort			000					

Step	Procedure		Result							
15.	Active NOAM VIP:	Main Menu: Configurati	on -> Server Groups	[Edit]						
	Adding a Server to	Info 🔻								
	Group (SOAM or DR	Field	Value	Description						
	NOAM)	Server Group Name	SOAM_group *	Unique identifier used to label a Ser are alphanumeric and underscore. I						
		Level	B 🔻	Select one of the Levels supported I						
	The user will be	Parent	NO_chltnc_grp <	Select an existing Server Group						
	resented with the "Server Groups	Function	EAGLE XG HLR Router 💌 *	Select one of the Functions support						
	[Edit]" screen as	WAN Replication Connection Count	1	Specify the number of TCP connecti this Server Group. [Default = 1. Rang						
		SO_CHLTNC								
		Server	SG Inclusion	Preferred HA Role						
		chltnchlrrsoam01a	Include in SG	Preferred Spare						
		chltnchlrrsoam01b	Include in SG	Preferred Spare						
		VIP Assignment								
		VIP Address	Ad	d						
				Ok Apply Cancel						
16.	NOAM-A GUI:	Main Menu: Configuration -> Server Groups [Edit]								
	1) Select SOAM-A									
	NOAM-A and DR	Field	Value	Description						
	NOAM-B checkboxes from the	Server Group Name	SOAM_group *	Unique identifier used to label a Ser are alphanumeric and underscore. I						
	SG Inclusion Field.	Level	B • *	Select one of the Levels supported t						
	2) Click "Apply" to	Parent	NO_chltnc_grp 👻 *	Select an existing Server Group						
	information.	Function	EAGLE XG HLR Router 👻	<ul> <li>Select one of the Functions support</li> </ul>						
		WAN Replication Connection Count	t <mark> 1</mark>	Specify the number of TCP connecti- this Server Group. [Default = 1. Rang						
		SO_CHLTNC								
		Server	SG Inclusion	Preferred HA Role						
		chltnchlrrsoam01a	Include in SG	Preferred Spare						
		chitnchirrsoam01b	Include in SG	Preferred Spare						
		VIP Assignment								
		VIP Address		dd						
				Ok Apply Cancel						

Procedure 17: OAM Pairing for SOAM or DR NOAM sites

Step	Procedure		Result					
17.	NOAM-A GUI: To add the virtual IP address, select Add in the VIP Assignment section.	VIP Assignment VIP Address		Add Remove				
18.	NOAM-A GUI: 1) Enter the XMI virtual IP address in	Main Menu: Configuration -> Server Groups [Edit]						
	VIP Address field	Field	Value	Description				
	<ul> <li>Note: Use the NAPD documentation for this networking information.</li> <li>2) Select the "OK"</li> </ul>	Server Group Name	SO_chltnc_grp *	Unique identifier used to label a Serv are alphanumeric and underscore. N				
		Level	B *	Select one of the Levels supported b				
		Parent	NO_chltnc_grp - *	Select an existing Server Group				
		Function	EAGLE XG HLR Router 🔻	Select one of the Functions supporte				
	dialogue button to commit the	WAN Replication Connection Count	1	Specify the number of TCP connectio this Server Group. [Default = 1. Rang				
	information.	SO_CHLTNC		•				
		Server	SG Inclusion	Preferred HA Role				
		chitnchirrsoam01a	Include in SG	Preferred Spare				
		chltnchlrrsoam01b	Include in SG	Preferred Spare				
		VIP Assignment						
		VIP Address	A	bb				
		10.240.241.111	Rer	nove				
				Ok Apply Cancel				
19.	<b>IMPORTANT:</b> Wait a few minutes before proceeding on to the next step.	Now that the SOAM or DR NOAM establish a master/slave relationshi this process to be completed.	M servers have been paired wit ip for High Availability (HA).	thin a Server Group they must It may take several minutes for				

Procedure 17: OAM Pairing for SOAM or DR NOAM sites

Step	Procedure		Result									
20.	<b>NOAM VIP:</b> Wait for Remote Database Alarm to Clear.	Wait for alarm <b>10200 Remote Database re-initialization in progress</b> to clear for both a SOAM-A and SOAM-B or DR NOAM-A and DR NOAM-B before proceeding. Navigate to <b>Main menu-&gt;Alarms &amp; Events-&gt;View Active</b> <b>Main Menu: Alarms &amp; Events -&gt; View History (Filtered)</b>										
		Filter  Tasks Filter	Severity Product Process	HE	Server	Type						
		Seq # Event Text	Additional Info									
		414 10200 2015-03-20 09:30 00.090 ED Bernole Database re-initialization in progra	T CLEAR apw30ap3 ervor Cleared because DB Re Init Completed	Compass_NO	Compass-NO/	A GFG						
		10200 2015-03-20 00:28 16.411 ED	T approx	Compass_NO	Compass-NO	A OFG						
		413 Remote Database re-initialization in progre	ess Remote Database re-initialization in pro	gress	1.1							
21.	Active NOAM VIP:	Teke	lec HI R Router									
		ORACLE 4.1.0-4	41.2.0									
	Select											
	Main Menu	Connected using VIP to chltnchlmm	oam01b (ACTIVE NETWORK	олм&р)								
	$\rightarrow$ Status & Manage	Administration	Main Menu: Status	& Mana	age ->	HA (Filt						
	→ HA	Configuration			5	•						
		🖬 🧰 Alarms & Events	Filter •									
		🖬 🧰 Security Log 💼 😋 Status & Manage	Hostname	OAM HA	Applicati on HA	Max Allowed						
		📑 Network Elements		Role	Role	HA Role						
		🦉 Server	chitrichirrsoam01a	Standby	005	Active						
		💽 💷	chitrichimp01	Active	005	Active						
		- Free Contractions of the second sec	chitnchirmp02	Active	005	Active						
22	Active NOAM VID.											
$\square$	Acuve NOAM VIF:											
	Verify that the <b>OAM</b>	ORACLE Teke	lec HLR Router									
	HA Role shows "Standby" and	4.1.0	41.2.0									
	"Active" and Max	Connected using VIP to chltnchlrrn	oam01b (ACTIVE NETWORK	олм&р)								
	Allowed HA Role shows "Active" for	🔤 🖳 Main Menu	Main Menu: Status	& Mana	age ->	HA (Filt						
	SOAM or DR	Configuration			<b>J</b>							
	and "B"	🖬 🧰 Alarms & Events	Filter +									
		Security Log	Usednama	OAMHA	Applicati	Max						
	If it shows <b>"OOS"</b>	Status & Manage	Hostname	Role	Role	HA Role						
	the next step.	- 🦉 Server	chltnchlrrsoam01a	Standby	00S	Active						
	Otherwise skip		chitrochirreoam01b	Active	005	Active						
				COLUMN TO A		AND A DECK OF						

Step	Procedure				Result					
23.	Active NOAM VIP:	Main Menu: S	Main Menu: Status & Manage -> HA							
	Click Edit button	Filter -	Filter -							
		Hostname		oai ha	M Max Role	Application Max HA Role	Max Allowed HA Role			
		pc9000736-no-b		Star	ndby (	DOS	Active			
		pc9000738-no-a		Acti	ve (	oos	Active			
		pc9000734-so-a		00	s 🔪 (	oos	00S			
		pc9000732-so-b		00	s	DOS	00S			
	(	Edit								
24.	Active NOAM VIP:	Main Menu: S	Status	& Mar	nage -:	> HA [E	dit]	F		
	Change the Max	Info 🔻								
	for the SOAM or DR	Hostname	Max Allov	ved HA Ro	ole Desc	ription				
	NOAM server(s) to Active and click the	pc9000736-no-b	Active	•	The	maximum d	esired HA Role	e fo		
	OK button.	pc9000738-no-a	Active	•	The	maximum d	esired HA Role	e fo		
		pc9000734-so-a	Active	•	The	maximum d	esired HA Role	e fo		
		pc9000732-so-b	Active	~	The	maximum d	esired HA Role	e fo		
						Cancel				
						Vancer				
25.	Active NOAM VIP:	Main Menu:	Status	& Ma	nage -	> HA				
	Verify that the <b>OAM</b>	Filter -								
	"Standby" and "Active" and Max Allowed HA Role	Hostname		OAM Max HA Role	Applicati Max HA Role	c Max Allowed HA Role	Mate Hostnar List	ne		
	SOAM or DR	pc9000736-no-b		Standby	00S	Active	pc9000738-n	o-a I		
	NOAM servers "A" and "B"	pc9000738-no-a		Active	00S	Active	pc9000736-n	o-b I		
	und D.	pc9000734-so-a	(	Active	00S	Active	pc9000732-s	o-b		
		pc9000732-so-b		Standby	00S 🔪	Active	pc9000734-s	o-a		
								080		

Procedure 17: OAM Pairing for SOAM or DR NOAM sites

Step	Procedure		Result								
26.	Active NOAM VIP: Restarting the OAM Server Application (SOAM) or DR NOAM Application. Select Main Menu → Status & Manage	Connected using VIP to ch Man Mene Administration Administration Administration Security Log Status & Menage Status & Menage Betweek Connect Betweek Connect B	Tekeleo HLR R 41.0-41.2.0 Inchirmeen Olib (Act Main Mes Free *) Server Host difficultures difficultures difficultures difficultures difficultures	outer IVE HETWORK (AAHAS) nu: Status & Manag Note No. Chil Note No. Chil And No. Chil And No. Chil And No. Chil And No. Chil	e -> Server	Appi State / Lindika: Endika: Fittika:	Ain CE Warn Norn Warn Norn Warn Norn	Reporting Senter Nam Nam Nam Nam	tania   ees e e taria amba Proc Norr Norr Norr		
27.	<ul> <li>Active NOAM VIP:</li> <li>1) SOAM or DR NOAM servers "A" and "B" should now appear in the right panel.</li> <li>2) Verify that the "Appl State" show "Disabled" and the "DB" status shows "Norm" and the "Proc" status shows "Man" for both servers before proceeding to the next step.</li> </ul>	Main Menu Filter Network Element NOAMP_NE NOAMP_NE SOAM_NE SOAM_NE Stop Resta	u: Status Server Hostn pc9000736-n pc9000738-n pc9000734-s pc9000732-s rt Reboot	& Manage	-> Serv	DB Norm Norm Norm	Reporting Status Norm Norm Jorm Norm	Proc Norm Mar Mar			

Procedure 17: OAM Pairing for SOAM or DR NOAM sites

Step	Procedure	Result	Result								
28.	Active NOAM VIP:										
	1) Select SOAM-A or DR NOAM-A. The line entry should now be highlighted in GREEN.	Main Menu: Status & Manage -> Server									
		Filter -									
		Network Element Server Hostname Appl State Alm	DB	Reporting Status	Proc						
	2) Select the "Restart" dialogue	NOAMP_NE pc9000736-no-b Enabled Err	Norm	Norm	Norm						
	button from the	NOAMP_NE pc9000738-no-a Enabled Norm	Norm	Norm	Norm 🚽						
	bottom left corner of	SOAM_NE pc9000734-so-a Disabled Warn	Norm	Norm	Man						
	the screen.	SOAM_NE pc9000732-so-b Disabled Warn	Norm	Norm	Man						
	<b>3)</b> Click the <b>"OK"</b> button on the confirmation	Stop Restart Reboot NTP Sync Report		000							
	<ul> <li>dialogue box.</li> <li>4) The user should be presented with a confirmation message (in the banner area) for SOAM or DR NOAM stating: "Successfully restarted application".</li> <li>NOTE: The user may need to use the vertical scroll-bar in order to make the "Restart" dialogue button visible.</li> </ul>	Are you sure you wish to restart application software on the following server(s)? pc9000734-so-a Main Menu: Status & Manage -> Serv Filter Info Info Network Elem NOAMP_NE NOAMP_NE SOAM_NE SOAM_NE SOAM_NE Stop Restart Reboot NTP Sync Report	er	4 application.	× b Dis Dis						

Step	Procedure			Result							
29.	Active NOAM VIP:										
	For <b>SOAM-A or DR</b> <b>NOAM-A</b> verify that the " <b>Appl State</b> "	Main Menu: Status & Manage -> Server									
		Filter -	Info 🔻								
	now shows "Enabled" and the "Proc" status column	Network Element	Server Hostname	Appl State	Alm	DB R	eporting tatus	Proc			
	show "Norm" before	NOAMP_NE ;	pc9000736-no-b	Enabled	Err	Norm N	lorm N	lorm			
	proceeding to the next step.	NOAMP_NE	pc9000738-no-a	Enabled	Norm	Norm N	lorm N	lorm			
	nem step.	SOAM_NE	pc9000734-so-a	Enabled	Norm	Norm N	lorm 🔿 N	Norm			
		SOAM_NE	pc9000732-so-b	Disabled	Warn	Norm N	lorm	Man			
		Stop Restart	Reboot NTP	Sync Repo	ort		080				
30.	Active NOAM VIP: Repeat Step 28 of this procedure for SOAM-B or DR NOAM-B.	Repeat Step 28 of the	Repeat Step 28 of this Procedure for SOAM Server B or DR NOAM-B.								
31.	Active NOAM VIP:	Main Menu	: Status & Ma	anage -> :	Server						
	NOAM-B verify that	Filter 🔻									
	now shows "Enabled" and the "Proc" status column	Network Elemen	t Server Hostnan	ne Appl State	e Alm	DB	Reporting Status	Proc			
	show "Norm" before	NOAMP_NE	pc9000736-no-t	b Enabled	Err	Norm	Norm	Norm			
	proceeding to the	NOAMP_NE	pc9000738-no-a	a Enabled	Norm	Norm	Norm	Norm			
	חסת אכף.	SOAM_NE	pc9000734-so-a	Enabled	Norm	Norm	Norm	Norm			
		SOAM_NE	pc9000732-so-t	Enabled	Norm	Norm	Norm	Norm			
		Stop Restart	Reboot	Sync Repo	ort		000				

