

**Oracle® Communications  
Tekelec HLR Router**

**T1200 Installation Guide**

Release 4.0

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Oracle Communications Tekelec HLR Router, T1200 Installation Guide, Release 4.0

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## 1.0 INTRODUCTION

### 1.1 Purpose and Scope

This document describes how install HLR Router product from within a customer network. It makes use of the automated network installation and is intended to cover the initial network configuration steps for a NOAM, Query Server, SOAM or MP server which include switch configuration (Telco T5C-24GT switches), and validation of initial configuration.

This document only describes HLR Router automated SW installation on the T1200 application server, deployed within HLR Router cabinet using Telco 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 HLR Router cabinet.

### 1.2 References

- [1] TEKELEC Acronym Guide, MS005077
- [2] TPD Initial Product Manufacture User's Guide, 909-2130-001
- [3] Platform 6.5 Configuration Procedure Reference, 909-2249-001
- [4] HLR Router Network Implementation Guide, WI006024
- [5] HLR Router Site Survey (Domestic US), WI006034
- [6] HLR Router Hardware Verification Plan, VP005230
- [7] HLR Router 4.0 Disaster Recovery Guide for T1200, UG006473

### 1.3 Acronyms

Acronym	Meaning
CGBU	Communications Global Business Unit
DR	Disaster Recovery
GUI	Graphical User Interface
HA	High Availability
IMI	Internal Management Interface
IPM	Initial Product Manufacture
MP	Message Processing or Message Processor
NE	Network Element
NOAMP	Network OAM&P
OAM&P	Operations, Administration, Maintenance and Provisioning
SOAM	System OAM
TPD	Tekelec Platform Distribution
VIP	Virtual IP
VPN	Virtual Private Network
XMI	External Management Interface
XSI	External Signaling Interface

**Table 1 - Acronyms**

## 1.4 Assumptions

This procedure assumes the following;

- All T1200 servers in HLRR systems are installed with TPD 6.5.x version as described in Appendix G of TPD Initial Product Manufacture User's Guide [2]
- The user has reviewed the HLR Router Network Implementation Guide [4] 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 HLR Router Network Implementation Guide [4] and used them to compile a **vlan.conf** file to be used for configuring Telco switches. The customer is ultimately responsible for maintaining this **vlan.conf** file for use in Disaster Recovery operations.
- The user conceptually understands HLR Router topology and network configuration as described in the HLR Router Network Implementation Guide [4].
- The user has at least an intermediate skill set with command prompt activities on an open systems computing environment such as Linux or TPD.

## 1.5 XML Files

The XML files compiled for installation of each NOAMP, SOAM, DR-NOAMP network element must be maintained and accessible for use in Disaster Recovery procedures. The Oracle's Tekelec Professional Services Engineer (PSE) will provide a copy of each XML file used for NE installation to a designated Customer Operations POC. The customer is ultimately responsible for maintaining and providing the XML files to Oracle's Tekelec Customer Service (*US: 1-888-367-8552, Intl: +1-919-460-2150*) if needed for use in Disaster Recovery operations.

## 1.6 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;

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

If a procedural STEP fails to execute successfully, STOP and contact Oracle's Tekelec Customer Service for assistance before attempting to continue.

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2.0 PRE-INSTALLATION SETUP

2.1 Installation Prerequisites

The following items/settings are required in order to perform an installation of an Oracle’s Tekelec provided T1200 cabinet:

- A laptop or desktop computer equipped as follows:
  - DB9M Serial port.
  - 10/100 Base-TX Ethernet Interface.
  - Administrative privileges for the OS.
  - Microsoft Internet Explorer 7.0, 8.0, or 9.0 with support for JavaScript and cookies
- A DB9F / RJ-45 serial cable (Tekelec P/N: 830-1229-xx).
- An IEEE compliant 10/100 Base-TX Ethernet Cable, RJ-45, Straight-Through.
- USB flash drive with at least 2MB of available space.
- TPD “root” user password.

2.2 Serial Connections

A serial connection to the RJ-45 console port on the T1200 rear panel is required to initiate and monitor the progress of HLR Router installation procedures.

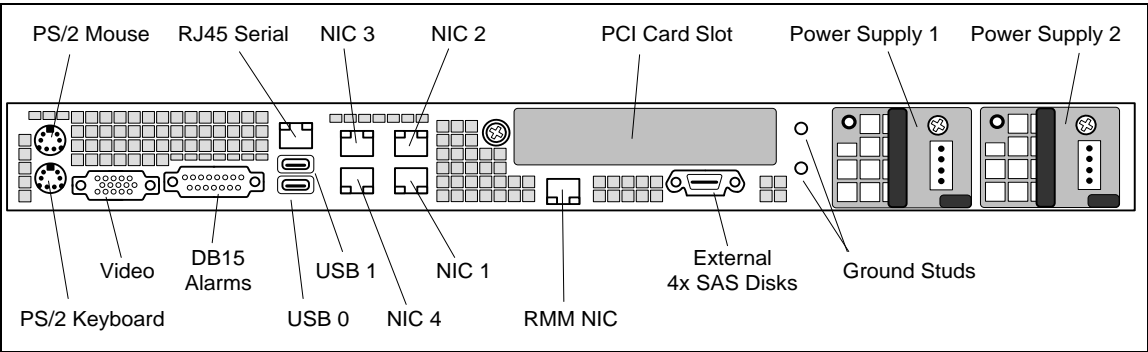


Figure 1 - T1200 Rear Panel: RJ45 Serial Port

Terminal Settings are as follows:

- Terminal Emulations supported are **VT100 / VT100+** (i.e. VT-102, VT-220, VT-320).
- Console serial port settings are as follows:

Baud Rate	Parity	Data Bits	Stop Bit	Flow Control
115200	None	8	1	None

Table 2 - Serial Port settings

2.3 Alternative Access for Application Install

In the event that the materials needed for direct serial access are unavailable, this procedure may also be executed using VGA access via one of the methods described below:

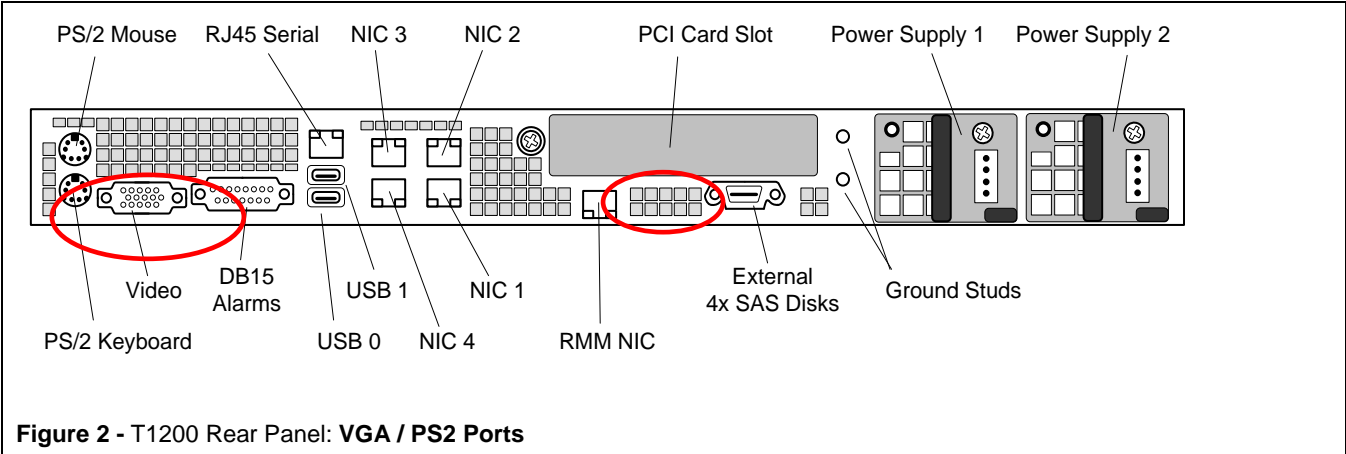





Figure 2 - T1200 Rear Panel: VGA / PS2 Ports

<p>One of the <b>VGA Access Methods</b> shown to the right may be used in the event that serial port access is not available.</p> <p><b>NOTE:</b> <i>Method 3) may only be used on a T1200 with an RMM that has been previously configured with a statically assigned IP address. It is not intended for use with a new, out-of-the-box server.</i></p>	<table><tr><td><input type="checkbox"/></td><td><b>Method 1)</b></td><td>VGA Monitor and PS2 Keyboard.</td></tr><tr><td><input type="checkbox"/></td><td><b>Method 2)</b></td><td>Laptop +  KVM2USB Switch. <a href="http://www.epiphan.com/products/frame-grabbers/kvm2usb/">http://www.epiphan.com/products/frame-grabbers/kvm2usb/</a></td></tr><tr><td><input type="checkbox"/></td><td><b>Method 3)</b></td><td>RMM VGA Redirection Window, Ethernet cable. (See <b>Appendix B</b>)</td></tr></table>	<input type="checkbox"/>	<b>Method 1)</b>	VGA Monitor and PS2 Keyboard.	<input type="checkbox"/>	<b>Method 2)</b>	Laptop +  KVM2USB Switch. <a href="http://www.epiphan.com/products/frame-grabbers/kvm2usb/">http://www.epiphan.com/products/frame-grabbers/kvm2usb/</a>	<input type="checkbox"/>	<b>Method 3)</b>	RMM VGA Redirection Window, Ethernet cable. (See <b>Appendix B</b> )
<input type="checkbox"/>	<b>Method 1)</b>	VGA Monitor and PS2 Keyboard.								
<input type="checkbox"/>	<b>Method 2)</b>	Laptop +  KVM2USB Switch. <a href="http://www.epiphan.com/products/frame-grabbers/kvm2usb/">http://www.epiphan.com/products/frame-grabbers/kvm2usb/</a>								
<input type="checkbox"/>	<b>Method 3)</b>	RMM VGA Redirection Window, Ethernet cable. (See <b>Appendix B</b> )								

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’s Tekelec for archiving post installation.



### 3.0 INSTALLATION MATRIX

#### 3.1 Installing HLR Router on the Customer Network

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 the Tekelec Customer Care Center for assistance with post installation configuration options.

**NOTE:** Although the NOAMP 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 "NOAMP" site refers to the 1<sup>st</sup> installation of a NOAMP pair on the customer network while references to the "DR NOAMP" site refers to the 2<sup>nd</sup> NOAMP pair to be installed.

**HLR Router Installation Matrix**

		Procedures to Perform									
		1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	NOAMP	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗
<input type="checkbox"/>	DR NOAMP	✓	✓	✓	✗	✓	✗	✗	✓	✗	✗
<input type="checkbox"/>	Query Server	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗
<input type="checkbox"/>	SOAM	✓	✓	✓	✗	✓	✗	✗	✓	✗	✗
<input type="checkbox"/>	MP	✓	✗	✗	✗	✓	✗	✗	✗	✗	✓

Table 3 - HLR Router Installation Matrix

**HLR Router Installation: List of Procedures**

Procedure number	Title	Page number
1	Installing HLRR Router Application	10
2	Configuring Telco switch1A (All sites)	16
3	Configuring Telco switch1B (All sites)	23
4	Configuring Primary NOAMP Server A (1st NOAMP site only)	30
5	Configuring Remaining HLRR Servers (All Sites)	45
6	Configure XSI Networks	55
7	OAM Pairing for the Primary NOAMP Servers	58
8	Pairing the OAM Servers for SOAM or DR NOAMP sites	73
9	Configuring MP Server Groups	85
10	Configure MP Signaling Interfaces	97


Table 4 - HLR Router Installation: List of Procedures

## 4.0 APPLICATION INSTALL

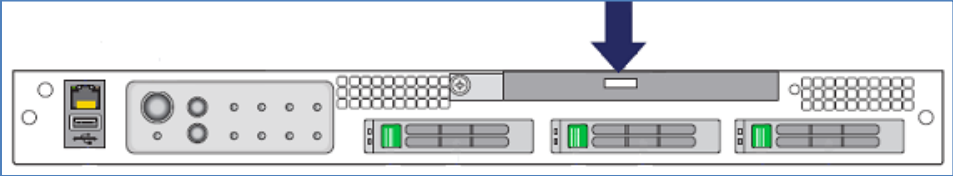
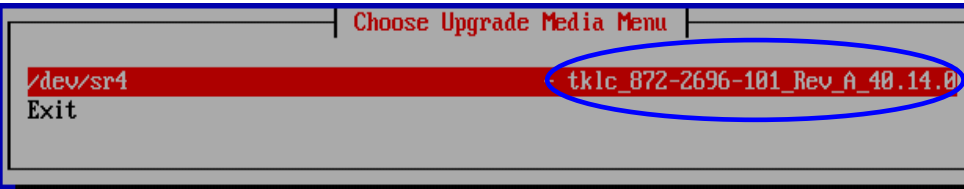
### 4.1 Installing the HLR Router Application

The user should confirm that the server has been verified through the HLR Router Hardware Verification Plan [6] before beginning this procedure.




#### Procedure 1: Installing the HLR Router Application

Step	Procedure	Result
1. <input type="checkbox"/>	Access the T1200 server's console.	Connect to the T1200 server's console using one of the access methods described in <b>Section 2.0</b> .
2. <input type="checkbox"/>	Log into the T1200 server as the "root" user.	login: <b>root</b> Password: <b>&lt;root_password&gt;</b>
3. <input type="checkbox"/>	Verify the date and time are displayed in GMT (+/- 4 min)	# <b>date -u</b> Thu Jan 28 23:12:23 UTC 2014
 <ul style="list-style-type: none"> <li>• If the correct date and time (in GMT) are not shown in previous step, then stop and execute the section entitled "Verify the server BIOS" from VP005230 [6].</li> <li>• Otherwise, if the correct date and time (in GMT) are shown in previous step, then continue on to step 4 of this procedure.</li> </ul>		
4. <input type="checkbox"/>	Verify that the TPD release is 6.5.x	<pre># appRev     Install Time: Sun Mar 16 19:57:51 2014     Product Name: TPD     Product Release: 6.5.2_82.31.0     Part Number ISO: 000-0000-000     Part Number USB: 000-0000-000     Base Distro Product:     Base Distro Release:     Base Distro ISO:                 OS: CentOS 6.5</pre> <p><b>NOTE:</b> If the output doesn't show the correct version of TPD product release, then stop and contact Oracle's Tekelec Customer Service for the assistance. Otherwise continue on to next step.</p>
5. <input type="checkbox"/>	Execute "syscheck" to verify the state of the server before Application install.	<pre># syscheck Running modules in class disk...          OK Running modules in class hardware...      OK Running modules in class net...           OK Running modules in class proc...          OK Running modules in class system...        OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log</pre> <p><b>NOTE:</b> The user should stop and resolve any errors returned from "syscheck" before continuing on to the next step.</p>

**Procedure 1:** Installing the HLR Router Application

Step	Procedure	Result
6. <input type="checkbox"/>	Place the <b>CDROM</b> containing HLR Router application software into the server's optical drive.	 <p><b>Figure 3 - T1200 Front Panel: Optical Drive</b></p>
7. <input type="checkbox"/>	Login to the "platcfg" utility.	# su - platcfg
8. <input type="checkbox"/>	From the "platcfg" Main Menu...  Select each option as shown on the right, pressing the <ENTER> key after each selection.	<div> <div> <b>Main Menu</b>  <b>Maintenance</b>  Diagnostics  Server Configuration  Network Configuration  Remote Consoles  Exit </div> <div>1</div> </div> <div> <b>Maintenance Menu</b>  <b>Upgrade</b>  Backup and Restore  Halt Server  View Mail Queues  Restart Server  Eject CDROM  Save Platform Debug Logs  Exit </div> <div>2</div> <div> <b>Upgrade Menu</b>  <b>Validate Media</b>  Early Upgrade Checks  Initiate Upgrade  Non Tekelec RPM Management  Exit </div> <div>3</div>
9. <input type="checkbox"/>	Verify that HLRR application release level shown matches the target release.	

**Procedure 1:** Installing the HLR Router Application

Step	Procedure	Result
10. 	Output similar to that shown on the right may be observed as HLRR application install progresses.	<pre> Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::AppWorksEa Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::TPDEarlyCh Verified server is not pending accept of previous upgrade Hardware architectures match Install products match. No Application installed yet.. Skip alarm check! Verified all raid mirrors are synced. Early Upgrade Checks Have Passed! Initializing upgrade information... The runlevel transition complete RC file was created as /etc/rc3. Changing to run-level 3... ***** * Waiting for run level 3 transistion to finish * ***** waiting for /etc/rc3.d/S99smartrd_runlevel_transition_complete to waiting for /etc/rc3.d/S99smartrd_runlevel_transition_complete to </pre>
11. 	Output similar to that shown on the right may be observed as HLRR application install progresses.	<pre> Checking for stale RPM DB locks... Installing public key /mnt/upgrade/upgrade/pub_keys/hpPublicKey.pub... Checking for any missing packages or files Checking for missing files...     No missing files found. Checking if upgrade is supported     Current platform version:  6.5.2-82.31.0     Target platform version:  6.5.2-82.31.0     Minimum supported version: 5.0.0-72.40.0  Upgrade from same release as current is supported  Evaluate if there are any packages to upgrade Evaluating if there are packages to upgrade... </pre>
12. 	Output similar to that shown on the right may be observed as the Application install progresses.	<pre> UMMT Validate Utility v2.2.2, (c)Tekelec, June 2012 Validating /dev/sr1 Date&amp;Time: 2014-04-02 15:57:54 Volume ID: tklc_872-2696-101_Rev_A_40.14.0 Part Number: 872-2696-101_Rev_A Version: 40.14.0 Disc Label: EXHR Disc description: EXHR The media validation is complete, the result is: PASS  CDROM is Valid Executing any special platform directives Setting up application for install/upgrade Running upgrade script... Starting upgrade_server... Performing preupgrade processing Scanning package database for config files... Will allocate application storage if necessary... Called with options: --verbose /mnt/upgrade/upgrade/etc/fs.d </pre>

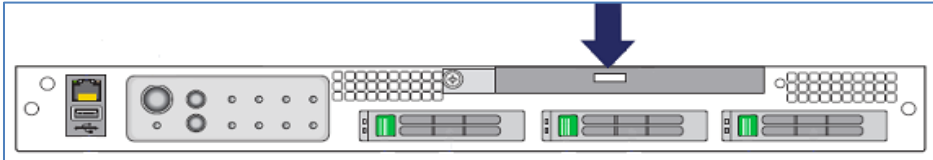
**Procedure 1: Installing the HLR Router Application**

Step	Procedure	Result
13. <input type="checkbox"/>	Output similar to that shown on the right may be observed as the Application install progresses.	<pre> Installing the /var/TKLC/log/upgrade/manifest.normal.UPGRADE manifest! Preparing... ##### Repackaging... ##### comcol #####  ===== COMCOL Installation Notes ===== - Link made for /opt/TKLCcomcol/cm6.2 and /opt/TKLCcomcol/conf/cm6.2.env - Link made for /opt/comcol and /opt/TKLCcomcol/conf/comcol.env - Base run directory created: /opt/TKLCcomcol/runcm6.2 - Copied prod/cmbin to system cmbin - Added comcol group Successfully set COMCOL capabilities - Set comcol program capabilities comcol-mysql ##### ace ##### zend-framework ##### log4cplus ##### TKLCawpcommon-6.5.0-6.5.0_65.27.0: Pre-install started... TKLCawpcommon-6.5.0-6.5.0_65.27.0: do_pre_install() TKLCawpcommon-6.5.0-6.5.0_65.27.0: Pre-install complete! TKLCawpcommon ##### TKLCawpcommon-6.5.0-6.5.0_65.27.0: Post-install started... TKLCawpcommon-6.5.0-6.5.0_65.27.0: do_post_install() Make awpcommon as trusted library... TKLCawpcommon-6.5.0-6.5.0_65.27.0: Post-install complete! do jo ##### </pre>
14. <input type="checkbox"/>	Output similar to that shown on the right may be observed at the completion of the Application install.	<pre> Executing da01_exhr_app_enable.sh... da01_exhr_app_enable.sh: 'Nothing to do if fresh install.'  Applications Enabled. Running /usr/TKLC/plat/bin/service_conf reconfig  UPGRADE IS COMPLETE  Waiting for reboot Updating platform revision file...  A reboot of the server is required. The server will be rebooted in 10 seconds </pre>
15. <input type="checkbox"/>	Output similar to that shown on the right may be observed as the server initiates a post-install reboot.	<pre> scsi7 : SCSI emulation for USB Mass Storage devices scsi8 : SCSI emulation for USB Mass Storage devices input: Intel(R) Multidevice as /class/input/input3 input: USB HID v1.01 Mouse [Intel(R) Multidevice] on usb-0000:00:1d.3-1 input: Intel(R) Multidevice as /class/input/input4 input: USB HID v1.01 Keyboard [Intel(R) Multidevice] on usb-0000:00:1d.3-1 Restarting system. - machine restart </pre>
16. <input type="checkbox"/>	After the server has completed the reboot, log back into the T1200 server as the "root" user.	<pre> login: root Password: &lt;root_password&gt; </pre>

**Procedure 1:** Installing the HLR Router Application

Step	Procedure	Result
17. <input type="checkbox"/>	Output similar to that shown on the right will appear as the server returns to a command prompt.	<pre> CentOS release 6.5 (Final) Kernel 2.6.32-431.3.1.el6prere16.5.2_82.30.0.x86_64 on an x86_64  hostname1396462623 login: root Password: Last login: Wed Apr  2 14:18:08 on tty1  ===== ! This system has been upgraded but the upgrade has not yet ! ! been accepted or rejected. Please accept or reject the ! ! upgrade soon.   ! ===== UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks PRODPATH=/opt/comcol/prod RUNID=00 UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon PRODPATH=/opt/comcol/prod RUNID=00 UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC PRODPATH=/opt/comcol/prod RUNID=00 UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 </pre>
18. <input type="checkbox"/>	Verify successful installation of the Application software.	<pre> # <b>grep COMPLETE /var/TKLC/log/upgrade/upgrade.log</b> 1395014258:: <b>UPGRADE IS COMPLETE</b> </pre>
19. <input type="checkbox"/>	Verify that HLRR application release level shown on the console matches the target release.	<pre> # <b>appRev</b>  Install Time: Sun Mar 16 19:57:51 2014 Product Name: <b>EXHR</b> Product Release: <b>4.0.0 40.14.0</b> Part Number ISO: 872-2696-101 Part Number USB: 872-2696-101 Base Distro Product: TPD Base Distro Release: 6.5.2_82.31.0 Base Distro ISO: TPD.install-6.5.2_82.31.0-CentOS6.5-x86_64.iso OS: CentOS 6.5 </pre>
20. <input type="checkbox"/>	Accept HLRR application install	<pre> # <b>/var/TKLC/backout/accept</b> </pre>

**Procedure 1:** Installing the HLR Router Application

Step	Procedure	Result
21. <input type="checkbox"/>	Output similar to that shown on the right will appear as the server returns to a command prompt.	<pre> [root@hostname1396462623 Process]# /var/TKLC/backout/accept Called with options: --accept Loading Upgrade::Backout::RPM Accepting Upgrade Executing common accept tasks Setting POST_UPGRADE_ACTION to ACCEPT in upgrade info. Cleaning backout directory. Clearing Upgrade Accept/Reject alarm. Cleaning message from MOTD. Cleaning up RPM config backup files... Checking / Checking /boot Checking /tmp Checking /usr Checking /var Checking /var/TKLC Checking /tmp/appworks_temp Checking /usr/openv Checking /var/TKLC/appw/logs/Process Checking /var/TKLC/appw/logs/Security Checking /var/TKLC/db/filemgmt Checking /var/TKLC/rundb Starting cleanup of RCS repository. INFO: Removing '/var/lib/prelink/force' from RCS repository INFO: Removing '/etc/my.cnf' from RCS repository [root@hostname1396462623 Process]# </pre>
22. <input type="checkbox"/>	Eject the <b>CDROM</b> from the server's optical drive.	# <code>eject /dev/hda</code>
23. <input type="checkbox"/>	Remove the <b>CDROM</b> from the server's optical drive.	 <p><b>Figure 4 - T1200 Front Panel: Optical Drive</b></p>
24. <input type="checkbox"/>	Return to the login prompt of server's console	# <code>exit</code>
25. <input type="checkbox"/>	Repeat this procedure for each remaining server.	Repeat this procedure for each HLRR server installed in the cabinet before continuing on to the next procedure.
<b>THIS PROCEDURE HAS BEEN COMPLETED</b>		

5.0 CONFIGURATION PROCEDURES

5.1 Configuring Telco switch1A (All sites)

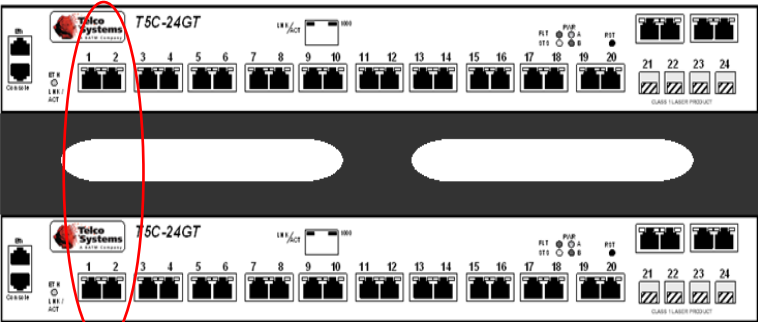
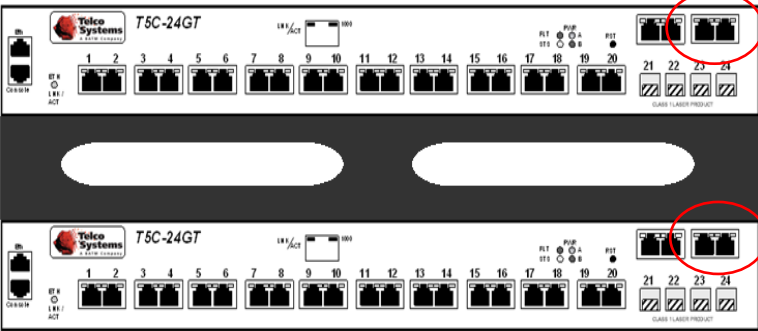
This procedure will configure a Telco T5C-24GT **switch1A** with an appropriate configuration from its corresponding management **server1A**.

**Note:** If an existing **vlan.conf** file can be obtained from an earlier system at **/var/TKLC/appw/vlan.conf**, then this file can be used instead of having to modify the **vlan.conf** template file indicated below in blue.

HLRR application provides a template file **vlan.conf** that can be edited for site specific info. This file is available for downloading at </export/home/eagle/releases/TPD/prod/EXHR/4.0/InstallSupport/>

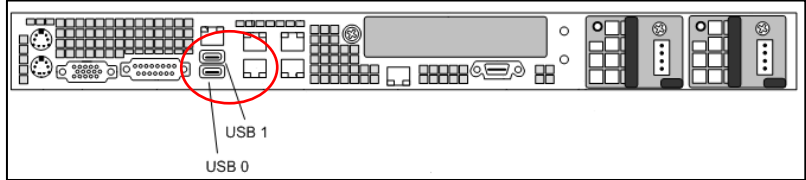
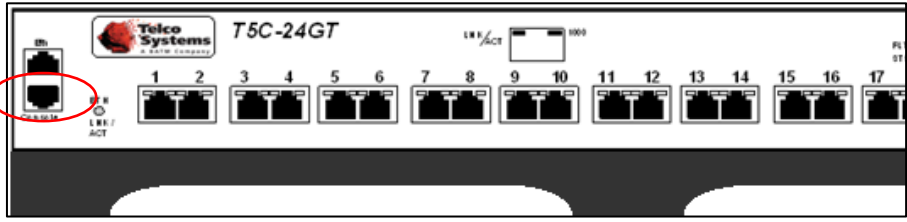
**Note:** This procedure assumes a management **server1A** running TPD 6.5 (or higher) and connected serially to the Telco T5C-24GT **switch1A** console port via access port **/dev/ttyUSB0** (or **/dev/ttyUSB1**)

Procedure 2: Configuring Telco switch1A (All sites)

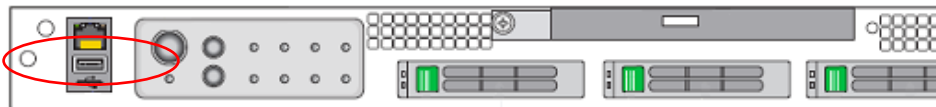
Step	Procedure	Result
1. <div></div>	<p>Set/verify the following cable configuration at the <b>Telco Switches</b>:</p> <p>1) Verify that the ISL from... <b>switch1A, Port 1</b> to <b>switch1B, Port 1</b> is <b>connected</b></p> <p>2) Verify that the ISL from... <b>switch1A, Port 2</b> to <b>switch1B, Port 2</b> is <b>disconnected</b></p>	<div><div>switch1A (top)</div><div>switch1B (bottom)</div></div>  <p><b>Figure 5 - Telco Switches: ISL Connections</b></p>
2. <div></div>	<p>Set/Verify the following cable configuration at the <b>Telco Switches</b>:</p> <p>1) Verify that <b>switch1A, Port 23</b> is <b>disconnected</b></p> <p>2) Verify that <b>switch1B, Port 23</b> is <b>disconnected</b></p>	<div><div>switch1A (top)</div><div>switch1B (bottom)</div></div>  <p><b>Figure 6 - Telco Switches: Uplink Connections</b></p>



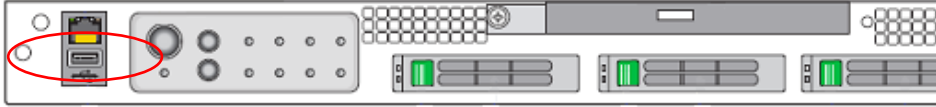
**Procedure 2:** Configuring Telco switch1A (All sites)

Step	Procedure	Result
<b>3.</b> <input type="checkbox"/>	<p>Verify that <b>server1A</b> (top-most server in the cabinet) has a USB-to-DB9M serial adaptor connected to the upper <b>USB Port 1</b> (or <b>USB Port 0</b>) on the rear panel.</p> <p><b>NOTE:</b> The USB-to-DB9M serial adaptor referenced above (<b>OEM P/N: 2105-ROHS</b>) should be connected to a DB9F-to-RJ45 serial cable (<b>TKLC P/N: 830-1229-xx</b>) which connects to the RJ45 console port of <b>switch1A</b>.</p>	 <p><b>Figure 7 - T1200 Rear Panel: USB Port 1</b></p>  <p><b>Figure 8 - Telco Switches: switch1A Console Port</b></p>
<b>4.</b> <input type="checkbox"/>	<p><b>Management server1A:</b></p> <p>Access the <b>server1A</b> console.</p>	<p>Connect to the <b>server1A</b> console using one of the access methods described in <b>Section 2.0</b></p>
<b>5.</b> <input type="checkbox"/>	<p><b>Management server1A:</b></p> <p>Log into the server as the "root" user.</p>	<pre>login: root Password: &lt;root_password&gt;</pre>
<b>6.</b> <input type="checkbox"/>	<p><b>Management server1A:</b></p> <p>Output similar to that shown on the right will appear as the server access the command prompt.</p>	<pre>UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/u PRODPATH=/opt/comcol/prod RUNID=00 UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/u PRODPATH=/opt/comcol/prod RUNID=00 [root@hostname1396462623 ~]#</pre>
<b>7.</b> <input type="checkbox"/>	<p><b>Management server1A:</b></p> <p>Create an independent login shell.</p>	<pre># screen</pre>

**Procedure 2:** Configuring Telco switch1A (All sites)

Step	Procedure	Result
8. <input type="checkbox"/>	<b>Management server1A:</b>  Set management IP address of server1A on bond1.1 interface	<u>Example command:</u>  # netAdm add --device=bond1.1 --netmask=255.255.255.0 --address=169.254.1.254 --onboot=yes  <u>Example output:</u> Interface bond1.1 added
9. <input type="checkbox"/>	<b>Management server1A:</b>  Add aliases for management IP addresses of switch1A and switch1B	<u>Example commands:</u>  # delHost --alias=switch1A # addHost --force --alias=switch1A --ip=169.254.1.11 # delHost --alias=switch1B # addHost --force --alias=switch1B --ip=169.254.1.12
10. <input type="checkbox"/>	<b>Management server1A:</b>  Determine which access port is mapped to the switch1A	# ls -la /dev/ttyUSB*  <u>Example output:</u> crw-rw---- 1 root dialout 188, 0 Apr 25 15:39 /dev/ttyUSB0
11. <input type="checkbox"/>	<b>Management server1A:</b>  1) Place the <b>vlan.conf</b> file containing HLRR cabinet's configuration on a <b>USB flash drive</b> .  2) Insert the <b>USB flash drive</b> into the USB port on the front panel of <b>server1A</b> .	  <b>Figure 9 - T1200 Front Panel: USB Port</b>
12. <input type="checkbox"/>	<b>Management server1A:</b>  Output similar to that shown on the right will appear. Press the <b>&lt;ENTER&gt;</b> key	# sdd: assuming drive cache: write through sdd: assuming drive cache: write through <b>&lt;ENTER&gt;</b> #
13. <input type="checkbox"/>	<b>Management server1A:</b>  Verify that the USB flash drive's partition has been mounted	# df   grep usb /dev/sdd1 1018088 603372 414716 60% /var/tmp/usb_flash
14. <input type="checkbox"/>	<b>Management server1A:</b>  Copy <b>vlan.conf</b> file to the directory path specified on the right.	# cp -p /var/tmp/usb_flash/vlan.conf /usr/TKLC/plat/etc/  Verify that the switch configuration file was copied successfully:  # ls -i /usr/TKLC/plat/etc/vlan.conf /usr/TKLC/plat/etc/vlan.conf

**Procedure 2:** Configuring Telco switch1A (All sites)

Step	Procedure	Result
15. <input type="checkbox"/>	<b>Management server1A:</b>  Remove any non-ASCII characters from the file.	# <code>dos2unix /usr/TKLC/plat/etc/vlan.conf</code>  <b>Note:</b> This command is needed in case when this file was edited on a Windows PC machine.
16. <input type="checkbox"/>	<b>Management server1A:</b>  Verify that vlan.conf file has the correct access port name	# <code>cat /usr/TKLC/plat/etc/vlan.conf   grep "accessport="</code>  <u>Example output:</u> --accessport=/dev/ttyUSB0 \ --accessport=/dev/ttyUSB0 \  <b>NOTE:</b> If the output doesn't match to that found in <b>Step 10</b> above, then edit this file to correct it. Otherwise continue onto next step.
17. <input type="checkbox"/>	<b>Management server1A:</b>  Remove the USB flash drive from the USB port on the front panel of <b>server1A</b> .	  <b>Figure 10 - T1200 Front Panel: USB Port</b>
18. <input type="checkbox"/>	<b>Management server1A:</b>  Output similar to that shown on the right may appear. Press the <b>&lt;ENTER&gt;</b> key	scsi 7:0:0:0: rejecting I/O to dead device FAT: Directory bread(block 538) failed <b>&lt;ENTER&gt;</b> #
19. <input type="checkbox"/>	<b>Management server1A:</b>  Verify the Telco switch1A console connection	Determine whether needed minirc files are already available by issuing the following command:  # <code>ls -i /etc/minirc.*</code>  <b>NOTE:</b> If the file "minirc.<Switch1A_name>" is not listed, proceed with the rest of this step, otherwise skip <b>Step 20</b> .  Set up the serial connection to the switch1A by the following command :  # <code>/usr/TKLC/plat/bin/remoteConsole --add --name=&lt;Switch1A_name&gt; --bps=9600 --port=ttyUSB0</code>
20. <input type="checkbox"/>	<b>Management server1A:</b>  Verify if the file "minirc.<Switch1A_name>" has the correct access port	# <code>cat /etc/minirc.&lt;Switch1A_name&gt;   grep "pr port"</code>  <u>Example output:</u> pr port            /dev/ttyUSB0  <b>NOTE:</b> If the output doesn't match to that found in <b>Step 10</b> above, then edit this file to correct the access port. Otherwise continue onto next step.