Procedure 17: OAM Pairing for SOAM or DR NOAM sites

Step	Procedure	Result								
32.	NOAM VIP:	ORA	ACL€ Tek 4.1.0	elec HLR Router 41.2.0			0		A CAL	
	Verifying the NOAM Server Alarm status Select	Contrested using VIP has blin blocks Also Administration Contiguation Contiguation Also Alsons & Evanse		Main Menu: Ala	nne Gamar) irms&Ever - <u>Gaph -</u>	ıts -> Vi	ew Acti	ve (Filtered	Welcome gulada	All (Logon) Min (Logon) So coto UTC
	<u>Main Menu</u> → Alarms & Events → View Active		New Hatery View Hatery View hap Log vius & Manage asprements GLT XG Database kelec HLR Router	K0_ohitmo_grp Seq e			Proorso NE	Server		
33.	NOAM VIP:									
	Verify that <b>Event ID</b> <b>14101</b> (" <i>No remote</i> <i>provisioning clients</i> <i>are connected</i> ") is the only alarm present on HLRR system at this time.	Event ID Timestar Alarm Text 14101 2013-10- No Remote Connect	Timestamp     Severity     Product     Process     NE     Server       att     Additional Info     Additional Info     Info     Info     Info       2013-10-28 11:44:00.024 EDT     MAJOR     EXHR     pdba     NOAMP_NE     pc9000738-no-a       ac Connections     GN_DOWN/WRN No remote provisioning clients are connected. ^^ [2912 More					Type Ins PDBI 25:PdbiCo		
34.	Active NOAM VIP: Click the "Logout" link on the HLRR server GUI.	Wele Fri No	come guiadmi	(Logout)						
			Repeat this	procedure for tl	ne DR SOA	Ms				
		]	THIS PROCED	URE HAS BEE	EN COMPI	LETED				

Procedure 17: OAM Pairing for SOAM or DR NOAM sites

## 7.6 Configuring 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.

This procedure creates server groups for each MP.

#### **Requirements:**

- Procedure 14: Configuring Remaining HLRR Servers has been completed.
- Procedure 16: OAM Pairing for the Primary NOAM Servers has been completed.
- Procedure 17: OAM Pairing for SOAM or DR NOAM sites has been completed.

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

IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.

#### **Procedure 18: Configuring MP Server Groups**

Step	Procedure	Result
1.	Active NOAM VIP: Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active NOAM site using "https://"	Certificate Line: Navgation Ubdeed - Windows Interact Laplacer   Control in the second

Step	Procedure	Result
2.	Active NOAM VIP: The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Coracle System Login  Login  Priorycur Learner and password to login  Sector 20.00.000  Compensation  Compensatio
3.	Active NOAM VIP:	ORACLE Texelect LR Router
	The user should be presented the Main Menu as shown on the right.	Conserved and up WD is which is the second it is (2011) If MITAN IN CAMERS) 2 (From Mara) 3 (From Mara) 4 (Annual State) 4 (Annual State) 5 (From Mara) 5 (From Mara) 5 (From Mara) 6 (From Mara) 6 (From Mara) 7 (From Ma
<b>4</b> .	Active NOAM VIP:	ORACLE Tekelec HLR Router 4.1.0-41.2.0
	Select	Connected using VIP to chitachirranoam01b (ACTIVE NETWORK OAM&P)
	<u>Main Menu</u>	Administration Main Menu: Configuration -> Server Groups
	→ Configuration → Server Groups	Configuration Filter Filter
		Server Group Name Level Parent      Function     Connection     Count
		Servers     Server Groups     NO_drhmnc_grp     A     NONE     EAGLE XG     HLR Router     1
		Places Place Associations NO_chitnc_grp A NONE EAGLE XG HLR Router 1
		Image: A construction     SO_chiltre_grp     B     NO_chiltre_grp     EAGLE XG     0       Image: Security Log     SO_chiltre_grp     B     NO_chiltre_grp     HLR Router     0

## Procedure 18: Configuring MP Server Groups

Step	Procedure	Result									
5.	Active NOAM VIP:	Main Menu: Configuration -> Server Groups									
	1) The user will be presented with the	Filter -									
	<ul> <li>"Server Groups" configuration screen as shown on the right.</li> <li>2) Select the "Insert" dialogue button from the bottom left corner of the screen.</li> </ul>	Server Group 🔹 👻	Level	Parent	Function	Connection Count	Servers				
		SOAM_group	в	NOAMP_group	EAGLE XG HLR Router	0	NE SOAM_NE SOAM_NE				
		NOAMP_group	A	NONE	DNE EAGLE XG HLR Router 0		NOAMP_NE				
I		•					***				
	<b>NOTE:</b> The user may need to use the vertical scroll-bar in order to make the <b>"Insert"</b> dialogue button visible.	Insert Edit Delete	Rep	ort							
6.	Active NOAM VIP: The user will be presented with the "Server Groups	Main Menu: Configuration -> Server Groups [Insert]									
	[Insert]" screen as	Field		Value		Descripti	ion				
	shown on the right	Server Group Name				Unique i Range = alphanu and mus	den : A 1 mer st no				
		Level - Select Level - 🔻			Select or contain N and cont	ne c NOA ain					
		Parent		- Select Pa	arent - 🔻 *	Select ar	n ex				
		Function		- Select Fu	inction -	<ul> <li>* Select or</li> </ul>	ne c				
		WAN Replication Connection Count				Specify th replication Group. [[	he r on o Defa				
					Ok Ap	ply Cance					
7.	Active NOAM VIP:										
	Input the Server Group Name.	Field		Value		C					
	Group Name.	Server Group Name		MP1_group		*					

Procedure 18: Configuring MP Server Groups
Step	Procedure		Result	
8.	Active NOAM VIP: Select "C" on the "Level" pull-down menu.	Level	C ★	
9.	Active NOAM VIP: Select the desired SOAM server group on the "Parent" pull- down menu.	Parent	SOAM_group •	
<b>10</b> .	Active NOAM VIP: Select "EAGLE XG HLR Router" on the "Function" pull- down menu.	Function	EAGLE XG HLR Router 🔻	
11.	Active NOAM VIP: Enter a WAN Replication Connection Count of "1"	WAN Replication Connection Count	1	
12.	<ul> <li>Active NOAM VIP:</li> <li>1) The user should be presented with a banner information message stating "Pre-Validation passed".</li> <li>2) Select the "OK" button to commit the data.</li> </ul>	Main Menu: Configuration	on -> Server Groups	S [Insert]         Description         Unique identifier used to alphanumeric and under         Select one of the Levels s groups are optional and         Select an existing Server         Select one of the Function         Specify the number of TC this Server Group. [Defaultic Context]         Ok

Step	Procedure			Result					
13.	Active NOAM VIP: Select	ORACLE	Tekel 4.1.0-41	ec HLR Router 1.2.0					
	<u>Main Menu</u> → Configuration → Server Groups	Connected using VIP to chitr Main Menu Administration Configuration Configuration Network Elements	schirrno	Main Menu: Cor Filter *	nfigu	iration -	> Se	erver Gro	ups
	-	Network		Server Group Name	Level	Parent	•	Function	Connection Count
		- E Servers - E Server Groups - E Resource Domains	3	NO_drhmnc_grp	A	NONE		EAGLE XG HLR Router	1
		<ul> <li>Places</li> <li>Place Associations</li> </ul>		NO_chitne_grp	A	NONE		EAGLE XG HLR Router	1
		DSCP     Alarms & Events     Security Log		50_chilinc_grp	в	NO_chitric_g	Φ	EAGLE XG HLR Router	0
14.	Active NOAM VIP:	Main Menu: Cor	nfigu	ration -> Se	rve	r Grou	ps		
	1) Select the MP	Filter -							
	associated with the MP being installed.	Server Group Name	Level	Parent	Fun	ction	Con Cou	ni ni	
	2) Select the "Edit"	MP_1_group	с	SOAM_group	EAG HLF	ELE XG Router	0		
	the bottom left corner of the screen.	< Insert Edit Delete	Rep	ort		III	0	*	

Step	Procedure		Result	
15.	Active NOAM VIP:	Main Menu: Configurati	on -> Server Groups	s [Edit]
	presented with the "Configuration $\rightarrow$	Info 🔻		
	Server Groups	Field	Value	Description
	[Edit]" screen as shown on the right	Server Group Name	MP_1_group *	Unique identifier used to la A 1-32-character string. Va underscore. Must contain a digit.]
		Level	C • *	Select one of the Levels su
		Parent	SOAM_group *	Select an existing Server G
		Function	EAGLE XG HLR Router 💌	Select one of the Functions
		WAN Replication Connection Count	1	Specify the number of TCP over any WAN connection a 1. Range = An integer betw
		SOAM_NE		
		Server	SG Inclusion	Preferred HA Role
		pc9000730-mp-1	Include in SG	Preferred Spare
		VIP Assignment		
		VIP Address	A	dd
			Ok App	ly Cancel

**Procedure 18: Configuring MP Server Groups** 

Step	Procedure		Result	
16.	Active NOAM VIP:	Main Menu: Configurat	on -> Server Group	s [Edit]
	1) To add MP server to the server group,	Info 💌		
	select the checkbox	lnfo	8	Description
	When checked, the server will be included in the server	Pre-Validation passe	d - Data NOT committed	Unique identifier used to A 1-32-character string. V underscore. Must contai digit.]
	group. Note: Only one MP	Level	C *	Select one of the Levels
	is allowed per group.	Parent	SOAM_group *	Select an existing Server
	<b>2)</b> The user should be presented with a	Function	EAGLE XG HLR Router 💌	* Select one of the Function
	banner information message stating <b>"Pre-Validation</b>	WAN Replication Connection Count	1	Specify the number of TO over any WAN connectio 1. Range = An integer be
	passed".	SOAM_NE	SC Inclusion	Droforrod UA Dolo
	3) Select the "OK"	nc0000730-mn-1		Preferred Spare
	dialogue button to	pcsooor sompen		
	commit the data.	VIP Assignment		
		VIP Address		Add
			OkApp	Dly Cancel
17.	<b>NOAM VIP:</b> Wait for Remote Database Alarm to Clear for the MP.	Now that the Message Processor has be replication with the Active SOAM services completed. Wait for alarm <b>10200 Remote Databa</b> proceeding.	een placed within a Server Group ver. It may take several minutes se re-initialization in progress	p it must establish DB for this process to be to clear for the MP before
		Navigate to <b>Main menu-&gt;Alarms &amp; l</b>	Events->View Active	
		Main Menu: Alarms & Events -> View	History (Filtered)	
		Filter - Tasks -		Fri Mar 20
		Seq # Event ID Timestamp	Severity Product Process NE	Server Type
		414 10200 2015-03-20 09:30 00.090 EDT Remote Database re-initialization in progress	CLEAR apwSoap5 cleared because DB Re init Completed	ass_NO Compass-NOA CFG
		413 10200 2015-03-20 00:28 16:411 EDT Remote Database re-initialization in progress	Remote Database re-initialization in progress	ISSE_NO Compass-NOA CFG

Procedure 18: Configuring MP Server Groups

Step	Procedure			Result				
18.	Repeat Steps 4 - 17 of t group for each MP.	his procedure for each	MP server installed	in the same SC	AM Netv	vork El	ement, <i>usin</i>	g a unique
	"Check off" the associa	ated Check Box for ea	ch MP as it is comple	eted.				
	Primary Site:							
	MP-1 MP-2	□ MP-3 □ MP-4	4 🗌 MP-5					
	Disaster Recovery Site	(Optional):						
	☐ MP-1 ☐ MP-2	☐ MP-3 ☐ MP-4	4 🗌 MP-5					
19.	Active NOAM VIP:	Main Menu:	Status & Ma	nage -> S	Server			
	Select	Filter 🔻						
	<u>Main Menu</u> → Status & Manage	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
	→ Server	NOAMP_NE	pc9000736-no-b	Enabled	Err	Norm	Norm	Norm
		NOAMP_NE	pc9000738-no-a	Enabled	Norm	Norm	Norm	Norm
		SOAM_NE	pc9000734-so-a	Enabled	Norm	Norm	Norm	Norm
		SOAM_NE	pc9000732-so-b	Enabled	Norm	Norm	Norm	Norm
		SOAM_NE	pc9000730-mp-1	Disabled	Warn	Norm	Norm	Man
		SOAM_NE	pc9000728-mp-2	Enabled	Norm	Norm	Norm	Norm
20.	Active NOAM VIP:							
		Main Menu: 9	Status & Mar	nage -> S	erver			
	The "Appl State"	Filter -						
	shows "Disabled" The "DB & Reporting Status"	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
	columns all show	NOAMP_NE	pc9000736-no-b	Enabled	Err	Norm	Norm	Norm
	The <b>"Proc"</b> column	NOAMP_NE	pc9000738-no-a	Enabled	Norm	Norm	Norm	Norm
	should show "Man".	SOAM_NE	pc9000734-so-a	Enabled	Norm	Norm	Norm	Norm
		SOAM_NE	pc9000732-so-b	Enabled	Norm	Norm	Norm	Norm
		SOAM_NE	pc9000730-mp-1 🔇	Disabled	Warn	Norm	Norm	Man
		SOAM_NE	pc9000728-mp-2	Enabled	Norm	Norm	Norm	Norm

Step	Procedure			Result					
21.	Active NOAM VIP:	Main Menu:	Status & Mar	nage -> S	Server				
	select a " <b>MP</b> " hostname. The line entry should now be highlighted in <b>GREEN</b> .	Filter   Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	
	<ul> <li>2) Select the "Restart" dialogue button from the bottom left corner of the screen.</li> <li>3) Click the "OK" button on the confirmation</li> </ul>	NOAMP_NE SOAM_NE SOAM_NE SOAM_NE SOAM_NE SOAM_NE	pc9000738-no-a pc9000734-so-a pc9000732-so-b pc9000730-mp-1 pc9000728-mp-2 Reboot NTP S	Enabled Enabled Disabled Enabled Enabled	Norm Norm Norm Warn Norm	Norm Norm Norm Norm	Norm Norm Norm Norm Norm	Norm Norm Norm Man Norm	1
	dialogue box. 4) The user should be presented with a confirmation message (in the banner area) for the "MP" stating: "Successfully restarted application".	2 Are you sur on the follo pc9000730	e you wish to restart wing server(s)? -mp-1 <b>3</b> 00	application so	ftware Cancel				
	<b>NOTE:</b> The user may need to use the vertical scroll-bar in order to make the <b>"Restart"</b> dialogue button visible.	Main Menu: Filter I Network Elem NOAMP_NE NOAMP_NE	Status & Ma nfo • fo i • pc90007	nage -> 30-mp-1: Suc	Serve	<b>r</b> restarte	d applicatio	on.	

Procedure 18: Configuring MP Server Groups

Step	Procedure			Res	ult				
22.	Active NOAM VIP:	ORACLE	Tekelec HLR Route 4.1.0-41.2.0	, Language (1997) Language (1997)		0 11 0			
	Select	Connected using VEP to a a 🚑 Main Mone	Allochimesan@16 (ACTIVE F	ETWORK GAMEPJ				Welcom	e quiadmin (Log:
	<u>Main Menu</u>	<ul> <li>Administration</li> <li>Configuration</li> <li>Alarms 6 byords</li> </ul>	Main Menu:	Status & Manaj	je -> Ser	ver		Tar Mi	12 2014 12 04 15 1
	→ Status & Manage → Server	<ul> <li>Security Log</li> <li>Solution &amp; Hamegor</li> <li>Retwork Element</li> <li>Retwork Element</li> </ul>	Server Hostname of Birch Instance Char of Birch Instance Char	Network NO_CHL	Element INC	App Line Erz	i State Alm Bal Warn Bal Warn	DB Repo Statu Non Non	rting Proc Nom Nom
		📑 HA 📑 Outsbase	ditmeshimean01 ditmeshimean01	NO DRH NO DRH	HNC HNC	Ern Dra	sled Warn Sled Warn	Kern Norm	Nom Nom
23.	Active NOAM VIP:	Main Men	u: Status &	Manage	-> Se	erver			
	Verify that the <b>"Appl</b> State" now shows	Filter -							
	"Enabled"	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	
	Verify that the "Alm, DB Reporting	NOAMP_NE	pc9000736-no-b	Enabled	Err	Norm	Norm	Norm	
	Status & Proc"	NOAMP_NE	pc9000738-no-a	Enabled	Norm	Norm	Norm	Norm	
	status columns all show <b>"Norm"</b> for the	SOAM_NE	pc9000734-so-a	Enabled	Norm	Norm	Norm	Norm	
	"MP".	SOAM_NE	pc9000732 so-b	Enabled	Norm	Norm	Norm	Norm	
		SOAM_NE	pc9000730-mp-1	Enabled	Norm	Norm	Norm	Norm	Γ
24.	Repeat Steps 19	through 23 of th	is procedure for e	ach additiona	l MP sei	rver ins	talled on th	e SOAM I	NE.
	"Check off" the associa	ated Check Box fo	or each MP as it is	completed.					
	Primary Site:								
	□ MP-1 □ MP-2	MP-3	MP-4 🗌 MP-5						
	Disaster Recovery Site	e (Optional):							
	□ MP-1 □ MP-2	☐ MP-3 □ 1	MP-4 🗌 MP-5						
25.	Option	nal: Repeat th	is procedure fo	or the Disas	ter Reo	covery	MP serve	ers.	
	I	THIS PR	OCEDURE HAS	BEEN COMP	PLETED	)			

# 7.7 Configure MP Signaling Interfaces (All SOAM Sites)

This procedure configures XSI-1 and XSI-2 IP Interfaces plus (OPTIONAL: XSI-3 and XSI-4) and adds the XSI signaling routes for all MP Servers

#### Requirements: Procedure 18: Configuring MP Server Groups has been completed.

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

IF THIS PROCEDURE FAILS, PLEASE CONTACT ORACLE'S CUSTOMER CARE CENTER FOR THE ASSISTANCE.

Step	Procedure	Result
1.	Active NOAM VIP	Certificate Error: Navigation Blocked - Windows Internet Explorer
	Launch an approved web browser and connect to the XMI Virtual IP Address (VIP) of the Active NOAM site using "https://"	<ul> <li>Set Set "set as problem with this website's security certificate.</li> <li>There is a problem with this website's security certificate.</li> <li>The security certificate presented by this website was based for a different website's address.</li> <li>Security certificate presented by this website and tempt to fool you on intercept any data you send to the server.</li> <li>We recommend that you close this webpage and do not continue to this website.</li> <li>Clothere to dose this webpage.</li> <li>Continue to this website (not recommended).</li> <li>More information</li> </ul>
<b>2</b> .	Active NOAM VIP	ORACLE
	The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Cracle System Login     Energy our username and password to log in     Section was logged out at #3:3:33 pn.     Username:     Discrement:     Discrement
		Unsetherbred access is prohibited. This Oracle system receives the use of Nacrosoft Internet Explorer 3.0, 9.0, or 10.0 with support for Java20 tipl and cooldes. Once: and Arrower regulated backmanic of Oracle Corporation and/or to allocies. Other context may be contentions of their respective context. Copyright D 2010, 2016, <u>Couch</u> under the allocies. All optic reserved.

Step	Procedure					Result		
3.	Active NOAM VIP	ORACLE: Take	alec HLR F 412.0	louter				<b>86</b> 9 <b>8</b>
		Connected using VIX is defined as	este di la par	THE STOP	anew nameso)			
	The user should be presented the HLRR Main Menu as shown on the right.	<ul> <li>Marketervelay</li> <li>Marketervelay</li></ul>	Main Me	enut (Na	aln]	kar sina	This is an according to according to filter using the Control Control Topological Login Theory 20 5000 (177 Lase Login Theory 20 5000 (177 Heard Harris Login Maring St.	enso. Na Acambanakor maru. Na
4.	Active NOAM VIP	ORACLE	Tekelec 4.1.0-41.2	HLR F	Router			
	Select	Connected using VDP to chits A Nain Nerro Connected and Administration	i M	ain Me	enu: Con	no: onwar) figuration -> Networ	k -> Devices	Websens quiadmin (Logad)
	Main Menu	<ul> <li>Configuration</li> <li>L D Network Clements</li> </ul>						The rest of a second board of the
	→ Configuration	🗎 🍋 Network	9	diller	chimoam01a	diastrinent/le chinda	meant/fa dilment mean 216	strachiscardte 🗇 🗵
	$\rightarrow$ Network	- Houter		Jevice Jame	Device Type	Device Options	IP Interface (Network)	Configuration Status
	$\rightarrow$ Devices	- Servers - Server Croups		anba'	Theref	ondriada - "Brop" Inchada - "32.54.00.36.54 C.1" Inchada - "jan" persistent chokest - yan	152, 160, 7.20 (64) 9609-5054 #9606.0ex1 (65-6	Doctories (
		Resource Domains     Places     Places     Place Associations     Decr     Decr     Decr     Decr		ev#	atown	occhilona – roma entradi – yez	<ul> <li>40.5 40.5 44,400 (10.6 yr)</li> <li>20.0 1.000 (0.241 6054.0 10.00 (0.42)</li> <li>4066</li> <li>20.0 4000 (0.241 6054.0 10.00 (10.4)</li> <li>20.0 (0.0)</li> <li>40.0 (0.0)</li> <li>40.0 (0.0)</li> <li>40.0 (0.0)</li> <li>40.0 (0.0)</li> <li>40.0 (0.0)</li> </ul>	Devlayed
		<ul> <li>Becanty Log</li> <li>Status &amp; Manage</li> </ul>		esi -	Etcod	antificia – renc anticai – per	180,254,7,77 (24) 602, 5054 (162,6223 (254)	Deologica
		<ul> <li>Measurements</li> <li>PAGIE X6 Database</li> </ul>		set b	st    Delete	Report   Report Al    force (	Wriet sings	Passe Updates

Procedure 19: Configure MP Signaling Interfaces

1 i occuare 17; Conneare mit Stenanne internaces
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Step	Procedure			Resu	ılt	
5.	Active NOAM VIP	Click on th	ne desired N	MP tab.		
	Take ownership of	Select the	XSI 1 devi	ce.		
	the XSI 1 device for the desired MP.	Output sin	nilar to that	shown below may be observe	d.	
		Main I	Menu: (	Configuration -> N	etwork -> Dev	<b>rices</b> n Nov 04 12:11:31 3
		() p	c9000732-s	so-b pc9000730-mp-1	pc9000738-no-a	pc9000728-mp-2
		Device Name	Device Type	Device Options	IP Interface (Network	k) Configuration
		xsi1	Ethernet	bootProto = none hwAddr = 52:54:00:01:88:EF onboot = no		Discovered
		control	"Ethernet	bootProto = "dhcp" hwAddr = : "52:54:00:86:78:52" onboot = "yes" persistent_dhclient = yes	192.168.1.29 (/24) fe80::5054:ff:fe86:785 (/64)	52 Discovered
		xsi2	Ethernet	bootProto = none hwAddr = 52:54:00:83:02:3F onboot = no		Discovered
		xmi	Ethernet	bootProto = none onboot = yes	10.240.37.16 (XMI) fe80::5054:ff.fe22:e7f	2 Configured
		•				
		Insert	Edit Del	ete Report Report All	Take Ownership	Pause U
		Insert	Edit Del	ete Report Report All	Take Ownership	) 🗸 Pa

1 i occuare 17; Conneare mit Stenanne internaces
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Step	Procedure				Resu	llt		
6. Active NOAM VIP Click on the desired MP tab. Select the XSI 1 device.								
	device for the desired MP.Output similar to that shown below may be observed.							
		Select the	elect the Edit button at the bottom of the screen.					
		Main I	Menu: (	Conf	iguration -> N	etwork -> De	vice	<b>ES</b>
						M	on ne	
		(1) p	c9000732-s	so-b	pc9000730-mp-1	pc9000738-no-a	рс	9000728-mp-2
		Device Name	Device Type	Devic	e Options	IP Interface (Netwo	ork)	Configuration
		xsi1	Ethernet	bootF hwAd onbo	Proto = none Idr = 52:54:00:01:88:EF ot = no			Configured
		control	"Ethernet	bootProto = "dhcp" hwAddr = "52:54:00:86:78:52" onboot = "yes" persistent_dhclient = yes bootProto = none hwAddr = 52:54:00:83:02:3F onboot = no bootProto = none bootProto = none		192.168.1.29 (/24) fe80::5054.ff.fe86:7 (/64)	852	Discovered
		xsi2	Ethernet					Discovered
		xmi	Ethernet			10.240.37.16 (XMI) fe80::5054:ff:fe22:e	7f2	Configured
		•						

Procedure 19	: Configure	<b>MP</b> Signaling	Interfaces

Step	Procedure		Re	esult				
7.	Active NOAM VIP Enable "Start On Boot"	Click on the <b>General Options</b> tab. Check the <b>Start on Boot</b> check box (to make it enabled). Output similar to that shown below may be observed.						
		Edit Etherne	t device xsi1 on	pc9000728-mp-2				
		General Option	ons MII Monitoring Opt	ions ARP Monitoring Options				
		Field	Value	Description				
		Device Type	<ul> <li>Ethernet</li> <li>Bonding</li> <li>Vlan</li> <li>Alias</li> </ul>	Select the device type. It cannot be after device is created. [Default = I Range = Bonding, Vlan, Alias.]				
		Device Monitoring	Monitoring Type 💌	Choose a monitoring style to use bonding device. Disabled for non- devices. [Default = MII. Options = I				
		Start On Boot	Enable	Start the device, and also start on [Default = enabled]				
		Boot Protocol	None 🔻	Select the boot protocol. [Default = Range = None,DHCP]				
		Base Device(s)	└─ control └─ imi └─ xmi └─ xsi1 └─ xsi2	The base device(s) for Bonding, A Vlan device types. Alias and Vlan require 1 selection; Bonding devic require 2 selections. It cannot be after device is created. [Default = I Range = available base devices p type.]				
		Ok Apply Car	ncel					

Procedure 1	9.	Configure	мр	Signaling	Interfaces
1 I UCCUUI C I		Configure	TAT	Signanng	inter faces