**Procedure 2:** Configuring Telco switch1A (All sites)

Step	Procedure	Result
<b>21.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Attach to the Telco switch1A console	Connect serially to the switch by issuing the following command as admusr on the management server:  <pre># minicom &lt;Switch1A_name&gt;</pre> <pre>Welcome to minicom 2.1 OPTIONS: History Buffer, F-key Macros, Search History Buffer, I18n Compiled on Jan 7 2007, 01:16:05. Press CTRL-A Z for help on special keys Press <b>Enter</b> Password: &lt;Switch1A_password&gt; T5C-24GT&gt; Switch&gt; <b>enable</b> Password: &lt;Switch1A_enable_password&gt; T5C-24GT#</pre> <p><b>NOTE:</b> If the “enable” command above prompts for a password, then Telco switch is not in a factory default configuration. This may be due to a previous configuration attempt.</p> <p>If this is the case, then please continue with <b>Step 22</b>. If not, and the switch is in a factory default configuration, skip to <b>Step 23</b></p>
<b>22.</b> <input type="checkbox"/>	<b>Management server1A (switch console session):</b>  Initialize switch1A to the factory default configuration.	(Optional) Type the following commands in the switch1A console session to restore the switch to factory default configuration:  <pre>T5C-24GT# <b>write erase</b> wait ...  T5C-24GT# <b>reload no-save</b> Proceed with reload? [y/n] : <b>y</b> Rebooting... [Additional output omitted]</pre> <p>The switch will reboot in a factory default configuration. Once the switch has rebooted and you will see the following, indicating the switch is back up:</p> <pre>User Access Verification Password:</pre>
<b>23.</b> <input type="checkbox"/>	<b>Management server1A (switch console session):</b>  Exit from the switch1A console and minicom session	To exit the console session and minicom program:  If you are at the “T5C-24GT# “ or “T5C-24GT>” prompt in the switch console session , log out first by typing <b>exit</b> and pressing <b>Enter</b> .  After you log out of the switch, exit the minicom session by pressing <b>CTRL</b> and <b>A</b> , then press <b>X</b> , then press <b>Enter</b>

**Procedure 2:** Configuring Telco switch1A (All sites)

Step	Procedure	Result
<b>24.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Verify that the switch firmware binary exists	Check to see if the correct firmware binary is present on the system.  <pre># ls -i /var/TKLC/switchconfig/&lt;T5CL3_24G_firmware_image_file&gt;</pre> <p><b>NOTE:</b> If the appropriate image does not exist, then stop and check the T1200 Solutions Firmware Upgrade Pack ( 909-1618-001), or contact the Oracle's Tekelec Customer Care Center for the assistance.</p> <p><b>NOTE:</b> If the appropriate image exists, then continue with <b>Step 25</b></p>
<b>25.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Check the tftp status	Check to see if the tftp service is enabled.  <pre># chkconfig --list tftp</pre> <p>tftp off</p> <p>If the tftp service is set to "off" continue with this step. If the tftp service is set to "on", skip to <b>Step 26</b></p> <p>To turn on tftp, run the following command:</p> <pre># chkconfig tftp on</pre> <p>Verify that it is now enabled:</p> <pre># chkconfig --list tftp</pre> <p>tftp on</p>
<b>26.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Check xinetd service is running	<pre># service xinetd status</pre> <p>If xinetd is running, then restart this service</p> <pre># service xinetd restart</pre> <p>Stopping xinetd: [ OK ] Starting xinetd: [ OK ]</p> <p>If xinetd is stopped, then start this service</p> <pre># service xinetd start</pre> <p>Starting xinetd: [ OK ]</p>
<b>27.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Modify iptables to allow tftp.	Run prepswconf to modify iptables to allow the switch to pull configuration data from the server.  <pre># /usr/TKLC/plat/sbin/prepswconf --prepare</pre> <p><b>Note:</b> This will open up iptables to allow tftp access from the switch for 120 minutes. This procedure must be completed within that time frame. If not, this step must be repeated before any of the remaining steps can be completed.</p>

**Procedure 2: Configuring Telco switch1A (All sites)**

Step	Procedure	Result
<b>28.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Run switchconfig to configure the switch1A.	<pre># /usr/TKLC/plat/sbin/switchconfig --swname=&lt;Switch1A_name&gt;</pre> <p>Successfully enabled on switch &lt;Switch1A_name&gt;.            Reloading switch &lt;Switch1A_name&gt; with defaults, please standby..            Switch &lt;Switch1A_name&gt; successfully set to default configuration.            Successfully started management VLAN on &lt;Switch1A_name&gt;.            Startup configuration created OK.            Successfully uploaded startup config for &lt;Switch1A_name&gt;.            Removing config file &lt; Switch1A_name&gt;.startup-conf from /var/lib/tftpboot.            Reloading switch &lt;Switch1A_name&gt;, please standby..            Reload of switch &lt;Switch1A_name&gt; complete.            Switch &lt;Switch1A_name&gt; successfully configured.</p> <p><b>Note:</b> This step will take approximately 20 minutes to complete. If the output fails to indicate successful configuration, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.</p>
<b>29.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Restore iptables to block tftp.	<pre># /usr/TKLC/plat/sbin/prepswconf --clean</pre>
<b>30.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Stop the xinetd service.	Stop the xinetd service once the switch has been upgraded and configured:  <pre># service xinetd stop</pre> Stopping xinetd: [ OK ]
<b>31.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Disable tftp services.	<pre># chkconfig tftp off</pre>
<b>32.</b> <input type="checkbox"/>	<b>Telco T5CL3_24G switch1A:</b>  (OPTIONAL) Connect uplink cable to Port 23	Connect the uplink cable from the new Telco switch1A (Port 23) to the customer network.
<b>33.</b> <input type="checkbox"/>	<b>Management server1A:</b>  (OPTIONAL) Test network flow/traffic through new Telco switch1A	<pre># ping &lt;Remote_customer_ip&gt;</pre>

**Procedure 2:** Configuring Telco switch1A (All sites)

Step	Procedure	Result
<b>34.</b> <input type="checkbox"/>	<b>Telco T5CL3_24G switch1A:</b>  (OPTIONAL) Disconnect uplink cable from Port 23	Disconnect the uplink cable from the new Telco switch1A (Port 23) from the customer network.
<b>35.</b> <input type="checkbox"/>	<b>Management server1A:</b>  Exit and return to the login prompt.	# <b>exit</b> logout
<b>THIS PROCEDURE HAS BEEN COMPLETED</b>		

5.2 Configuring Telco switch1B (All sites)

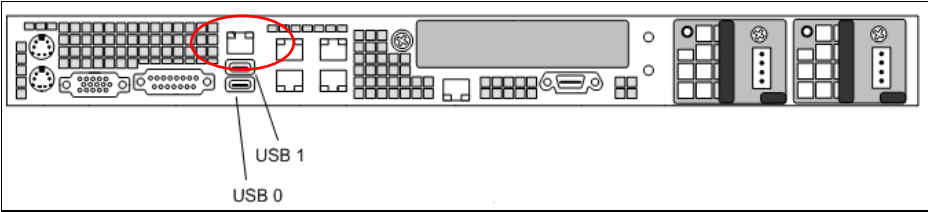
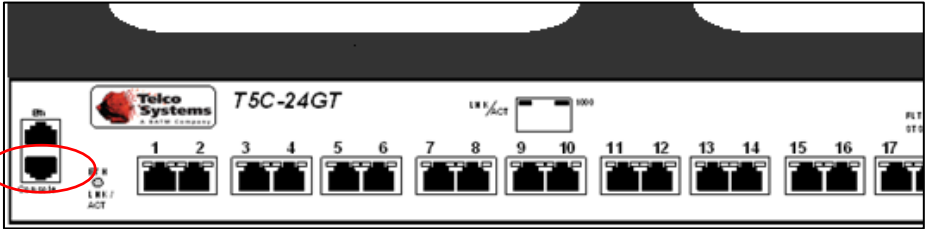
This procedure will configure a Telco T5C-24GT **switch1B** with an appropriate configuration from its corresponding management **server1B**.

**Note:** If an existing **vlan.conf** file can be obtained from an earlier system at **/var/TKLC/appw/vlan.conf**, then this file can be used instead of having to modify the **vlan.conf** template file indicated below in blue.

HLRR application provides a template file **vlan.conf** that can be edited for site specific info. This file is available for downloading at [/export/home/eagle/releases/TPD/prod/EXHR/4.0/InstallSupport/](#)

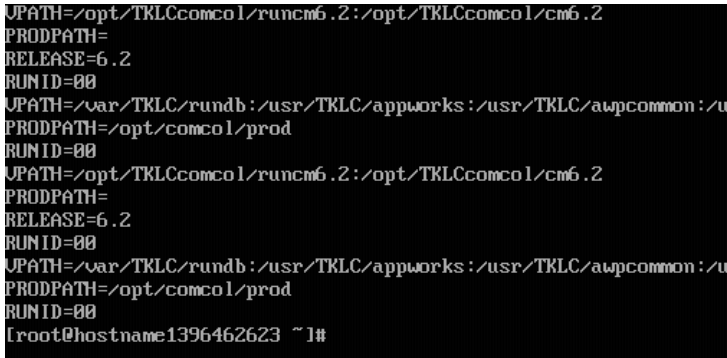

**Note:** This procedure assumes a management **server1B** running TPD 6.5 (or higher) and connected serially to the Telco T5C-24GT **switch1B** console port via access port **/dev/ttyUSB0** (or **/dev/ttyUSB1**)

Procedure 3: Configuring Telco switch1B (All sites)

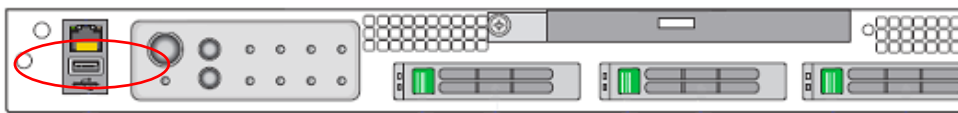
Step	Procedure	Result
1. <input type="checkbox"/>	<p>Verify that <b>server1B</b> (2<sup>nd</sup> server installed in the cabinet from a top-down perspective) has a USB-to-DB9M serial adaptor connected to the <b>USB Port 1</b> (or <b>USB Port 0</b>) on the rear panel.</p> <p><b>NOTE:</b> The USB-to-DB9M serial adaptor referenced above (<b>OEM P/N: 2105-ROHS</b>) should be connected to a DB9F-to-RJ45 serial cable (<b>TKLC P/N: 830-1229-xx</b>) which connects to the RJ45 console port of <b>switch1B</b>.</p>	<div></div> <p><b>Figure 11 - T1200 Rear Panel: USB Port 1</b></p> <div></div> <p><b>Figure 12 - Telco Switches: switch1B Console Port</b></p>
2. <input type="checkbox"/>	<p><b>Management server1B:</b></p> <p>Access the <b>server1B</b> console.</p>	<p>Connect to the <b>server1B</b> console using one of the access methods described in <b>Section 2.0</b></p>
3. <input type="checkbox"/>	<p><b>Management server1B:</b></p> <p>Log into the server as the “<b>root</b>” user.</p>	<p>login: <b>root</b></p> <p>Password: <b>&lt;root_password&gt;</b></p>



**Procedure 3:** Configuring Telco switch1B (All sites)

Step	Procedure	Result
4. <input type="checkbox"/>	<b>Management server1B:</b>  Output similar to that shown on the right will appear as the server access the command prompt.	 <pre>UPATH=/opt/TKLComcol/runcm6.2:/opt/TKLComcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/u PRODPATH=/opt/comcol/prod RUNID=00 UPATH=/opt/TKLComcol/runcm6.2:/opt/TKLComcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/u PRODPATH=/opt/comcol/prod RUNID=00 [root@hostname1396462623 ~]#</pre>
5. <input type="checkbox"/>	<b>Management server1B:</b>  Create an independent login shell.	# <code>screen</code>
6. <input type="checkbox"/>	<b>Management server1B:</b>  Set management IP address of server1B on bond1.1 interface	<u>Example command:</u>  # <code>netAdm add --device=bond1.1 --netmask=255.255.255.0 --address=169.254.1.253 --onboot=yes</code>  <u>Example output:</u> Interface bond1.1 added
7. <input type="checkbox"/>	<b>Management server1B:</b>  Add aliases for management IP addresses of switch1A and switch1B	<u>Example commands:</u> # <code>delHost --alias=switch1A</code> # <code>addHost --force --alias=switch1A --ip=169.254.1.11</code> # <code>delHost --alias=switch1B</code> # <code>addHost --force --alias=switch1B --ip=169.254.1.12</code>
8. <input type="checkbox"/>	<b>Management server1B:</b>  Determine which access port is mapped to the switch1B	# <code>ls -la /dev/ttyUSB*</code>  <u>Example output:</u> crw-rw---- 1 root dialout 188, 0 Apr 25 15:39 <b>/dev/ttyUSB0</b>
9. <input type="checkbox"/>	<b>Management server1B:</b>  1) Place the <b>vlan.conf</b> file containing HLRR cabinet's configuration on a <b>USB flash drive</b> .  2) Insert the <b>USB flash drive</b> into the USB port on the front panel of <b>server1B</b> .	  <b>Figure 13 - T1200 Front Panel: USB Port</b>

**Procedure 3:** Configuring Telco switch1B (All sites)

Step	Procedure	Result
10. <input type="checkbox"/>	<b>Management server1B:</b>  Output similar to that shown on the right will appear. Press the <b>&lt;ENTER&gt;</b> key to return to the command prompt.	# sdd: assuming drive cache: write through sdd: assuming drive cache: write through <b>&lt;ENTER&gt;</b> #
11. <input type="checkbox"/>	<b>Management server1B:</b>  Verify that the USB flash drive's partition has been mounted	# <b>df   grep usb</b>  /dev/sdd1 1018088 603372 414716 60% /var/tmp/usb_flash
12. <input type="checkbox"/>	<b>Management server1B:</b>  Copy <b>vlan.conf</b> file to the directory path specified on the right.	# <b>cp -p /var/tmp/usb_flash/vlan.conf /usr/TKLC/plat/etc/</b>  Verify the switch configuration file was copied successfully:  # <b>ls -i /usr/TKLC/plat/etc/vlan.conf</b> /usr/TKLC/plat/etc/vlan.conf
13. <input type="checkbox"/>	<b>Management server1B:</b>  Remove any non-ASCII characters from the file.	# <b>dos2unix /usr/TKLC/plat/etc/vlan.conf</b>  <b>Note:</b> This command is needed in case when this file was edited on a Windows PC machine.
14. <input type="checkbox"/>	<b>Management server1B:</b>  Verify that <b>vlan.conf</b> file has the correct access port name	# <b>cat /usr/TKLC/plat/etc/vlan.conf   grep "accessport="</b>  <u>Example output:</u> --accessport=/dev/ttyUSB0 \ --accessport=/dev/ttyUSB0 \  <b>NOTE:</b> If the output doesn't match to that found in <b>Step 8</b> above, then edit this file to correct it. Otherwise continue onto next step.
15. <input type="checkbox"/>	<b>Management server1B:</b>  Remove the USB flash drive from the USB port on the front panel of <b>server1B</b> .	 <b>Figure 14 - T1200 Rear Panel: USB Port 1</b>
16. <input type="checkbox"/>	<b>Management server1B:</b>  Output similar to that shown on the right may appear. Press the <b>&lt;ENTER&gt;</b> key	scsi 7:0:0:0: rejecting I/O to dead device FAT: Directory bread(block 538) failed <b>&lt;ENTER&gt;</b> #

**Procedure 3: Configuring Telco switch1B (All sites)**

Step	Procedure	Result
<b>17.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Verify the Telco switch1B console connection	Determine whether needed minicom files are already available by issuing the following command: <pre># ls -i /etc/minirc.*</pre> <p><b>NOTE:</b> If the file "minirc.&lt;Switch1B_name&gt;" is not listed, proceed with the rest of this step, otherwise skip to <b>Step 18</b>.</p> <p>Set up the serial connection to the switch1B by issuing the following command:</p> <pre># /usr/TKLC/plat/bin/remoteConsole --add --name=&lt;Switch1B_name&gt; --bps=9600 --port=ttyUSB0</pre>
<b>18.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Verify if the file "minirc.<Switch1B_name>" has the correct access port	<pre># cat /etc/minirc.&lt;Switch1B_name&gt;   grep "pr port"</pre> <p><u>Example output:</u></p> <pre>pr port      /dev/ttyUSB0</pre> <p><b>NOTE:</b> If the output doesn't match to that found in <b>Step 8</b> above, then edit this file to correct the access port. Otherwise please continue onto next step.</p>
<b>19.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Attach to the Telco switch1B console	<p>Connect serially to the switch by issuing the following command as admusr on the management server:</p> <pre># minicom &lt;Switch1B_name&gt;</pre> <pre>Welcome to minicom 2.1 OPTIONS: History Buffer, F-key Macros, Search History Buffer, I18n Compiled on Jan 7 2007, 01:16:05. Press CTRL-A Z for help on special keys Press <b>Enter</b> Password: &lt;Switch1B_password&gt; T5C-24GT&gt; Switch&gt; <b>enable</b> Password: &lt;Switch1B_enable_password&gt; T5C-24GT#</pre> <p><b>NOTE:</b> If the "enable" command above prompts for a password, then Telco switch is not in a factory default configuration. This may be due to a previous configuration attempt. If this is the case, then continue with <b>Step 20</b>. If not, and the switch is in a factory default configuration, skip to <b>Step 21</b></p>

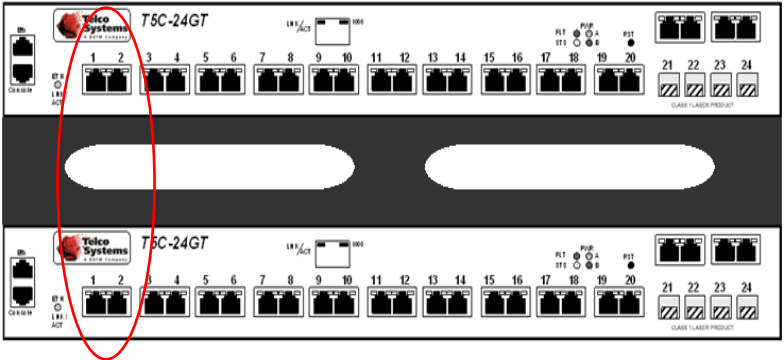
**Procedure 3:** Configuring Telco switch1B (All sites)

Step	Procedure	Result
<b>20.</b> <input type="checkbox"/>	<b>Management server1B (switch console session):</b>  Initialize switch1B to the factory default configuration.	(Optional)  Type the following commands in the switch1B console session to restore the switch to factory default configuration:  <pre>T5C-24GT# write erase wait ... T5C-24GT# reload no-save Proceed with reload? [y/n] : y Rebooting... [Additional output omitted]</pre> The switch will reboot in a factory default configuration. Once the switch has rebooted and you will see the following, indicating the switch is back up:  <pre>User Access Verification Password:</pre>
<b>21.</b> <input type="checkbox"/>	<b>Management server1B (switch console session):</b>  Exit from the switch1B console and minicom session	To exit the console session and minicom program:  If you are at the "T5C-24GT# " or "T5C-24GT>" prompt in the switch console session , log out first by typing <b>exit</b> and pressing <b>Enter</b> .  After you log out of the switch, exit the minicom session by pressing <b>CTRL</b> and <b>A</b> , then press <b>X</b> , then press <b>Enter</b>
<b>22.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Verify that the switch1B firmware binary exists	Check to see if the correct firmware binary is present on the system.  <pre># ls -i /var/TKLC/switchconfig/&lt;T5CL3_24G_firmware_image_file&gt;</pre> <b>NOTE:</b> If the appropriate image does not exist, then stop and check the T1200 Solutions Firmware Upgrade Pack ( 909-1618-001), or contact the Oracle's Tekelec Customer Care Center for the assistance.  <b>NOTE:</b> If the appropriate image exists, then continue with <b>Step 23</b>
<b>23.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Check the tftp status	Check to see if the tftp service is enabled.  <pre># chkconfig --list tftp tftp off</pre> If the tftp service is set to "off" continue with this step. If the tftp service is set to "on", then skip to <b>Step 24</b>  To turn on tftp, run the following command: <pre># chkconfig tftp on</pre> Verify that it is now enabled: <pre># chkconfig --list tftp tftp on</pre>

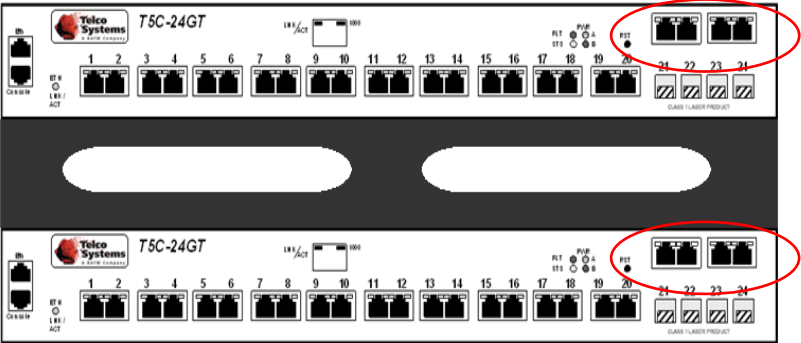
**Procedure 3: Configuring Telco switch1B (All sites)**

Step	Procedure	Result
<b>24.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Check xinetd service is running	<pre># service xinetd status</pre> <ul style="list-style-type: none"> <li>If xinetd is running, then restart this service</li> </ul> <pre># service xinetd restart</pre> <pre>Stopping xinetd: [ OK ]</pre> <pre>Starting xinetd: [ OK ]</pre> <ul style="list-style-type: none"> <li>If xinetd is stopped, then start this service</li> </ul> <pre># service xinetd start</pre> <pre>Starting xinetd: [ OK ]</pre>
<b>25.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Modify iptables to allow tftp.	Run prepswconf to modify iptables to allow the switch to pull configuration data from the server.  <pre># /usr/TKLC/plat/sbin/prepswconf --prepare</pre> <p><b>Note:</b> This will open up iptables to allow tftp access from the switch for 120 minutes. This procedure must be completed within that time frame. If not, this step must be repeated before any of the remaining steps can be completed.</p>
<b>26.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Run switchconfig to configure the switch1B.	<pre># /usr/TKLC/plat/sbin/switchconfig --swname=&lt;Switch1B_name&gt;</pre> <pre>Successfully enabled on switch &lt;Switch1B_name&gt;.</pre> <pre>Reloading switch &lt;Switch1B_name&gt; with defaults, please standby...</pre> <pre>Switch &lt;Switch1B_name&gt; successfully set to default configuration.</pre> <pre>Successfully started management VLAN on &lt; Switch1B_name&gt;.</pre> <pre>Startup configuration created OK.</pre> <pre>Successfully uploaded startup config for &lt;Switch1B_name&gt;.</pre> <pre>Removing config file &lt;Switch1B_name&gt;.startup-config from</pre> <pre>/var/lib/tftpboot.</pre> <pre>Reloading switch &lt;Switch1B_name&gt;, please standby...</pre> <pre>Reload of switch &lt;Switch1B_name&gt; complete.</pre> <pre>Switch &lt;Switch1B_name&gt; successfully configured.</pre> <p><b>Note:</b> This step will take approximately 20 minutes to complete. If the output fails to indicate successful configuration, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.</p>
<b>27.</b> <input type="checkbox"/>	<b>Management server1B:</b>  Restore iptables to block tftp.	<pre># /usr/TKLC/plat/sbin/prepswconf --cleanup</pre>

**Procedure 3:** Configuring Telco switch1B (All sites)

Step	Procedure	Result
28. <input type="checkbox"/>	<b>Management server1B:</b> Stop the xinetd service.	Stop the xinetd service once the switch has been upgraded and configured:  # <code>service xinetd stop</code> Stopping xinetd: [ OK ]
29. <input type="checkbox"/>	<b>Management server1B:</b> Disable tftp services.	# <code>chkconfig tftp off</code>
30. <input type="checkbox"/>	<b>Telco T5CL3_24G switch1B:</b> Connect uplink cable to Port 23	(OPTIONAL)  Connect the uplink cable from the new Telco switch1B (Port 23) to the customer network.
31. <input type="checkbox"/>	<b>Management server1B:</b> Test network flow/traffic through new Telco switch1B	(OPTIONAL)  # <code>ping &lt;Remote_customer_ip&gt;</code>
32. <input type="checkbox"/>	<b>Telco T5CL3_24G switch1B:</b> Disconnect uplink cable from Port 23	(OPTIONAL)  Disconnect the uplink cable from the new Telco switch1B (Port 23) from the customer network.
33. <input type="checkbox"/>	<b>Management server1B:</b> Return to the login prompt.	# <code>exit</code> logout
34. <input type="checkbox"/>	Set/Verify the following cable configuration at the <b>Telco Switches</b> :  1) Verify that the ISL from... <b>switch1A, Port 1</b> to <b>switch1B, Port 1</b> is <b>connected</b>  2) Verify that the ISL from... <b>switch1A, Port 2</b> to <b>switch1B, Port 2</b> is <b>connected</b>	<div> <div>switch1A (top)</div> <div>switch1B (bottom)</div>  </div> <p><b>Figure 15 - Telco Switches: ISL Connections</b></p>

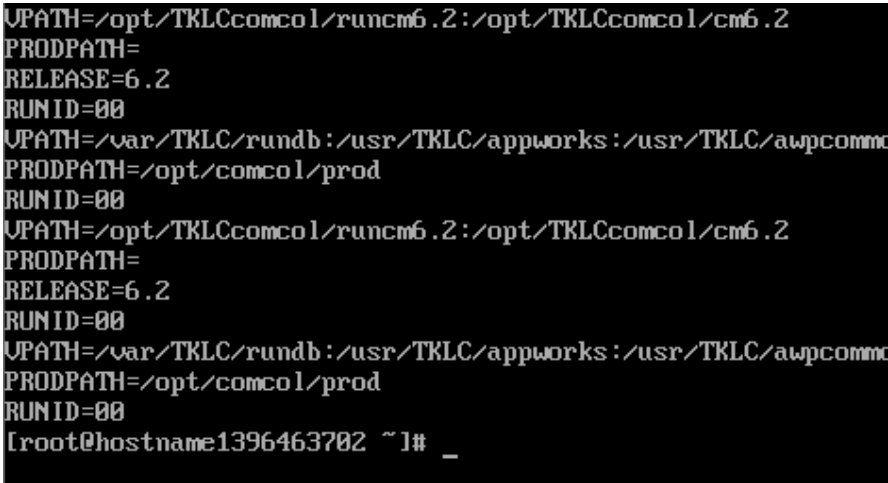
Procedure 3: Configuring Telco switch1B (All sites)

Step	Procedure	Result
35. <div></div>	<p>Reconnect the <b>Telco Switches</b> to the customer network:</p> <p>1) Verify that... <b>switch1A, Port 23</b> is <b>connected</b></p> <p>2) Verify that... <b>switch1B, Port 23</b> is <b>connected</b></p>	<div><div>switch1A (top)</div><div>switch1B (bottom)</div></div> <div></div> <p>Figure 16 - Telco Switches: Uplink Connections</p>
THIS PROCEDURE HAS BEEN COMPLETED		

### 5.3 Configuring Primary NOAMP Server A (1<sup>st</sup> NOAMP site only)


**Note:** This procedure assumes that the XML files for configuring Primary NOAMP, SOAM and DR-NOAMP network elements were previously prepared, as described in Appendix A.

#### Procedure 4: Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

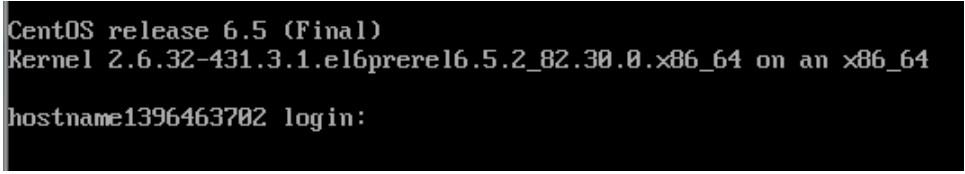
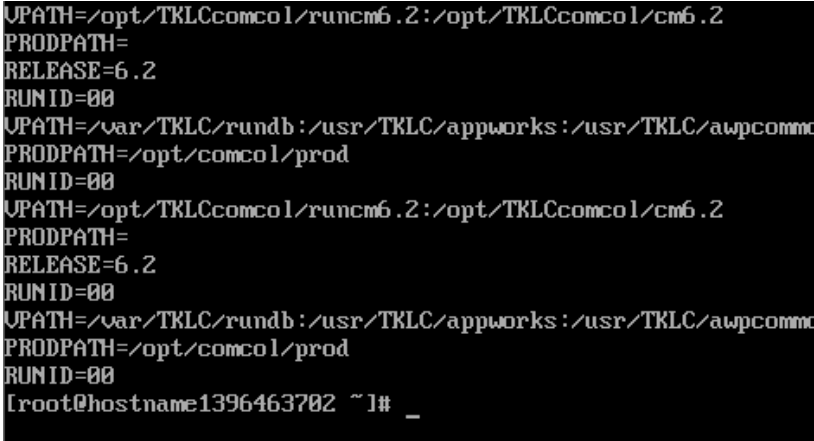
Step	Procedure	Result
1. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Access the server's console.	Connect to the T1200 server designated as <b>Primary NOAMP Server A</b> using one of the access methods described in <b>Section 2.0</b>
2. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Log into this server as the "root" user.	login: <b>root</b> Password: <b>&lt;root_password&gt;</b>
3. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Output similar to that shown on the right will appear	 <pre> UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcomm PRODPATH=/opt/comcol/prod RUNID=00 UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcomm PRODPATH=/opt/comcol/prod RUNID=00 [root@hostname1396463702 ~]# _ </pre>
4. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Set XMI IP address of this server to establish a network connection for accessing the NOAMP GUI	Set IP address on XMI interface  <pre># netAdm add --device=bond1.2 --onboot=yes --bootproto=none --netmask=[XMI_IP_NETMASK] --address=[XMI_IP_ADDRESS]</pre> <u>Example output:</u> Interface bond1.2 added
5. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Add a default route to the XMI interface of this server	Add a default route to the XMI interface  <pre># netAdm add --route=default --device=bond1.2 --gateway=[XMI_GATEWAY_IP]</pre> <u>Example output:</u> Route to bond1.2 added



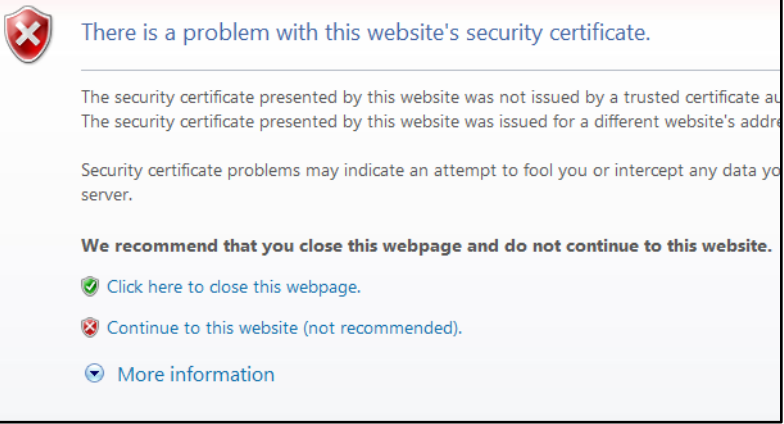

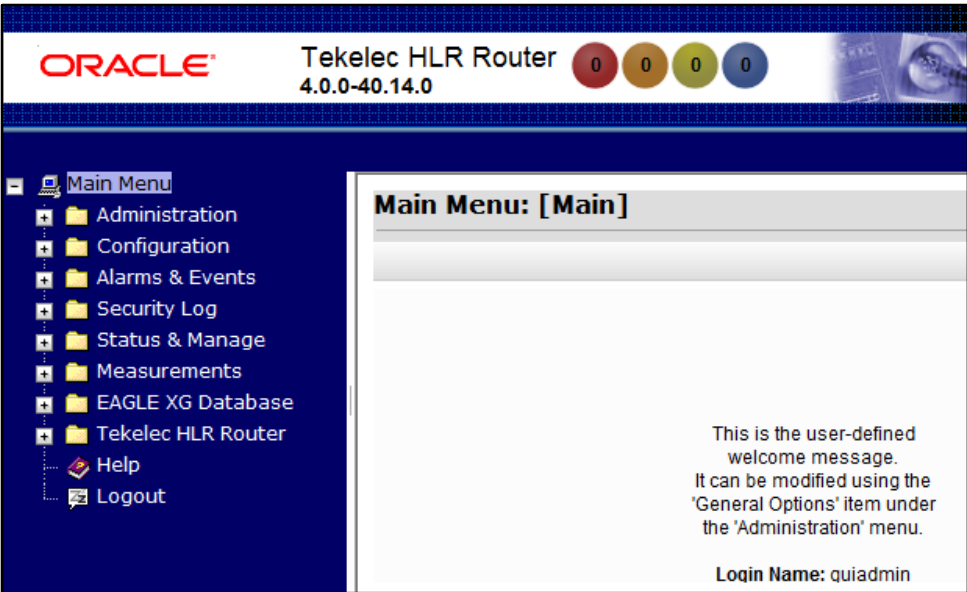
**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
6. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Restart the network on this server	<pre># service network restart</pre> <p><u>Example output:</u></p> <pre>Shutting down interface bond1.2: [ OK ] Shutting down interface bond0: [ OK ] Shutting down interface bond1: [ OK ] Shutting down loopback interface: [ OK ] Bringing up loopback interface: [ OK ] Bringing up interface bond0: [ OK ] Bringing up interface bond1: [ OK ] Bringing up interface bond1.2: Determining if ip address 192.168.182.21 is already in use for device bond1.2... [ OK ]</pre> <p><b>Note:</b> If the output returns any errors like <b>FAILED</b>, please stop and contact Oracle's Tekelec Customer Care Center for assistance.</p>
7. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Wait a few minutes and then ping external IP address to ensure network connectivity.	<pre># ping &lt;IP_address&gt;</pre> <p><u>Example output:</u></p> <pre>PING 192.168.182.21 (192.168.182.21) 56(84) bytes of data. 64 bytes from 192.168.182.21: icmp_seq=1 ttl=64 time=0.056 ms 64 bytes from 192.168.182.21: icmp_seq=2 ttl=64 time=0.046 ms 64 bytes from 192.168.182.21: icmp_seq=3 ttl=64 time=0.018 ms ^C --- 192.168.182.21 ping statistics --- 3 packets transmitted, 3 received, 0% packet loss, time 2573ms</pre>
8. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Configure the time zone	<pre># set_ini_tz.pl &lt;time zone&gt;</pre> <p><u>Example:</u></p> <pre># set_ini_tz.pl "America/New_York"</pre>
9. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Reboot this server  Output similar to that shown on the right may be observed as the server initiates a reboot.	<pre># init 6</pre> 

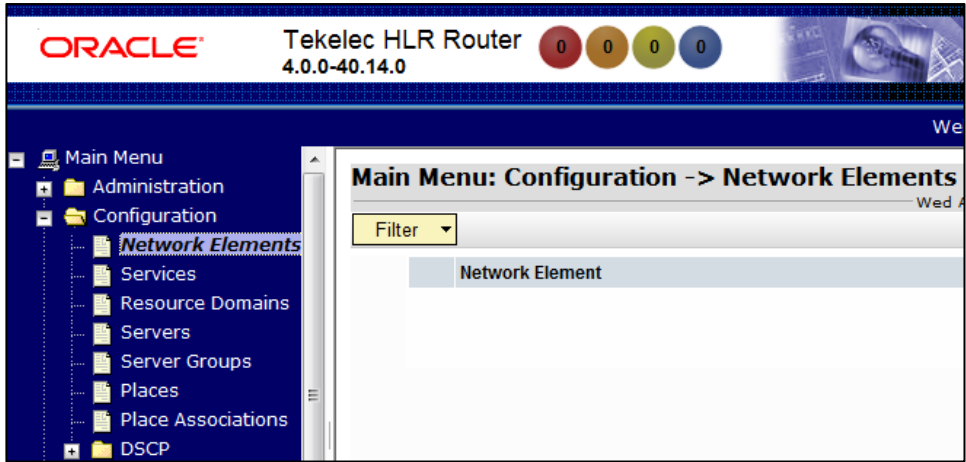
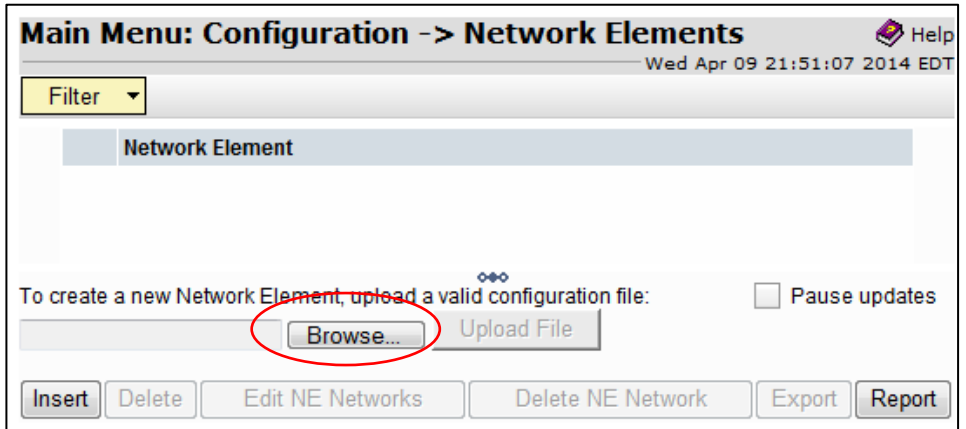
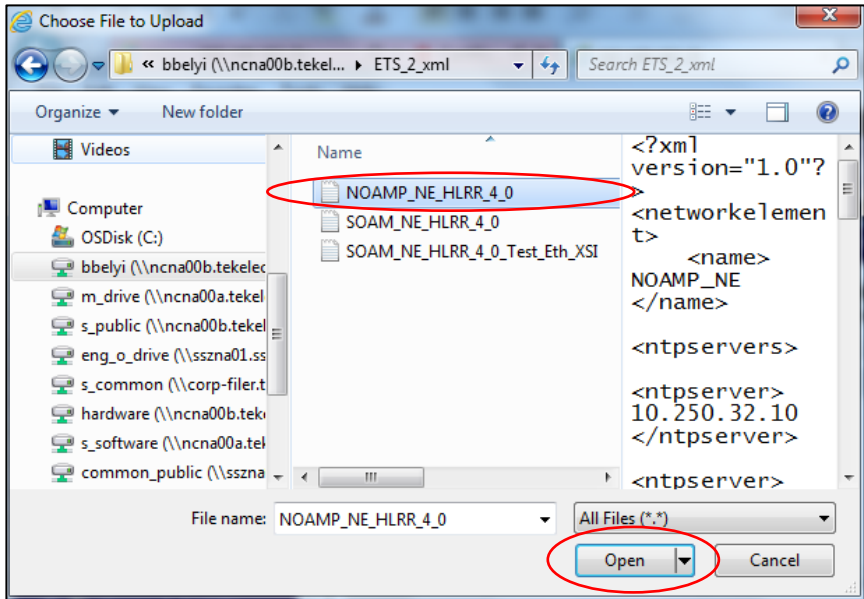
**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
10. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Wait until the reboot completes and login prompt appears	
11. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Log into this server as the "root" user	login: <b>root</b> Password: <b>&lt;root_password&gt;</b>
12. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Output similar to that shown on the right will appear	
13. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Verify alarm status of this server	# <b>alarmMgr --alarmStatus</b>  <b>NOTE:</b> This command should return no output on a healthy system. If any alarms are reported, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.
14. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Verify the current health of this server	# <b>syscheck</b>  <u>Example output:</u> Running modules in class disk... OK Running modules in class hardware... OK Running modules in class net... OK Running modules in class proc... OK Running modules in class system... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log  <b>NOTE:</b> If any errors are reported on the output, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.