Step	Procedure	Result							
8.	Active NOAM VIP Add an XSI1 IP	Click on the <b>IP Interfaces</b> tab. Click the <b>Add Row</b> button.							
		Enter the XSI1 Signaling IP Address.							
	Address.	Set the Network Name to <b>XSI1</b> from the pull-down list.							
		Click on the <b>Ok</b> button.							
		Output similar to that shown below may be observed.							
		Main Menu: Configuration -> Network -> Devices [Edit]							
		Info 🔻							
		Edit Ethernet device xsi1 on pc9000728-mp-2							
		General Options MII Monitoring Options ARP Monitoring Options IP Interfa							
		IP Address List: Add Row							
		10.240.37.35 XSI1 (10.240.37.32/29) ▼ Remove							
		< <tr>         Image: Cancel</tr>							

Procedure 19:	<b>Configure MP</b>	Signaling Interfaces	5
	Comgare	~	•

Step	Procedure				Res	ult			
9.	Active NOAM VIP	Click on th	lick on the desired <b>MP</b> tab.						
	Take ownership of								
	the XSI 2 device for the desired MP.	Click on th	ck on the <b>Take Ownership</b> button.						
		Output sin	Output similar to that shown below may be observed.						
		Main I	Main Menu: Configuration -> Network -> Devices						
						M	on No	V 04	
		() po	pc9000732-so-b pc9000730-mp-1 pc9000738-no-a pc9000						
		Device Name	Device Type	Devic	e Options	IP Interface (Netwo	ork)	Col	
		xsi1	Ethernet	onbo bootF hwAd	ot = yes Proto = none Idr = 52:54:00:01:88:El	10.240.37.35 (XSI1	)	Co	
		control	"Ethernet	booth hwAd "52:5 onbo persi	Proto = "dhcp" ldr = 4:00:86:78:52" ot = "yes" stent_dhclient = yes	192.168.1.29 (/24) fe80::5054:ff:fe86:7 (/64)	852	Dis	
		xsi2	Ethernet	booth hwAd onbo	Proto = none ldr = 52:54:00:83:02:3/ ot = no	=		Dis	
		xmi	Ethernet	booth onbo hwAd	Proto = none ot = yes Idr = 52:54:00:22:E7:Fi	10.240.37.16 (XMI) fe80::5054:ff:fe22:e 2 (/64)	) 97f2	Co	
		imi	Ethernet	booth onbo hwAo	Proto = none ot = yes Idr = 52:54:00:AB:46:3	169.254.2.7 (IMI) fe80::5054:ff:feab:4 F (/64)	163f	Co	
		Insert	Edit Del	ete	Report Report All	↔ Take Ownersł	nip		

Procedure 19:	Configure M	P Signaling Interfaces
i i occuui c 17.	Configure fri	i Signanng interrates

Step	Procedure			Resu	lt				
10.	Active NOAM VIP	Click on the	Click on the desired <b>MP</b> tab.						
	Edit the XSI 2	Select the <b>XSI 2</b> device.							
	device for the desired MP.	Click on the <b>Edit</b> button.							
		Output simi	Dutput similar to that shown below may be observed.						
		Main M	Main Menu: Configuration -> Network -> Devices						
		Status	Status -						
		Image: Contract of the second seco	000730-m	ip-1 pc9000738-no-a	pc9000728-mp-2				
		Device Name	Device Type	Device Options	IP Interface (Network)	Configu			
		xsi1	Ethernet	onboot = yes bootProto = none hwAddr = 52:54:00:01:88:EF	10.240.37.35 (XSI1)	Configu			
		control	"Ethernel	bootProto = "dhcp" hwAddr = "52:54:00:86:78:52" onboot = "yes" persistent_dhclient = yes	192.168.1.29 (/24) fe80::5054:ff:fe86:7852 (/64)	Discove			
		xsi2	Ethernet	bootProto = none hwAddr = 52:54:00:83:02:3F onboot = no		Configu			
		xmi	Ethernet	bootProto = none onboot = yes hwAddr = 52:54:00:22:E7:F2	10.240.37.16 (XMI) fe80::5054:ff:fe22:e7f2 (/64)	ConfigL			
		imi	Ethernet	bootProto = none onboot = yes hwAddr = 52:54:00:AB:46:3F	169.254.2.7 (IMI) fe80::5054:ff:feab:463f (/64)	Configu			
		Insert	Edit Del	ete Report Report All	Take Ownership	<b>▼</b> F			

Procedure 19:	<b>Configure MP</b>	Signaling Interfaces
1 I Occuui e 17.	Configure mit	Signaming interfaces

Step	Procedure		Result							
11.	Active NOAM VIP	Click on the General Options tab.								
	Enable "Start On	Check the <b>Start on Boot</b> check box (to make it enabled).								
	Boot"	Output similar to that shown below may be observed.								
		Edit Ethernet	Edit Ethernet device ysi2 on pc9000729-mp-2							
				pesece/20 mp 2						
		General Options	MII Monitoring Options	ARP Monitoring Options	IP Interfaces					
1		Field	Value	Description						
		Device Type	<ul> <li>Ethernet</li> <li>Bonding</li> <li>Vlan</li> <li>Alias</li> </ul>	Select the device type. It canno after device is created. [Defau = Bonding, Vlan, Alias.]	ot be changed It = N/A. Range					
		Device Monitoring	Monitoring Type 💌	Choose a monitoring style to bonding device. Disabled for r devices. [Default = MII. Option:	use with a non-bonding s = MII, ARP.]					
		Start On Boot	Enable	Start the device, and also star [Default = enabled]	t on boot.					
		Boot Protocol	None 🔻	Select the boot protocol. [Defa Range = None,DHCP]	ult = None,					
		Base Device(s)	└─ control └─ imi └─ xmi └─ xsi1 └─ xsi2	The base device(s) for Bondin Vlan device types. Alias and V require 1 selection; Bonding of 2 selections. It cannot be char device is created. [Default = N available base devices per de	g, Alias and lan devices levices require nged after /A. Range = wice type.]					
		Ok Apply Can	cel							

Procedure 19.	Configure N	IP Signaling	Interfaces
I I Occuuite I /.	Configure M	n Signanng	interfaces

Step	Procedure	Result						
12.	Active NOAM VIP	Click on the <b>IP Interfaces</b> tab. Click the <b>Add Row</b> button.						
	Add an XSI 2 IP	Enter the XSI2 Signaling IP Address.						
	Address.	Set the Network Name to <b>XSI2</b> from the pull-down list.						
Click on the <b>Ok</b> button.								
		Output similar to that shown below may be observed.						
		Main Menu: Configuration -> Network -> Devices [Edit] Mon Nov 04 12:26:20						
		Edit Ethernet device xsi2 on pc9000728-mp-2						
		General Options MII Monitoring Options ARP Monitoring Options IP Interfa						
		IP Address List.         X dd ress           10.240.37.43         XSI2 (10.240.37.40/29)						
I		Remove						
		< Cancel Cancel						
13.		Optional for DL380 Servers Only: Repeat steps 4-8 to add XSI-3 and XSI-4.						

Step	Procedure	Result									
14.	Repeat STEPS 4 through 12 (optional 13) for each MP.										
	• "Check off" th	"Check off" the associated Check Box as each MP is completed.									
	Primary Site:										
	□ MP-1 □ MP-2 □ MP-3 □ MP-4 □ MP-5										
	Disaster Recovery Site (Optional):										
	□ MP-1 □ MP-2 □ MP-3 □ MP-4 □ MP-5										
15.	Active NOAM VIP										
	Select										
	Connected using VIP to pc9000738-no-a (ACTIVE NETWORK OAM&P)										
	Main Menu	Main Menu     Main Menu: Configuration -> Network									
	$\rightarrow$ Network	Administration									
	$\rightarrow$ Routes	Network Ele									
		Services Entire Network MP_1_group MP_2_group									
		Resource Dc Servers C9000734-so-a pc9000732-so-b pc9000730									
		Server Grou Route Type Destination Netmask									
		Places									
		E Contraction State Stat									
		Devices									

Step	Procedure				Result		
16.	Active NOAM VIP	Click on the desir Output similar to	red <b>MP</b> tab. that shown belo	ow may be obs	served.		
	Insert a new route	I					
	for the MP.	Main Men	u: Configu	ration ->	> Networ	k -> Rou	tes 🔗 H
					14	101 1107 04 12	:35:09 2013 8
	group 💿 🤆						
Entire Server Group pc9000728-mp-2							
		Route Type	Destination	Netmask	Gateway	Device Name	Configuration Status
		default	0.0.0.0		10.240.37.1	xmi	Discovered
		Insert Edit	Delete Rep	oort Report	t All		
		Click on the Inse	rt button				

Procedure 19: Configure MP Signaling Interfaces

Step	Procedure	Result					
17.	Active NOAM VIP Add XSI1 signaling route to MP	Set <b>Route Typ</b> Set <b>Device</b> to 2 Enter <b>Destinat</b> Click <b>Apply</b> b Output similar	<b>be</b> to desired value <b>XSI1</b> <b></b>	alues for XSI1. prved.			
Main Menu: Configuration -> Network -> Routes [Ins							
	Insert Route on pc9000728-mp-2						
		Field	Value	Description			
		Route Type	<ul> <li>Net</li> <li>Default</li> <li>Host *</li> </ul>	Select a route type. [Default = N/A. Options = N Default, Host. You can configure at most one I default route and one IPV6 default route on a g target machine.]			
		Device	xsi1 ▼ *	Select the network device name through which is being routed. The selction of AUTO will rest device being selected automatically, if possibl [Default = N/A. Range = Provisioned devices of selected server.			
		Destination	10.250.54.0	The destination network address. [Default = N Range = Valid Network Address of the network dotted decimal (IPv4) or colon hex (IPv6) formations			
		Netmask	255.255.255.0	A valid netmask for the network route destinat address. [Default = N/A. Range = Valid Netma the network in prefix length (IPv4 or IPv6) or do decimal (IPv4) format.]			
		Gateway IP	10.240.37.33 *	The IP address of the gateway for this route. [[ N/A. Range = Valid IP address of the gateway decimal (IPv4) or colon hex (IPv6) format.]			
			Ok	Apply Cancel			

**Procedure 19: Configure MP Signaling Interfaces** 

Step	Procedure		Result				
18.	Active NOAM VIP Add XSI2 signaling route to MP	Set Route Type Set Device to X Enter Destination Click Apply but Output similar to Main Me [Insert] Info • Insert R	e to desired value SI2 on, Netmask and Gateway IP va tton. o that shown below may be obser nu: Configuration -> oute on pc9000728-	Network -> Routes			
		Field	Value	Description			
		Route Type	<ul> <li>Net</li> <li>Default</li> <li>Host *</li> </ul>	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	xsi2 ×	Select the network device name through which traffic is being routed. The selction of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.			
		Destination	10.250.54.0	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]			
		Netmask	255.255.255.0	A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]			
		Gateway IP	10.240.37.41 *	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.]			
		Cancel					
19.	Optior	al for DL380 Se	ervers Only: Repeat steps 15-17	to add routes for XSI-3 and XSI-4.			

Step	Procedure	Result						
20.	Repeat steps 16-18	Repeat steps 16-18 (Optional 19) for each MP.						
	"Check off" the asso	ociated Check Box for each MP as it is completed.						
	Primary Site:							
	□ MP-1 □ MP-	□ MP-1 □ MP-2 □ MP-3 □ MP-4 □ MP-5						
	Disaster Recovery Site (Optional):							
	□ MP-1 □ MP-2 □ MP-3 □ MP-4 □ MP-5							
21.	Optional: Repeat procedure for Disaster Recovery MPs							
22.	Active NOAM VIP: Click the "Logout" link on the HLRR server GUI.	Welcome guiad nin [Logout]						
	THIS PROCEDURE HAS BEEN COMPLETED							

# Appendix A. Accessing the iLO VGA Remote Console Window

Step	Procedure	Result
1.	Launch an approved web browser and connect to the iLO interface <b>NOTE:</b> Always use https:// for iLO GUI access. Use the default iLO IP address.	Home - Windows Internet Explorer
2.	The web browser will display a warning message regarding the Security Certificate.	<ul> <li>Certificate Error: Navigation Blocked</li> <li>There is a problem with this website's security certificate.</li> <li>The security certificate presented by this website was not issued by a trusted of The security certificate presented by this website has expired or is not yet valid. The security certificate presented by this website was issued for a different well Security certificate problems may indicate an attempt to fool you or intercept server.</li> <li>We recommend that you close this webpage and do not continue to thin Continue to this website (not recommended).</li> <li>More information</li> </ul>
3.	Select the option to "Continue to the website (not recommended)	We recommend that you close this webpage and do not continue to this website.         Image: Click here to close this webpage.         Image: Continue to this website (not recommended).