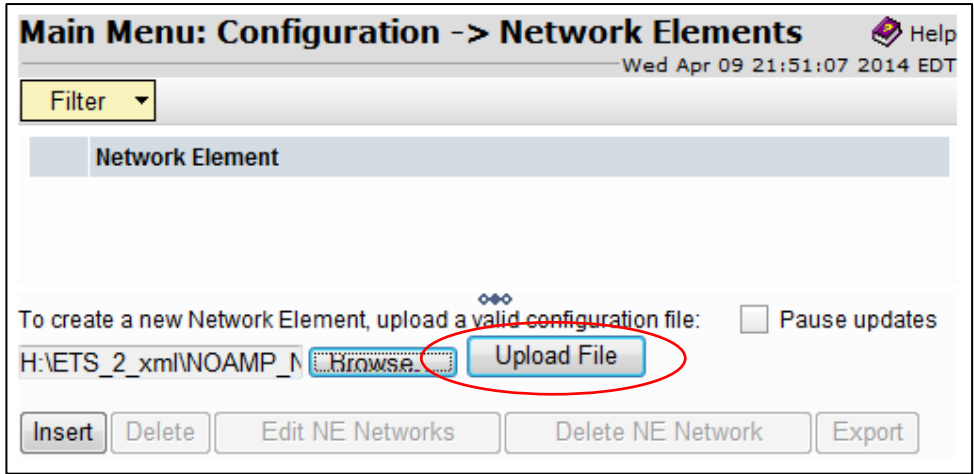
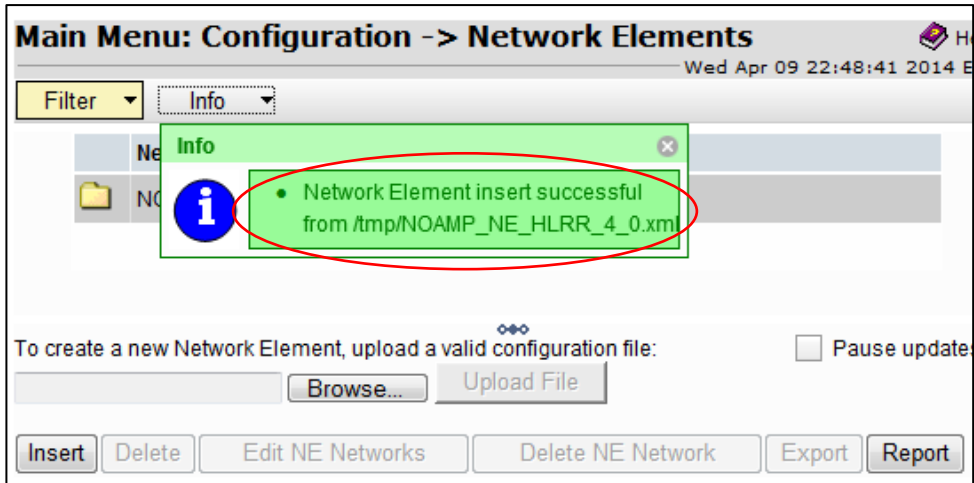
**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
15. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  Launch IE web browser and connect to the XMI IP address assigned to Primary NOAMP Server A  Click on this link: <b>“Continue to this website (not recommended)”</b>	 <p>There is a problem with this website's security certificate.</p> <p>The security 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.</p> <p>Security certificate problems may indicate an attempt to fool you or intercept any data you provide.</p> <p><b>We recommend that you close this webpage and do not continue to this website.</b></p> <p> <a href="#">Click here to close this webpage.</a></p> <p> <a href="#">Continue to this website (not recommended).</a></p> <p> <a href="#">More information</a></p>
16. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  The user should be presented the login screen shown on the right.  Login to the GUI using the default user and password.	 <p>ORACLE®</p> <p>Oracle System Login Wed Apr 9 17:06:39 2014 EDT</p> <p><b>Log In</b> Enter your username and password to log in</p> <p>Username: <input type="text"/></p> <p>Password: <input type="password"/></p> <p><input type="checkbox"/> Change password</p> <p><input type="button" value="Log In"/></p> <p>Welcome to the Oracle System Login.</p> <p>Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 7.0, 8.0, or 9.0 with support for JavaScript and cookies.</p> <p>Oracle and logo are registered service marks of Oracle Corporation. Copyright © 2013 Oracle Corporation All Rights Reserved.</p>
17. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  The user should be presented the HLRR Main Menu as shown on the right.	 <p>ORACLE® Tekelec HLR Router 4.0.0-40.14.0</p> <p><b>Main Menu</b></p> <ul style="list-style-type: none"> <li>Administration</li> <li>Configuration</li> <li>Alarms &amp; Events</li> <li>Security Log</li> <li>Status &amp; Manage</li> <li>Measurements</li> <li>EAGLE XG Database</li> <li>Tekelec HLR Router</li> <li>Help</li> <li>Logout</li> </ul> <p><b>Main Menu: [Main]</b></p> <p>This is the user-defined welcome message. It can be modified using the 'General Options' item under the 'Administration' menu.</p> <p>Login Name: quiadmin</p>

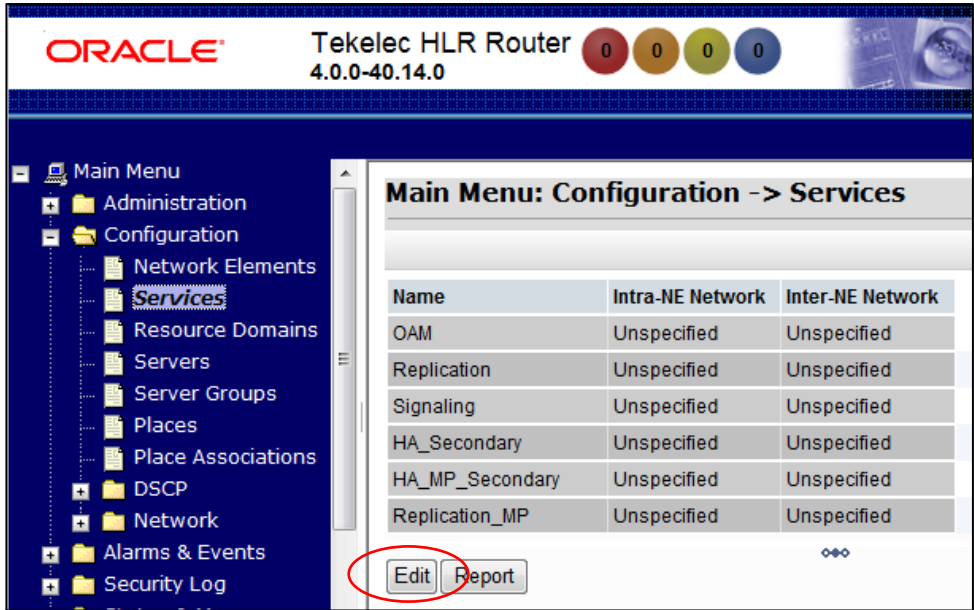
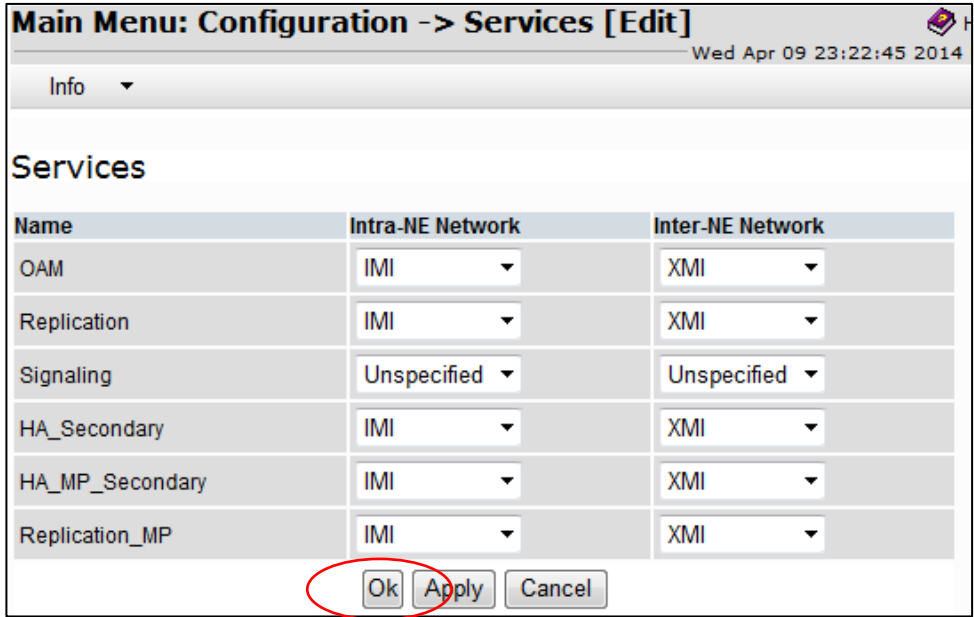
**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
18. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  <b>Configuring Network Element</b>  1) Select... <b>Main Menu</b> → <b>Configuration</b> → <b>Network Elements</b>  2) The configuration screen "Network Elements" will appear.	
19. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  <b>Configuring Network Element</b>  1) Scroll to bottom of screen  2) Select the "Browse" dialogue button	
20. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  <b>Configuring Network Element</b>  1) Select the location containing XML configuration file for <b>Primary NOAMP</b> Network Element  2) Select this XML file and click the "Open" dialogue button.	

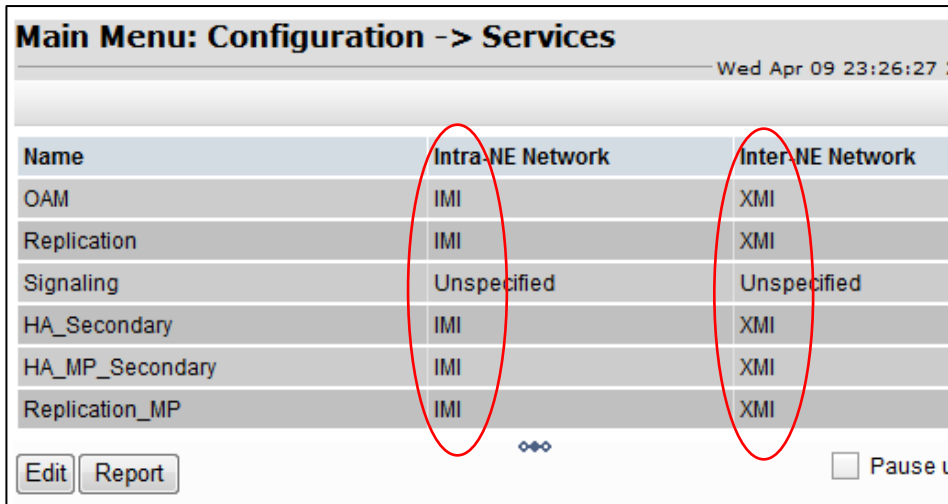
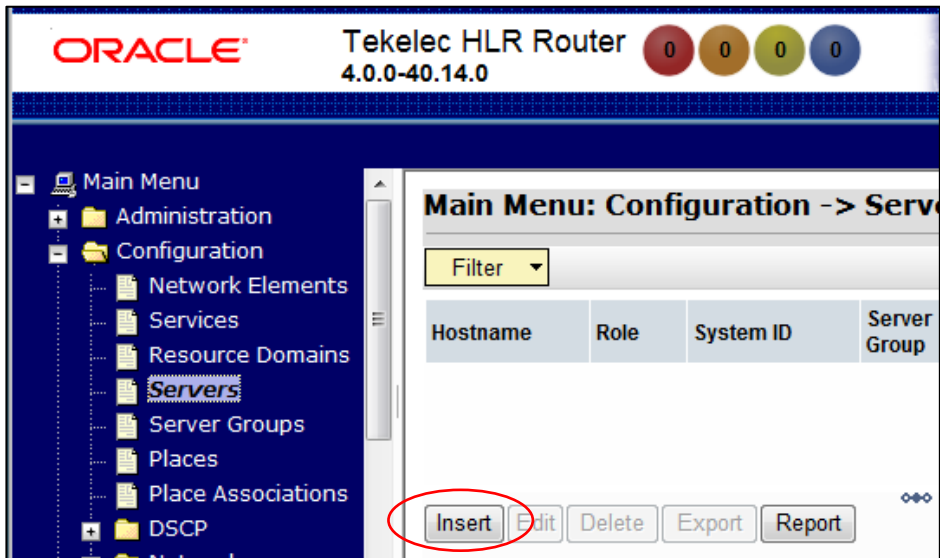
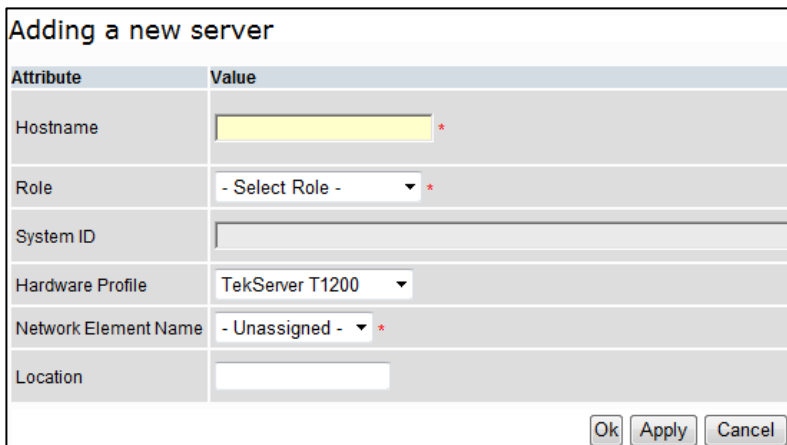
**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
21. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  <b>Configuring Network Element</b>  Select the “ <b>Upload File</b> ” dialogue button (bottom left corner of screen).	 <p>The screenshot shows the 'Main Menu: Configuration -&gt; Network Elements' interface. At the top, there's a 'Filter' dropdown and a 'Network Element' table. Below the table, a message states: 'To create a new Network Element, upload a valid configuration file:'. There are two buttons: 'Browse...' and 'Upload File'. The 'Upload File' button is circled in red. At the bottom, there are buttons for 'Insert', 'Delete', 'Edit NE Networks', 'Delete NE Network', and 'Export'.</p>
22. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  <b>Configuring Network Element</b>  If the values in XML file for <b>Primary NOAMP</b> Network Element will pass the validation, then a banner message will appear informing that NE insert was successful	 <p>The screenshot shows the same 'Main Menu: Configuration -&gt; Network Elements' interface. An 'Info' dialog box is open, displaying a green message: 'Network Element insert successful from /tmp/NOAMP_NE_HLRR_4_0.xml'. The dialog box has a blue information icon and a close button. The 'Upload File' button is still visible in the background.</p>
23. <input type="checkbox"/>	Repeat steps 18 – 22 of this Procedure for the <b>SOAM</b> Network Element(s).	
24. <input type="checkbox"/>	<b>Optional:</b> Repeat steps 18 – 22 of this Procedure for the <b>DR-NOAMP</b> Network Element, if a DR-NOAMP site exists.	

**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result																					
25. <input type="checkbox"/>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><i>Configuring Services</i></p> <p>1) Select... <b>Main Menu</b> → <b>Configuration</b> → <b>Services</b></p> <p>2) The configuration screen "Services" will appear.</p> <p>3) Click on "Edit" dialogue button.</p>	 <p>The screenshot shows the Tekelec HLR Router GUI with the Oracle logo and version 4.0.0-40.14.0. The left sidebar shows a tree view with 'Main Menu' expanded, and 'Configuration' &gt; 'Services' selected. The main area displays a table for service configuration with columns 'Name', 'Intra-NE Network', and 'Inter-NE Network'. The 'Edit' button at the bottom is circled in red.</p> <table border="1"> <thead> <tr> <th>Name</th><th>Intra-NE Network</th><th>Inter-NE Network</th></tr> </thead> <tbody> <tr><td>OAM</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>Replication</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>Signaling</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>HA_Secondary</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>HA_MP_Secondary</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>Replication_MP</td><td>Unspecified</td><td>Unspecified</td></tr> </tbody> </table>	Name	Intra-NE Network	Inter-NE Network	OAM	Unspecified	Unspecified	Replication	Unspecified	Unspecified	Signaling	Unspecified	Unspecified	HA_Secondary	Unspecified	Unspecified	HA_MP_Secondary	Unspecified	Unspecified	Replication_MP	Unspecified	Unspecified
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Replication_MP	Unspecified	Unspecified																					
26. <input type="checkbox"/>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><i>Configuring Services</i></p> <p>1) Set the services values as shown on the right.</p> <p>2) Select the "OK" dialogue button.</p>	 <p>The screenshot shows the 'Main Menu: Configuration -&gt; Services [Edit]' screen. The 'Info' dropdown is set to 'Info'. The 'Services' section shows a table with columns 'Name', 'Intra-NE Network', and 'Inter-NE Network'. The 'OK' button at the bottom is circled in red.</p> <table border="1"> <thead> <tr> <th>Name</th><th>Intra-NE Network</th><th>Inter-NE Network</th></tr> </thead> <tbody> <tr><td>OAM</td><td>IMI</td><td>XMI</td></tr> <tr><td>Replication</td><td>IMI</td><td>XMI</td></tr> <tr><td>Signaling</td><td>Unspecified</td><td>Unspecified</td></tr> <tr><td>HA_Secondary</td><td>IMI</td><td>XMI</td></tr> <tr><td>HA_MP_Secondary</td><td>IMI</td><td>XMI</td></tr> <tr><td>Replication_MP</td><td>IMI</td><td>XMI</td></tr> </tbody> </table>	Name	Intra-NE Network	Inter-NE Network	OAM	IMI	XMI	Replication	IMI	XMI	Signaling	Unspecified	Unspecified	HA_Secondary	IMI	XMI	HA_MP_Secondary	IMI	XMI	Replication_MP	IMI	XMI
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**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result																					
27. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><b>Configuring Services</b></p> <p>The configuration screen “<b>Services</b>” will appear and display newly set values for service.</p>	 <p><b>Main Menu: Configuration -&gt; Services</b></p> <p>Wed Apr 09 23:26:27</p> <table><tr><th>Name</th><th>Intra-NE Network</th><th>Inter-NE Network</th></tr><tr><td>OAM</td><td>IMI</td><td>XMI</td></tr><tr><td>Replication</td><td>IMI</td><td>XMI</td></tr><tr><td>Signaling</td><td>Unspecified</td><td>Unspecified</td></tr><tr><td>HA_Secondary</td><td>IMI</td><td>XMI</td></tr><tr><td>HA_MP_Secondary</td><td>IMI</td><td>XMI</td></tr><tr><td>Replication_MP</td><td>IMI</td><td>XMI</td></tr></table> <p>Edit Report <input type="checkbox"/> Pause</p>	Name	Intra-NE Network	Inter-NE Network	OAM	IMI	XMI	Replication	IMI	XMI	Signaling	Unspecified	Unspecified	HA_Secondary	IMI	XMI	HA_MP_Secondary	IMI	XMI	Replication_MP	IMI	XMI
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28. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><b>Configuring HLRR Server</b></p> <p>1) Select <b>Main Menu</b> → <b>Configuration</b> → <b>Servers</b></p> <p>2) The configuration screen “<b>Servers</b>” will appear.</p> <p>3) Click on “<b>Insert</b>” dialogue button.</p>	 <p><b>ORACLE</b> Tekelec HLR Router 4.0.0-40.14.0</p> <p>Main Menu: Configuration -&gt; Servers</p> <p>Filter</p> <table><tr><th>Hostname</th><th>Role</th><th>System ID</th><th>Server Group</th></tr></table> <p>Insert Edit Delete Export Report</p>	Hostname	Role	System ID	Server Group																	
Hostname	Role	System ID	Server Group																				
29. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>The configuration screen “<b>Adding a new server</b>” will appear.</p>	 <p><b>Adding a new server</b></p> <table><tr><th>Attribute</th><th>Value</th></tr><tr><td>Hostname</td><td></td></tr><tr><td>Role</td><td>- Select Role -</td></tr><tr><td>System ID</td><td></td></tr><tr><td>Hardware Profile</td><td>TekServer T1200</td></tr><tr><td>Network Element Name</td><td>- Unassigned -</td></tr><tr><td>Location</td><td></td></tr></table> <p>Ok Apply Cancel</p>	Attribute	Value	Hostname		Role	- Select Role -	System ID		Hardware Profile	TekServer T1200	Network Element Name	- Unassigned -	Location								
Attribute	Value																						
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**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

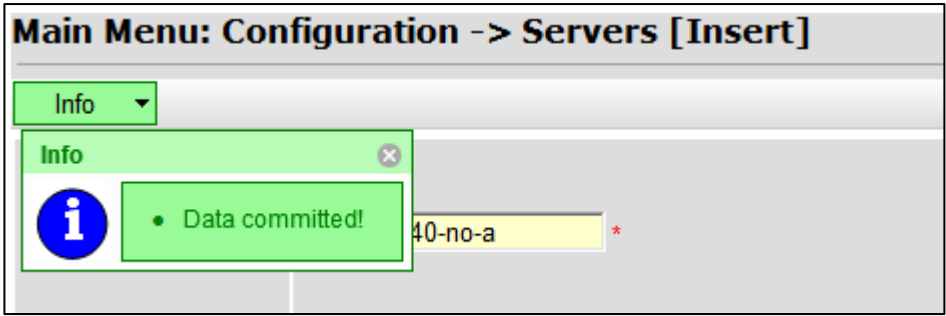
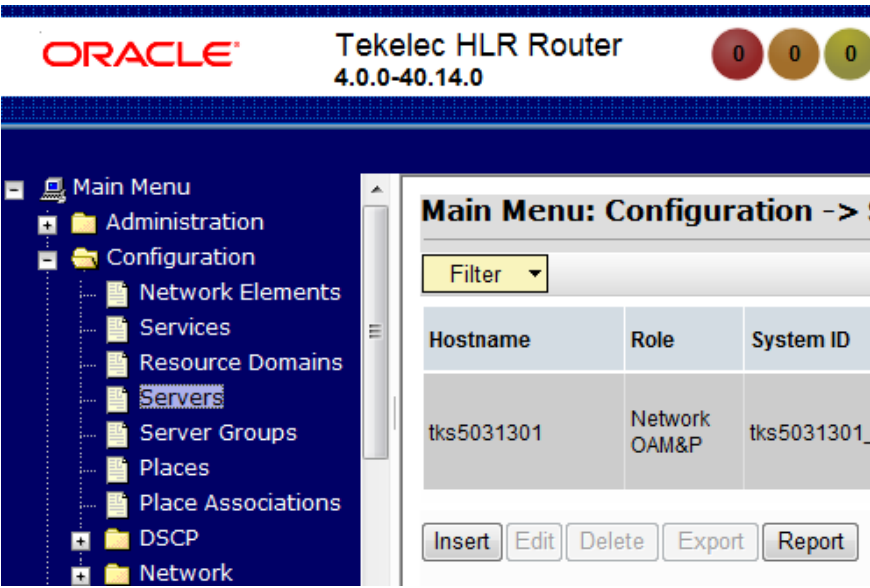
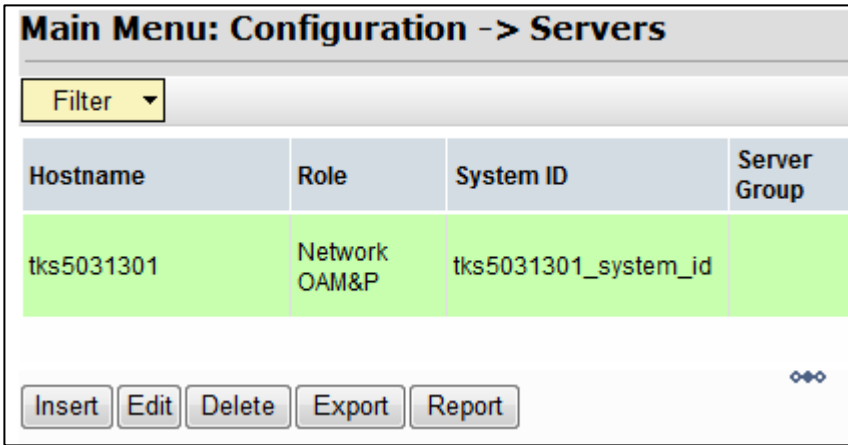
Step	Procedure	Result																													
30. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>1) Enter the assigned hostname</p> <p>2) Select “<b>NETWORK OAM&amp;P</b>” as role</p> <p>3) Enter the assigned System ID (optional)</p> <p>4) Select “<b>TekServer 1200</b>” as hardware profile</p> <p>5) Select Primary NOAMP NE as Network Element Name</p> <p>6) Enter the site location (optional)</p> <p>7) Enter XMI and IMI IP addresses of Primary NOAMP Server A</p> <p>8) Set XMI interface to <b>bond1</b> and IMI interface to <b>bond1</b></p> <p>9) Check the <b>VLAN</b> boxes</p> <p>10) Click “<b>Add</b>” button and assign IP address for the first <b>NTP Server</b></p> <p>11) Optional: Click “<b>Add</b>” button and assign IP address for the second <b>NTP Server</b></p> <p>12) Optional: Click on check box to select preferred NTP Servers</p>	<div><h3>Adding a new server</h3><table><thead><tr><th>Attribute</th><th>Value</th></tr></thead><tbody><tr><td>Hostname</td><td>tk5031301 *</td></tr><tr><td>Role</td><td>NETWORK OAM&amp;P *</td></tr><tr><td>System ID</td><td>tk5031301_system_id</td></tr><tr><td>Hardware Profile</td><td>TekServer T1200</td></tr><tr><td>Network Element Name</td><td>NOAMP_NE *</td></tr><tr><td>Location</td><td>Frame 503.13</td></tr></tbody></table></div> <p><b>NOTE:</b> After the Network Element Name is selected, the Interfaces fields will be displayed</p> <div><p><b>Interfaces:</b></p><table><thead><tr><th>Network</th><th>IP Address</th><th>Interface</th></tr></thead><tbody><tr><td>XMI (192.168.182.16/28)</td><td>192.168.182.21</td><td>bond1 <input checked="" type="checkbox"/> VLAN (2)</td></tr><tr><td>IMI (192.168.182.32/28)</td><td>192.168.182.37</td><td>bond1 <input checked="" type="checkbox"/> VLAN (3)</td></tr></tbody></table></div> <div><table><thead><tr><th>NTP Server IP Address</th><th>Prefer</th></tr></thead><tbody><tr><td><div>Add</div><div>10.250.32.51</div></td><td><div><input type="checkbox"/></div><div>Remove</div></td></tr><tr><td><div>10.250.32.10</div></td><td><div><input type="checkbox"/></div><div>Remove</div></td></tr></tbody></table><div><div>Ok</div><div>Apply</div><div>Cancel</div></div></div>	Attribute	Value	Hostname	tk5031301 *	Role	NETWORK OAM&P *	System ID	tk5031301_system_id	Hardware Profile	TekServer T1200	Network Element Name	NOAMP_NE *	Location	Frame 503.13	Network	IP Address	Interface	XMI (192.168.182.16/28)	192.168.182.21	bond1 <input checked="" type="checkbox"/> VLAN (2)	IMI (192.168.182.32/28)	192.168.182.37	bond1 <input checked="" type="checkbox"/> VLAN (3)	NTP Server IP Address	Prefer	<div>Add</div> <div>10.250.32.51</div>	<div><input type="checkbox"/></div> <div>Remove</div>	<div>10.250.32.10</div>	<div><input type="checkbox"/></div> <div>Remove</div>
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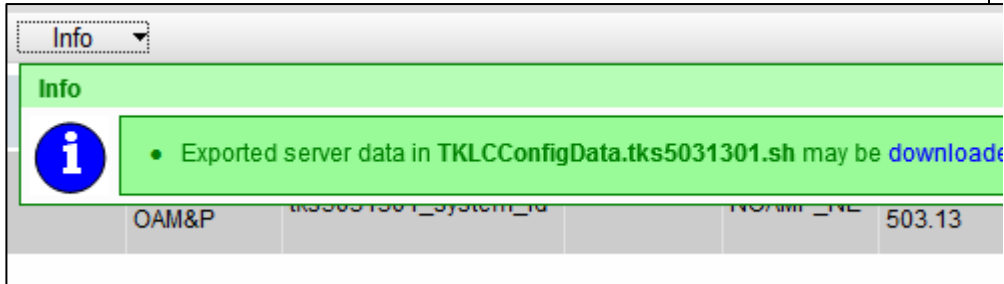
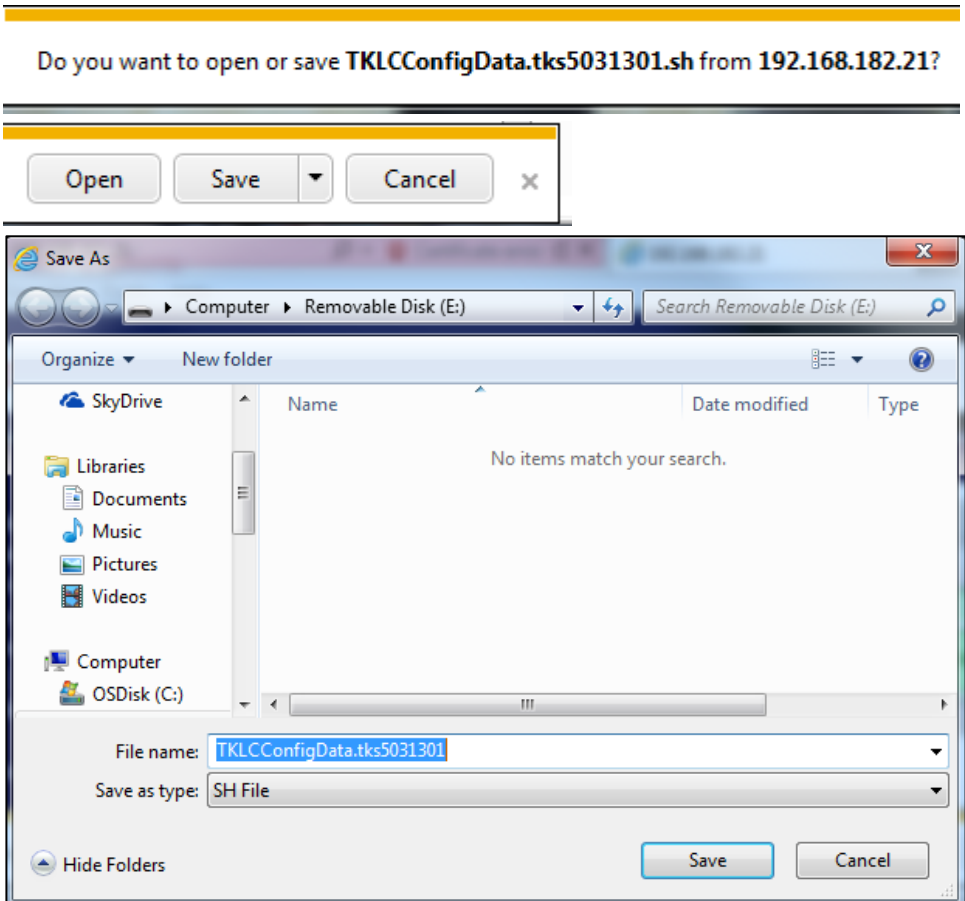
Procedure 4: Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result															
31. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>1) If the entered values provided by the user will match the network ranges assigned to the NOAMP NE, the user will receive a banner information message stating “<b>Pre-Validation passed</b>”.</p> <p>2) Click the “<b>Apply</b>” dialogue button.</p>	<div><div>Info</div><div><div><div>i</div><div>• Pre-Validation passed - Data NOT committed ...</div></div></div></div> <div><div>Hostname</div><div>tk5031301</div><div>*</div></div> <div><div>Role</div><div>NETWORK OAM&amp;P</div><div>*</div></div> <div><div>System ID</div><div>tk5031301_system_id</div></div> <div><div>Hardware Profile</div><div>TekServer T1200</div><div></div></div> <div><div>Network Element Name</div><div>NOAMP_NE</div><div>*</div></div> <div><div>Location</div><div>Frame 503.13</div></div> <div><div>Interfaces:</div><table><tr><th>Network</th><th>IP Address</th><th>Interface</th></tr><tr><td>XMI (192.168.182.16/28)</td><td>192.168.182.21</td><td>bond1</td></tr><tr><td>IMI (192.168.182.32/28)</td><td>192.168.182.37</td><td>bond1</td></tr></table></div> <div><div>NTP Servers:</div><table><tr><th>NTP Server IP Address</th><th>Prefer</th></tr><tr><td><div>Add</div></td><td></td></tr><tr><td>10.250.32.10</td><td><div><div></div>Remove</div></td></tr></table></div> <div><div>Ok</div><div>Apply</div><div>Cancel</div></div>	Network	IP Address	Interface	XMI (192.168.182.16/28)	192.168.182.21	bond1	IMI (192.168.182.32/28)	192.168.182.37	bond1	NTP Server IP Address	Prefer	<div>Add</div>		10.250.32.10	<div><div></div>Remove</div>
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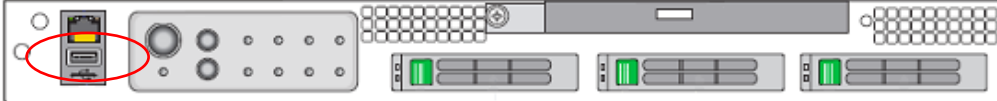
**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
32. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  The user will receive a banner information message showing that the data has been committed to the DB.	
33. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  <i>Applying the NOAMP Server A Configuration File</i>  1) Select... <u>Main Menu</u> → Configuration → Servers  2) The configuration screen "Servers" will appear.	
34. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  1) Use the cursor to select the <b>Primary NOAMP Server A</b> entry.  <i>The selected row will be highlighted in GREEN</i>  2) Select the "Export" dialogue button.	

**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
35. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  1) A banner information message will show a download link for the <b>Primary NOAMP Server A</b> configuration data.  2) Click on the word " <b>downloaded</b> " to download and save the configuration file.	 <p><b>Note:</b> The configuration file will be created and stored in the /var/TKLC/db/filemgmt directory. The configuration file will have a file name like TKLCConfigData.&lt;hostname&gt;.sh.</p>
36. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  1) Click the "Save As" dialogue button.  2) Save <b>Primary NOAMP Server A</b> configuration file to a USB flash drive.	
37. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Access server console.	Connect to the <b>Primary NOAMP Server A</b> console using one of the access methods described in <b>Section 2.0</b>

**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
38. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Log into the server as the "root" user.	login: <b>root</b> Password: <b>&lt;root_password&gt;</b>
39. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/u PRODPATH=/opt/comcol/prod RUNID=00 UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/u PRODPATH=/opt/comcol/prod RUNID=00 [root@hostname1396462623 ~]#</pre>
40. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Insert the USB flash drive containing the server configuration file into the USB port on the front panel	  <b>Figure 17 - T1200 Front Panel: USB Port</b>
41. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Press the <ENTER> key to return to the command prompt.	<pre># sde: assuming drive cache: write through sde: assuming drive cache: write through &lt;ENTER&gt; #</pre>
42. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Verify that the USB flash drive has been mounted by the OS.	<pre># df   grep usb /dev/sde1          1018088    603372    414716    60% /var/tmp/usb_flash</pre>
43. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Copy the <b>server</b> configuration file to the "/var/tmp" directory on the server, rename the file by omitting the server hostname from the file name.	<p><b>Example:</b> TKLCConfigData.&lt;server_hostname&gt;.sh → will translate to →TKLCConfigData.sh</p> <pre># cp -p /var/tmp/usb_flash/TKLCConfigData.tks5031301.sh /var/tmp/TKLCConfigData.sh</pre> <p><b>NOTE:</b> The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.</p>

**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result
44. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  After the script completes, a broadcast message will appear  Press the <b>&lt;ENTER&gt;</b> key to return to the command prompt.	<b>*** NO OUTPUT FOR ≈ 3...20 MINUTES ***</b>  Broadcast message from root@tk5031301 (Thu Apr 10 15:13:15 2014):  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. <b>&lt;ENTER&gt;</b>
45. <input type="checkbox"/>	<b>Primary NOAMP Server A console:</b>  Initiate a reboot of this server.  Wait until the reboot completes	<b># init 6</b>  Broadcast message from root@tk5031301 (/dev/pts/0) at 15:14 ...  <b>The system is going down for reboot NOW!</b>
46. <input type="checkbox"/>	<b>Primary NOAMP Server A:</b>  Log into the server as the "root" user	login: <b>root</b> Password: <b>&lt;root_password&gt;</b>
47. <input type="checkbox"/>	<b>Primary NOAMP Server A:</b>  Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre> VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon ortmgr:/usr/TKLC/awpss7 PRODPATH=/opt/comcol/prod RUNID=00 VPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon ortmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [root@tk5031301 ~]#           </pre>
48. <input type="checkbox"/>	<b>Primary NOAMP Server A:</b>  Verify that XMI and IMI IP addresses entered in <i>Step 30</i> have been applied	<b># ifconfig  grep in  grep -v inet6</b>  <pre> bond0    Link encap:Ethernet  HWaddr 00:00:00:00:00:00 bond1    Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA bond1.2  Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA           inet addr:192.168.182.21 Bcast:192.168.182.31 bond1.3  Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA           inet addr:192.168.182.37 Bcast:192.168.182.47 eth01    Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA eth03    Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA lo        Link encap:Local Loopback           inet addr:127.0.0.1  Mask:255.0.0.0           </pre>

**Procedure 4:** Configuring Primary NOAMP Server A (1<sup>st</sup> NOAM site only)

Step	Procedure	Result																								
49. <div></div>	<b>Primary NOAMP Server A:</b>  Verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).	<pre># ntpq -np</pre> <table><thead><tr><th>remote</th><th>refid</th><th>st</th><th>t</th><th>when</th><th>poll</th><th>reach</th><th>delay</th></tr></thead><tbody><tr><td>*10.250.32.51</td><td>192.5.41.209</td><td>2</td><td>u</td><td>17</td><td>64</td><td>177</td><td>0.202</td></tr><tr><td>+10.250.32.10</td><td>192.5.41.209</td><td>2</td><td>u</td><td>18</td><td>64</td><td>177</td><td>0.191</td></tr></tbody></table>	remote	refid	st	t	when	poll	reach	delay	*10.250.32.51	192.5.41.209	2	u	17	64	177	0.202	+10.250.32.10	192.5.41.209	2	u	18	64	177	0.191
remote	refid	st	t	when	poll	reach	delay																			
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50. <div></div>	<b>Primary NOAMP Server A console:</b>  Verify alarm status of this server	<pre># alarmMgr --alarmStatus</pre> <p><b>NOTE:</b> This command should return no output on a healthy system. If any alarms are reported, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.</p>																								
51. <div></div>	<b>Primary NOAMP Server A console:</b>  Verify the current health of this server	<pre># syscheck</pre> <div>Running modules in class disk... OK  Running modules in class hardware... OK  Running modules in class net... OK  Running modules in class proc... OK  Running modules in class system... OK  LOG LOCATION: /var/TKLC/log/syscheck/fail_log</div> <p><b>NOTE:</b> If any errors are reported on the output, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.</p>																								
THIS PROCEDURE HAS BEEN COMPLETED																										

## 5.4 Configuring Remaining HLRR T1200 Servers (All Sites)

This procedure is used to create and configure all remaining HLRR T1200 Servers. The below steps need to run on all servers except the already configured Primary NOAMP Server A.

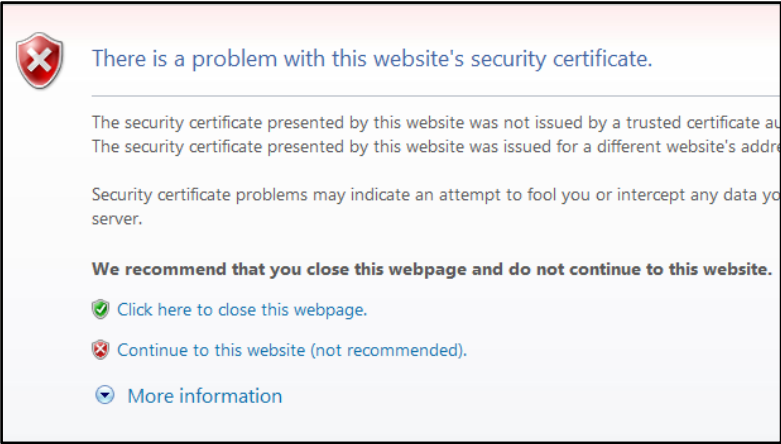
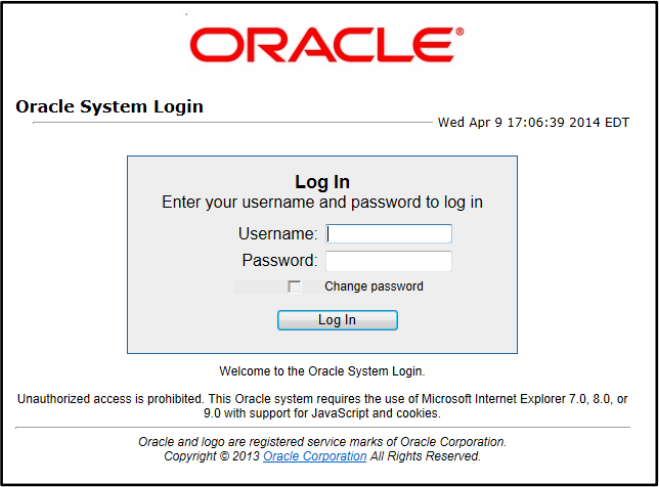
Following servers shall be configured by this Procedure 5:

- |  |                                       |                                   |                                 |
|--|---------------------------------------|-----------------------------------|---------------------------------|
| <input type="checkbox"/> Primary NOAMP - B | <input type="checkbox"/> DR NOAMP - A | <input type="checkbox"/> SOAM - A | <input type="checkbox"/> MP - 1 |
| <input type="checkbox"/> Query Server      | <input type="checkbox"/> DR NOAMP - B | <input type="checkbox"/> SOAM - B | <input type="checkbox"/> MP - 2 |

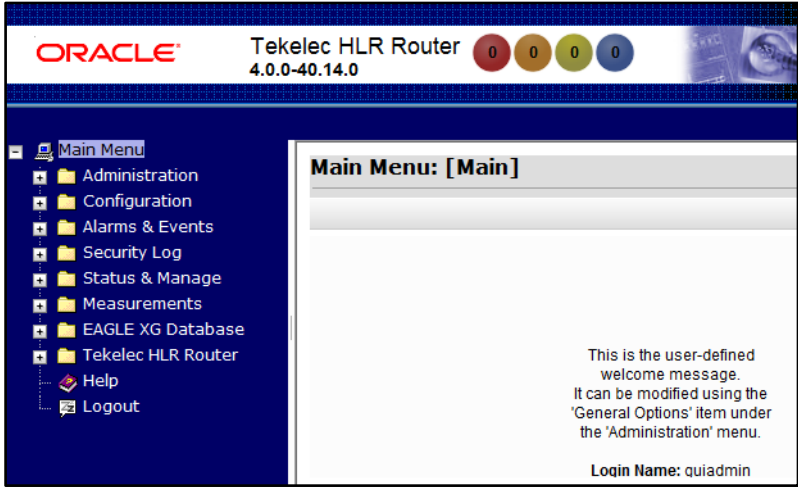
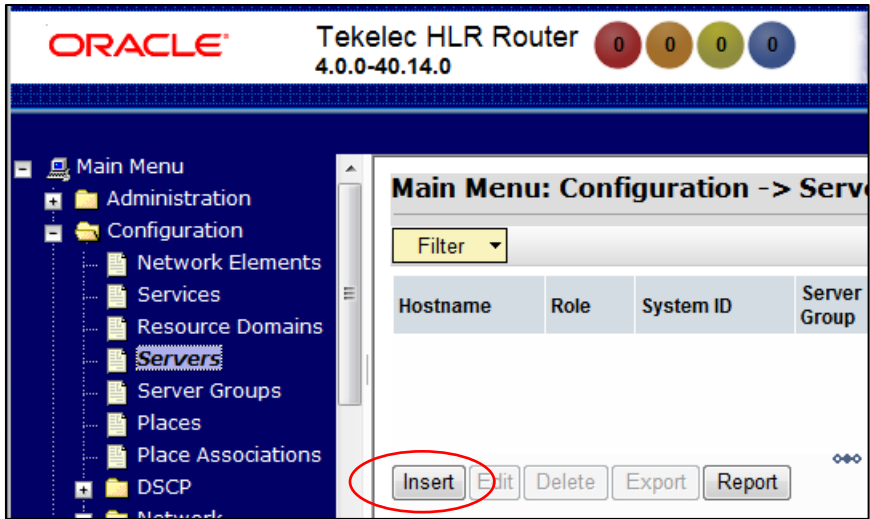
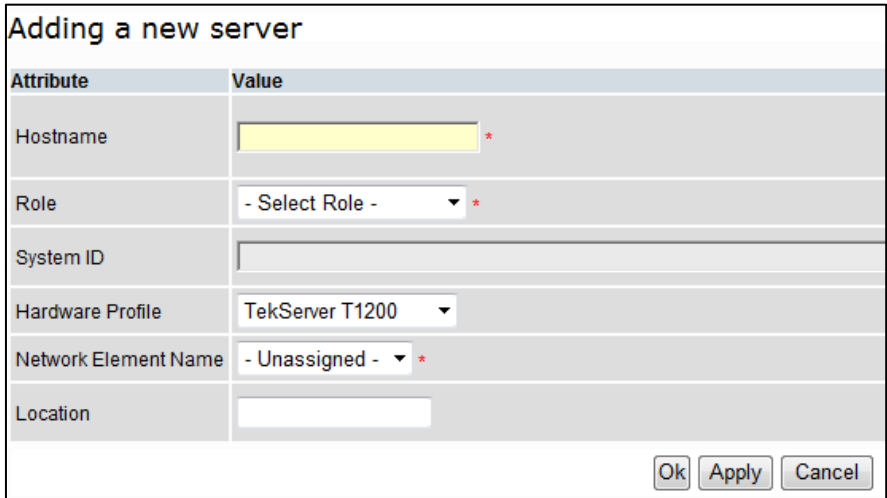
**Note:** The above list of HLRR T1200 servers is an example. The actual number of QS, DR-NOAMP, SOAM and MP servers will vary per customer site. Start this procedure by configuring **Primary NOAMP Server B**.

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

### Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
<b>1.</b> <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  Launch IE web browser and connect to the XMI IP address assigned to Primary NOAMP Server A  Click on this link: <b>“Continue to this website (not recommended)”</b>	
<b>2.</b> <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  The user should be presented the login screen shown on the right.  Login to the GUI using the default user and password.	

**Procedure 5:** Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
3. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  The user should be presented the Main Menu as shown on the right.	
4. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  <b>Configuring HLRR Server</b>  1) Select <b>Main Menu</b> → <b>Configuration</b> → <b>Servers</b>  2) The configuration screen “ <b>Servers</b> ” will appear.  3) Click on “ <b>Insert</b> ” dialogue button.	
5. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  <b>Configuring HLRR Server</b>  The configuration screen “ <b>Adding a new server</b> ” will appear.	



**Procedure 5:** Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result																																
6. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><b>Configuring HLRR Server</b></p> <p>1) Enter the assigned hostname</p> <p>2) Select the appropriate server <b>Role</b> from the pull-down menu.</p> <p>3) Enter the assigned System ID (optional)</p> <p>4) Select <b>TekServer 1200</b> as hardware profile</p> <p>5) Select the <b>Network Element Name</b> from the pull-down menu.</p> <p>6) Enter the site location (optional)</p> <p>7) Enter XMI and IMI IP addresses of HLRR Server</p> <p>8) Set XMI interface to <b>bond1</b> and IMI interface to <b>bond1</b></p> <p>9) Check the <b>VLAN</b> boxes</p> <p>10) Click “Add” button and assign IP address for the first <b>NTP Server</b></p> <p>11) Optional: Click “Add” button and assign IP address for the second <b>NTP Server</b></p> <p>12) Optional: Click on check box to select preferred NTP Server(s)</p>	<div><h3>Adding a new server</h3><table><thead><tr><th>Attribute</th><th>Value</th></tr></thead><tbody><tr><td>Hostname</td><td>tk5031301 *</td></tr><tr><td>Role</td><td>NETWORK OAM&amp;P *</td></tr><tr><td>System ID</td><td>tk5031301_system_id</td></tr><tr><td>Hardware Profile</td><td>TekServer T1200</td></tr><tr><td>Network Element Name</td><td>NOAMP_NE *</td></tr><tr><td>Location</td><td>Frame 503.13</td></tr></tbody></table><p><b>NOTE:</b> After the Network Element Name is selected, the Interfaces fields will be displayed</p><p><b>NOTE:</b> The above snapshot shows the “NOAMP” NE. Select the appropriate NE for the server. All of the SOAM and MP servers at a site should use the same NE.</p><table><thead><tr><th colspan="3">Interfaces:</th></tr><tr><th>Network</th><th>IP Address</th><th>Interface</th></tr></thead><tbody><tr><td>XMI (192.168.182.16/28)</td><td>192.168.182.21</td><td>bond1 <input checked="" type="checkbox"/> VLAN (2)</td></tr><tr><td>IMI (192.168.182.32/28)</td><td>192.168.182.37</td><td>bond1 <input checked="" type="checkbox"/> VLAN (3)</td></tr></tbody></table><div><table><thead><tr><th>NTP Server IP Address</th><th>Prefer</th></tr></thead><tbody><tr><td>10.250.32.51</td><td><input type="checkbox"/> Remove</td></tr><tr><td>10.250.32.10</td><td><input type="checkbox"/> Remove</td></tr></tbody></table><div>Ok Apply Cancel</div></div></div>	Attribute	Value	Hostname	tk5031301 *	Role	NETWORK OAM&P *	System ID	tk5031301_system_id	Hardware Profile	TekServer T1200	Network Element Name	NOAMP_NE *	Location	Frame 503.13	Interfaces:			Network	IP Address	Interface	XMI (192.168.182.16/28)	192.168.182.21	bond1 <input checked="" type="checkbox"/> VLAN (2)	IMI (192.168.182.32/28)	192.168.182.37	bond1 <input checked="" type="checkbox"/> VLAN (3)	NTP Server IP Address	Prefer	10.250.32.51	<input type="checkbox"/> Remove	10.250.32.10	<input type="checkbox"/> Remove
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Interfaces:																																		
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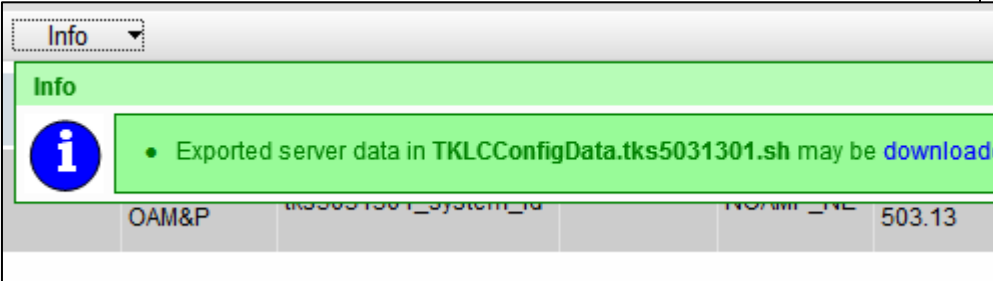
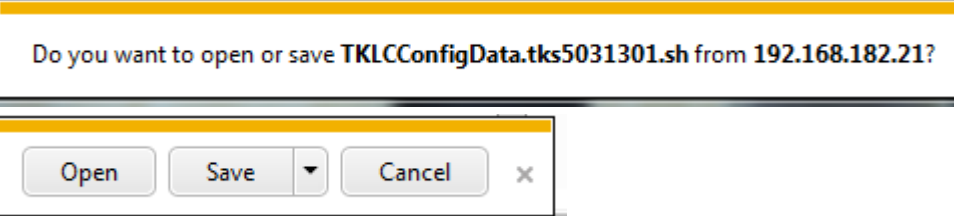
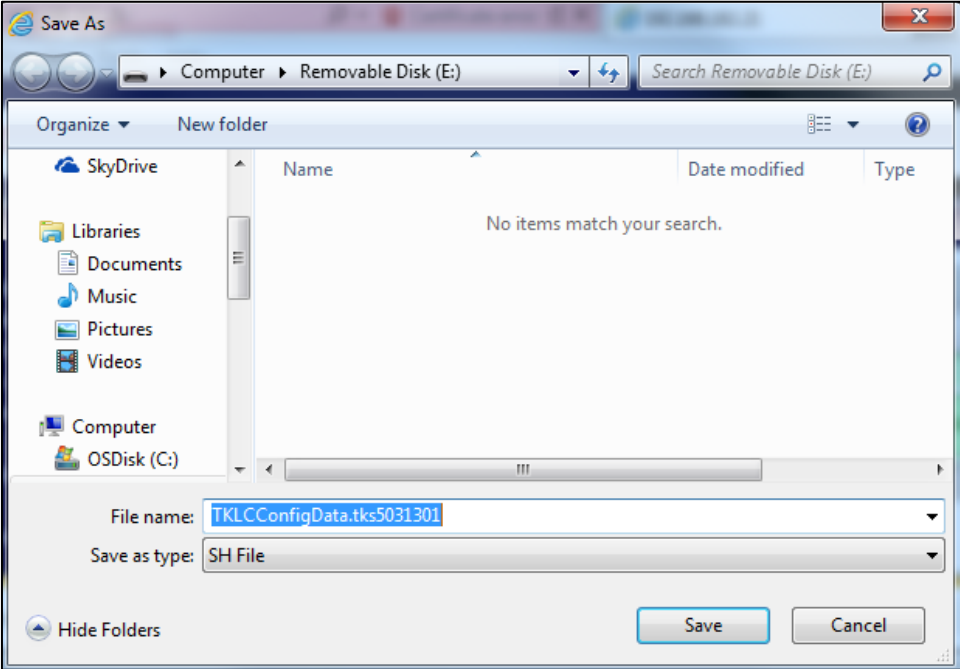
Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result																									
7. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><i>Configuring HLRR Server</i></p> <p>1) If the entered values provided by the user will match the network ranges assigned to the appropriate Network Element, the user will receive a banner information message stating “<b>Pre-Validation passed</b>”.</p> <p>2) Click the “<b>Apply</b>” dialogue button.</p>	<div><div>Info</div><div> • Pre-Validation passed - Data NOT committed ...</div></div> <table><tr><td>Hostname</td><td>tk5031301 *</td></tr><tr><td>Role</td><td>NETWORK OAM&amp;P *</td></tr><tr><td>System ID</td><td>tk5031301_system_id</td></tr><tr><td>Hardware Profile</td><td>TekServer T1200</td></tr><tr><td>Network Element Name</td><td>NOAMP_NE *</td></tr><tr><td>Location</td><td>Frame 503.13</td></tr></table> <div><div>Interfaces:</div><table><tr><th>Network</th><th>IP Address</th><th>Interface</th></tr><tr><td>XMI (192.168.182.16/28)</td><td>192.168.182.21</td><td>bond1</td></tr><tr><td>IMI (192.168.182.32/28)</td><td>192.168.182.37</td><td>bond1</td></tr></table><div>NTP Servers:</div><table><tr><th>NTP Server IP Address</th><th>Prefer</th></tr><tr><td><div>Add</div><div>10.250.32.10</div></td><td><div><input type="checkbox"/></div><div>Remove</div></td></tr></table><div>Ok Apply Cancel</div></div>	Hostname	tk5031301 *	Role	NETWORK OAM&P *	System ID	tk5031301_system_id	Hardware Profile	TekServer T1200	Network Element Name	NOAMP_NE *	Location	Frame 503.13	Network	IP Address	Interface	XMI (192.168.182.16/28)	192.168.182.21	bond1	IMI (192.168.182.32/28)	192.168.182.37	bond1	NTP Server IP Address	Prefer	<div>Add</div> <div>10.250.32.10</div>	<div><input type="checkbox"/></div> <div>Remove</div>
Hostname	tk5031301 *																										
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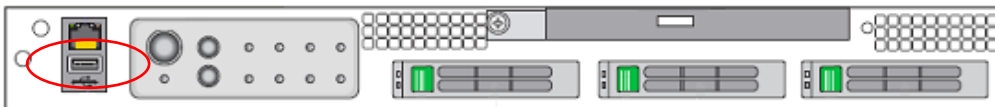
Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
8. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><i>Configuring HLRR Server</i></p> <p>The user will receive a banner information message showing that the data has been committed to the DB.</p>	
9. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><i>Applying HLRR Server Configuration File</i></p> <p>1) Select... <b>Main Menu</b> → <b>Configuration</b> → <b>Servers</b></p> <p>2) The configuration screen “<b>Servers</b>” will appear.</p>	
10. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><i>Applying HLRR Server Configuration File</i></p> <p>1) Use the cursor to select the newly added <b>HLRR server</b> entry.</p> <p><i>The selected row will be highlighted in GREEN</i></p> <p>2) Select the “<b>Export</b>” dialogue button.</p>	

Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
11. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><i>Applying HLRR Server Configuration File</i></p> <p>1) A banner information message will show a download link for the <b>HLRR Server</b> configuration data.</p> <p>2) Click on the word “<b>downloaded</b>” to download and save the configuration file.</p>	<div></div> <p><i>Note: The configuration file will be created and stored in the /var/TKLC/db/filemgmt directory. The configuration file will have a file name like TKLCConfigData.&lt;hostname&gt;.sh.</i></p>
12. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p><i>Applying HLRR Server Configuration File</i></p> <p>1) Click the “Save As” dialogue button.</p> <p>2) Save <b>HLRR Server</b> configuration file to a USB flash drive.</p>	<div></div> <div></div>

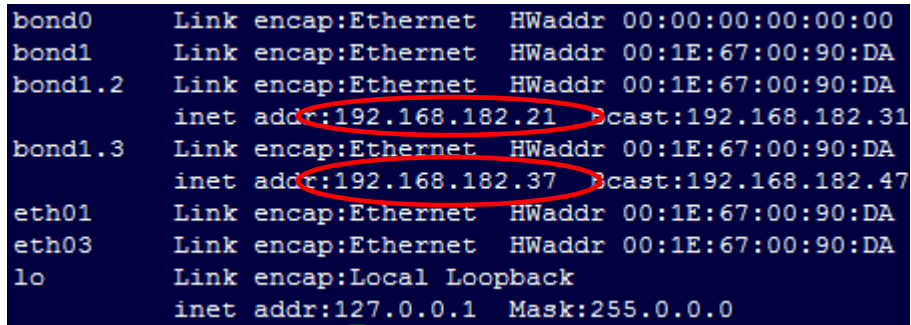
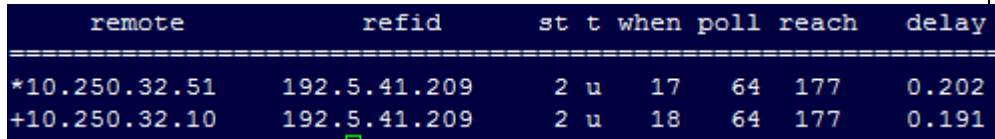
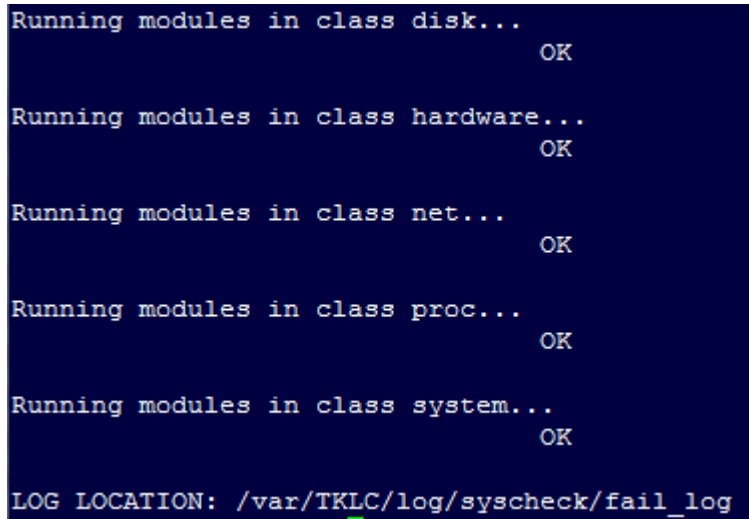
**Procedure 5: Configuring Remaining HLRR Servers (All Sites)**

Step	Procedure	Result
13. <input type="checkbox"/>	<b>HLRR Server console:</b>  Access server console	Connect to the <b>HLRR Server</b> console using one of the access methods described in <b>Section 2.0</b>
14. <input type="checkbox"/>	<b>HLRR Server console:</b>  Log into the server as the "root" user.	login: <b>root</b> Password: <b>&lt;root_password&gt;</b>
15. <input type="checkbox"/>	<b>HLRR Server console:</b>  Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/u PRODPATH=/opt/comcol/prod RUNID=00 UPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 UPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/u PRODPATH=/opt/comcol/prod RUNID=00 [root@hostname1396462623 ~]#</pre>
16. <input type="checkbox"/>	<b>HLRR Server console:</b>  Insert the USB flash drive containing the server configuration file into the USB port on the front panel	 <p><b>Figure 18 - T1200 Front Panel: USB Port</b></p>
17. <input type="checkbox"/>	<b>HLRR Server console:</b>  Press the <b>&lt;ENTER&gt;</b> key to return to the command prompt.	<pre># sde: assuming drive cache: write through sde: assuming drive cache: write through <b>&lt;ENTER&gt;</b> #</pre>
18. <input type="checkbox"/>	<b>HLRR Server console:</b>  Verify that the USB flash drive has been mounted by the OS.	<pre># <b>df   grep usb</b> /dev/sde1          1018088    603372    414716    60% /var/tmp/usb_flash</pre>

**Procedure 5: Configuring Remaining HLRR Servers (All Sites)**

Step	Procedure	Result
19. <input type="checkbox"/>	<b>HLRR Server console:</b>  Copy the <b>server</b> configuration file to the <b>"/var/tmp"</b> directory on the server, rename the file by omitting the server hostname from the file name.	<u><b>Example:</b></u> <b>TKLCConfigData.&lt;server_hostname&gt;.sh</b> → will translate to → <b>TKLCConfigData.sh</b>  <pre># cp -p /var/tmp/usb_flash/TKLCConfigData.tks5031301.sh /var/tmp/TKLCConfigData.sh</pre> <p><b>NOTE:</b> The server will poll the <b>/var/tmp</b> directory for the presence of the configuration file and automatically execute it when found.</p>
20. <input type="checkbox"/>	<b>HLRR Server console:</b>  After the script completes, a broadcast message will appear  Press the <b>&lt;ENTER&gt;</b> key to return to the command prompt.	<p><b>*** NO OUTPUT FOR ≈ 3...20 MINUTES ***</b></p> <p>Broadcast message from root@tks5031301 (Thu Apr 10 15:13:15 2014):</p> <p>Server configuration completed successfully!            See /var/TKLC/appw/logs/Process/install.log for details.</p> <p>Please remove the USB flash drive if connected and reboot the server.  <b>&lt;ENTER&gt;</b></p>
21. <input type="checkbox"/>	<b>HLRR Server console:</b>  Initiate a reboot of this server.  Wait until the reboot completes	<pre># init 6</pre> <p>Broadcast message from root@tks5031301            (/dev/pts/0) at 15:14 ...</p> <p>The system is going down for reboot NOW!</p>
22. <input type="checkbox"/>	<b>HLRR Server console:</b>  Log into the server as the <b>"root"</b> user	<pre>login: root Password: &lt;root_password&gt;</pre>
23. <input type="checkbox"/>	<b>HLRR Server console:</b>  Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon ortmgr:/usr/TKLC/awpss7 PRODPATH=/opt/comcol/prod RUNID=00 VPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2 PRODPATH= RELEASE=6.2 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon ortmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [root@tks5031301 ~]#</pre>

**Procedure 5:** Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result																								
24. <div><input type="checkbox"/></div>	<b>HLRR Server console:</b>  Verify that XMI and IMI IP addresses entered in <b>Step 6</b> have been applied	<pre># ifconfig  grep in  grep -v inet6</pre>  <pre>bond0    Link encap:Ethernet  HWaddr 00:00:00:00:00:00 bond1    Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA bond1.2  Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA           inet addr:192.168.182.21  Bcast:192.168.182.31 bond1.3  Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA           inet addr:192.168.182.37  Bcast:192.168.182.47 eth01    Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA eth03    Link encap:Ethernet  HWaddr 00:1E:67:00:90:DA lo       Link encap:Local Loopback           inet addr:127.0.0.1  Mask:255.0.0.0</pre>																								
25. <div><input type="checkbox"/></div>	<b>HLRR Server console:</b>  Verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).	<pre># ntpq -np</pre>  <table><thead><tr><th>remote</th><th>refid</th><th>st</th><th>t</th><th>when</th><th>poll</th><th>reach</th><th>delay</th></tr></thead><tbody><tr><td>*10.250.32.51</td><td>192.5.41.209</td><td>2</td><td>u</td><td>17</td><td>64</td><td>177</td><td>0.202</td></tr><tr><td>+10.250.32.10</td><td>192.5.41.209</td><td>2</td><td>u</td><td>18</td><td>64</td><td>177</td><td>0.191</td></tr></tbody></table>	remote	refid	st	t	when	poll	reach	delay	*10.250.32.51	192.5.41.209	2	u	17	64	177	0.202	+10.250.32.10	192.5.41.209	2	u	18	64	177	0.191
remote	refid	st	t	when	poll	reach	delay																			
*10.250.32.51	192.5.41.209	2	u	17	64	177	0.202																			
+10.250.32.10	192.5.41.209	2	u	18	64	177	0.191																			
26. <div><input type="checkbox"/></div>	<b>HLRR Server console:</b>  Verify alarm status of this server	<pre># alarmMgr --alarmStatus</pre> <p><b>NOTE:</b> This command should return no output on a healthy system. If any alarms are reported, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.</p>																								
27. <div><input type="checkbox"/></div>	<b>HLRR Server console:</b>  Verify the current health of this server	<pre># syscheck</pre>  <pre>Running modules in class disk... OK Running modules in class hardware... OK Running modules in class net... OK Running modules in class proc... OK Running modules in class system... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log</pre> <p><b>NOTE:</b> If any errors are reported on the output, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.</p>																								

**Procedure 5:** Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result								
28. <input type="checkbox"/>	<p>Check off (✓) the associated <b>Check Box</b> as Procedure 5 is completed for each HLRR server</p> <table><tr><td><input type="checkbox"/> <b>Primary NOAMP-B</b></td><td><input type="checkbox"/> <b>Query Server</b></td><td><input type="checkbox"/> <b>DR NOAMP-A</b></td><td><input type="checkbox"/> <b>DR NOAMP-B</b></td></tr><tr><td><input type="checkbox"/> <b>SOAM-A</b></td><td><input type="checkbox"/> <b>SOAM-B</b></td><td><input type="checkbox"/> <b>MP-1</b></td><td><input type="checkbox"/> <b>MP-2</b></td></tr></table> <p>Repeat steps 4 through 27 of this Procedure 5 for each remaining HLRR server</p>	<input type="checkbox"/> <b>Primary NOAMP-B</b>	<input type="checkbox"/> <b>Query Server</b>	<input type="checkbox"/> <b>DR NOAMP-A</b>	<input type="checkbox"/> <b>DR NOAMP-B</b>	<input type="checkbox"/> <b>SOAM-A</b>	<input type="checkbox"/> <b>SOAM-B</b>	<input type="checkbox"/> <b>MP-1</b>	<input type="checkbox"/> <b>MP-2</b>	
<input type="checkbox"/> <b>Primary NOAMP-B</b>	<input type="checkbox"/> <b>Query Server</b>	<input type="checkbox"/> <b>DR NOAMP-A</b>	<input type="checkbox"/> <b>DR NOAMP-B</b>							
<input type="checkbox"/> <b>SOAM-A</b>	<input type="checkbox"/> <b>SOAM-B</b>	<input type="checkbox"/> <b>MP-1</b>	<input type="checkbox"/> <b>MP-2</b>							
THIS PROCEDURE HAS BEEN COMPLETED										