Appendix A: Accessing the iLO VGA Remote Console Window

4.	Login to the iLO console	Integrated Lights-Out 2 HP Proliont
5.	The iLO GUI is displayed. Select the " <b>Remote</b> <b>Console</b> " tab in the upper left corner of the GUI.	Difference       Difference <thdifference< th=""> <thdiffereece< th=""> <thdiffereece< th=""></thdiffereece<></thdiffereece<></thdifference<>
6.	The Remote Console Information GUI is displayed Click on the " <b>Integrated</b> <b>Remote Console</b> " option	Integrated Lights-Out 2       If Protection       If Protection         Eyeton Boox       Performation       If         Eyeton Boox       Performation       If         Integrated Remate Console       Information       If         Remate Console       Information provide the second provide the se

## Appendix A: Accessing the iLO VGA Remote Console Window

7.	The iLO Console window is displayed.	Intel(K) RWW2 Remote Console - 10.240.240.91     Ctr+*Al+*Delete	
	<b>NOTE:</b> The console window resembles an MS-DOS window but DOES NOT have a scroll-back buffer.	ContUS yelease 4.0 (Uinal) Kernel 2.0.10-1.2009pyerel).1.0_01.12.0 on an 1000 муз-0500-а login: Conste(SI) Desception /20x400 (ра Am 2010x 0.0140	Iter 👔 🎾
		THIS PROCEDURE HAS BEEN COMPLETED	

Appendix A: Accessing the iLO VGA Remote Console Window

# Appendix B. HP DL360 Configure CMOS Clock, BIOS Settings, and iLO IP Address

This procedure will configure the HP DL360 CMOS Clock, set the BIOS setting and configure the iLO IP Address.

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

### IF THIS PROCEDURE FAILS, CONTACT ORACLE CUSTOMER CARE CENTER AND ASK FOR ASSISTANCE.

Annendiv R.	HP DI 360	Configure	CMOS	Clock	BIOS	Settings	and iL O IP	Address
Appendix D.	III DL300	Configure	CINOS	CIUCK,	DIUS	settings,	and illo ii	Auuress

Step	In this procedure you will configure BIOS settings for a DL360 and set the iLO IP address.				
1.	Access the HP DL360 server's console.	Connect to the HP DL360 server's console using one of the access methods described in Section 2.3.			
2.	Access the Server BIOS	Reboot the server. This can be achieved by pressing and holding the power button until the server turns off, then after approximately 5-10 seconds press the power button to enable power. As soon as you see F9=Setup in the lower left corner of the screen, press [F9] to access the BIOS setup screen. You may be required to press [F9] 2-3 times. The F9=Setup will change to F9 Pressed once it is accepted. See example below.			
		<b>Expected Result:</b> ROM-Based Setup Utility is accessed and the ROM-Based Setup Utility menu will be displayed.			

<b>Appendix B:</b>	HP DL360 Configur	e CMOS Clock,	<b>BIOS Settings, and</b>	iLO IP Address
--------------------	-------------------	---------------	---------------------------	----------------

r						
3.	Set DL360 Server CMOS Clock	Scroll to Date and Time and press [ENTER]				
		Set the date and time and press [ENTER].				
		ROM-Based Setup Utility, Version 3.00 Copyright 1982, 2010 Hewlett-Packard Development Company, L.P.				
		System Options Power Management Op PCI IRQ Settings PCI IRQ Settings PCI Device Enable/D Standard Boot Order Boot Controller Ord Date and Time Server Availability Server Security BIOS Serial Console & ENS Server Asset Text Advanced Options System Default Options Utility Language Modify Date and Time <enter> to Save Changes, <esc> to Main Menu</esc></enter>				
		Expected Result: Correct Time & Date is set.				
<b>4</b> .	Configure iLO serial port settings	The serial ports on HP DL360 G6 rack mount servers need to be configured so the serial port used by the BIOS and TPD are connected to the "VSP" on the iLO. This will allow the remote administration of the servers without the need for external terminal servers. If this configuration has not been completed correctly and the server rebooted, the syscheck "syscheck -v hardware serial" test will fail.				
		Select System Options option and press [ENTER].				
		Select Serial Port Options option and press [ENTER].				
		Change Embedded Serial Port to COM2 and press [ENTER].				
		Change Virtual Serial Port to COM1 and press [ENTER].				
		Press <esc> two times</esc>				

# Appendix B: HP DL360 Configure CMOS Clock, BIOS Settings, and iLO IP Address

5.	Configure Power Management Options settings	The Power Management Options on HP DL360 G6 rack mount servers need to be configured for optimum software performance.		
		Select Power Management Options option and press [ENTER].		
		Select HP Power Profile option and press [ENTER].		
		Change it to Maximum Performance and press [ENTER].		
		Press <esc> two times</esc>		
6.	Save Configuration and Exit	Press [F10] to save the configuration and exit. The server will reboot		
		ROM-Based Setup Utility, Version 3.00		
		Copyright 1982, 2010 Hewlett-Packard Development Company, L.P.		
		· · · · · · · · · · · · · · · · · · ·		
		Sustem Ontions HP Proliant DL360.06		
		Power Management Ontions S/N: USF013N1C7		
		PCL IRO Settings Product ID: 484184-821		
		PCI Dev		
		Standar $\langle F10 \rangle$ to Confirm Exit Utility ackup Version 03/01/2010		
		Standar (F10) to Confirm Exit Utility ackup Version 03/01/2010		
		BOOT CO		
		Sorver Availability		
		Server Availability		
		Server Security 24576MB Memory Configured		
		BIUS Serial Console & EMS		
		S Current Boot Controller		
		A PCI Embedded HP Smart Array P410i Controller he		
		he he		
		Press (TAB) for More Information		
		Expected Result:		
		Settings are saved and server reboots.		

# Appendix B: HP DL360 Configure CMOS Clock, BIOS Settings, and iLO IP Address

7.	Access the iLO Setup Screen.	The RMS Server will reboot and after a few minutes the HP Prolaint Graphic will be displayed. As soon as you see the F12=Network Boot option appears in the lower center of the screen, press [F8] to access the iLO setup screen. You may be required to press [F8] 2-3 times. See example below.
		Inlet Ambient Temperature: 24C/75F     Press any key to view Option ROM messages       Press any key to view Option ROM messages     See of Senon       F9 = Setup     F11 = Boot Menu     F12 = Network Boot
8.	iLO Setup Screen	The iLO Setup Screen is displayed as show below: Integrated Lights-Out 2 File Network User Settings About

11			
9.	Set the iLO IP address	Select the Network pulldown and highlight NIC and TCP/IP and press the <enter> key: Integrated Lights-Out 2 File Network User Settings About NIC and TCP/IP DNS/DHCP</enter>	
10.	Set the iLO IP address	The iLO IP configure screen is displayed. Make the following settings by highlighing them: Network Interface Adapter: ON Transceiver Speed Autoselect: ON IP Address: IP Address from NAPD Documentation Subnet Mask: IP Address from NAPD Documentation Gateway Address: IP Address from NAPD Documentation Select the <f10> key to Save the settings.</f10>	
		Network Configuration	
		MAC Address ac-16-2d-b4-6d-9e	
		Network Interface Adapter ON	
		Transceiver Speed Autoselect ON	
		IP Address 10.240.240.125	
		Subnet Mask 255.255.0	
		Gateway IP Address 10.240.240.1	
		[F10]=Save [ESC]=Cancel	

Appendix B: HP DL360 Configure CMOS Clock, BIOS Settings, and iLO IP Address

Appen	Appendix B: HP DL360 Configure CMOS Clock, BIOS Settings, and iLO IP Address				
11.	iLO Setup Screen	Exit the iLO Setup Screen by selecting <b>File</b> and hightlighting <b>Exit</b> , then pressing <b><enter></enter></b> on the keyboard.			
Integrated Lig					
		File Network User Settings About			
		Set Defaults Exit			
	il O Satun Saraan	Select contors on the keyboard to exit the iLO Setur Screen			
12.		Are you sure?       [ENTER]=OK       [ESC]=Cance l			
13.	iLO Setup Screen	Select <b><enter></enter></b> on the keyboard to exit the iLO Setup Screen and reset the iLO interface.			
		iLO 2 will be reset. This utility will now exit. [ENTER]=OK			
14.	Server Command Interface	The iLO connection will be closed and the server will reboot.			

din D. HD DI 200 Configures CMOS Clock BIOS Settin .

# Appendix B: HP DL360 Configure CMOS Clock, BIOS Settings, and iLO IP Address

15.	iLO GUI Interface	Login into the i	LO GUI using Internet Explox	er with the ip address entered in step 10.	
		(IP)	Integrated Lights-Out 2 HP ProLiant		
				Login name: Password:	
				Log In Clour	
16.	iLO GUI Interface	iLO GUI Interf	ace is displayed:		
			Integrated Lights-Out 2 HP Proliant		
		System Status	Status Summary	dia Power Management Administration	
		Summary	Server Name:	drhmnchlrrmp02t; ProLiant DL360 G6	
		System	Serial Number / Product ID:	USE242JAHV / 484184-B21	
		il O 2 Log	UUID:	31343834-3438-5355-4532-34324A414856	
		TMI	System ROM:	P64 01/22/2015; backup system ROM: 07/02/2013	
		Diagnostics	System Health:	Momentary Press ON	
		iLO 2 User	UID Light:	Turn UID On OFF	
		Tips	Last Used Remote Console:	Launch Remote Console	
		Insight Agent	Latest IML Entry:	POST Error: Fan Solution Not Sufficient	
			iLO 2 Name:	ILOUSE242JAHV	
			ilo 2 FQDN:	ILOUSE242JAHV.	
			License Type:	iLO 2 Advanced	
			iLO 2 Firmware Version:	2.27 01/27/2015	
			IP address:	10.240.240.125	
			Active Sessions:	ILO 2 User:root	
			iLO 2 Date/Time:	02/08/2016 18:17:08	
	THIS PROCEDURE HAS BEEN COMDI ETED				
		1115	I ROCEDURE HAS DEEN (		

# Appendix C. Creating Temporary External IP Address for Accessing HLRR GUI

This procedure creates a temporary external IP address that will be used for accessing the HLRR GUI prior to configuring the first HLRR server. This procedure assumes that the user has access to the ILO and can access an external (XMI) network at the customer site.

					~ ~ ~ ~
Annendix ('• ('reating	Temnorary	' External IP	Address for	Accessing HLRR (	2111
Appendix C. Creating	remporary	L'Atternar II	1 <b>uu</b> 1 035 101	meetssing munitie	,01

Step	In this procedure you will configure a temporary external IP Address for NOAM Server A for the 1 st NOAM site. The user will use this IP Address in a web browser to access the GUI to configure the first HLRR server.		
1.	<b>PMAC Server:</b> Connect to the PMAC Server Console.	Connect to the PMAC server's console using one of the access methods described in Section 2.3. Use the PMAC_Management_ip_address that was entered in Procedure 4 Deploying PMAC, Step 3.	
2.	<ul><li><b>PMAC Server:</b></li><li><b>1</b>) Access the command prompt.</li></ul>	login as: admusr admusr@10.250.xx.yy's password: <b><admusr_password></admusr_password></b> Last login: Mon Jul 30 10:33:19 2012 from 10.25.80.199 [admusr@pmac-pc9040833 ~]\$	
	2) Log into the PMAC server as the "admusr" user		
3.	<b>PMAC Server:</b> SSH into the NOAM-A server using the Control IP Address	Using an SSH client such as putty, ssh to the NOAM-A server using admusr credentials and the <noam-a address="" control="" ip=""> from <b>Procedure 11:</b> Configure TVOE Host's Network on all Rack Mount Servers. [admusr@pmac-pc9040833 ~]\$ ssh 192.168.1.xx admusr@192.168.1.20's password: <admusr_password></admusr_password></noam-a>	
4.	NOAM Server A: Output similar to that shown on the right will appear as the server access the command prompt.	<pre>*** TRUNCATED OUTPUT *** VPATH=/opt/TKLCcomcol/runcm5.16:/opt/TKLCcomcol/cm5.16 PRODPATH= RELEASE=5.16 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/awptransport mgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@pc9040833-no-a ~]\$</pre>	

Appendix C: Creating Temporary External IP	Address for Accessing HLRR GUI
--------------------------------------------	--------------------------------

<ul> <li>NOAM Server A:</li> <li>Set XMI interface IP address from the NAPD documentation to temporarily access the HLRR GUI.</li> <li>Sudo /usr/TKLC/plat/bin/netAdm querydevice=xmi Protocol: none On Boot: yes IP Address: 10.250.51.80 Netmask: 255.255.255.0 \$</li> <li>If the xmi IP address and netmask have been configured, skip to the r Note: The output below is for illustrative purposes only. The site info determine the network interfaces, (network devices, bonds, and bond configure.</li> <li>Set xmi IP address \$ sudo /usr/TKLC/plat/bin/netAdm adddevice=xmi address=<xmi_ip_address_for_no_a> netmask=<xmi_netmask>onboot=yesbootproto=none Interface xmi updated</xmi_netmask></xmi_ip_address_for_no_a></li> </ul>		Verify the management network by running the following command Note: The output below is for illustrative purposes only. The example output below shows the management bridge configured. \$ sudo /usr/TKLC/plat/bin/netAdm querydevice=xmi Protocol: none On Boot: yes IP Address: 10.250.51.80 Netmask: 255.255.255.0 \$ If the xmi IP address and netmask have been configured, skip to the next step. Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure. Set xmi IP address \$ sudo /usr/TKLC/plat/bin/netAdm adddevice=xmi address= <xmi_ip_address_for_no_a> netmask=<xmi_netmask>onboot=yesbootproto=none Interface xmi updated</xmi_netmask></xmi_ip_address_for_no_a>
6.	NOAM Server A: Add a route to the temporary XMI interface	Note: The output below is for illustrative purposes only. The example output below shows the control bridge configured.  \$ sudo /usr/TKLC/plat/bin/netAdm query -route=defaultdevice=xmi Routes for TABLE: main and DEVICE: xmi * NETWORK: default GATEWAY: 10.250.51.1 \$ If the route has been configured, skip to the next step. Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure. For this example, add default route on management network. \$ sudo /usr/TKLC/plat/bin/netAdm addroute=defaultgateway= <xmi_gateway>device=xmi Route to xmi added</xmi_gateway>
7.	NOAM Server A: Restart the network	Restart the server by running the following: \$ service network restart
	on the server	

8.	NOAM Server A: Wait a few minutes and then ping the default gateway to ensure connectivity.	<pre>\$ ping <xmi_ip_address_for_default_gateway> \$</xmi_ip_address_for_default_gateway></pre>		
9.	NOAM Server A: Log off the NOAM-A Server	[admusr@hostname1260476221 ~]\$ exit Connection to 192.168.1.20 closed. [admusr@hostname1260476221 ~]		
<b>10.</b>	<b>PMAC Server:</b> Log off the PMAC Server	[admusr@hostname1260476221 ~]\$ exit		
11.	The user can now launch an approved web browser and connect to https:// <xmi_ip_address_for_no_a> to access the HLRR NOAM-A GUI using the temporary IP address.</xmi_ip_address_for_no_a>			
	THIS PROCEDURE HAS BEEN COMPLETED			

# Appendix C: Creating Temporary External IP Address for Accessing HLRR GUI

## Appendix D. Creating an XML file for Installing HLRR Network Elements

HLRR Network Elements can be created by using an XML configuration file. The HLRR software image (*.iso) contains two examples of XML configuration files for "NO" (Network OAM&P) and "SO" (System OAM) networks. These files are named **HLRR_NOAM_NE.xml** and **HLRR_SOAM_NE.xml** and are stored on the /usr/TKLC/exhr/xml directory. The customer is required to create individual XML files for each of their HLRR Network Elements. The format for each of these XML files is identical. Below is an example of the HLRR_NOAM_NE.xml file. The highlighted values are values that the user must update.