5.6 Configure XSI Networks (All SOAM Sites)

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

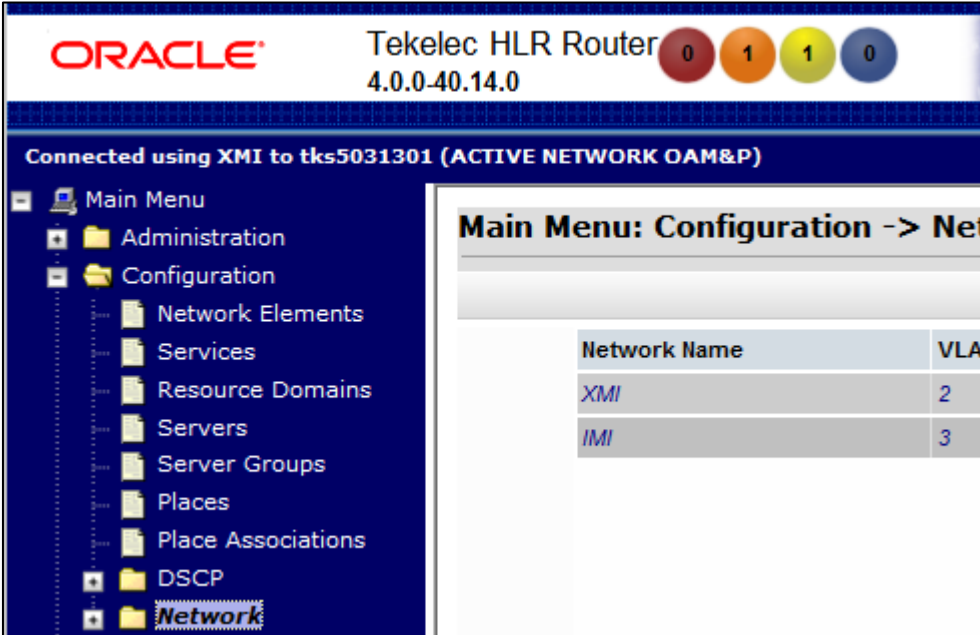
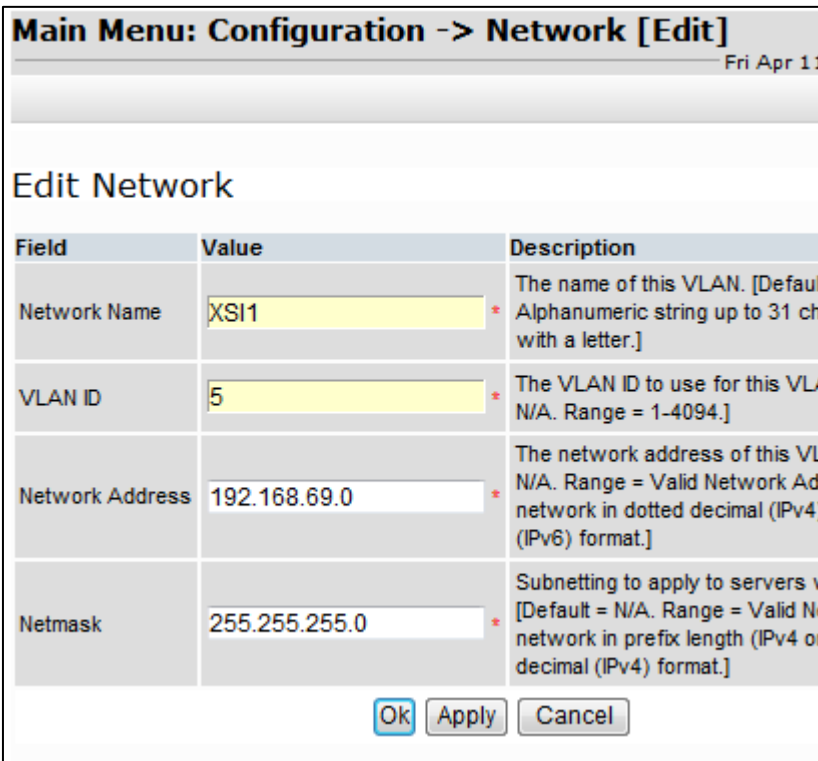
Procedure 6: Configure XSI Networks

Step	Procedure	Result
1. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>Launch IE web browser and connect to the XMI IP address assigned to Primary NOAMP Server A</p> <p>Click on this link: <b>“Continue to this website (not recommended)”</b></p>	<div><div></div><div>There is a problem with this website's security certificate.</div><div>The security 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 than the address of this website.</div><div>Security certificate problems may indicate an attempt to fool you or intercept any data you provide to the server.</div><div>We recommend that you close this webpage and do not continue to this website.</div><div> <a href="#">Click here to close this webpage.</a></div><div> <a href="#">Continue to this website (not recommended).</a></div><div> <a href="#">More information</a></div></div>
2. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	<div><div></div><div>Oracle System Login</div><div>Wed Apr 9 17:06:39 2014 EDT</div><div><div>Log In</div><div>Enter your username and password to log in</div><div>Username: <input type="text"/></div><div>Password: <input type="password"/></div><div><input type="checkbox"/> Change password</div><div>Log In</div></div><div>Welcome to the Oracle System Login.</div><div>Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 7.0, 8.0, or 9.0 with support for JavaScript and cookies.</div><div>Oracle and logo are registered service marks of Oracle Corporation. Copyright © 2013 <a href="#">Oracle Corporation</a> All Rights Reserved.</div></div>

Procedure 6: Configure XSI Networks

Step	Procedure	Result
3. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>The user should be presented the Main Menu as shown on the right.</p>	
4. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>1) Select... <u>Main Menu</u> → Configuration → Network</p> <p>...as shown on the right.</p> <p>2) Click on “Insert” dialogue button</p>	

Procedure 6: Configure XSI Networks

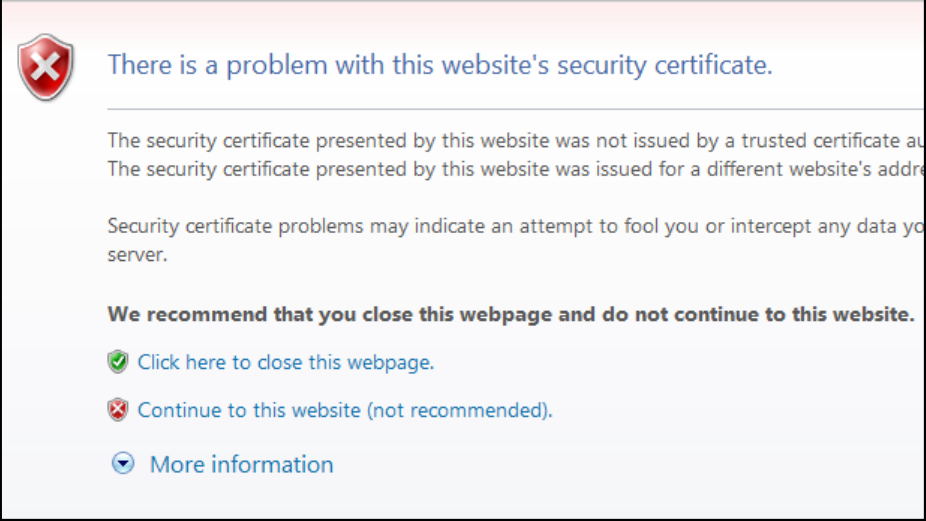
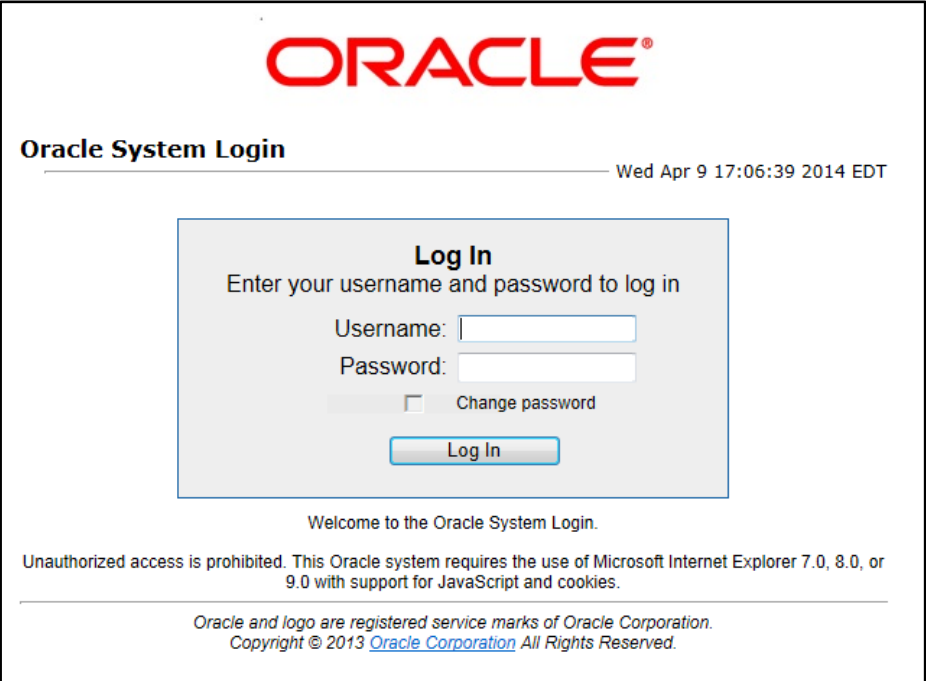
Step	Procedure	Result															
5. <div></div>	<p>Primary NOAMP Server A GUI:</p> <p>Add the XSI 1 and XSI 2 networks</p> <p>Select...</p> <p><u>Main Menu</u> → Configuration → Network</p> <p>...as shown on the right.</p>	 <p>The screenshot shows the Oracle Tekelec HLR Router GUI. At the top, it says "Tekelec HLR Router 4.0.0-40.14.0" with four status lights (red, orange, yellow, blue). Below this, it says "Connected using XMI to tks5031301 (ACTIVE NETWORK OAM&amp;P)". On the left is a "Main Menu" tree with folders for Administration, Configuration, DSCP, and Network. The "Network" folder is selected. On the right, a window titled "Main Menu: Configuration -&gt; Net" displays a table:</p> <table><tr><th>Network Name</th><th>VLAN</th></tr><tr><td>XMI</td><td>2</td></tr><tr><td>IMI</td><td>3</td></tr></table>	Network Name	VLAN	XMI	2	IMI	3									
Network Name	VLAN																
XMI	2																
IMI	3																
6. <div></div>	<p>NOAMP Server A</p> <p>Configuration screen "Network [Insert]" will appear</p> <p>1) Enter all values for the XSI 1 network and press the Apply button.</p> <p>2) Enter all values for the XSI 2 network and press the OK button</p>	 <p>The screenshot shows the "Main Menu: Configuration -&gt; Network [Edit]" screen. It has a date "Fri Apr 11" in the top right. Below the title bar is the "Edit Network" form:</p> <table><tr><th>Field</th><th>Value</th><th>Description</th></tr><tr><td>Network Name</td><td>XSI1 *</td><td>The name of this VLAN. [Default: Alphanumeric string up to 31 characters with a letter.]</td></tr><tr><td>VLAN ID</td><td>5 *</td><td>The VLAN ID to use for this VLAN. N/A. Range = 1-4094.]</td></tr><tr><td>Network Address</td><td>192.168.69.0 *</td><td>The network address of this VLAN. N/A. Range = Valid Network Address network in dotted decimal (IPv4) or hexadecimal (IPv6) format.]</td></tr><tr><td>Netmask</td><td>255.255.255.0 *</td><td>Subnetting to apply to servers v... [Default = N/A. Range = Valid Network Address network in prefix length (IPv4) or decimal (IPv4) format.]</td></tr></table> <p>At the bottom are buttons for "Ok", "Apply", and "Cancel".</p>	Field	Value	Description	Network Name	XSI1 *	The name of this VLAN. [Default: Alphanumeric string up to 31 characters with a letter.]	VLAN ID	5 *	The VLAN ID to use for this VLAN. N/A. Range = 1-4094.]	Network Address	192.168.69.0 *	The network address of this VLAN. N/A. Range = Valid Network Address network in dotted decimal (IPv4) or hexadecimal (IPv6) format.]	Netmask	255.255.255.0 *	Subnetting to apply to servers v... [Default = N/A. Range = Valid Network Address network in prefix length (IPv4) or decimal (IPv4) format.]
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THIS PROCEDURE HAS BEEN COMPLETED																	

## 5.7 OAM Pairing for the Primary NOAMP Servers (1<sup>st</sup> NOAMP site only)

The user should be aware that during the NOAMP 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 Primary NOAMP servers at the Primary Provisioning Site.

### Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
1. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  Launch IE web browser and connect to the XMI IP address assigned to Primary NOAMP Server A  Click on this link: <b>"Continue to this website (not recommended)"</b>	
2. <input type="checkbox"/>	<b>Primary NOAMP Server A GUI:</b>  The user should be presented the login screen shown on the right.  Login to the GUI using the default user and password.	

Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
3. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>The user should be presented the Main Menu as shown on the right.</p>	
4. <div></div>	<p><b>Primary NOAMP Server A GUI:</b></p> <p>Select... <u>Main Menu</u> → Configuration → Server Groups</p> <p>...as shown on the right.</p>	

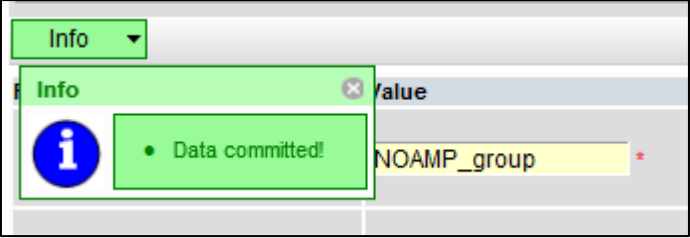
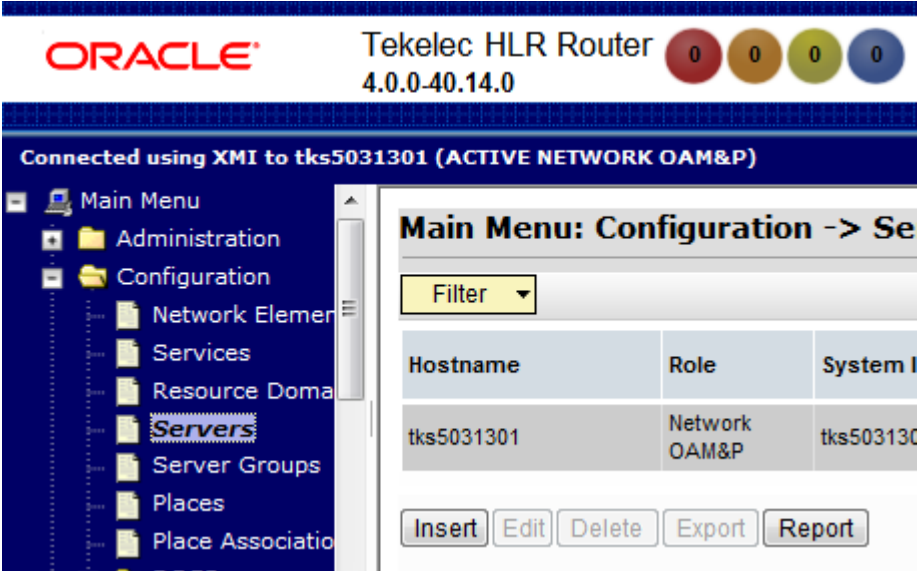
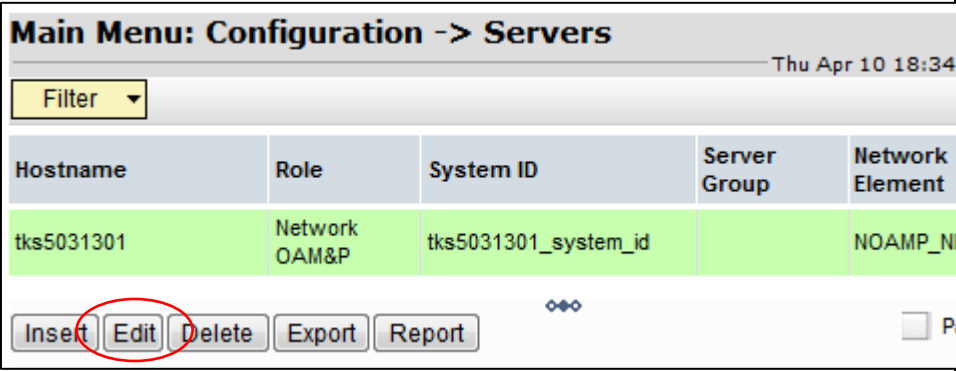
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result																		
5. <div></div>	<p><b>Primary NOAMP Server A:</b></p> <p>1) The user will be presented with the “<b>Server Groups</b>” configuration screen as shown on the right.</p> <p>2) Select the “<b>Insert</b>” dialogue button from the bottom left corner of the screen.</p>	<div><div><div>Main Menu: Configuration -&gt; Server Groups</div><div>Thu 4</div><div>Filter</div><table><tr><th>Server Group Name</th><th>Level</th><th>Parent</th><th>Function</th><th>Connec Count</th></tr></table><div></div><div>InsertEditDeleteReport</div></div></div>	Server Group Name	Level	Parent	Function	Connec Count													
Server Group Name	Level	Parent	Function	Connec Count																
6. <div></div>	<p><b>Primary NOAMP Server A:</b></p> <p>The configuration screen “<b>Server Groups [Insert]</b>” will appear</p>	<div><div><div>Main Menu: Configuration -&gt; Server Groups [Insert]</div><table><tr><th>Field</th><th>Value</th><th>Description</th></tr><tr><td>Server Group Name</td><td><div>*</div></td><td>Unique identifier u [Default = n/a. Ra string. Valid char underscore. Must and must not star</td></tr><tr><td>Level</td><td><div>- Select Level - *</div></td><td>Select one of the system. [Level A. Query servers. L and contain SOA contain MP serve</td></tr><tr><td>Parent</td><td><div>- Select Parent - *</div></td><td>Select an existing</td></tr><tr><td>Function</td><td><div>- Select Function - *</div></td><td>Select one of the system</td></tr><tr><td>WAN Replication Connection Count</td><td><div>1</div></td><td>Specify the numb will be used by re connection assoc Group. [Default = between 1 and 8.</td></tr></table><div>OkApplyCancel</div></div></div>	Field	Value	Description	Server Group Name	<div>*</div>	Unique identifier u [Default = n/a. Ra string. Valid char underscore. Must and must not star	Level	<div>- Select Level - *</div>	Select one of the system. [Level A. Query servers. L and contain SOA contain MP serve	Parent	<div>- Select Parent - *</div>	Select an existing	Function	<div>- Select Function - *</div>	Select one of the system	WAN Replication Connection Count	<div>1</div>	Specify the numb will be used by re connection assoc Group. [Default = between 1 and 8.
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Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result																		
7. <div></div>	<p><b>Primary NOAMP Server A:</b></p> <p>1) Input the <b>Server Group Name</b>.</p> <p>2) Select “<b>A</b>” on the “<b>Level</b>” pull-down menu.</p> <p>3) Select “<b>None</b>” on the “<b>Parent</b>” pull-down menu.</p> <p>4) Select “<b>EAGLE XG HLR Router</b>” on the “<b>Function</b>” pull-down menu.</p> <p>5) Enter value for “<b>WAN Replication Connection Count</b>” field</p>	<div><div>Main Menu: Configuration -&gt; Server Groups [Insert]</div><div><div>Info ▼</div><table><thead><tr><th>Field</th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>Server Group Name</td><td>NOAMP_group *</td><td>Unique identifier u [Default = n/a. Ran string. Valid chara underscore. Must and must not start</td></tr><tr><td>Level</td><td>A ▼ *</td><td>Select one of the l system. [Level A g Query servers. Le and contain SOAM contain MP server</td></tr><tr><td>Parent</td><td>NONE ▼ *</td><td>Select an existing</td></tr><tr><td>Function</td><td>EAGLE XG HLR Router ▼ *</td><td>Select one of the f system</td></tr><tr><td>WAN Replication Connection Count</td><td>1</td><td>Specify the numbe will be used by re connection assoc Group. [Default = between 1 and 8.]</td></tr></tbody></table><div>OKApplyCancel</div></div></div>	Field	Value	Description	Server Group Name	NOAMP_group *	Unique identifier u [Default = n/a. Ran string. Valid chara underscore. Must and must not start	Level	A ▼ *	Select one of the l system. [Level A g Query servers. Le and contain SOAM contain MP server	Parent	NONE ▼ *	Select an existing	Function	EAGLE XG HLR Router ▼ *	Select one of the f system	WAN Replication Connection Count	1	Specify the numbe will be used by re connection assoc Group. [Default = between 1 and 8.]
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8. <div></div>	<p><b>Primary NOAMP Server A:</b></p> <p>1) The user should be presented with a banner information message stating “<b>Pre-Validation passed</b>”.</p> <p>2) Click on “<b>Apply</b>” button.</p>	<div><div>Main Menu: Configuration -&gt; Server Groups [Insert]</div><div><div>Info ▼</div><div><div>Info</div><div>• Pre-Validation passed - Data NOT committed ...</div></div><table><thead><tr><th></th><th></th><th>Description</th></tr></thead><tbody><tr><td></td><td></td><td>Unique identifier us 1-32-character str underscore. Must digit.]</td></tr><tr><td>Level</td><td>B ▼ *</td><td>Select one of the L contain NOAMP an contain SOAM ser</td></tr><tr><td>Parent</td><td>NOAMP_group ▼ *</td><td>Select an existing</td></tr><tr><td>Function</td><td>EAGLE XG HLR Router ▼ *</td><td>Select one of the F</td></tr><tr><td>WAN Replication Connection Count</td><td>1</td><td>Specify the numbe over any WAN cor 1. Range = An inte</td></tr></tbody></table><div>OKApplyCancel</div></div></div>			Description			Unique identifier us 1-32-character str underscore. Must digit.]	Level	B ▼ *	Select one of the L contain NOAMP an contain SOAM ser	Parent	NOAMP_group ▼ *	Select an existing	Function	EAGLE XG HLR Router ▼ *	Select one of the F	WAN Replication Connection Count	1	Specify the numbe over any WAN cor 1. Range = An inte
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Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
9. <div></div>	<p><b>Primary NOAMP Server A:</b></p> <p>The user should be presented with a banner information message stating “Data committed”.</p>	
10. <div></div>	<p><b>Primary NOAMP Server A:</b></p> <p>1) Select... <u>Main Menu</u> → Configuration → Server Groups</p> <p>...as shown on the right.</p>	
11. <div></div>	<p><b>Primary NOAMP Server A:</b></p> <p>The <b>Server Group</b> entry applied in <b>Step 7</b> should now appear on the “<b>Server Groups</b>” configuration screen</p> <p>1) Select the <b>Server Group</b> entry. The line entry should now be highlighted in <b>GREEN</b>.</p> <p>2) Select the “<b>Edit</b>” dialogue button</p>	 <p><b>NOTE:</b> The user may need to use the vertical scroll-bar in order to make the “Edit” dialogue button visible.</p>



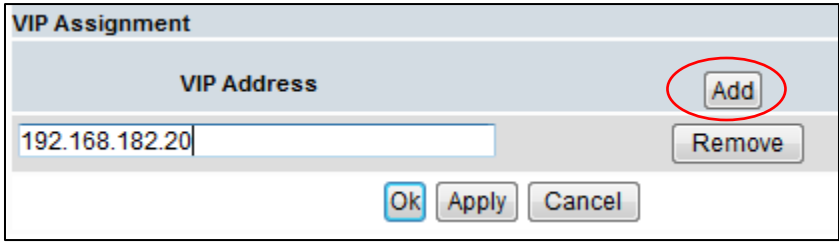
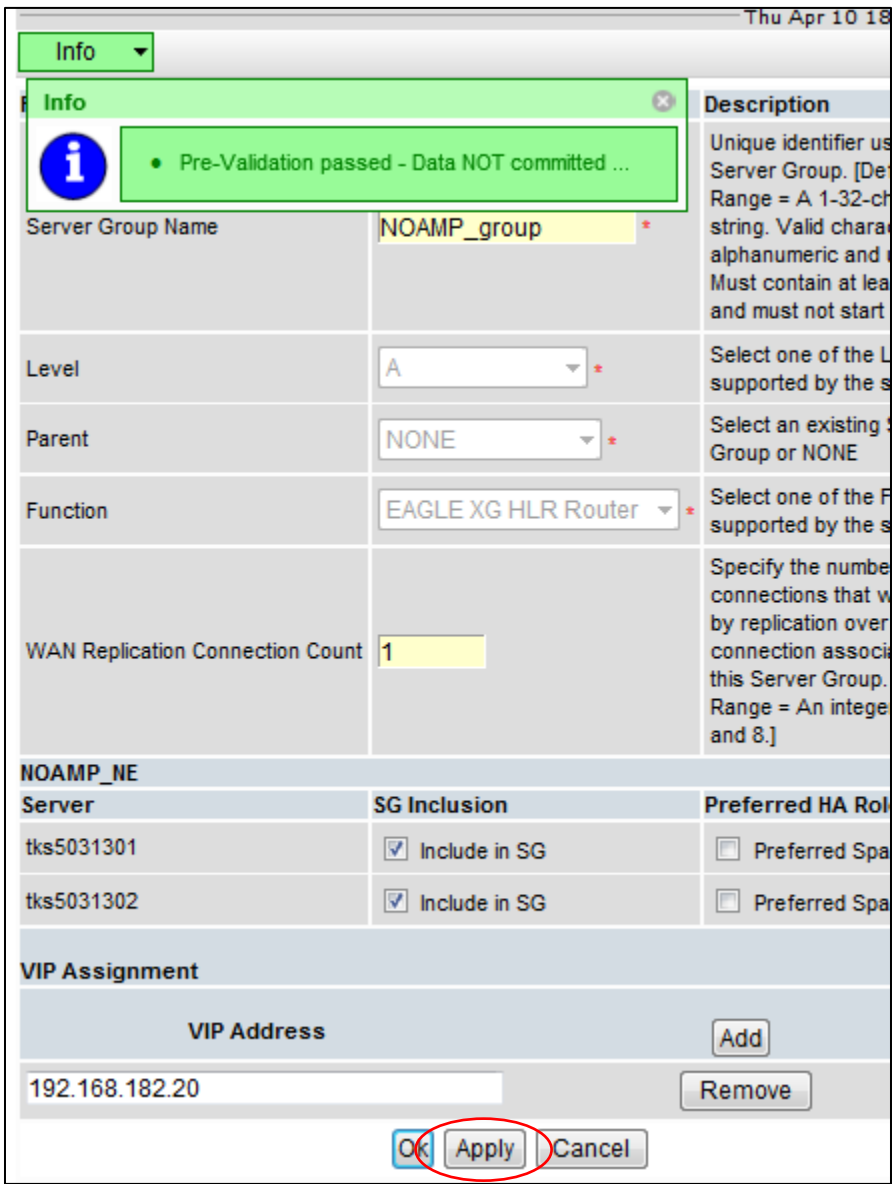
**Procedure 7:** OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
12. <div></div>	<p><b>Primary NOAMP Server A:</b></p> <p>The user will be presented with the “<b>Server Groups [Edit]</b>” screen as shown on the right</p>	<div><div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> 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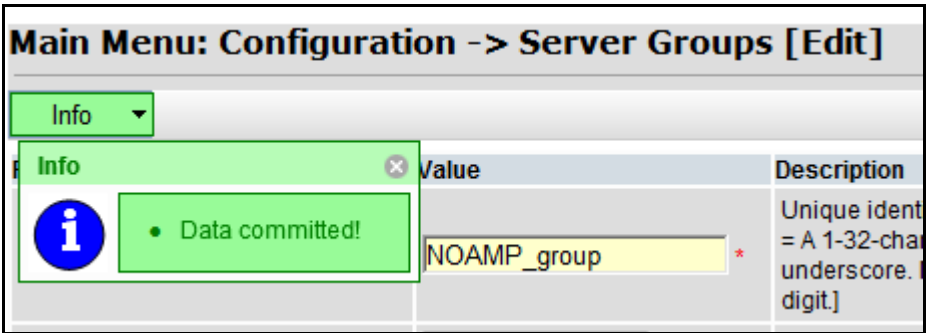
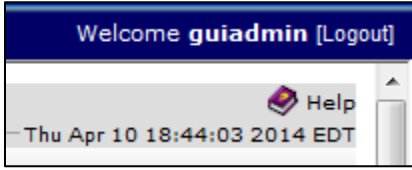
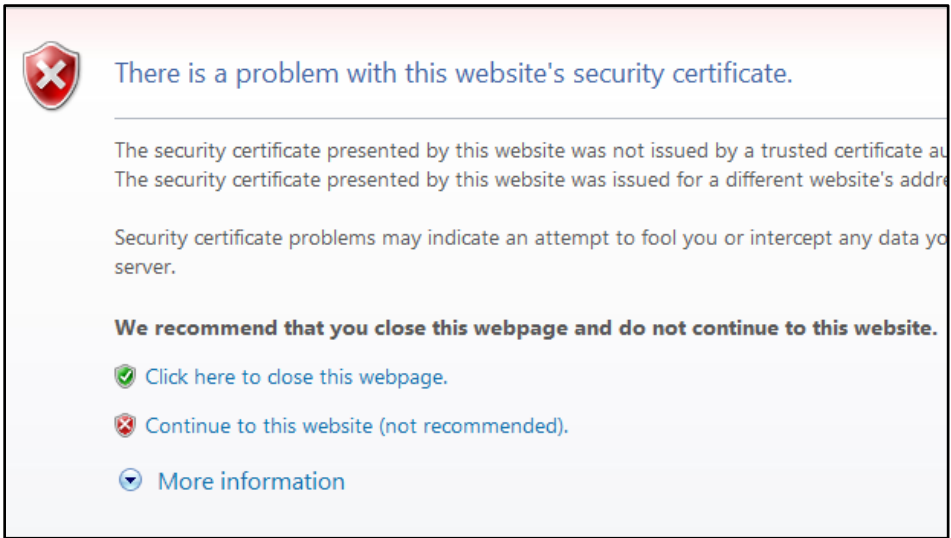
### Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result									
13. <input type="checkbox"/>	<p><b>NOAMP Server A:</b></p> <p>1) To add a server to the server group, select the checkbox for <b>SG Inclusion</b>. When checked, the server will be included in the server group</p> <p>2) To mark the server as a preferred spare, select to the checkbox for <b>"Preferred HA Role"</b>.</p> <p>3) The user should be presented with a banner information message stating <b>"Pre-Validation passed"</b>.</p> <p>4) Click <b>"Apply"</b> to submit</p>	<table border="1"> <thead> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td>tk5031301</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>tk5031302</td> <td><input checked="" type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table>	Server	SG Inclusion	Preferred HA Role	tk5031301	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	tk5031302	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
Server	SG Inclusion	Preferred HA Role									
tk5031301	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare									
tk5031302	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare									
14. <input type="checkbox"/>	<p><b>Primary NOAMP Server A:</b></p> <p>The user should be presented with a banner information message stating <b>"Data committed"</b></p>										


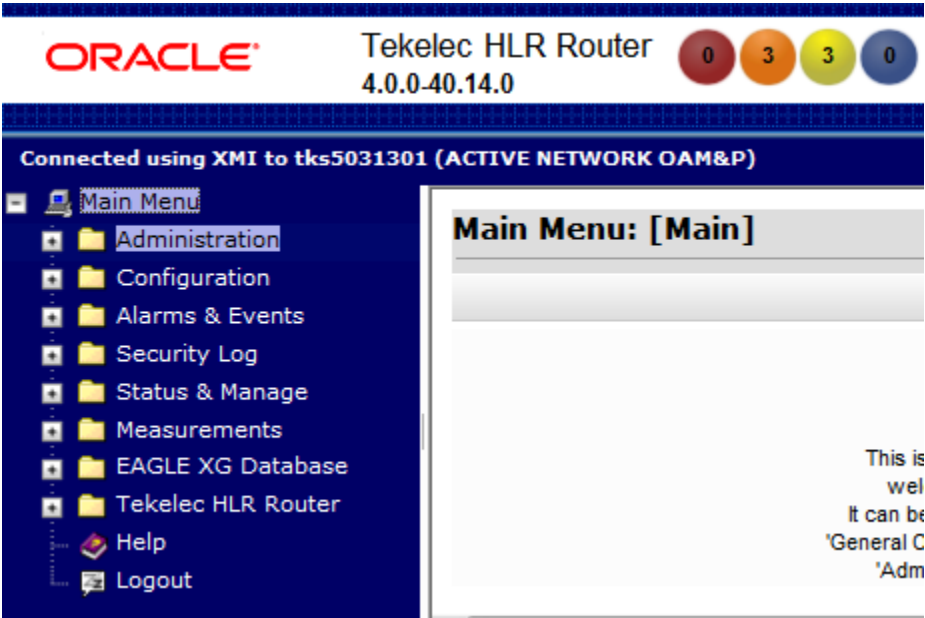
**Procedure 7:** OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
15. <input type="checkbox"/>	<b>Primary NOAMP Server A:</b>  1) To add a virtual IP address, click on <b>Add</b> button in the <b>VIP Assignment</b> section  2) Enter the virtual IP address in <b>VIP Address</b> field	
16. <input type="checkbox"/>	<b>Primary NOAMP Server A:</b>  1) The user should be presented with a banner information message stating <b>"Pre-Validation passed"</b> .  2) Click on <b>"Apply"</b> button.	

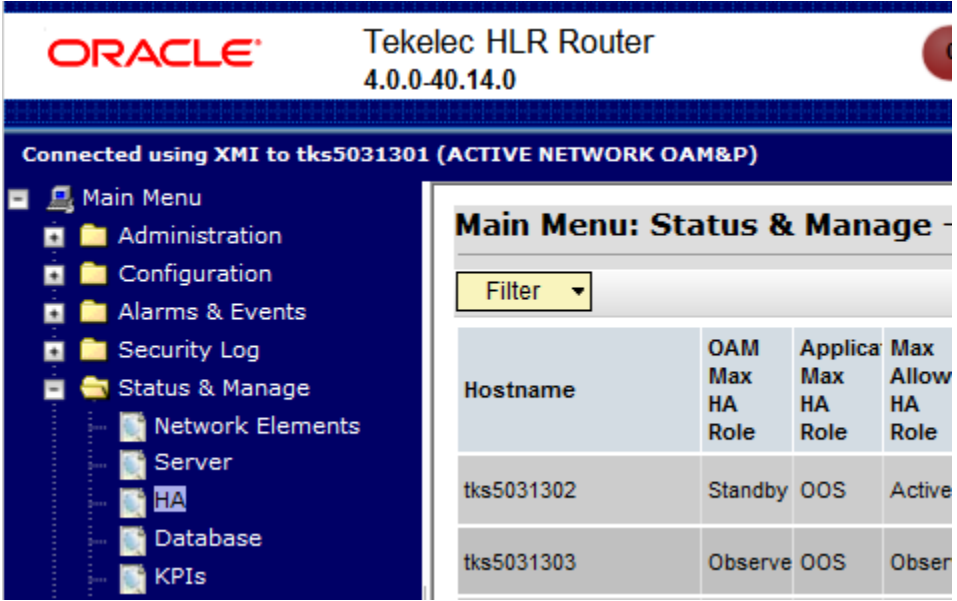
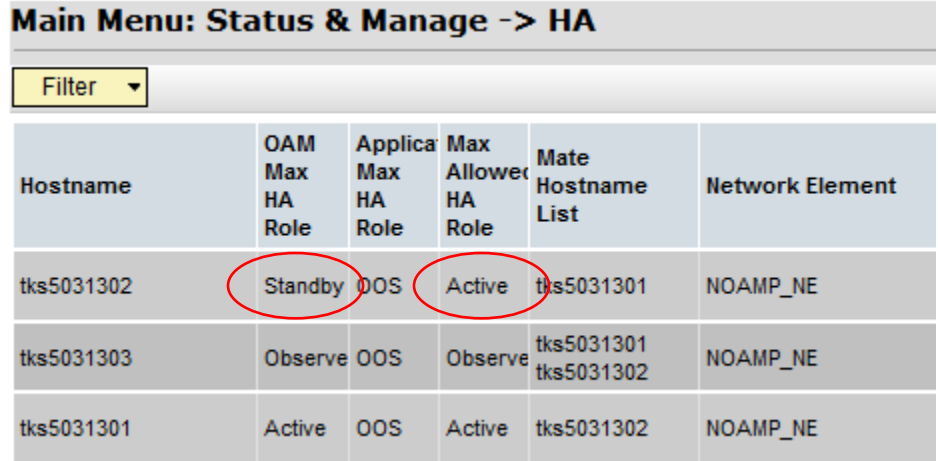
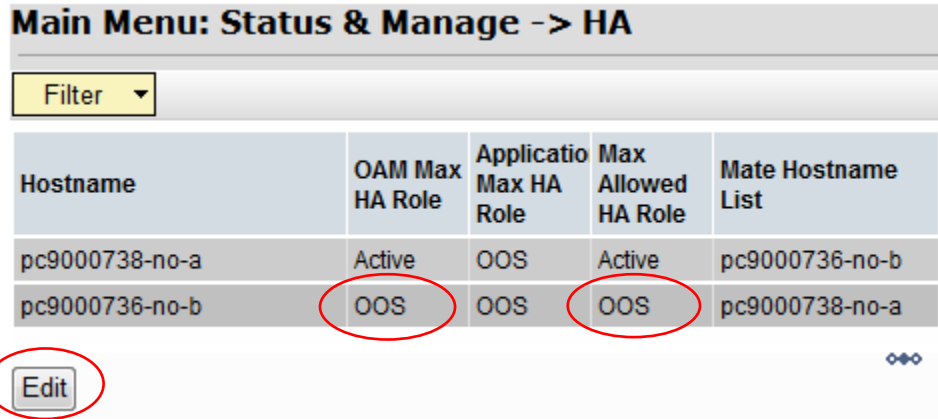
**Procedure 7:** OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
17. <input type="checkbox"/>	<b>Primary NOAMP Server A:</b>  The user should be presented with a banner information message stating <b>"Data committed"</b> .	 <p>The screenshot shows the 'Main Menu: Configuration -&gt; Server Groups [Edit]' interface. A green information box with a blue 'i' icon and the text 'Data committed!' is overlaid on the page. In the background, there is a table with columns 'Value' and 'Description'. The 'Value' column contains 'NOAMP_group' with a red asterisk. The 'Description' column contains 'Unique ident = A 1-32-char underscore. digit.]'.</p>
18. <input type="checkbox"/>	<b>Primary NOAMP Server A:</b>  Click the <b>"Logout"</b> link on the Primary NOAMP GUI.	 <p>The screenshot shows the Primary NOAMP GUI with a blue header bar that says 'Welcome guidadmin [Logout]'. Below the header, there is a 'Help' icon and a timestamp 'Thu Apr 10 18:44:03 2014 EDT'.</p>
19. <input type="checkbox"/>	<b>IMPORTANT:</b>  Wait at least <b>5 minutes</b> before proceeding on to the next Step.	<ul style="list-style-type: none"> <li>Now that the server(s) have been paired within a Server Group they must establish a master/slave relationship for High Availability (HA). It may take several minutes for this process to be completed.</li> <li>Allow a minimum of <b>5 minutes</b> before continuing to the next Step.</li> </ul>
20. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Launch IE web browser and connect to the XMI <b>VIP</b> IP address assigned in Step 15 above  Click on this link: <b>"Continue to this website (not recommended)"</b>	 <p>The screenshot shows a security warning message with a red shield icon containing a white 'X'. The text reads: 'There is a problem with this website's security certificate.' Below this, it explains that the certificate was not issued by a trusted certificate authority and was issued for a different website's address. It then states: 'Security certificate problems may indicate an attempt to fool you or intercept any data you enter to this server.' A recommendation follows: 'We recommend that you close this webpage and do not continue to this website.' At the bottom, there are three links: 'Click here to close this webpage.' (with a green checkmark icon), 'Continue to this website (not recommended).' (with a red 'X' icon), and 'More information' (with a blue circular arrow icon).</p>

**Procedure 7:** OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
21. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  The user should be presented the login screen shown on the right.  Login to the GUI using the default user and password.	
22. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  The user should be presented the Main Menu as shown on the right.	