**NOTE:** The **Description** column in this example includes comments for this document only. **Do not include** the Description column in the actual XML file used during installation.

XML File Text	Description
<networkelement></networkelement>	
<name>NOAM_NE</name>	Unique identifier used to label a Network Element. [Range = 1-32 character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and must not start with a digit.]
<ntpservers></ntpservers>	
<ntpserver>10.250.32.10</ntpserver>	IP Address of the first NTP server. There must be at least one NTP server IP address defined.
<ntpserver>10.250.32.51</ntpserver>	IP Address of second NTP server, if it exists; otherwise, this line must be deleted.
<networks></networks>	
<network></network>	
<name>XMI</name>	Name of customer external network. <b>Note</b> : Do NOT change this name.
<vlanid><mark>3</mark></vlanid>	The VLAN ID to use for this VLAN. [Range = 2-4094.]
<ip><mark>10.250.39.16</mark></ip>	The network address of this VLAN [Range = A valid IP address]
<mask><mark>255.255.255.240</mark></mask>	Subnetting to apply to servers within this VLAN
<gateway><mark>10.250.39.17</mark></gateway>	The gateway router interface address associated with this network [Range = A valid IP address]
<isdefault>true</isdefault>	Indicates whether this is the network with a default gateway. [Range = true/false]
<network></network>	
<name>IMI</name>	Name of customer internal network. <b>Note</b> : Do NOT change this name.
<vlanid><mark>4</mark></vlanid>	The VLAN ID to use for this VLAN. [Range = 2-4094.]
<ip><mark>169.254.2.0</mark></ip>	The network address of this VLAN [Range = A valid IP address]
<mask>255.255.255.0</mask>	Subnetting to apply to servers within this VLAN
<gateway>169.254.2.1</gateway>	The gateway router interface address associated with this network [Range = A valid IP address]
<isdefault>false</isdefault>	Indicates whether this is the network with a default gateway. [Range = true/false]

Table 4 - HLRR 4.1 XML NOAM Network Element Configuration File
# Appendix E. List of Frequently Used Time Zones

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

Time Zone Value	Description	Universal Time Code (UTC) Offset
Etc/UTC	GMT	0
America/New_York	Eastern Time	UTC-05
America/Chicago	Central Time	UTC-06
America/Denver	Mountain Time	UTC-07
America/Phoenix	Mountain Standard Time - Arizona	UTC-07
America/Los_Angeles	Pacific Time	UTC-08
America/Anchorage	Alaska Time	UTC-09
Pacific/Honolulu	Hawaii	UTC-10
Africa/Johannesburg		UTC+02
America/Mexico_City	Central Time - most locations	UTC-06
Africa/Monrovia		UTC+00
Asia/Tokyo		UTC+09
America/Jamaica		UTC-05

Table 5 - List of Selected Time Zone Values

Europe/Rome		UTC+01
Asia/Hong_Kong		UTC+08
Pacific/Guam		UTC+10
Europe/Athens		UTC+02
Europe/London		UTC+00
Europe/Paris		UTC+01
Europe/Madrid	mainland	UTC+01
Africa/Cairo		UTC+02
Europe/Copenhagen		UTC+01
Europe/Berlin		UTC+01
Europe/Prague		UTC+01
America/Vancouver	Pacific Time - west British Columbia	UTC-08
America/Edmonton	Mountain Time - Alberta, east British Columbia & westSaskatchewan	UTC-07
America/Toronto	Eastern Time - Ontario - most locations	UTC-05
America/Montreal	Eastern Time - Quebec - most locations	UTC-05
America/Sao_Paulo	South & Southeast Brazil	UTC-03
Europe/Brussels		UTC+01

Australia/Perth	Western Australia - most locations	UTC+08
Australia/Sydney	New South Wales - most locations	UTC+10
Asia/Seoul		UTC+09
Africa/Lagos		UTC+01
Europe/Warsaw		UTC+01
America/Puerto_Rico		UTC-04
Europe/Moscow	Moscow+00 - west Russia	UTC+04
Asia/Manila		UTC+08
Atlantic/Reykjavik		UTC+00
Asia/Jerusalem		UTC+02

#### Appendix F. Attaching an ISO Image to a Server using the iLO

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

#### Appendix F HP DL380 Servers Mounting the ISO image via iLO4

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

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

If this procedure fails, contact My Oracle Support (MOS). Refer to **Appendix L** - MY ORACLE SUPPORT (MOS) for further assistance.

STEP #	Procedure	Result
	iLO 4 Web GUI: Launch Remote Console	Launch the Java Integrated Remote Console applet. On the menu to the left navigate to the <b>Remote Console</b> page. Under Java Integrated Remote Console (Java IRC), click Launch

# Appendix F HP DL380 Servers Mounting the ISO image via iLO4

2	iLO 4 Web GUI: Java Security Prompt	Acknowledge Security Warning.         If a dialog similar to the one below is presented, click Yes to acknowledge the issue and proceed	
		Warning - Security	
		The web site's certificate cannot be verified. Do you want to continue?	
		Name: 3.005E121MSH Publisher: 3.005E121MSH	
		Bimays trust content from this publisher.	
		The certificate cannot be verified by a trusted source. Only continue if you trust the origin of the application.	





# Appendix F HP DL380 Servers Mounting the ISO image via iLO4

4	Verify Virtual Image Connection.
	At the bottom of the remote console window, there should now be a green highlighted drive icon and <b>Virtual M</b> written next to it.
	📼 VirtualM 🔀 None

Follow these steps to configure HP DL 380 (Gen9) server CMOS Clock and BIOS settings.

The HP Gen 9 systems can have UEFI boot enabled. Since TPD is configured to use the Legacy BIOS option, rack mount Gen9s should have their BIOS settings checked before IPM. Rack mount servers should also have the iLO serial port configured at this time. Directions for both settings are provided below.

S T	This procedure explains the steps needed to configure the HP DL380 (Gen 9) server BIOS settings.		
Е	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number.		
Р \$	If this procedure fails, contact My Oracle Support (MOS), and ask for assistance.		
1	HP Gen9 Server: Connect VGA Monitor and USB Keyboard	Connect via a VGA monitor and USB keyboard to the back of the	server.
2	HP Gen9 Server: Reboot	Reboot the server. After the server is powered on, press the F9 key Utilities Screen: HPE ProLiant W Tradiant (LMO Gap IIII Worker: HT 02.00 (1227272016) Sector Roberts (HT 02.00 (1227272016) (HT 04.00 (Roberts) (HT 02.00 (1207272016) (HT 04.00 (Roberts) (HT 04.00 (120727016) (HT 04.00 (Roberts) (HT 04.00 (120727016)) (HT 04.00 (Roberts) (HT 04.00 (120727016))) (HT 04.00 (Roberts) (HT 04.00	y when prompted to access the <b>System</b>

2			
3	HP Geny	User will be presented with the System Utilities Screen, highlight System Configuration and press the	
	Server:	<enter> key to select.</enter>	
	System		
	Utilities		
		System I Itilities	
		System Onimes Hewlett Packard Enterprise	
		<ul> <li>Device Galaxietting</li> </ul>	
		Die They Beal Mean I Die Beld Just Asstrone	
		System Information Sustain (Instable)	
		The set over an inter-	
		Sweet the System	
		Schert Despage (Politic	
		[14] Channe Selection [2009] Select Ditra [252] Det [11] Help [27] Behalth	
4	HP Gen9	User will be presented with the <b>System Configuration Screen</b> , hightlight <i>BIOS/Platform Configuration</i>	
	Server:	(RBSI) and press the <enter> key to select</enter>	
	Server.	(ADSO) and press the "Enter" key to select.	
	System		
	Configuration		
		System Configuration	
		System comigatation	
		<ul> <li>B108/Platform Configuration (8880)</li> </ul>	
		ATR & Construction Machine	
		LU 4 Contiguration utility Embedded BAID 1 : Shart Arrau PMMBar Controller	
		Embedded LUM 1 Port 1 : HP Ethernet 16b 4-port 331; Adapter - NIC	
		Enhadded LDM 1 Port 2 : HP Ethernet 1Gb 4 port 331; Odaplar - NIC Enhadded LDM 1 Port 3 : HP Ethernet 1Gb 4 port 331; Odaplar - NIC	
		Embedded LOH 1 Port 4 : IP Ethernet 1Gb 4-port 3311 Adapter - NIC	
		Embedded FlexibleLUM 1 Port 1 : HP Ethernet 16b 4-port 201FLR Adapter - MIC Kaladdad KlasibleLUM 1 Nort 2 : HW Ethernet 16b 4-port 201FLR Adapter - MIC	
		Enhedded FlexibleLOH 1 Port 3 : HP Ethernet 16b 4 port 331FLB Odapter MIC	
		Embedded PlexibleLOM 1 Port 4 : HP Ethernet 16b 4-port 331FLR Adapter - MIC	

Appendix G Configur	e HP DL380 Server	r CMOS Clock/BIOS Settings
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5	HP Gen9	User will be presented with the <b>Bios/Plat</b>	form Configuration Screen, hightlight Date and Time option
	Server:	and press the <enter> key to select.</enter>	
	Select Date		
	and Time		
		HILS/Platform Configuration (RBSD)	
		Surtan Datiana	
		Bont. Uptimes	
		Network Bptinne Storane Detime	
		Enhedded UEFI Shell	
		Power Banagement Performence Indicas	
		Server Security	
		PUI Device Emable/Disable Server Availabilitu	
		BIUS Serial Console and ETS	
		Advanced Options	
		E Bate and Line	
		System Default Uptions	
6	HP Gen9	User will be presented with the Date and	Time Screen, set the Date and Time to UTC (Greenwich Mean
	Server: Enter	Time), the Time Zone to UTC, and the Tir	ne Format to Coordinated Universal Tim (UTC) then select
	Date. Time	<f10> key to save your changes. After sa</f10>	iving select the <esc> key to return to the <b>Bios</b>/<b>Platform</b></esc>
	and Time	Configuration Screen.	
	Zone	comgaration serven.	
	Zone		
		<b>BIOS</b> / Distform Confi	auration (DDSLI)
		BIOS/Platform Confi	guration (RBS0)
		HIG/Pisthen Configuration (HEB)	
		Table and Table	
		<ul> <li>Date: Gnwiddingggggg</li> <li>Time: Chhiman roso</li> </ul>	00 57 227 28060 109 - 57 - 160
		Time Brow	UEC 00:00. Generatich Fran Else, Babila. Feodori
		Daylight Sarings Time	Dissided
		The Format	(Canedinated Universal Time (0113)
		[14] Change Selection [Enter] Select Entry [ESC]	Recs [11] Help [17] Detaults [110] Sauc