**Procedure 7:** OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
23. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Select...  <b>Main Menu</b> → <b>Status &amp; Manage</b> → <b>HA</b>  ...as shown on the right.	
24. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Verify that the <b>OAM Max HA Role</b> shows “Standby” and <b>Max Allowed HA Role</b> shows “Active” for Primary <b>NOAMP Server B</b>  If it shows “OOS” then continue with the next step. Otherwise skip forward to <b>Step 28</b> of this procedure.	
25. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  (OPTIONAL)  Click <b>Edit</b> button	

**Procedure 7:** OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result															
26. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p>(OPTIONAL)</p> <p>Change the <b>Max Allowed HA Role</b> for <b>Primary NOAMP Server B</b> to <b>Active</b> and click <b>OK</b> button</p>	<div><div>Main Menu: Status &amp; Manage -&gt; HA [Edit]</div><div><div>Info</div></div><table><thead><tr><th>Hostname</th><th>Max Allowed HA Role</th><th>Description</th></tr></thead><tbody><tr><td>pc9000738-no-a</td><td>Active</td><td>The maximum desired</td></tr><tr><td>pc9000736-no-b</td><td>Active</td><td>The maximum desired</td></tr></tbody></table><div><div>Ok</div><div>Cancel</div></div></div>	Hostname	Max Allowed HA Role	Description	pc9000738-no-a	Active	The maximum desired	pc9000736-no-b	Active	The maximum desired						
Hostname	Max Allowed HA Role	Description															
pc9000738-no-a	Active	The maximum desired															
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27. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p>(OPTIONAL)</p> <p>Verify that the <b>OAM Max HA Role</b> shows “Standby” and <b>Max Allowed HA Role</b> shows “Active” for <b>Primary NOAMP Server B</b></p>	<div><div>Main Menu: Status &amp; Manage -&gt; HA</div><div><div>Filter</div></div><table><thead><tr><th>Hostname</th><th>OAM Max HA Role</th><th>Application Max HA Role</th><th>Max Allowed HA Role</th><th>Mate Hostname List</th></tr></thead><tbody><tr><td>pc9000738-no-a</td><td>Active</td><td>OOS</td><td>Active</td><td>pc9000736-no-b</td></tr><tr><td>pc9000736-no-b</td><td>Standby</td><td>OOS</td><td>Active</td><td>pc9000738-no-a</td></tr></tbody></table></div>	Hostname	OAM Max HA Role	Application Max HA Role	Max Allowed HA Role	Mate Hostname List	pc9000738-no-a	Active	OOS	Active	pc9000736-no-b	pc9000736-no-b	Standby	OOS	Active	pc9000738-no-a
Hostname	OAM Max HA Role	Application Max HA Role	Max Allowed HA Role	Mate Hostname List													
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pc9000736-no-b	Standby	OOS	Active	pc9000738-no-a													
28. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p>Select...</p> <p><u>Main Menu</u> → <b>Status &amp; Manage</b> → <b>Server</b></p> <p>...as shown on the right.</p>	<div><div><div>ORACLE</div><div>Tekelec HLR Router 4.0.0-40.14.0</div><div><div>0</div><div>3</div><div>3</div><div>0</div></div></div><div><div>Connected using XMI to tks5031301 (ACTIVE NETWORK OAM&amp;P)</div><div><div><div>Main Menu</div><div><div>Administration</div><div>Configuration</div><div>Alarms &amp; Events</div><div>Security Log</div><div>Status &amp; Manage</div><div>Network Elements</div><div>Server</div><div>HA</div><div>Database</div><div>KPIs</div><div>Processes</div><div>Tasks</div></div></div></div><div><div>Main Menu: Status &amp; Manage</div><div><div>Filter</div></div><table><thead><tr><th>Network Element</th><th>Server Hostname</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tks5031302</td></tr><tr><td>NOAMP_NE</td><td>tks5031303</td></tr><tr><td>NOAMP_NE</td><td>tks5031301</td></tr></tbody></table><div><div>Stop</div><div>Restart</div><div>Reboot</div><div>NTP Sync</div></div></div></div></div>	Network Element	Server Hostname	NOAMP_NE	tks5031302	NOAMP_NE	tks5031303	NOAMP_NE	tks5031301							
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**Procedure 7:** OAM Pairing for the Primary NOAMP Servers

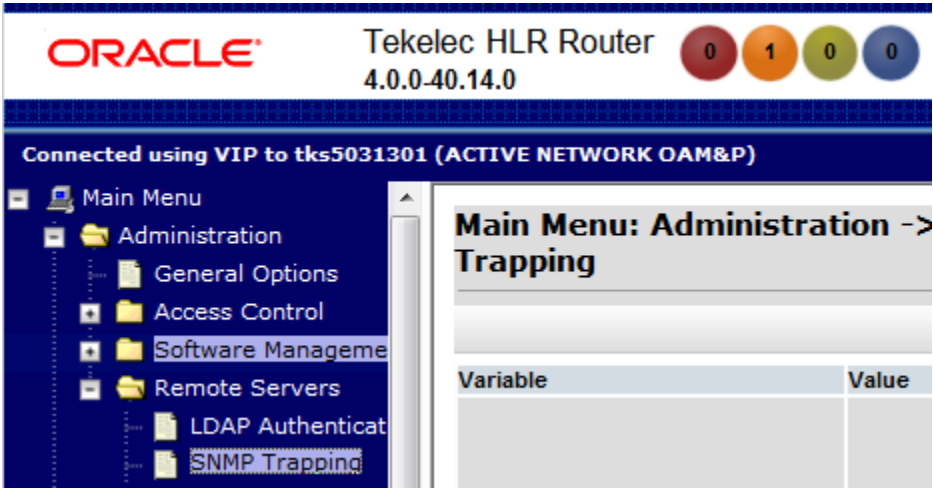
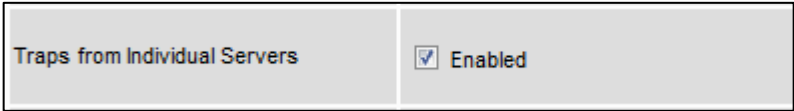
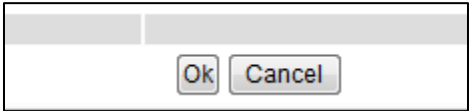
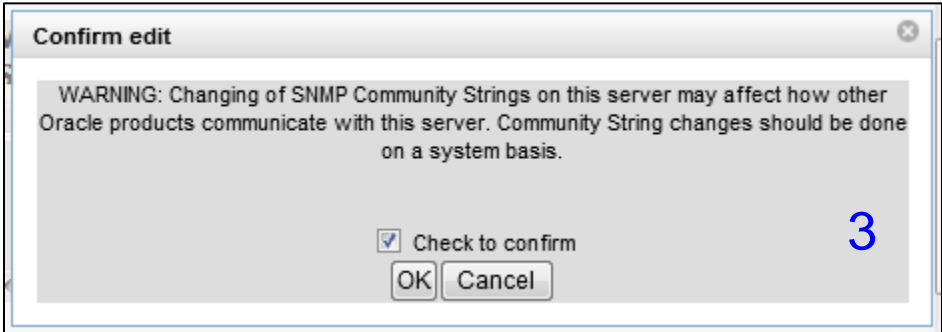
Step	Procedure	Result																																																								
29. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) The “A” and “B” Primary NOAMP servers (and Query Server) should now appear in the right panel.</p> <p>2) Verify that the “DB” status shows “Norm” and the “Proc” status shows “Man” for both servers before proceeding to the next Step.</p>	<div><h3>Main Menu: Status &amp; Manage -&gt; Server</h3><div>Fri Apr 11 12:18:24</div><div>Filter</div><table><thead><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reportin Status</th><th>Proc</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tk5031302</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>NOAMP_NE</td><td>tk5031303</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>NOAMP_NE</td><td>tk5031301</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr></tbody></table></div>	Network Element	Server Hostname	Appl State	Alm	DB	Reportin Status	Proc	NOAMP_NE	tk5031302	Disabled	Err	Norm	Norm	Man	NOAMP_NE	tk5031303	Disabled	Warn	Norm	Norm	Man	NOAMP_NE	tk5031301	Disabled	Err	Norm	Norm	Man																												
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30. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Using the mouse, select <b>Primary NOAMP Server A</b>. Line entry will be highlighted in <b>GREEN</b>.</p> <p>2) Select the “Restart” dialogue button</p> <p>3) Click the “OK” button on the confirmation dialogue box.</p> <p>4) The user should be presented with a confirmation message (in the banner area) for <b>Primary NOAMP Server A</b> stating: “<b>Successfully restarted application</b>”.</p> <p><b>NOTE:</b> The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.</p>	<div><h3>Main Menu: Status &amp; Manage -&gt; Server</h3><div>Fri Apr 11 12:32:00</div><div>Filter</div><div>Info</div><table><thead><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reportin Status</th><th>Proc</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tk5031302</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>NOAMP_NE</td><td>tk5031303</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>NOAMP_NE</td><td>tk5031301</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr></tbody></table><div>StopRestartRebootNTP SyncReport</div><div>Pause</div></div> <div><div>Message from webpage</div><div><div>?</div><div>Are you sure you wish to restart application software on the following server(s)? tk5031301</div><div>OKCancel</div></div></div> <div><div>Filter</div><div>Info</div><div><div>Info</div><div>tk5031301: Successfully restarted application.</div></div><table><thead><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reportin Status</th><th>Proc</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tk5031302</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>NOAMP_NE</td><td>tk5031303</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>NOAMP_NE</td><td>tk5031301</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr></tbody></table></div>	Network Element	Server Hostname	Appl State	Alm	DB	Reportin Status	Proc	NOAMP_NE	tk5031302	Disabled	Err	Norm	Norm	Man	NOAMP_NE	tk5031303	Disabled	Warn	Norm	Norm	Man	NOAMP_NE	tk5031301	Disabled	Err	Norm	Norm	Man	Network Element	Server Hostname	Appl State	Alm	DB	Reportin Status	Proc	NOAMP_NE	tk5031302	Disabled	Err	Norm	Norm	Man	NOAMP_NE	tk5031303	Disabled	Warn	Norm	Norm	Man	NOAMP_NE	tk5031301	Disabled	Err	Norm	Norm	Man
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**Procedure 7:** OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result																												
31. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Verify that the “<b>Appl State</b>” now shows “<b>Enabled</b>” and the “<b>Proc</b>” status column show “<b>Norm</b>” for <b>NOAMP Server A</b> before proceeding to the next Step.</p>	<div><div><div>Main Menu: Status &amp; Manage -&gt; Server</div><div>Fri Apr 11 12:36:37</div><div>Filter</div><table><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Repor Status</th><th>Proc</th></tr><tr><td>NOAMP_NE</td><td>tk5031302</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>NOAMP_NE</td><td>tk5031303</td><td>Disabled</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>NOAMP_NE</td><td>tk5031301</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr></table></div></div>	Network Element	Server Hostname	Appl State	Alm	DB	Repor Status	Proc	NOAMP_NE	tk5031302	Disabled	Err	Norm	Norm	Man	NOAMP_NE	tk5031303	Disabled	Warn	Norm	Norm	Man	NOAMP_NE	tk5031301	Enabled	Err	Norm	Norm	Norm
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32. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Restart application on <b>Primary NOAMP Server B</b></p> <p>2) Restart application on <b>Query Server</b> (optional)</p>	<ul style="list-style-type: none"><li>Repeat <b>Step 30</b> of this Procedure to restart application on <b>Primary NOAMP Server B</b></li><li>Repeat <b>Step 31</b> of this Procedure to verify application and process state on <b>Primary NOAMP Server B</b></li><li>Repeat <b>Step 30</b> of this Procedure to restart application on <b>Query Server</b> (optional)</li><li>Repeat <b>Step 31</b> of this Procedure to verify application and process state on <b>Query Server</b> (optional)</li></ul>																												
33. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Verifying Primary NOAMP Alarm status</i></p> <p>Select...</p> <p><b>Main Menu</b></p> <p>→ <b>Alarms &amp; Events</b></p> <p>→ <b>View Active</b></p> <p>...as shown on the right.</p>	<div><div><div>ORACLE</div><div>Tekelec HLR Router</div><div>4.0.0-40.14.0</div><div>010</div></div><div><div>Connected using VIP to tks5031301 (ACTIVE NETWORK OAM&amp;P)</div><div><div>Main Menu</div><div>Administration</div><div>Configuration</div><div>Alarms &amp; Events</div><div>View Active</div><div>View History</div><div>View Trap Log</div><div>Security Log</div><div>Status &amp; Manage</div></div><div><div>Main Menu: Alarms &amp; Events</div><div>FilterTasks</div><table><tr><th>Seq #</th><th>Event ID</th><th>Timestamp</th></tr><tr><td></td><td colspan="2">Alarm Text</td></tr><tr><td>199</td><td>14101</td><td>2014-04-11 12:35:30.975</td></tr><tr><td></td><td colspan="2">No Remote Connections</td></tr></table></div></div></div>	Seq #	Event ID	Timestamp		Alarm Text		199	14101	2014-04-11 12:35:30.975		No Remote Connections																	
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34. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Verify that <b>Event ID 14101</b> (“No remote provisioning clients are connected”) is the only alarm present on the HLRR system</p>	<table><tr><th>Seq #</th><th>Event ID</th><th>Timestamp</th><th>Severity</th><th>Product</th><th>Process</th></tr><tr><td></td><td colspan="2">Alarm Text</td><td colspan="3">Additional Info</td></tr><tr><td>199</td><td>14101</td><td>2014-04-11 12:35:30.975 EDT</td><td>MAJOR</td><td>EXHR</td><td>pdba</td></tr><tr><td></td><td colspan="2">No Remote Connections</td><td colspan="3">GN_DOWN/WRN No remote prov More...</td></tr></table>	Seq #	Event ID	Timestamp	Severity	Product	Process		Alarm Text		Additional Info			199	14101	2014-04-11 12:35:30.975 EDT	MAJOR	EXHR	pdba		No Remote Connections		GN_DOWN/WRN No remote prov More...						
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Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
35. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Configuring SNMP for Traps from Individual Servers</i></p> <p>Select... <b>Main Menu</b> → Administration → Remote Servers → <b>SNMP Trapping</b></p> <p>...as shown on the right.</p>	
36. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Configuring SNMP for Traps from Individual Servers</i></p> <p>1) Using the cursor, place a “check” in the check box for “<b>Traps from Individual Servers</b>”.</p> <p>2) Click the “<b>OK</b>” dialogue button located at the bottom of screen</p> <p>3) Check the “Check to confirm” box on the new window, and then click on the “<b>OK</b>” button to make the change</p>	<div>1</div> <div>2</div> <div>3</div>
THIS PROCEDURE HAS BEEN COMPLETED		

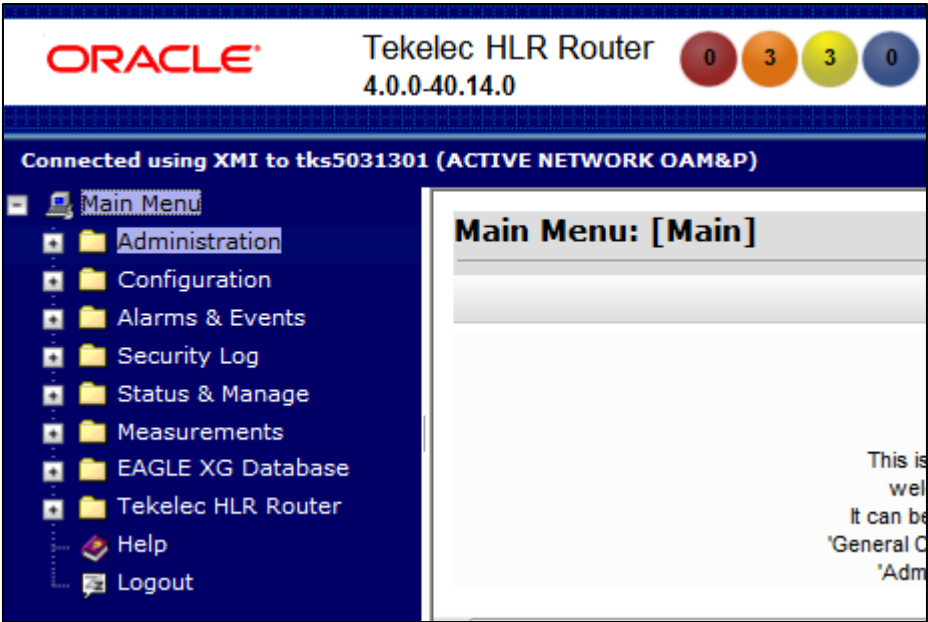
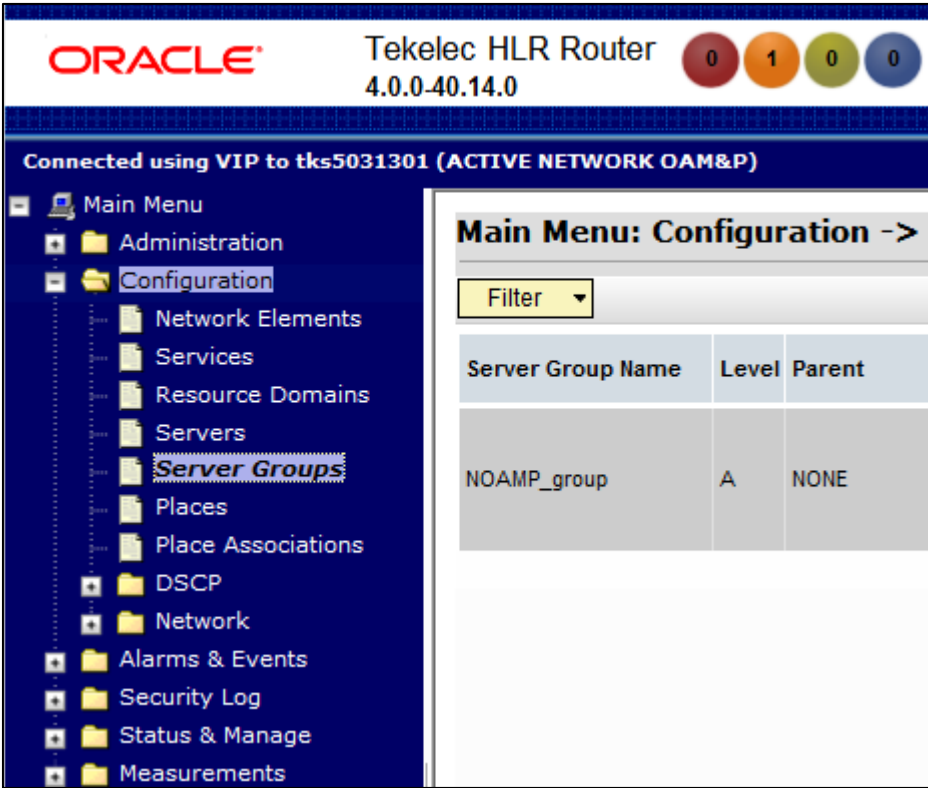
## 5.8 OAM Pairing for SOAM and DR sites (All SOAM and DR sites)

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

### Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result
1. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Launch IE web browser and connect to Primary NOAMP VIP address  Click on this link: <b>"Continue to this website (not recommended)"</b>	 <p>There is a problem with this website's security certificate.</p> <p>The security 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.</p> <p>Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.</p> <p><b>We recommend that you close this webpage and do not continue to this website.</b></p> <p> <a href="#">Click here to close this webpage.</a></p> <p> <a href="#">Continue to this website (not recommended).</a></p> <p> <a href="#">More information</a></p>
2. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  The user should be presented the login screen shown on the right.  Login to the GUI using the default user and password.	 <p>The screenshot shows the Oracle System Login page. At the top is the Oracle logo. Below it is the text 'Oracle System Login' and a timestamp 'Wed Apr 9 17:06:39 2014 EDT'. In the center is a 'Log In' box with fields for 'Username:' and 'Password:', a 'Change password' checkbox, and a 'Log In' button. Below the box is the text 'Welcome to the Oracle System Login.' At the bottom, a disclaimer states: 'Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 7.0, 8.0, or 9.0 with support for JavaScript and cookies.' and 'Oracle and logo are registered service marks of Oracle Corporation. Copyright © 2013 Oracle Corporation All Rights Reserved.'</p>

Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result
3. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented the Main Menu as shown on the right.</p>	
4. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Select... <u>Main Menu</u> → Configuration → <i>Server Groups</i></p> <p>...as shown on the right.</p>	

Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result																		
5. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) The user will be presented with the “<b>Server Groups</b>” configuration screen as shown on the right.</p> <p>2) Select the “<b>Insert</b>” dialogue button</p>	<div><div><div>Main Menu: Configuration -&gt; Server Groups</div><div><div>Filter</div><table><tr><th>Server Group Name</th><th>Level</th><th>Parent</th><th>Function</th><th>Connection Count</th></tr><tr><td>NOAMP_group</td><td>A</td><td>NONE</td><td>EAGLE XG HLR Router</td><td>1</td></tr></table></div><div><div>Insert</div><div>Edit</div><div>Delete</div><div>Report</div></div></div></div>	Server Group Name	Level	Parent	Function	Connection Count	NOAMP_group	A	NONE	EAGLE XG HLR Router	1								
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**Procedure 8:** Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result																		
7. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Input the <b>Server Group Name</b>.</p> <p>2) For SOAM server group, select <b>"B"</b> on the <b>"Level"</b> pull-down menu.</p> <p>For DR NOAMP server group, select <b>"A"</b> on the <b>"Level"</b> pull-down menu.</p> <p>3) Select a <b>Parent</b> from the pull-down menu</p> <p>4) Select <b>"EAGLE XG HLR Router"</b> on the <b>"Function"</b> pull-down menu.</p> <p>5) Enter value for <b>"WAN Replication Connection Count"</b> field</p>	<p><b>Main Menu: Configuration -&gt; Server Groups [Insert]</b></p> <p>Info ▾</p> <table border="1"> <thead> <tr> <th>Field</th><th>Value</th><th>Description</th></tr> </thead> <tbody> <tr> <td>Server Group Name</td><td>SOAM_group *</td><td>Unique identifier used for Server Group. [Default Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and one digit.]</td></tr> <tr> <td>Level</td><td>B ▾ *</td><td>Select one of the Levels by the system. [Level A contains NOAMP and SOAM servers. Level B group contains optional and contains SOAM servers. Level C group contains optional and contains SOAM servers.]</td></tr> <tr> <td>Parent</td><td>NOAMP_group ▾ *</td><td>Select an existing Server Group. NONE</td></tr> <tr> <td>Function</td><td>EAGLE XG HLR Router ▾ *</td><td>Select one of the Functions supported by the system.</td></tr> <tr> <td>WAN Replication Connection Count</td><td>1</td><td>Specify the number of connections that will be used for replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 10.]</td></tr> </tbody> </table> <p>Ok Apply Cancel</p>	Field	Value	Description	Server Group Name	SOAM_group *	Unique identifier used for Server Group. [Default Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alpha and one digit.]	Level	B ▾ *	Select one of the Levels by the system. [Level A contains NOAMP and SOAM servers. Level B group contains optional and contains SOAM servers. Level C group contains optional and contains SOAM servers.]	Parent	NOAMP_group ▾ *	Select an existing Server Group. NONE	Function	EAGLE XG HLR Router ▾ *	Select one of the Functions supported by the system.	WAN Replication Connection Count	1	Specify the number of connections that will be used for replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 10.]
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8. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented with a banner information message stating <b>"Pre-Validation passed"</b>.</p>	<p><b>Info</b> [Close]</p> <ul style="list-style-type: none"> <li>Pre-Validation passed - Data NOT committed ...</li> </ul> <table border="1"> <thead> <tr> <th>Field</th><th>Value</th><th>Description</th></tr> </thead> <tbody> <tr> <td>Level</td><td>B ▾ *</td><td>Select one of the Levels by the system. [Level A contains NOAMP and SOAM servers. Level B group contains optional and contains SOAM servers. Level C group contains optional and contains SOAM servers.]</td></tr> <tr> <td>Parent</td><td>NOAMP_group ▾ *</td><td>Select an existing Server Group. NONE</td></tr> <tr> <td>Function</td><td>EAGLE XG HLR Router ▾ *</td><td>Select one of the Functions supported by the system.</td></tr> <tr> <td>WAN Replication Connection Count</td><td>1</td><td>Specify the number of connections that will be used for replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 10.]</td></tr> </tbody> </table> <p>Ok Apply Cancel</p>	Field	Value	Description	Level	B ▾ *	Select one of the Levels by the system. [Level A contains NOAMP and SOAM servers. Level B group contains optional and contains SOAM servers. Level C group contains optional and contains SOAM servers.]	Parent	NOAMP_group ▾ *	Select an existing Server Group. NONE	Function	EAGLE XG HLR Router ▾ *	Select one of the Functions supported by the system.	WAN Replication Connection Count	1	Specify the number of connections that will be used for replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 10.]			
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**Procedure 8:** Pairing the OAM Servers for SOAM or DR NOAMP sites

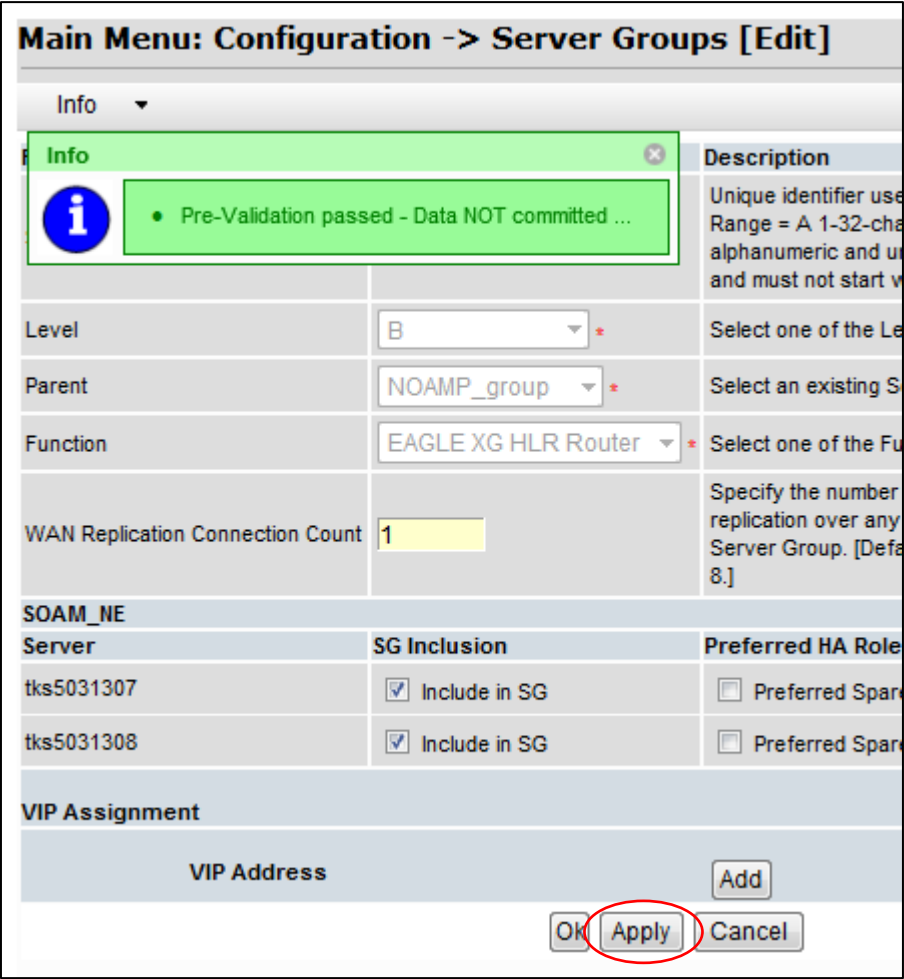
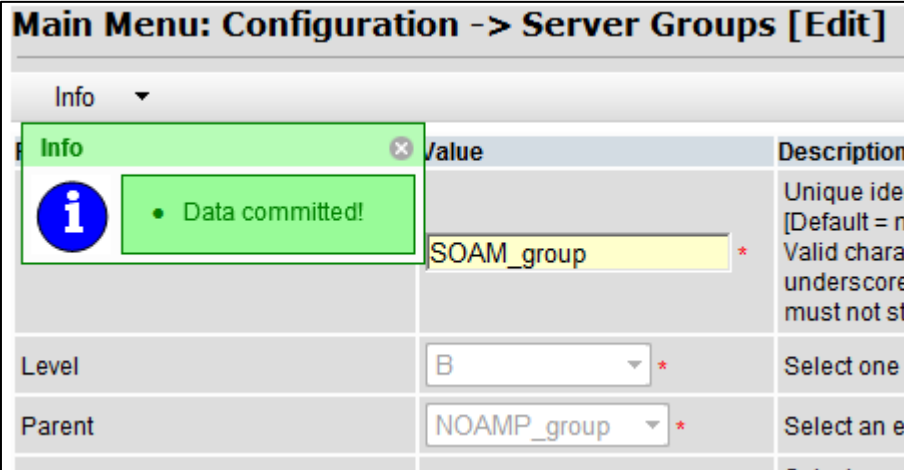
Step	Procedure	Result																		
9. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Click <b>“Apply”</b> button to submit</p> <p>The user should be presented with a banner information message stating <b>“Data committed”</b>.</p>	<div><div><div>Info</div><div><div><div></div></div><div>• Data committed!</div></div></div><table><thead><tr><th></th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td></td><td>NOAMP_group *</td><td>Unique identifier used to identify a group of servers. (1-32-character string. Underscore allowed. Must contain at least one digit.)</td></tr><tr><td>Level</td><td>B *</td><td>Select one of the Levels. Levels A and B contain NOAMP and QoS servers. Level A contains SOAM servers.</td></tr><tr><td>Parent</td><td>NOAMP_group *</td><td>Select an existing Server Group.</td></tr><tr><td>Function</td><td>EAGLE XG HLR Router *</td><td>Select one of the Functions.</td></tr><tr><td>WAN Replication Connection Count</td><td>1</td><td>Specify the number of WAN connections to replicate over any WAN connections. Range = An integer from 1 to 10.</td></tr></tbody></table><div><div>OK</div><div>Apply</div><div>Cancel</div></div></div>		Value	Description		NOAMP_group *	Unique identifier used to identify a group of servers. (1-32-character string. Underscore allowed. Must contain at least one digit.)	Level	B *	Select one of the Levels. Levels A and B contain NOAMP and QoS servers. Level A contains SOAM servers.	Parent	NOAMP_group *	Select an existing Server Group.	Function	EAGLE XG HLR Router *	Select one of the Functions.	WAN Replication Connection Count	1	Specify the number of WAN connections to replicate over any WAN connections. Range = An integer from 1 to 10.
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10. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Select...</p> <p><u>Main Menu</u></p> <p>→ Configuration</p> <p>→ <i>Server Groups</i></p> <p>...as shown on the right.</p>	<div><div>ORACLE®</div><div>Tekelec HLR Router</div><div>4.0.0-40.14.0</div><div><div>0</div><div>1</div><div>0</div><div>0</div></div><div>Connected using VIP to tks5031301 (ACTIVE NETWORK OAM&amp;P)</div><div><div><div>Main Menu</div><div><div>Administration</div><div>Configuration</div><div><div>Network Elements</div><div>Services</div><div>Resource Domains</div><div>Servers</div><div><b>Server Groups</b></div><div>Places</div><div>Place Associations</div></div><div>DSCP</div><div>Network</div></div></div></div><div><div>Main Menu: Configuration -&gt;</div><div>Filter</div><table><thead><tr><th>Server Group Name</th><th>Level</th><th>Parent</th></tr></thead><tbody><tr><td>NOAMP_group</td><td>A</td><td>NONE</td></tr><tr><td>SOAM_group</td><td>B</td><td>NOAMP_group</td></tr></tbody></table></div></div>	Server Group Name	Level	Parent	NOAMP_group	A	NONE	SOAM_group	B	NOAMP_group									
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11. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The <b>Server Group</b> entry should be shown on the <b>“Server Groups”</b> configuration screen as shown on the right.</p>	<table><thead><tr><th>Server Group Name</th><th>Level</th><th>Parent</th><th>Function</th><th>Connection Count</th></tr></thead><tbody><tr><td>NOAMP_group</td><td>A</td><td>NONE</td><td>EAGLE XG HLR Router</td><td>1</td></tr><tr><td>SOAM_group</td><td>B</td><td>NOAMP_group</td><td>EAGLE XG HLR Router</td><td>1</td></tr></tbody></table>	Server Group Name	Level	Parent	Function	Connection Count	NOAMP_group	A	NONE	EAGLE XG HLR Router	1	SOAM_group	B	NOAMP_group	EAGLE XG HLR Router	1			
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**Procedure 8:** Pairing the OAM Servers for SOAM or DR NOAMP sites