7	HP Gen9	User will be presented with the <b>Bios/Platform Config</b>	guration Screen, hightlight Boot Options and press
	Select Boot	the <enter> key to select.</enter>	
	Options	HUR/RistFore Configuration (8080)	
		System Uptions	
		<ul> <li>Boart Upt.inner</li> <li>Beckanerk Opt.inner</li> <li>Storen On inner</li> </ul>	
		Enbedded UEFI Shell Power Hanagement	
		Performance Aplines Server Security	
		PCI Device Enable/Disable Server Availability NUME New Set Secrete and DMM	
		Newsee Boost Information Newseed Duftions	
		Date and Time	
		System Default Hpticos	
8	HP Gen9	User will be presented with the Boot Options Screen	, set the Boot Mode to Legacy BIOS Mode, UEFI
$\square$	Server: Enter Boot Options	Optimized Boot to Disabled, and Boot Order Policy to key to save your changes. Select the Legacy BIOS Bo	o Retry Boot Order Indefinitely. Then select <f10> ot Order Option and press the <enter> key to select</enter></f10>
	Door options		
		BIOS/Distform Configuration (BBSID	
		biosy ractor contriguación caboo	
		Boot Options	
		Boot Mode	[Legacy BIOS Mode]
		Boot Order Policy	[Retry Boot Order Indefinitely]
		UEFI Boot Order	
		Advanced UEFI Boot Maintenance	
		• Legacy bros boot bruer	
9	HP Gen9	The user will be presented with the <b>Legacy BIOS Bo</b>	ot Order Option Screen. Ensure that, USB
$\square$	Server: Set Boot Order	DriveKey, CD ROM/DVD, Hard Dive C, Embedded I are set in that boot order if not change them then sele	LOM 1 Port 1, and Embedded FlexibleLOM 1 Port 1: act <f10> key to save your changes. After saving</f10>
	2000 01401	select the <esc> key to return to the <b>Boot Options S</b></esc>	creen.
		BIOS/Platform Configuration (RBSU)	
		Boot Options - Legacy BLOS Boot Order	
		Press the '+' key to move an entry higher in the boot lis in the boot list. Use the arrow keys to navigate through	t and the '-' key to move an entry lower the Boot Order list.
		Standard Boot Order (IPL) USB DriveKey	
		CD ROM/DUD Hard Drive C: (see Boot Controller Order)	
		Enbedded LDH 1 Port 1 : HP Ethernet 16b 4-port 3311 Adapt Enbedded FlexibleLOH 1 Port 1 : HP Ethernet 16b 4-port 33	er - NIC
		Boot Controller Order	
		Embedded RAID : Smart Array P440ar Controller	

#### HP Gen9 Select the <ESC> key again to return to the **Bios/Platform Configuration Screen**, highlight System 10 *Options* and press the <Enter> key to select. Server: Select System Options BIRS/Platform Configuration (RESU) System Options Boot Uptions Network Options Storage Options Enbedded UEPI Shell Power Hanagement Performance Aplines Server Security PCI Device Enable/Disable Server Availability HIUS Serial Console and EMS Server Bood Information fiduanced Options Date and Time System Default Uptions The System Options Screen will be displayed, highlight Serial Port Options and press the <Enter> key HP Gen9 11 Server: to select. Select Serial Port Options **BIOS/Platform Configuration (RBSU)** BIUS/Platform Configuration (BBSU) ysten Options Serial Port Uptions USB Uptions Processon Options SOIA Controller Options Virtualization Options Doot Time Uptimizations Nearry Operations HP Gen9 The Serial Port Options Screen will be displayed. Set the Virtual Serial Port to COM1 and the 12 Embedded Serial Port to COM2 then select <F10> key to save your changes. After saving select the Server: Enter Serial Port <ESC> key twice to return to the Bios/Platform Configuration Screen. Options **BIOS/Platform Configuration (RBSU)** BURZ/Platform Configuration (BBSD) System Options + Serial Port Options Embedded Serial Port ICUM 2: 1800: 170: 2006-2006 ICUM 1: 1804: 170: 3686-36664 Virtual Serial Port

13	HP Gen9	From the Bios/Platform Configuration Screen, highlight Power Management Option and press the	
	Server:	<enter> key to select.</enter>	
	Select Power		
	Management	BURZHIST From Conflorent Con (BBND)	
		and of the transmission of the sub-	
		System Options	
		Boot C. Upt. Fores	
		Storage Options Pabedded UET, Shell	
		► Pouer Hanagewent	
		Prontinenance: Applitume Server: Security	
		PCI Device Enable/Disable	
		BLUS Serial Console and ETS	
		Server Boost Information Advanced Options	
		Bate and Time	
		Sign train Die Familit. Hipt innen	
14	HP Con0	The <b>Power Management Screen</b> is displayed select the Power Profile of Maximum Performance then	
14	Server: Set	select <f10> key to save your changes. After saving select the <esc> key to return to the <b>Bios/Platform</b></esc></f10>	
	Power	Configuration Screen.	
	Management		
	to Max		
	Performance	RIOS/Platform Configuration (BRSD)	
		Rause Hanagement	
		<ul> <li>Bound Burgereits</li> <li>Bound Burgereits</li> </ul>	
		Power Regulator EStatic High Performance Hodel Hinimum Processor Idle Power Core C-State INo C-states]	
		Minimum Processour Idle Power Package C-State INn Package State	
		Ndwanced Power Uptions	
		Ballanced Priate and Preformance	
		Ninimus Power Usage Naximus Performance	
		Custon	
15	HP Gen9	From the <b>Bios/Platform Configuration Screen</b> , highlight <i>Server Availability Option</i> and press the	
	Server:	<enter> key to select.</enter>	
	Select Server		
	Availability		
		8105/Platform Configuration (0830)	
		Spatson flpt.imme	
		Network Options	
		Storage Uptions Exhedical UPEL Shell	
		Proser Banagement.	
		Server Security	
		PCI Device Enable/Disable	
		BIDS Serial Consule and EHS	
		Advanced Options	
		De Les and Times	
		System Default Options	

16		The Course A	$\frac{1}{1} = \frac{1}{1} = \frac{1}{1} = \frac{1}{1} + \frac{1}{1} + \frac{1}{1} + \frac{1}{1} + \frac{1}{1} = \frac{1}{1} + \frac{1}$	
	HP Gen9 Server: Set	The Server Availability Screen is displayed, set ASR Status to Enable.		
	ASR Status	BIOS/Platform Configuration (RBSU)		
		Server Availability		
		► ASR Status ASR Timeout Wake-On LAN POST F1 Prompt Power Button Mode Automatic Power-On Power-On Delay	[Enabled] <b>-</b> [10 Minutes] [Enabled] [Delayed 20 seconds] [Enabled] [Always Power on] [No Delay]	
17	HP Gen9	Set Delayed 20 seconds for POS	ST F1 Prompt.	
	Server: Set POST F1	BIOS/Platform Configuration (RBSU)	)	
	Prompt	Server Availability		
		ASR Status ASR Timeout Wake-On LAN > POST F1 Prompt Power Button Mode Automatic Power-On Power-On Delay	[Enabled] [10 Minutes] [Enabled] [Delayed 20 seconds] [Enabled] [Always Power on] [No Delay]	
18	HP Gen9	Set No Delay for Power-On Del	lay.	
	Server: Set Power-On	DTDS/Dlatform Confirmation (DDSI)		
	Delay	DIUS/Flattorm Configuration (KDSU)		
		Server Availability		
		ASR Status ASR Timeout Wake-On LAN POST F1 Prompt Power Button Mode Automatic Power-On ▶ Power-On Delay ◀	[Enabled] [10 Minutes] [Enabled] [Delayed 20 seconds] [Enabled] [Always Power on] [No Delay]	
19	HP Gen9	Set Restore Last Power State fo	or Automatic Power-On then press the <f10></f10>	key to save your changes.
	Server: Set Automatic	After saving select the <esc> key to return to the <b>Bios/Platform Configuration Screen</b>.</esc>		
	Power On			
	Options	BIOS/Platform Configuration (RBSU)		
		ASR Status	Enshted	
		AGR Timeout Wake-On LAN POST F1 Prompt Power Botton Node • Automatic Power-On Power-On Delau	E10 Minutes] EEnabled] EDelayed 20 seconds] EEnabled] Obestore Last Power State] Do De Last	
			Always Power on Always Power Off Restore Last Power State	

20	HP Gen9	From the <b>Bios/Platform Configuration Screen</b> , highlight <i>Advanced Options</i> and press the <enter> key to</enter>		
	Server:	select.		
	Select			
	Advanced			
	Options	BIOS/Platform Configuration (RBSU)		
	-			
		Sustan Intions		
		Boot Intins		
		Network Options		
		Storage Options		
		Embedded UEFI Shell		
		Power Management		
		Performance Options		
		Server Security		
		PCI DEVICE ENADIE/DISADIE Server Ausilability		
		BIOS Serial Console and EMS		
		Server Asset Information		
		Advanced Options		
		Date and Time		
		System Default Uptions		
21		Set O (1) 1 C 1: C The 1 C C (1) there exhert (T10) have to see a share a Alberta inc		
21	HP Gen9	Set Optimal Cooling for Thermal Configuration then select <f10> key to save your changes. After saving</f10>		
	Server: Set	select the <esc> key to return to the <b>Bios/Platform Configuration Screen</b>.</esc>		
	Thermal			
	Configuration	BIOS/Platform Configuration (RBSU)		
		Advanced Antione + Ean and Thomas Antione		
		Huvanceu options 4 Pan and inermal options		
		Thermal Configuration     [Optimal Cooling]		
		Fan Installation Requirements [Enable Messaging]		
		Fan Failure Policy [Shutdown/Halt on Critical Fan Failures]		
		Extended Ambient Temperature Support IDIsabled		
22	HP Gen9	Select the <esc> key to return to the System Utilities Screen.</esc>		
	Server:			
	System			
	Utilities	System Utilities Hewlett Packard		
	0 111100	Enterprise		
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
		<ul> <li>Agenetic found space of the state of the sta</li></ul>		
		Species Automotions Species Health		
		Lati and response system tool.		
		Next Calabore Science Longent		
		要認知識		
		Biological		
		ti dagestette De Statistic (BC Still FI) Ben (T) Brain		

23	HP Gen9 Server: Exit and Boot server	From the <b>System Utilities Screen</b> , highlight <i>Exit and resume system boot</i> and press the <enter> key. The blue popup will be displayed, press <enter> a second time to exit BIOS Setup and resume a normal boot.  System Utilities</enter></enter>	
		System Emfiguration One Time Boot Menu Embedded Applications System Hoarth System Health First and resume syste Reboot the System Scheet Language	

# Appendix H. Setting the iLO/iLOM IP Address on DL380 Servers (iLO4)

Follow these steps to set the HP DL 380 (Gen9) server iLO/iLOM IP Address.

#### Appendix H Setting the iLO/iLOM Address on DL380 Servers (iLO4)

This procedure will set the IP address of the iLO on HP DL380 servers to the customer's network so that it can be accessed remotely. Check off ( $\sqrt{}$ ) each step as it is completed. Boxes have been provided for this purpose under each step number. If this procedure fails, contact My Oracle Support (MOS), and ask for assistance. **STEP #** Result Procedure 1 HP Gen9 The RMS Server will reboot and after a few minutes the HPE Prolaint Graphic will be displayed. Server: Access Press the **F9** key to access the **System Utilities Screen:** the System Utilities Screen HPE ProLiant **Hewlett Packard** Enterprise 2105 Healett Fackard Entergator Recologionit LP C381 G478 1988 (2:01 (12/2//2015) 11 1998/01/25 Bunkers 255 GB debeets when you can be seried detected. 21 total cares radiated. Appendentating is cratical intel 00 (sourd) (10 15 2580 (3 1 2 500%) intel 00 (sourd) (10 15 2580 (3 1 2 500%) e Froffie Hole: Haalman Verbornance guiator Hoder Static High Ferformance Theory Frofestion Tode: Fibunced DX Suggert Diet Engenziere 2010 / 1912 er Legeng BUS elendant KUM Detected. This system contains a valid backup system KUM. MY invertMenory autoenticated in all populated JUMM slots. 110 4 1154 - 19,249,7,239 110 4 1154 - 7000 - 1669 (COTT) FEM (F390 FP System Otligities [F10] Intelligent Provisioning [F11] Deet Here [F12] Seiser's Beet

# Appendix H Setting the iLO/iLOM Address on DL380 Servers (iLO4)

2	HP Gen9	User will be presented with the System Utilities Screen, high	ntlight System Configuration and press
	Server: System Utilities	the <enter> key to select.</enter>	
		System Utilities	Hewlett Piackand Enterprise
		F. Specime Scaling models and the First Real Management When the net service means	
		Spy in the formation Spy and the set of the set Spy and request subtraction Solution the Spy test	
		Select Leapage IP-glinx	
		(**) Oneme Selection (1999) Select Orige (1996), Deck (1971) Bellevite	
3	HP Gen9 Server: Select iLO 4	User will be presented with the <b>System Configuration Scree</b> <i>Utility</i> and press the <enter> key to select.</enter>	en, hightlight <i>iLO 4 Configuration</i>
	Configuration Utility	System Configuration	
		BIDS/Platform Configuration (RBSU)	
		Enhadded BDD 1 : Snart forag P44Bar Controllor Enhadded LOM 1 Port 1 : HP Ethernet 1Gb 4 port 3311 Adapter Enhedded LOM 1 Port 2 : HP Ethernet 1Gb 4-port 3311 Adapter Enhedded LOM 1 Port 3 : HP Ethernet 1Gb 4-port 3311 Adapter Enhedded LOM 1 Port 4 : HP Ethernet 1Gb 4-port 3311 Adapter Enhedded FlexibleLOM 1 Port 1 : HP Ethernet 1Gb 4-port 3319 Enhedded FlexibleLOM 1 Port 2 : HP Ethernet 1Gb 4-port 3319 Enhedded FlexibleLOM 1 Port 3 : HP Ethernet 1Gb 4-port 3319 Enhedded FlexibleLOM 1 Port 3 : HP Ethernet 1Gb 4-port 3319 Enhedded FlexibleLOM 1 Port 4 : HP Ethernet 1Gb 4-port 3319	r = NIC r = NIC r = NIC r = NIC C.R folapter = NIC C.R folapter = NIC C.R folapter = NIC C.R folapter = NIC

# Appendix H Setting the iLO/iLOM Address on DL380 Servers (iLO4)

4	HP Gen9 Server: Select Network Options	User will be presented with the iLO 4 Configuration Utility Screen, hightlight Network Options and press the <enter> key to select. iLO 4 Configuration Utility Network Options Advanced Network Options User Management</enter>	
		Setting Options Set to factory defaults Reset iLO About	ENO) ENOJ
5	5       HP Gen9       User will be presented with the Network Options Screen, set DHCP Enable to OF         Server:       IP Address, Subnet Mask and Gateway IP Address information provided by the cuto         NAPD documentation. Select the <f10> key to save your changes then select <esc< td="">         Mask and       return to the System Utilities Screen.</esc<></f10>		en, set <i>DHCP Enable to OFF</i> then enter the rmation provided by the cutomer from the ur changes then select <esc> <u>three</u> times to</esc>
	Gateway IP Address	iLO 4 Configuration Utility Network Options MAC Address Network Interface Adapter Transceiver Speed Autoselect	[14:02:EC:3A:F5:98] (ON] (ON]
		DHCP Enable DNS Name	COFF1 ETLOMXQ60804251
		Subnet Mask Gateway IP Address	[255.255.255.224] [10.240.7.225]
6       HP Gen9         Server:       Exit System         Utilities Screen       anormal boot.         Utilities Screen       System Utilities         Server       System Utilities         Server       System Utilities         Utilities Screen       System Utilities		esume system boot and press the <enter> second time to exit BIOS Setup and resume</enter>	
		System Configuration One Time Boot New Embedded Applications System Information System Health	mund have FSC to
		Reboot the System School Language	NOTWAT BOOT OF LSL TO

7	HP Gen9 Server: Login to the iLO GUI	After the server finishing bootin Address entered in step 5 to veri iLO 4 Incl and Incl and I	g, login into the iLO G ify operation of the new	UI using Internet Ex	ploxer with the IP
8	HP Gen9 Server:	The iLO 4 GUI Interface is disp	layed:		
	Verify that the	Terrandari 1004 Sector Lenan (Sector)			a contraction of the second
1	operational	A service Takes along	sk.)	s.	
	operational.	Carlos Alexandre	h t arm	22 23	
		Collection Contraction Contrac	10-1 10-1	nare Protocol ala Selferanti mentra ten alam	
		United Statement for Spectral PLANE 2008 Scientific Science Strength Statement		en de la secte 24 la COP20 a	
		Persona Destanti en al Societa destaja			
		Loads Planet Series Collection Discussion 2016 1021			
		Training Charles Building			
		1. Sector in the			
		Server Server a			
		And Research Landon State	A MA ANY ANY ANY ANY ANY ANY ANY ANY ANY AN	his	
		An a bio an and	1214	A STATE OF	
		A. or bridler			
0	HP Con0	Select Sign Out in the unner right	nt corner of the iI O CI	II to exit Setting of	the iI O/iI OM IP
7	Sarvar. Evit il O	address is now completed		of to exit. Setting 01	

# Appendix H Setting the iLO/iLOM Address on DL380 Servers (iLO4)

# Appendix I. Creating a Bootable USB Drive on Linux

# Appendix I Creating a Bootable USB Drive on Linux

S T	This procedure will create a Bootable USB drive from a .usb file on a Linux Machine		
E P	Check off ( $$ ) each step as it is completed. Boxes have been provided for this purpose under each step number.		
\$	If this procedure fails, contact My Oracle Support and ask for assistance.		
1	Insert USB Media	Insert the USB Media into the USB Port. It should automatically be mounted under /media Obtain the path of the USB drive by running: <b>\$ Is /media</b> The output should be similar to the following: <b>sdb1</b> Note down the path without the partition number (in this case, it would be /dev/sdb)	
2	Linux Machine	Obtain the TVOE <b>.usb</b> file and copy it onto the local Linux machine (e.g. under /var/TKLC/upgrade)	
3	Copy the .USB file onto the USB drive	Use the dd command to copy the .usb file onto the USB drive Note: Make sure you do not use the partition number when copying the file  \$ sudo dd if= <path_to_usb_image> of=/dev/sdb bs=4M oflag=direct The boot building process will run for a period of time and return you to the command prompt. If no errors are displayed, then the process was successful.</path_to_usb_image>	

# Appendix J. Upgrade Cisco 4948 PROM

#### 1. Virtual PMAC/Management Server: Verify that the PROM image is on the PMAC.

If the appropriate image does not exist, copy the image to the server.

Determine if the PROM image for the 4948E-F is on the system.

#### \$ ls -al /var/TKLC/smac/image/

If the Prom firmware file exists, skip the remainder of this step and continue with the next step. If the file does not exist, copy the file from the Misc Firmware USB as specified by [6] HP Solutions Firmware Upgrade Pack Release Notes, Release 2.x.x (Min 2.2.9).

#### 2. Virtual PMAC/Management Server: Attach to switch console.

If upgrading the firmware on switch1A, connect serially to the switch by issuing the following command as admusr on the server:

#### \$ sudo /usr/bin/console -M 192.168.1.4 -l platcfg switch1A_console

Enter platcfg@PMAC5000101's password: <platcfg_password> [Enter `^Ec?' for help] Press Enter If the switch is not already in enable mode ("switch#" prompt) then issue the "**enable**" command, otherwise continue with the next step. Switch> **enable** Switch#

If upgrading the firmware on switch1B, connect serially to switch1B by issuing the following command as admusr on the PMAC server:

#### \$ sudo /usr/bin/console -M 192.168.1.4 -l platcfg switch1B_console

Enter platcfg@PMAC5000101's password: <platcfg_password> [Enter `^Ec?' for help] Press Enter If the switch is not already in enable mode ("switch#" prompt), then issue the "**enable**" command, otherwise continue with the next step. Switch> **enable** Switch> **enable** 

3. Virtual PMAC/Management Server (switch console session): Configure port 40 on the 4948E-F switch. To ensure connectivity, ping the management server's management vlan ip 192.168.1.1 address from the switch.

If upgrading the firmware on switch1A, use these commands: Switch# conf t Switch(config)# vlan 1 Switch(config-vlan)# int vlan 1 Switch(config-if)# ip address 192.168.1.2 255.255.255.0 Switch(config-if)# no shut Switch(config-if)# int gi1/40 Switch(config-if)# switchport mode trunk Switch(config-if)# spanning-tree portfast trunk Switch(config-if)# end Switch(config-if)# end

If upgrading the firmware on **switch1B**, use these commands: Switch# conf t Switch(config)# **vlan 1**  Switch(config-vlan)# int vlan 1 Switch(config-if)# ip address 192.168.1.3 255.255.255.0 Switch(config-if)# no shut Switch(config-if)# int gi1/40 Switch(config-if)# switchport mode trunk Switch(config-if)# spanning-tree portfast trunk Switch(config-if)# end Switch(config-if)# end Switch# write memory

Switch# ping 192.168.1.1 Type escape sequence to abort. Sending 5, 100-byte ICMP Echos to 192.168.1.1, timeout is 2 seconds: !!!!! Success rate is 100 percent (5/5), round trip min/avg/max = 1/1/4 ms

If ping is not successful, double check that the procedure was completed correctly by repeating all steps up to this point. If after repeating those steps, ping is still unsuccessful, contact My Oracle Support.

# 4. Virtual PMAC/Management Server (Switch console session): Upgrade PROM Switch# copy tftp: bootflash:

5. Virtual PMAC/Management Server (Switch console session): Reload the switch Switch# reload

System configuration has been modified. Save? [yes/no]: **no** Proceed with reload? [confirm] [Enter] === Boot messages removed === Type [Control-C] when *Type control-C to prevent autobooting* is displayed on the screen.

# 6. Virtual PMAC/Management Server (Switch console session): Upgrade PROM rommon 1 > boot bootflash:<PROM_image_file> === PROM upgrade messages removed ==== System will reset itself and reboot within few seconds....

#### 7. Virtual PMAC/Management Server (Switch console session): Verify Upgrade

The switch will reboot when the firmware upgrade completes. Allow it to boot up and wait for the following line to be printed:
Press RETURN to get started!
Would you like to terminate autoinstall? [yes]: [Enter]
Switch> show version | include ROM
ROM: 12.2(44r)SGA11
System returned to ROM by reload
Review the output and look for the ROM version. Verify that the version is the desired new version. If the switch does

not boot properly or has the wrong ROM version, contact My Oracle Support.

#### 8. Return to the step that directed you here from Procedure 9, 4948E-F Configuration Procedure.

#### Appendix K. Backup Cisco 4948E-F Aggregation Switch

Application username and password for creating switch backups must be configured on the PMAC management server prior to executing this procedure.

Variable	Value
<switch_backup_user></switch_backup_user>	admusr
<switch_backup_user_password></switch_backup_user_password>	Refer to TR006061 Password Dragon [10] for this value.
<switch_name> hostname of the switch</switch_name>	hostname of the switch
<switch_backup_directory></switch_backup_directory>	/usr/TKLC/smac/etc/switch/backup

These commands are to be executed on the PMAC server connected to the switches that are to be backed up.

1. Verify switch is at least initialized correctly and connectivity to the switch by verifying hostname \$ sudo /usr/TKLC/plat/bin/netConfig --device=< switch1A or switch1B > getHostname

Hostname: switch1A or 1B

- 2. Run command "netConfig --repo showService name=ssh_service" and look for ssh service.
  \$ sudo /usr/TKLC/plat/bin/netConfig --repo showService name=ssh_service
  Service Name: ssh_service
  Type: ssh
  Host: 192.168.1.1
  Options:
  password: C20F7D639AE7E7
  user: admusr
- Verify existence of the backup directory.
   \$ sudo /bin/ls -al /usr/TKLC/smac/etc/switch/backup

If the output contains ls: cannot access /usr/TKLC/smac/etc/switch/backup: No such file or directory create the directory with:

\$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/switch/backup

Change directory permissions: \$ sudo /bin/chmod 777 /usr/TKLC/smac/etc/switch/backup

4. Execute the backup command \$ sudo /usr/TKLC/plat/bin/netConfig --device=switch1A backupConfiguration service=ssh_service filename=switch1A-backup

\$ sudo /usr/TKLC/plat/bin/netConfig --device=switch1B backupConfiguration service=ssh_service filename=switch1B-backup

5. Verify both switch configurations were backed up by cat admusr and inspect its contents to ensure it reflects the latest known good switch configurations. Then, copy the files over to the backup directory.

\$ sudo /bin/ls -al ~admusr

-rw------1 admusr admgrp8926 Feb 4 19:03 switch1A-backup-rw------1 admusr admgrp70 Feb 4 19:03 switch1A-backup.info-rw------1 admusr admgrp8926 Feb 4 19:03 switch1B-backup-rw------1 admusr admgrp70 Feb 4 19:03 switch1B-backup.info

#### \$ sudo /bin/cat ~admusr/ <switch1A or switch1B>-backup*

#### \$ sudo /bin/chmod 644 ~admusr/*backup*

-rw-r--r-- 1 admusr admgrp8926 Feb 4 19:03 switch1A-backup-rw-r--r-- 1 admusr admgrp70 Feb 4 19:03 switch1A-backup.info-rw-r--r-- 1 admusr admgrp8926 Feb 4 19:03 switch1B-backup-rw-r--r-- 1 admusr admgrp70 Feb 4 19:03 switch1B-backup

#### \$ sudo /bin/mv -i ~admusr/*backup* /usr/TKLC/smac/etc/switch/backup/

6. **PMAC:** Perform PMAC application backup from command line.

#### \$ sudo /usr/TKLC/smac/bin/pmacadm backup

PMAC backup been successfully initiated as task ID 7

**Note:** The backup runs as a background task. To check the status of the background task use the PMAC GUI Task Monitor page. The result should eventually be "PMAC Backup successful" and the background task should indicate "COMPLETE".

**Note:** The "pmacadm backup" command uses a naming convention which includes a date/time stamp in the file name (Example file name: backupPmac_20111025_100251.pef). In the example provided, the backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time.

7. **PMAC:** Verify the Backup was successful

**Note:** If the background task shows that the backup failed, then the backup did not complete successfully. STOP and contact My Oracle Support by referring to the *1.4 My Oracle Support (MOS)* section of this document.

#### 8. PMAC: Save the PMAC backup

The PMAC backup must be moved to a remote server. Transfer (sftp, scp, rsync, or preferred utility), the PMAC backup to an appropriate remote server. The PMAC backup files are saved in the following directory: "/var/TKLC/smac/backup".

9. Repeat steps *Step 1*, *Step 4-Step 8* for each switch to be backed up.

# Appendix L. MY ORACLE SUPPORT (MOS)

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

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

- 1. Select 2 for New Service Request
- 2. Select 3 for Hardware, Networking and Solaris Operating System Support
- 3. Select 2 for Non-technical issue

You will be connected to a live agent who can assist you with MOS registration and provide Support Identifiers. Simply mention you are a Tekelec Customer new to MOS. MOS is available 24 hours a day, 7 days a week, 365 days a year.

#### **Emergency Response**

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

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

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

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

#### Locating Product Documentation on the Oracle Help Center Site

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

- 7. Access the OHC site at http://docs.oracle.com.
- 8. Click Industries.
- 9. Under the Oracle Communications subheading, click the Oracle Communications documentation link.
- 10. 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."
- 11. Click the Product and then the Release Number. A list of the entire documentation set for the selected product and release appears.
- 12. 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.