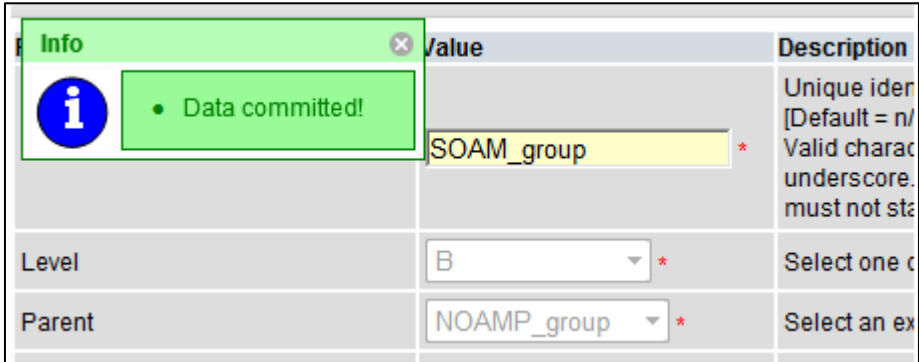
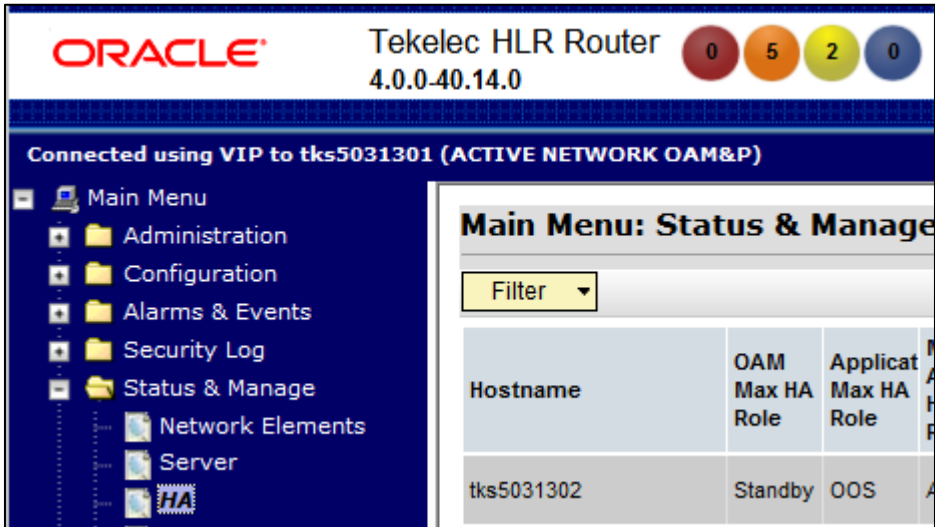
Step	Procedure	Result																											
12. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Select the <b>Server Group</b> entry created in <b>Step 5 through Step 9</b>. The line entry will be highlighted in <b>GREEN</b>.</p> <p>2) Click “<b>Edit</b>” dialogue button</p>	<table><thead><tr><th>Server Group Name</th><th>Level</th><th>Parent</th><th>Function</th><th>Connection Count</th></tr></thead><tbody><tr><td>NOAMP_group</td><td>A</td><td>NONE</td><td>EAGLE XG HLR Router</td><td>1</td></tr><tr><td>SOAM_group</td><td>B</td><td>NOAMP_group</td><td>EAGLE XG HLR Router</td><td>1</td></tr></tbody></table> <div><div>Insert</div><div>Edit</div><div>Delete</div><div>Report</div></div>	Server Group Name	Level	Parent	Function	Connection Count	NOAMP_group	A	NONE	EAGLE XG HLR Router	1	SOAM_group	B	NOAMP_group	EAGLE XG HLR Router	1												
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13. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Adding a Server to the OAM Server Group (SOAM or DR NOAMP)</i></p> <p>The configuration screen “<b>Server Groups [Edit]</b>” will appear</p>	<div><div>Main Menu: Configuration -&gt; Server Groups [Edit]</div><table><thead><tr><th>Field</th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>Server Group Name</td><td>SOAM_group *</td><td>Unique identifier used Range = A 1-32-char alphanumeric and und and must not start wit</td></tr><tr><td>Level</td><td>B *</td><td>Select one of the Lev</td></tr><tr><td>Parent</td><td>NOAMP_group *</td><td>Select an existing Ser</td></tr><tr><td>Function</td><td>EAGLE XG HLR Router *</td><td>Select one of the Fun</td></tr><tr><td>WAN Replication Connection Count</td><td>1</td><td>Specify the number of replication over any W Server Group. [Defau 8.]</td></tr></tbody></table><div><div>SOAM_NE</div><table><thead><tr><th>Server</th><th>SG Inclusion</th><th>Preferred HA Role</th></tr></thead><tbody><tr><td>tk5031307</td><td><input type="checkbox"/> Include in SG</td><td><input type="checkbox"/> Preferred Spare</td></tr><tr><td>tk5031308</td><td><input type="checkbox"/> Include in SG</td><td><input type="checkbox"/> Preferred Spare</td></tr></tbody></table><div>VIP Assignment</div><div>VIP Address</div><div>Add</div></div><div><div>Ok</div><div>Apply</div><div>Cancel</div></div></div>	Field	Value	Description	Server Group Name	SOAM_group *	Unique identifier used Range = A 1-32-char alphanumeric and und and must not start wit	Level	B *	Select one of the Lev	Parent	NOAMP_group *	Select an existing Ser	Function	EAGLE XG HLR Router *	Select one of the Fun	WAN Replication Connection Count	1	Specify the number of replication over any W Server Group. [Defau 8.]	Server	SG Inclusion	Preferred HA Role	tk5031307	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	tk5031308	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
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Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result									
14. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) To add a server to the server group, select the checkbox for <b>SG Inclusion</b>. When checked, the server will be included in the server group</p> <p>2) To mark the server as a preferred spare, select to the checkbox for <b>Preferred HA Role</b>.</p> <p>3) The user should be presented with a banner information message stating <b>“Pre-Validation passed”</b>.</p> <p>4) Click <b>Apply</b> to submit</p>	 <p>The screenshot shows the 'Main Menu: Configuration -&gt; Server Groups [Edit]' window. An 'Info' dialog box displays the message 'Pre-Validation passed - Data NOT committed ...'. The configuration fields include: Level (B), Parent (NOAMP_group), Function (EAGLE XG HLR Router), and WAN Replication Connection Count (1). Below these is a table for SOAM_NE servers:</p> <table><thead><tr><th>Server</th><th>SG Inclusion</th><th>Preferred HA Role</th></tr></thead><tbody><tr><td>tk5031307</td><td><input checked="" type="checkbox"/> Include in SG</td><td><input type="checkbox"/> Preferred Spare</td></tr><tr><td>tk5031308</td><td><input checked="" type="checkbox"/> Include in SG</td><td><input type="checkbox"/> Preferred Spare</td></tr></tbody></table> <p>The 'VIP Assignment' section has a 'VIP Address' field and an 'Add' button. At the bottom, the 'Apply' button is circled in red.</p>	Server	SG Inclusion	Preferred HA Role	tk5031307	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	tk5031308	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare
Server	SG Inclusion	Preferred HA Role									
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tk5031308	<input checked="" type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare									
15. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented with a banner information message stating <b>“Data committed”</b>.</p>	 <p>The screenshot shows the same 'Main Menu: Configuration -&gt; Server Groups [Edit]' window. The 'Info' dialog box now displays the message 'Data committed!'. The configuration fields are the same as in step 14. The 'SOAM_NE' table is also present. The 'Apply' button is no longer circled.</p>									

**Procedure 8:** Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result
16. <input type="checkbox"/>	<b>Primary NOAMP Server A:</b>  1) To add a virtual IP address, click on <b>Add</b> button in the <b>VIP Assignment</b> section  2) Enter the virtual IP address in <b>VIP Address</b> field  3) Click <b>Apply</b> button to submit	
17. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  The user should be presented with a banner information message stating " <b>Data committed</b> ".	
18. <input type="checkbox"/>	<b>IMPORTANT:</b>  Wait at least <b>5 minutes</b> before proceeding on to the next Step.	<ul style="list-style-type: none"> <li>Now that the server(s) have been paired within a Server Group they must establish a master/slave relationship for High Availability (HA). It may take several minutes for this process to be completed.</li> <li>Allow a minimum of <b>5 minutes</b> before continuing to the next Step.</li> </ul>
19. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Select...  <u>Main Menu</u> → <b>Status &amp; Manage</b> → <b>HA</b>  ...as shown on the right.	

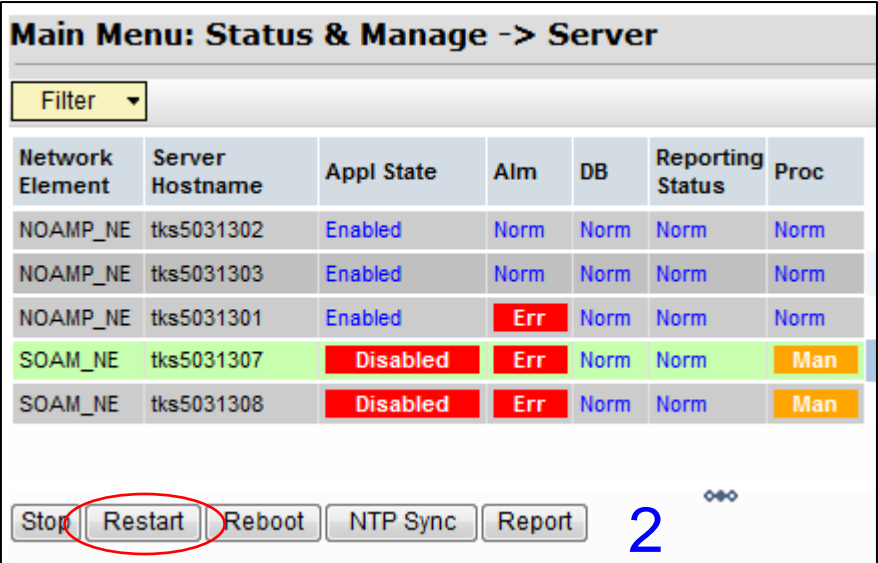
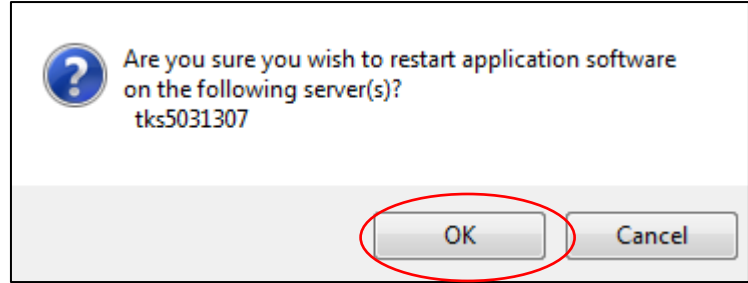
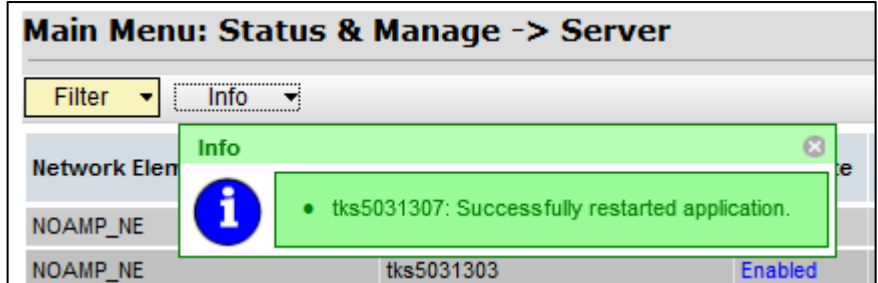
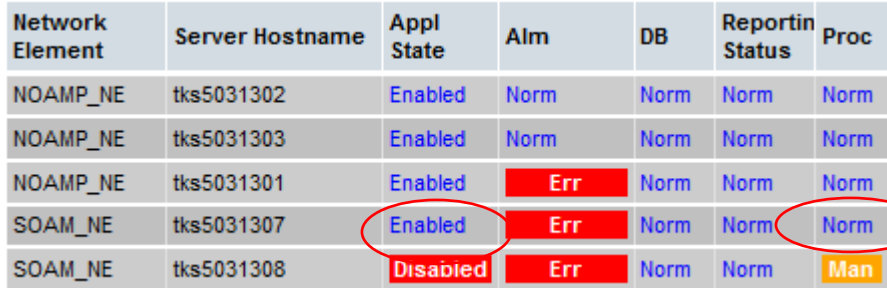
**Procedure 8:** Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result																																				
20. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p>Verify that the <b>OAM Max HA Role</b> shows “<b>Standby</b>” and “<b>Active</b>” and <b>Max Allowed HA Role</b> shows “<b>Active</b>” for <b>SOAM</b> servers “A” and “B”</p> <p>If it shows “<b>OOS</b>” then continue with the next step.</p> <p>Otherwise skip forward to <b>Step 24</b> of this Procedure.</p>	<div><div>Main Menu: Status &amp; Manage -&gt; HA</div><div>Fri Apr 1</div><div>Filter</div><table><thead><tr><th>Hostname</th><th>OAM Max HA Role</th><th>Applicat Max HA Role</th><th>Max Allowed HA Role</th><th>Mate Hostname List</th><th>Network Elen</th></tr></thead><tbody><tr><td>tks5031302</td><td>Standby</td><td>OOS</td><td>Active</td><td>tks5031301</td><td>NOAMP_NE</td></tr><tr><td>tks5031303</td><td>Observer</td><td>OOS</td><td>Observer</td><td>tks5031301 tks5031302</td><td>NOAMP_NE</td></tr><tr><td>tks5031301</td><td>Active</td><td>OOS</td><td>Active</td><td>tks5031302</td><td>NOAMP_NE</td></tr><tr><td>tks5031307</td><td>Active</td><td>OOS</td><td>Active</td><td>tks5031308</td><td>SOAM_NE</td></tr><tr><td>tks5031308</td><td>Standby</td><td>OOS</td><td>Active</td><td>tks5031307</td><td>SOAM_NE</td></tr></tbody></table></div>	Hostname	OAM Max HA Role	Applicat Max HA Role	Max Allowed HA Role	Mate Hostname List	Network Elen	tks5031302	Standby	OOS	Active	tks5031301	NOAMP_NE	tks5031303	Observer	OOS	Observer	tks5031301 tks5031302	NOAMP_NE	tks5031301	Active	OOS	Active	tks5031302	NOAMP_NE	tks5031307	Active	OOS	Active	tks5031308	SOAM_NE	tks5031308	Standby	OOS	Active	tks5031307	SOAM_NE
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21. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p>Click <b>Edit</b> button</p>	<div><table><thead><tr><th>Hostname</th><th>OAM Max HA Role</th><th>Application Max HA Role</th><th>Max Allowed HA Role</th></tr></thead><tbody><tr><td>pc9000736-no-b</td><td>Standby</td><td>OOS</td><td>Active</td></tr><tr><td>pc9000738-no-a</td><td>Active</td><td>OOS</td><td>Active</td></tr><tr><td>pc9000734-so-a</td><td>OOS</td><td>OOS</td><td>OOS</td></tr><tr><td>pc9000732-so-b</td><td>OOS</td><td>OOS</td><td>OOS</td></tr></tbody></table><div>Edit</div></div>	Hostname	OAM Max HA Role	Application Max HA Role	Max Allowed HA Role	pc9000736-no-b	Standby	OOS	Active	pc9000738-no-a	Active	OOS	Active	pc9000734-so-a	OOS	OOS	OOS	pc9000732-so-b	OOS	OOS	OOS																
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22. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p>Change the <b>Max Allowed HA Role</b> for SOAM server(s) to <b>Active</b> and click <b>OK</b> button</p>	<div><table><thead><tr><th>Hostname</th><th>Max Allowed HA Role</th><th>Description</th></tr></thead><tbody><tr><td>pc9000736-no-b</td><td>Active</td><td>The maximum desired HA Role fo</td></tr><tr><td>pc9000738-no-a</td><td>Active</td><td>The maximum desired HA Role fo</td></tr><tr><td>pc9000734-so-a</td><td>Active</td><td>The maximum desired HA Role fo</td></tr><tr><td>pc9000732-so-b</td><td>Active</td><td>The maximum desired HA Role fo</td></tr></tbody></table><div>OkCancel</div></div>	Hostname	Max Allowed HA Role	Description	pc9000736-no-b	Active	The maximum desired HA Role fo	pc9000738-no-a	Active	The maximum desired HA Role fo	pc9000734-so-a	Active	The maximum desired HA Role fo	pc9000732-so-b	Active	The maximum desired HA Role fo																					
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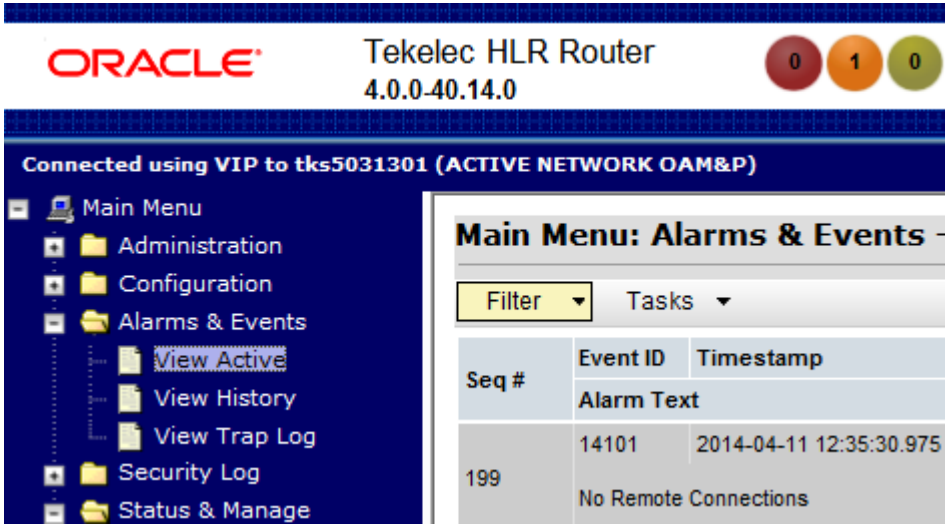
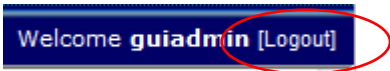
**Procedure 8:** Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result																																										
23. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Verify that the <b>OAM Max HA Role</b> shows “<b>Standby</b>” and “<b>Active</b>” and <b>Max Allowed HA Role</b> shows “<b>Active</b>” for SOAM servers “A” and “B”</p>	<table><thead><tr><th>Hostname</th><th>OAM Max HA Role</th><th>Applicatio Max HA Role</th><th>Max Allowed HA Role</th><th>Mate Hostname List</th></tr></thead><tbody><tr><td>pc9000736-no-b</td><td>Standby</td><td>OOS</td><td>Active</td><td>pc9000738-no-a</td></tr><tr><td>pc9000738-no-a</td><td>Active</td><td>OOS</td><td>Active</td><td>pc9000736-no-b</td></tr><tr><td>pc9000734-so-a</td><td>Active</td><td>OOS</td><td>Active</td><td>pc9000732-so-b</td></tr><tr><td>pc9000732-so-b</td><td>Standby</td><td>OOS</td><td>Active</td><td>pc9000734-so-a</td></tr></tbody></table>	Hostname	OAM Max HA Role	Applicatio Max HA Role	Max Allowed HA Role	Mate Hostname List	pc9000736-no-b	Standby	OOS	Active	pc9000738-no-a	pc9000738-no-a	Active	OOS	Active	pc9000736-no-b	pc9000734-so-a	Active	OOS	Active	pc9000732-so-b	pc9000732-so-b	Standby	OOS	Active	pc9000734-so-a																	
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24. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Restarting the OAM Server Application (SOAM)</i></p> <p>Select...</p> <p><u>Main Menu</u> → <b>Status &amp; Manage</b> → <b>Server</b></p> <p>...as shown on the right.</p>	<div><div><div>ORACLE</div><div>Tekelec HLR Router 4.0.0-40.14.0</div><div>Connected using VIP to tks5031301 (ACTIVE NETWORK OAM&amp;P)</div><div><div>Main Menu<ul style="list-style-type: none"><li>Administration</li><li>Configuration</li><li>Alarms &amp; Events</li><li>Security Log</li><li>Status &amp; Manage<ul style="list-style-type: none"><li>Network Elements</li><li><b>Server</b></li><li>HA</li><li>Database</li><li>KPIs</li><li>Processes</li></ul></li></ul></div><div><div>Main Menu: Status &amp; Manage</div><div>Filter</div><table><thead><tr><th>Network Element</th><th>Server Hostname</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tks5031302</td></tr><tr><td>NOAMP_NE</td><td>tks5031303</td></tr><tr><td>NOAMP_NE</td><td>tks5031301</td></tr><tr><td>SOAM_NE</td><td>tks5031307</td></tr><tr><td>SOAM_NE</td><td>tks5031308</td></tr></tbody></table></div></div></div></div>	Network Element	Server Hostname	NOAMP_NE	tks5031302	NOAMP_NE	tks5031303	NOAMP_NE	tks5031301	SOAM_NE	tks5031307	SOAM_NE	tks5031308																														
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25. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) SOAM servers “A” and “B” should now appear in the right panel.</p> <p>2) Verify that the “<b>DB</b>” status shows “<b>Norm</b>” and the “<b>Proc</b>” status shows “<b>Man</b>” for both servers before proceeding to the next Step.</p>	<div><div><div>Main Menu: Status &amp; Manage -&gt; Server</div><div>Filter</div><table><thead><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Reporting Status</th><th>Proc</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tks5031302</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tks5031303</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tks5031301</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tks5031307</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>SOAM_NE</td><td>tks5031308</td><td>Disabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Man</td></tr></tbody></table><div><div>Stop</div><div>Restart</div><div>Reboot</div><div>NTP Sync</div><div>Report</div></div></div></div>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	NOAMP_NE	tks5031302	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tks5031303	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tks5031301	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tks5031307	Disabled	Err	Norm	Norm	Man	SOAM_NE	tks5031308	Disabled	Err	Norm	Norm	Man
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**Procedure 8:** Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result
26. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Using the mouse, select <b>SOAM Server A</b>. Line entry will be highlighted in <b>GREEN</b>.</p> <p>2) Select the <b>“Restart”</b> dialogue button</p> <p>3) Click the <b>“OK”</b> button on the confirmation dialogue box.</p> <p>4) The user should be presented with a confirmation message (in the banner area) for <b>SOAM Server A</b> stating: <b>“Successfully restarted application”</b>.</p> <p><b>NOTE:</b> The user may need to use the vertical scroll-bar in order to make the <b>“Restart”</b> dialogue button visible.</p>	 <p>1</p> <p>2</p>  <p>3</p>  <p>4</p>
27. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>For <b>SOAM Server A</b> verify that the <b>“Appl State”</b> now shows <b>“Enabled”</b> and the <b>“Proc”</b> status column show <b>“Norm”</b> before proceeding to the next Step.</p>	

**Procedure 8:** Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result																																										
28. <div></div>	<b>Primary NOAMP VIP GUI:</b>  Repeat <b>Step 26</b> of this Procedure for <b>SOAM Server B</b>	To restart server application on <b>SOAM Server B</b> - repeat <b>Step 26</b> of this Procedure for <b>SOAM Server B</b>																																										
29. <div></div>	<b>Primary NOAMP VIP GUI:</b>  For <b>SOAM Server B</b> verify that the “ <b>Appl State</b> ” now shows “ <b>Enabled</b> ” and the “ <b>Proc</b> ” status column show “ <b>Norm</b> ” before proceeding to the next Step.	<table><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Repor Status</th><th>Proc</th></tr><tr><td>NOAMP_NE</td><td>tk5031302</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tk5031303</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tk5031301</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tk5031307</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tk5031308</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr></table>	Network Element	Server Hostname	Appl State	Alm	DB	Repor Status	Proc	NOAMP_NE	tk5031302	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tk5031303	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tk5031301	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tk5031307	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tk5031308	Enabled	Norm	Norm	Norm	Norm
Network Element	Server Hostname	Appl State	Alm	DB	Repor Status	Proc																																						
NOAMP_NE	tk5031302	Enabled	Norm	Norm	Norm	Norm																																						
NOAMP_NE	tk5031303	Enabled	Norm	Norm	Norm	Norm																																						
NOAMP_NE	tk5031301	Enabled	Err	Norm	Norm	Norm																																						
SOAM_NE	tk5031307	Enabled	Err	Norm	Norm	Norm																																						
SOAM_NE	tk5031308	Enabled	Norm	Norm	Norm	Norm																																						
30. <div></div>	<b>Primary NOAMP VIP GUI:</b>  <i>Verifying Primary NOAMP Alarm status</i>  Select...  <u>Main Menu</u> → Alarms & Events → View Active  ...as shown on the right.																																											
31. <div></div>	<b>Primary NOAMP VIP GUI:</b>  Verify that <b>Event ID 14101</b> (“No remote provisioning clients are connected”) is the only alarm present on the HLRR system	<table><tr><th>Seq #</th><th>Event ID</th><th>Timestamp</th><th>Severity</th><th>Product</th><th>Process</th></tr><tr><td>199</td><td>14101</td><td>2014-04-11 12:35:30.975 EDT</td><td>MAJOR</td><td>EXHR</td><td>pdba</td></tr></table> <p>No Remote Connections</p> <p>GN_DOWN/WRN No remote prov <a href="#">More...</a></p>	Seq #	Event ID	Timestamp	Severity	Product	Process	199	14101	2014-04-11 12:35:30.975 EDT	MAJOR	EXHR	pdba																														
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199	14101	2014-04-11 12:35:30.975 EDT	MAJOR	EXHR	pdba																																							
32. <div></div>	<b>Primary NOAMP VIP GUI:</b>  Click the “ <b>Logout</b> ” link on the GUI.																																											
THIS PROCEDURE HAS BEEN COMPLETED																																												

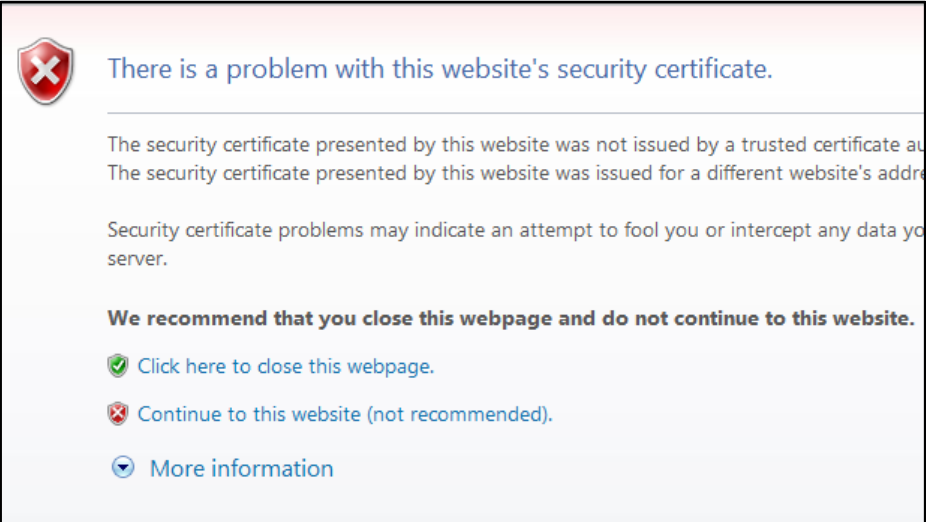



## 5.9 Configuring MP Server Groups (All SOAM sites)

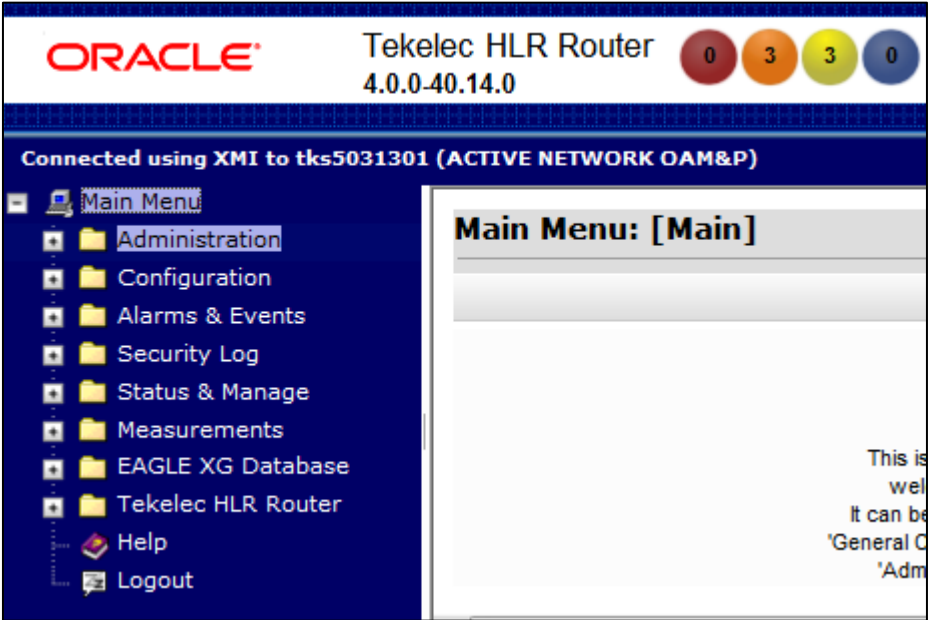
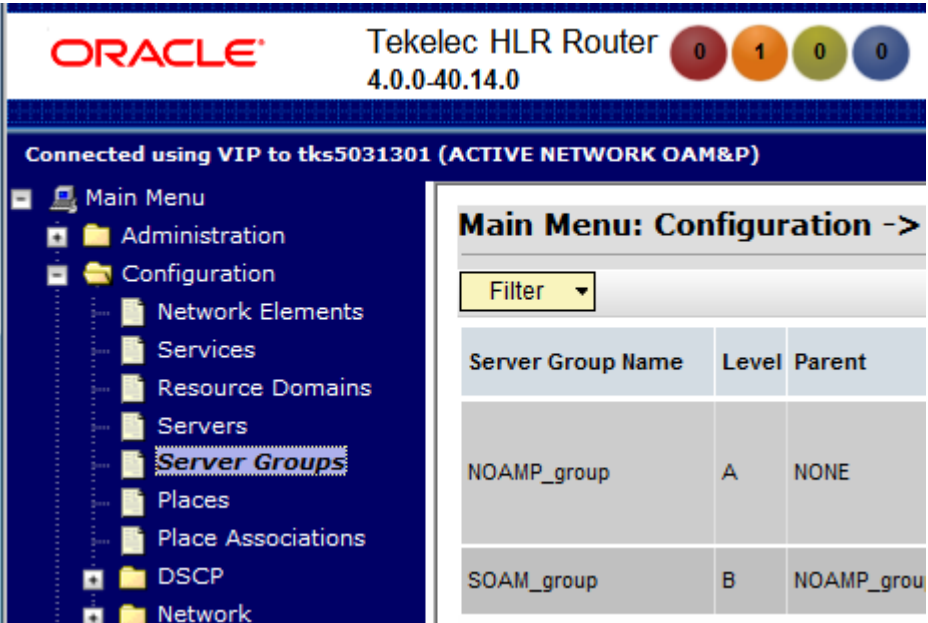
The user should be aware that during the Message Processor (MP) installation procedure, various errors may be seen at different stages of the procedure. During the execution of a step, the user is directed to ignore errors related to values other than the ones referenced by that step.

This procedure creates server groups for each MP..

### Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
1. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Launch IE web browser and connect to Primary NOAMP VIP address</p> <p>Click on this link:  <b>"Continue to this website (not recommended)"</b></p>	
2. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

Procedure 9: Configuring MP Server Groups

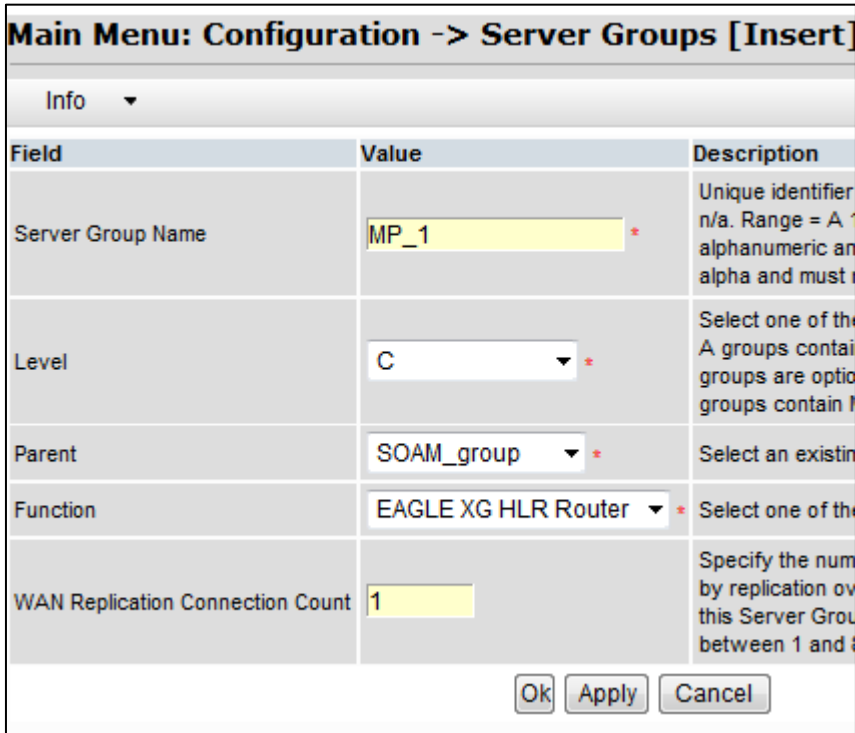
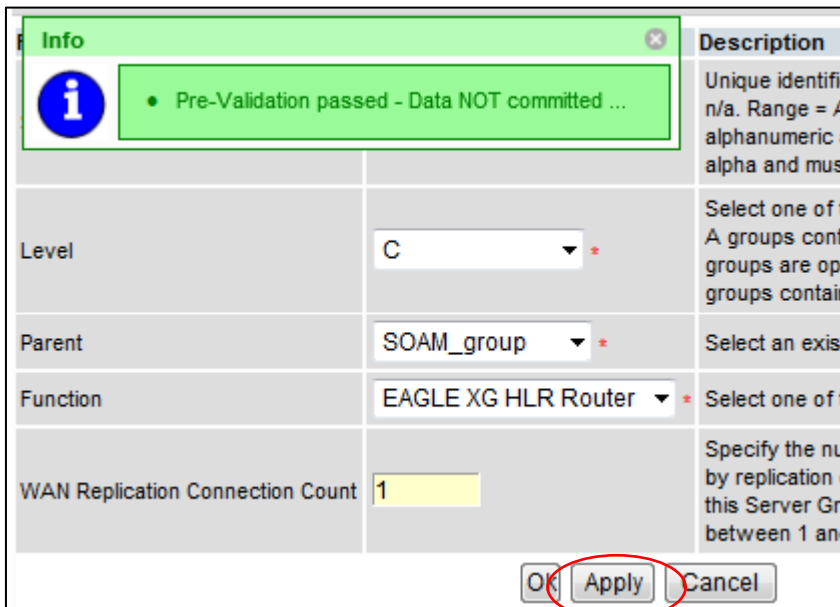
Step	Procedure	Result
3. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented the Main Menu as shown on the right.</p>	
4. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Select...</p> <p><u>Main Menu</u> → Configuration → Server Groups</p> <p>...as shown on the right.</p>	 <p>• “Check off” the associated check-box as this step is completed for MP server.</p> <div><input type="checkbox"/> MP-1</div> <div><input type="checkbox"/> MP-2</div>



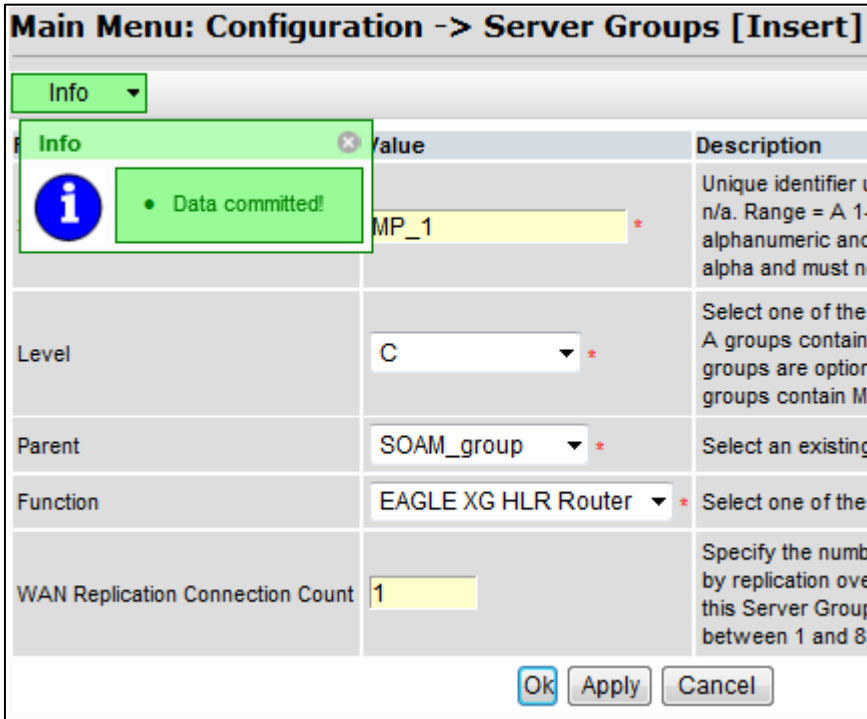
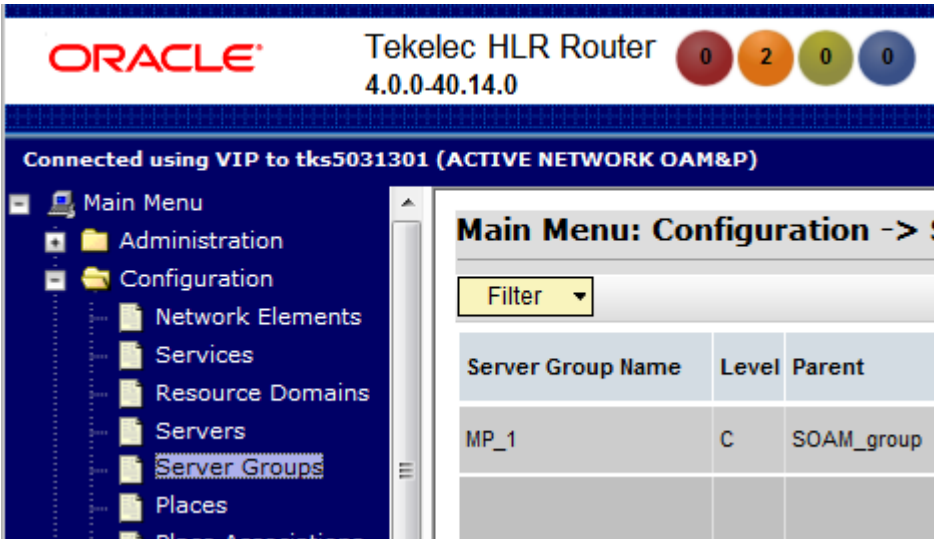
**Procedure 9: Configuring MP Server Groups**

Step	Procedure	Result																		
5. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) The user will be presented with the <b>"Server Groups"</b> configuration screen as shown on the right.</p> <p>2) Click on <b>"Insert"</b> dialogue button</p> <p><b>NOTE:</b> The user may need to use the vertical scroll-bar in order to make the <b>"Insert"</b> dialogue button visible.</p>	<table><thead><tr><th>Server Group Name</th><th>Level</th><th>Parent</th><th>Function</th><th>Connection Count</th></tr></thead><tbody><tr><td>NOAMP_group</td><td>A</td><td>NONE</td><td>EAGLE XG HLR Router</td><td>1</td></tr><tr><td>SOAM_group</td><td>B</td><td>NOAMP_group</td><td>EAGLE XG HLR Router</td><td>1</td></tr></tbody></table> <div><input type="button" value="Insert"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Report"/></div> <ul style="list-style-type: none"><li>• <b>"Check off"</b> the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</div>	Server Group Name	Level	Parent	Function	Connection Count	NOAMP_group	A	NONE	EAGLE XG HLR Router	1	SOAM_group	B	NOAMP_group	EAGLE XG HLR Router	1			
Server Group Name	Level	Parent	Function	Connection Count																
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SOAM_group	B	NOAMP_group	EAGLE XG HLR Router	1																
6. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The configuration screen <b>"Server Groups [Insert]"</b> will appear</p>	<div><b>Main Menu: Configuration -&gt; Server Groups [Insert]</b></div> <table><thead><tr><th>Field</th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>Server Group Name</td><td><input type="text"/></td><td>Unique identifier u [Default = n/a. Ra string. Valid char underscore. Must and must not star</td></tr><tr><td>Level</td><td>- Select Level -</td><td>Select one of the system. [Level A. Query servers. L and contain SOA contain MP serve</td></tr><tr><td>Parent</td><td>- Select Parent -</td><td>Select an existing</td></tr><tr><td>Function</td><td>- Select Function -</td><td>Select one of the system</td></tr><tr><td>WAN Replication Connection Count</td><td><input type="text" value="1"/></td><td>Specify the numb will be used by re connection assoc Group. [Default = between 1 and 8.</td></tr></tbody></table> <div><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></div> <ul style="list-style-type: none"><li>• <b>"Check off"</b> the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</div>	Field	Value	Description	Server Group Name	<input type="text"/>	Unique identifier u [Default = n/a. Ra string. Valid char underscore. Must and must not star	Level	- Select Level -	Select one of the system. [Level A. Query servers. L and contain SOA contain MP serve	Parent	- Select Parent -	Select an existing	Function	- Select Function -	Select one of the system	WAN Replication Connection Count	<input type="text" value="1"/>	Specify the numb will be used by re connection assoc Group. [Default = between 1 and 8.
Field	Value	Description																		
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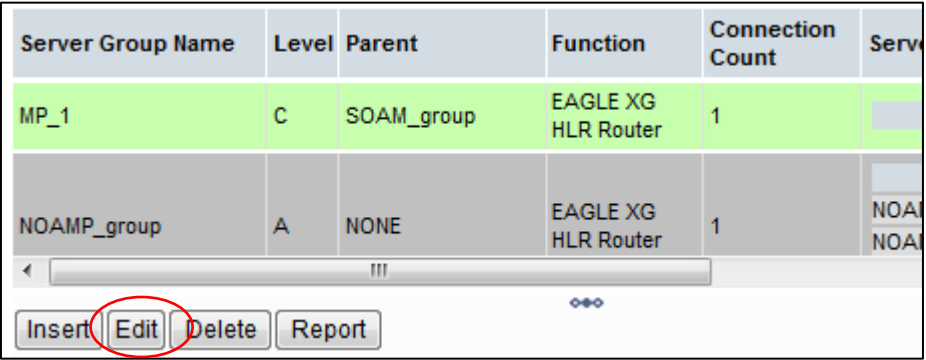
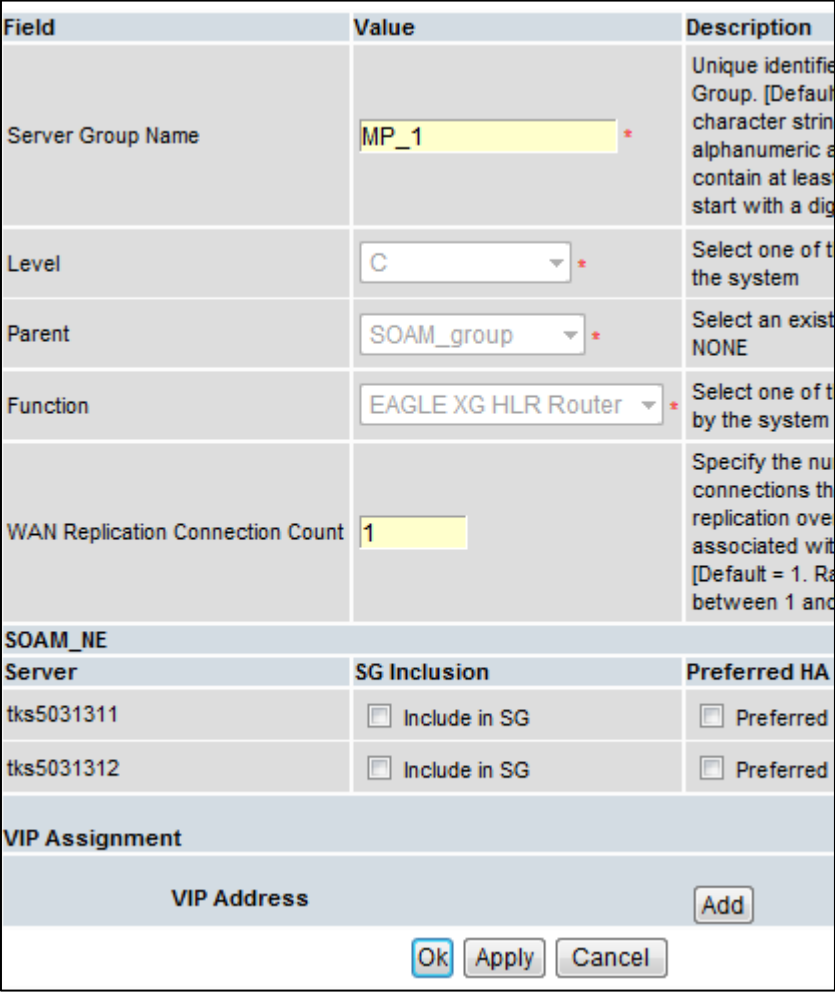
### Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
7. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Input the <b>Server Group Name</b>.</p> <p>2) For MP server group, select “C” on the “<b>Level</b>” pull-down menu.</p> <p>3) Select a <b>Parent</b> from the pull-down menu</p> <p>4) Select “<b>EAGLE XG HLR Router</b>” on the “<b>Function</b>” pull-down menu.</p> <p>5) Enter value for “<b>WAN Replication Connection Count</b>” field</p>	 <p>• “<b>Check off</b>” the associated check-box as this step is completed for MP server.</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
8. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) The user should be presented with a banner information message stating “<b>Pre-Validation passed</b>”.</p> <p>2) Select the “<b>Apply</b>” dialogue button</p>	 <p>• “<b>Check off</b>” the associated check-box as this step is completed for MP server.</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>

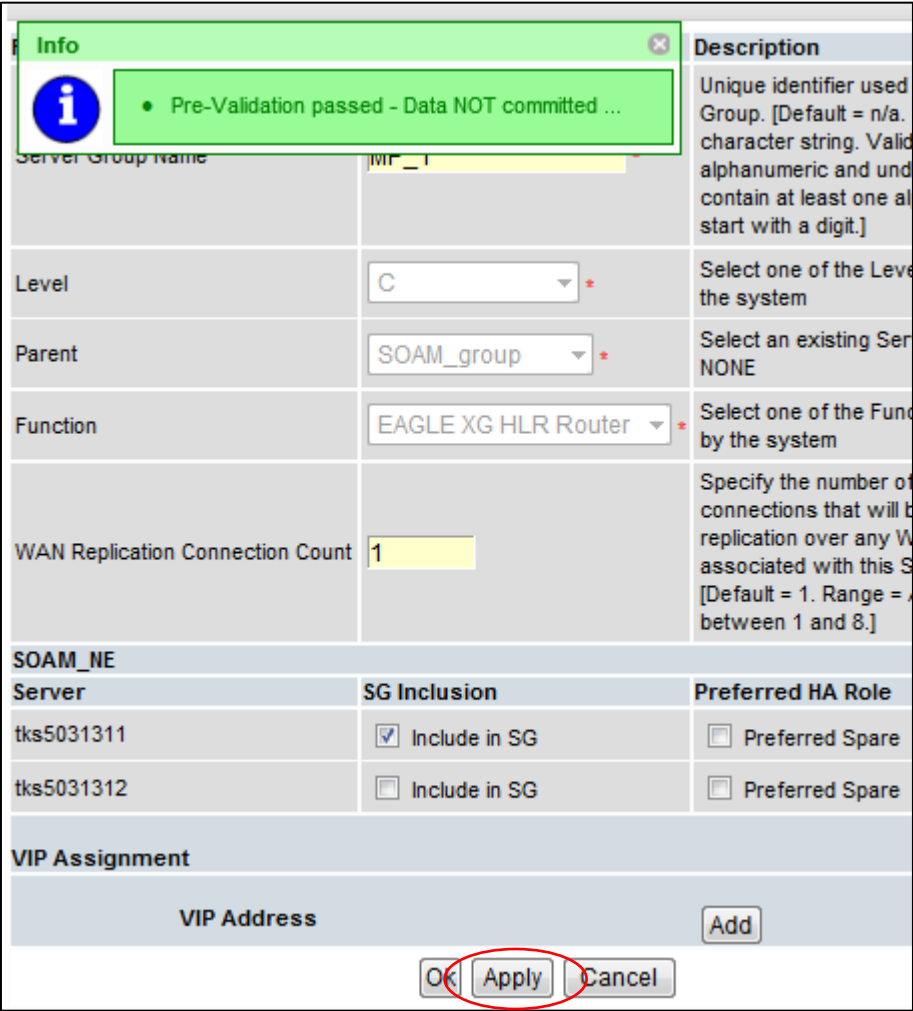
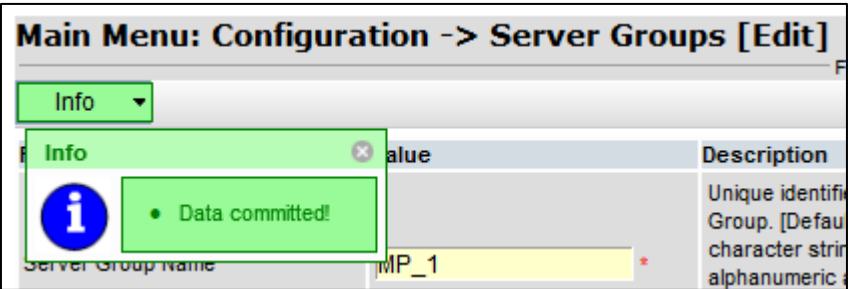
### Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
9.	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented with a banner information message stating <b>"Data committed"</b>.</p>	 <p>• <b>"Check off"</b> the associated check-box as this step is completed for MP server.</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
10.	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Select...</p> <p><u>Main Menu</u> → Configuration → Server Groups</p> <p>...as shown on the right.</p>	 <p>• <b>"Check off"</b> the associated check-box as this step is completed for MP server.</p> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>

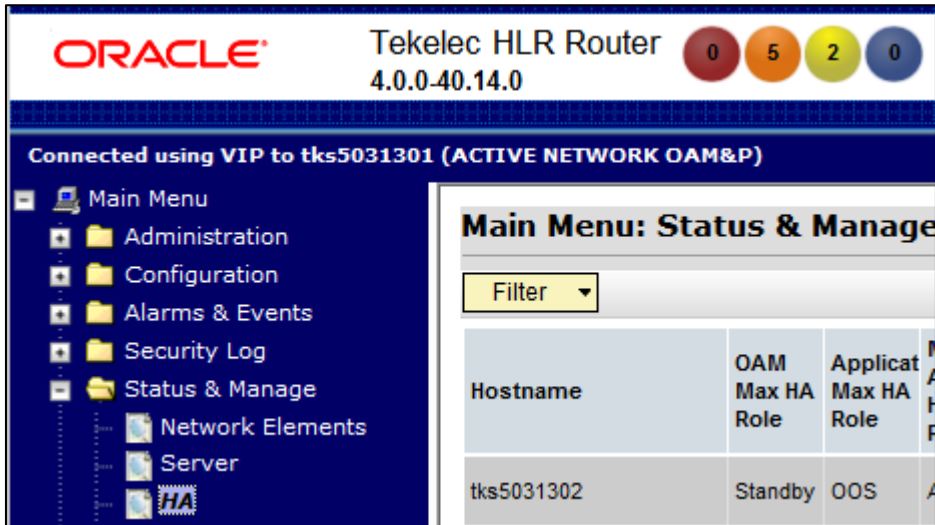
**Procedure 9: Configuring MP Server Groups**

Step	Procedure	Result
11. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  1) Select the MP Server Group associated with the MP being installed.  2) Select the <b>"Edit"</b> dialogue button from the bottom left corner of the screen.	 <p>The screenshot shows a table with columns: Server Group Name, Level, Parent, Function, Connection Count, and Serv. The table contains two rows: MP_1 (Level C, Parent SOAM_group, Function EAGLE XG HLR Router, Connection Count 1) and NOAMP_group (Level A, Parent NONE, Function EAGLE XG HLR Router, Connection Count 1). Below the table are buttons: Insert, Edit (circled in red), Delete, and Report.</p> <ul style="list-style-type: none"> <li>• <b>"Check off"</b> the associated check-box as this step is completed for MP server.</li> </ul> <div> <input type="checkbox"/> MP-1         <input type="checkbox"/> MP-2       </div>
12. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  The user will be presented with the <b>"Configuration → Server Groups [Edit]"</b> screen as shown on the right	 <p>The screenshot shows the configuration screen for a server group. Fields include: Server Group Name (MP_1), Level (C), Parent (SOAM_group), Function (EAGLE XG HLR Router), and WAN Replication Connection Count (1). Below these is a table for SOAM_NE with columns: Server, SG Inclusion, and Preferred HA. The table has two rows: tks5031311 and tks5031312, both with 'Include in SG' and 'Preferred' checkboxes. At the bottom is a VIP Assignment section with a VIP Address field and an Add button. At the very bottom are Ok, Apply, and Cancel buttons.</p> <ul style="list-style-type: none"> <li>• <b>"Check off"</b> the associated check-box as this step is completed for MP server.</li> </ul> <div> <input type="checkbox"/> MP-1         <input type="checkbox"/> MP-2       </div>

Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
13. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) To add MP server to the server group, select the checkbox for <b>SG Inclusion</b>. When checked, the server will be included in the server group</p> <p>2) To mark the server as a preferred spare, select to the checkbox for <b>Preferred HA Role</b>.</p> <p>3) The user should be presented with a banner information message stating <b>“Pre-Validation passed”</b>.</p> <p>4) Select the <b>“Apply”</b> dialogue button</p>	<div></div> <ul style="list-style-type: none"><li>• <b>“Check off”</b> the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>
14. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented with a banner information message stating <b>“Data committed”</b>.</p>	<div></div> <ul style="list-style-type: none"><li>• <b>“Check off”</b> the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>

**Procedure 9: Configuring MP Server Groups**

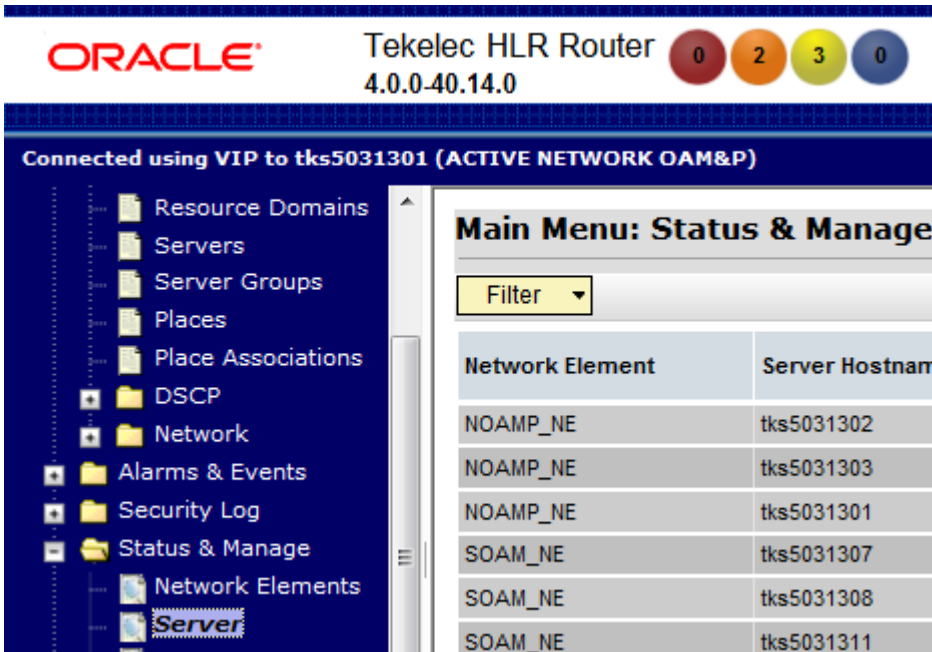
Step	Procedure	Result																																								
15. <input type="checkbox"/>	Repeat <b>Steps 4 - 14</b> of this procedure for each subtending MP server installed in the same SOAM enclosure, using a <b>unique group</b> for each <b>MP</b> .																																									
16. <input type="checkbox"/>	<b>IMPORTANT:</b> Wait at least <b>5 minutes</b> before proceeding on to the next Step.	<ul style="list-style-type: none"><li>Now that the Message Processor(s) have been placed within their respective Server Groups, each must establish DB replication with the Active SOAM server at the NE. It may take several minutes for this process to be completed.</li><li>Allow a minimum of <b>5 minutes</b> before continuing to the next Step.</li></ul>																																								
17. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Select...  <u>Main Menu</u> → <b>Status &amp; Manage</b> → <b>HA</b>  ...as shown on the right.	<div></div> <ul style="list-style-type: none"><li><b>“Check off”</b> the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> <b>MP-1</b><input type="checkbox"/> <b>MP-2</b></div>																																								
18. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Verify that the <b>OAM Max HA Role</b> shows <b>“Active”</b> and <b>Max Allowed HA Role</b> shows <b>“Active”</b> for <b>MP</b> server  If it shows <b>“OOS”</b> then continue with the next step.  Otherwise skip forward to <b>Step 24</b> of this Procedure.	<table><tr><th>Hostname</th><th>OAM Max HA Role</th><th>Applicati Max HA Role</th><th>Max Allowed HA Role</th><th>Mate Hostname List</th></tr><tr><td>tks5031302</td><td>Standby</td><td>OOS</td><td>Active</td><td>tks5031301</td></tr><tr><td>tks5031303</td><td>Observer</td><td>OOS</td><td>Observer</td><td>tks5031301 tks5031302</td></tr><tr><td>tks5031301</td><td>Active</td><td>OOS</td><td>Active</td><td>tks5031302</td></tr><tr><td>tks5031307</td><td>Standby</td><td>OOS</td><td>Active</td><td>tks5031308</td></tr><tr><td>tks5031308</td><td>Active</td><td>OOS</td><td>Active</td><td>tks5031307</td></tr><tr><td>tks5031311</td><td>OOS</td><td>OOS</td><td>OOS</td><td></td></tr><tr><td>tks5031312</td><td>OOS</td><td>OOS</td><td>OOS</td><td></td></tr></table> <ul style="list-style-type: none"><li><b>“Check off”</b> the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> <b>MP-1</b><input type="checkbox"/> <b>MP-2</b></div>	Hostname	OAM Max HA Role	Applicati Max HA Role	Max Allowed HA Role	Mate Hostname List	tks5031302	Standby	OOS	Active	tks5031301	tks5031303	Observer	OOS	Observer	tks5031301 tks5031302	tks5031301	Active	OOS	Active	tks5031302	tks5031307	Standby	OOS	Active	tks5031308	tks5031308	Active	OOS	Active	tks5031307	tks5031311	OOS	OOS	OOS		tks5031312	OOS	OOS	OOS	
Hostname	OAM Max HA Role	Applicati Max HA Role	Max Allowed HA Role	Mate Hostname List																																						
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**Procedure 9: Configuring MP Server Groups**

Step	Procedure	Result																																								
19. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Click <b>Edit</b> button	<table><thead><tr><th>Hostname</th><th>OAM Max HA Role</th><th>Applicati Max HA Role</th><th>Max Allowed HA Role</th><th>Mate Hostname List</th></tr></thead><tbody><tr><td>tk5031302</td><td>Standby</td><td>OOS</td><td>Active</td><td>tk5031301</td></tr><tr><td>tk5031303</td><td>Observer</td><td>OOS</td><td>Observer</td><td>tk5031301 tk5031302</td></tr><tr><td>tk5031301</td><td>Active</td><td>OOS</td><td>Active</td><td>tk5031302</td></tr><tr><td>tk5031307</td><td>Standby</td><td>OOS</td><td>Active</td><td>tk5031308</td></tr><tr><td>tk5031308</td><td>Active</td><td>OOS</td><td>Active</td><td>tk5031307</td></tr><tr><td>tk5031311</td><td>OOS</td><td>OOS</td><td>OOS</td><td></td></tr><tr><td>tk5031312</td><td>OOS</td><td>OOS</td><td>OOS</td><td></td></tr></tbody></table> <div><input type="button" value="Edit"/></div> <ul style="list-style-type: none"><li>“<b>Check off</b>” the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>	Hostname	OAM Max HA Role	Applicati Max HA Role	Max Allowed HA Role	Mate Hostname List	tk5031302	Standby	OOS	Active	tk5031301	tk5031303	Observer	OOS	Observer	tk5031301 tk5031302	tk5031301	Active	OOS	Active	tk5031302	tk5031307	Standby	OOS	Active	tk5031308	tk5031308	Active	OOS	Active	tk5031307	tk5031311	OOS	OOS	OOS		tk5031312	OOS	OOS	OOS	
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tk5031311	OOS	OOS	OOS																																							
tk5031312	OOS	OOS	OOS																																							
20. <input type="checkbox"/>	<b>Primary NOAMP VIP GUI:</b>  Change the <b>Max Allowed HA Role</b> for MP server(s) to <b>Active</b> and click <b>OK</b> button	<table><thead><tr><th>Hostname</th><th>Max Allowed HA Role</th><th>Description</th></tr></thead><tbody><tr><td>tk5031302</td><td>Active</td><td>The maximum desired HA</td></tr><tr><td>tk5031303</td><td>Observer</td><td>The maximum desired HA</td></tr><tr><td>tk5031301</td><td>Active</td><td>The maximum desired HA</td></tr><tr><td>tk5031307</td><td>Active</td><td>The maximum desired HA</td></tr><tr><td>tk5031308</td><td>Active</td><td>The maximum desired HA</td></tr><tr><td>tk5031311</td><td>Active</td><td>The maximum desired HA</td></tr><tr><td>tk5031312</td><td>Active</td><td>The maximum desired HA</td></tr></tbody></table> <div><input type="button" value="Ok"/><input type="button" value="Cancel"/></div> <ul style="list-style-type: none"><li>“<b>Check off</b>” the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>	Hostname	Max Allowed HA Role	Description	tk5031302	Active	The maximum desired HA	tk5031303	Observer	The maximum desired HA	tk5031301	Active	The maximum desired HA	tk5031307	Active	The maximum desired HA	tk5031308	Active	The maximum desired HA	tk5031311	Active	The maximum desired HA	tk5031312	Active	The maximum desired HA																
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Procedure 9: Configuring MP Server Groups

Step	Procedure	Result																																																								
21. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Select...</p> <p><u>Main Menu</u> → Status &amp; Manage → Server</p> <p>...as shown on the right.</p>	<div><table><tr><th>Network Element</th><th>Server Hostname</th></tr><tr><td>NOAMP_NE</td><td>tks5031302</td></tr><tr><td>NOAMP_NE</td><td>tks5031303</td></tr><tr><td>NOAMP_NE</td><td>tks5031301</td></tr><tr><td>SOAM_NE</td><td>tks5031307</td></tr><tr><td>SOAM_NE</td><td>tks5031308</td></tr><tr><td>SOAM_NE</td><td>tks5031311</td></tr></table></div> <ul style="list-style-type: none"><li>“Check off” the associated <b>Check Box</b> as addition is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>	Network Element	Server Hostname	NOAMP_NE	tks5031302	NOAMP_NE	tks5031303	NOAMP_NE	tks5031301	SOAM_NE	tks5031307	SOAM_NE	tks5031308	SOAM_NE	tks5031311																																										
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22. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Verify that the “<b>DB &amp; Reporting Status</b>” columns all show “<b>Norm</b>” for the MP at this point.</p> <p>The “<b>Proc</b>” column should show “<b>Man</b>”.</p> <p>The “<b>Appl State</b>” column should show “<b>Disabled</b>”</p>	<div><table><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Report Status</th><th>Proc</th></tr><tr><td>NOAMP_NE</td><td>tks5031302</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tks5031303</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tks5031301</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tks5031307</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tks5031308</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tks5031311</td><td>Disable</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>SOAM_NE</td><td>tks5031312</td><td>Disable</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr></table></div> <ul style="list-style-type: none"><li>“Check off” the associated check-box as this step is completed for MP server..</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>	Network Element	Server Hostname	Appl State	Alm	DB	Report Status	Proc	NOAMP_NE	tks5031302	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tks5031303	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tks5031301	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tks5031307	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tks5031308	Enabled	Norm	Norm	Norm	Norm	SOAM_NE	tks5031311	Disable	Warn	Norm	Norm	Man	SOAM_NE	tks5031312	Disable	Warn	Norm	Norm	Man
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Procedure 9: Configuring MP Server Groups

Step	Procedure	Result																																																																													
23. <div><input type="checkbox"/></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Using the mouse, select the <b>“MP”</b> hostname. The line entry should now be highlighted in <b>GREEN</b>.</p> <p>2) Select the <b>“Restart”</b> dialogue button</p> <p>3) Click the <b>“OK”</b> button on the confirmation dialogue box.</p> <p>4) The user should be presented with a confirmation message (in the banner area) for the <b>“MP”</b> stating: <b>“Successfully restarted application”</b>.</p> <p><b>NOTE:</b> The user may need to use the vertical scroll-bar in order to make the <b>“Restart”</b> dialogue button visible.</p>	<div><table><thead><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Report Status</th><th>Proc</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tk5031302</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tk5031303</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tk5031301</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tk5031307</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tk5031308</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tk5031311</td><td>Disable</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr><tr><td>SOAM_NE</td><td>tk5031312</td><td>Disable</td><td>Warn</td><td>Norm</td><td>Norm</td><td>Man</td></tr></tbody></table><div><div>StopRestartRebootNTP SyncReport</div><div><input type="checkbox"/> Pause updates</div></div></div> <div><div>Message from webpage</div><div><div>?</div><div>Are you sure you wish to restart application software on the following server(s)? tk5031311</div><div><div>OK</div><div>Cancel</div></div></div></div> <div><div>FilterInfo</div><div><div>Info</div><div><div>i</div><div>tk5031312: Successfully restarted application.</div></div></div><table><tr><td>Network Elen</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>NOAMP_NE</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>NOAMP_NE</td><td>tk5031303</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td></td></tr></table></div> <div><ul style="list-style-type: none"><li>“Check off” the associated check-box as this step is completed for MP server.</li></ul></div> <div><div><input type="checkbox"/> MP-1</div><div><input type="checkbox"/> MP-2</div></div>	Network Element	Server Hostname	Appl State	Alm	DB	Report Status	Proc	NOAMP_NE	tk5031302	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tk5031303	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tk5031301	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tk5031307	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tk5031308	Enabled	Norm	Norm	Norm	Norm	SOAM_NE	tk5031311	Disable	Warn	Norm	Norm	Man	SOAM_NE	tk5031312	Disable	Warn	Norm	Norm	Man	Network Elen							NOAMP_NE							NOAMP_NE	tk5031303	Enabled	Norm	Norm	Norm	
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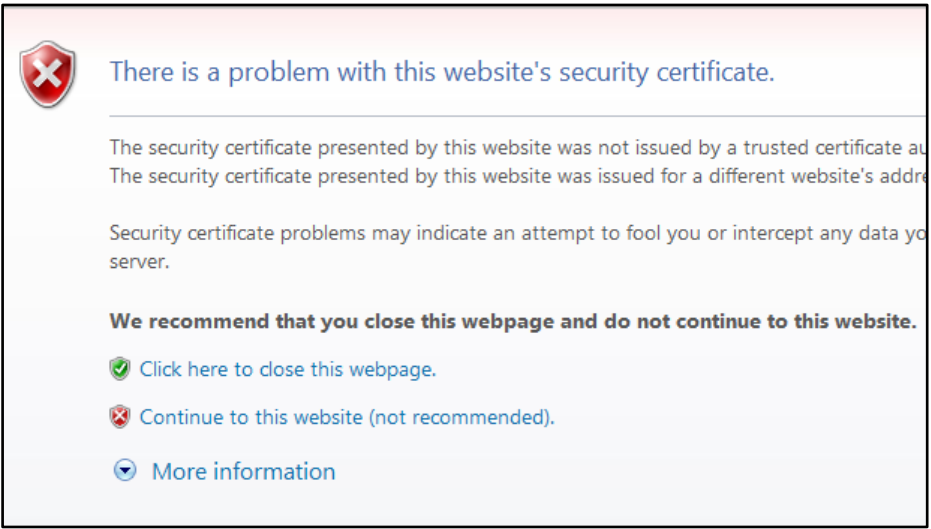
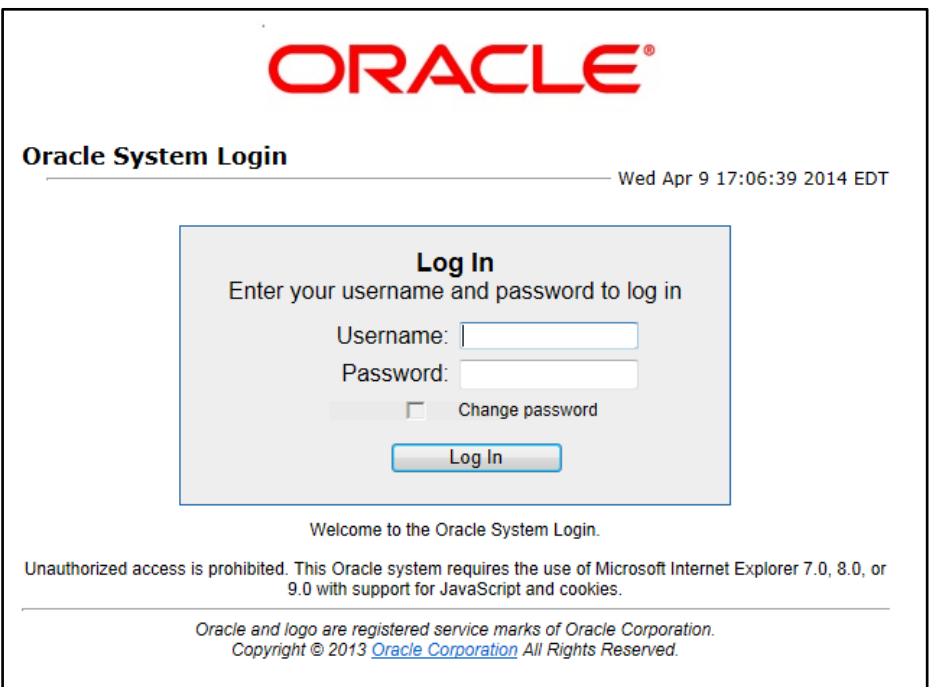
**Procedure 9: Configuring MP Server Groups**

Step	Procedure	Result																																																								
24. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Select...</p> <p><u>Main Menu</u></p> <p>→ Status &amp; Manage</p> <p>→ Server</p> <p>...as shown on the right.</p>	<div><div><div>ORACLE</div><div>Tekelec HLR Router 4.0.0-40.14.0</div><div><div>0</div><div>2</div><div>1</div><div>0</div></div></div><div><div>Connected using VIP to tks5031301 (ACTIVE NETWORK OAM&amp;P)</div><div><div><div>Place Associations</div><div>DSCP</div><div>Network</div><div>Alarms &amp; Events</div><div>Security Log</div><div>Status &amp; Manage</div><div>Network Elements</div><div>Server</div><div>HA</div><div>Database</div><div>KPIs</div></div><div><div>Main Menu: Status &amp; Manage -&gt;</div><div>Filter</div><table><thead><tr><th>Network Element</th><th>Server Hostname</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tks5031302</td></tr><tr><td>NOAMP_NE</td><td>tks5031303</td></tr><tr><td>NOAMP_NE</td><td>tks5031301</td></tr><tr><td>SOAM_NE</td><td>tks5031307</td></tr></tbody></table></div></div></div><div><ul style="list-style-type: none"><li>“Check off” the associated check-box as this step is completed for MP server.</li></ul><div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div></div></div>	Network Element	Server Hostname	NOAMP_NE	tks5031302	NOAMP_NE	tks5031303	NOAMP_NE	tks5031301	SOAM_NE	tks5031307																																														
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25. <input type="checkbox"/>	<p>Active NOAMP VIP:</p> <p>Verify that the “Appl State” now shows “Enabled”</p> <p>Verify that the “Alm, DB, Reporting Status &amp; Proc” status columns all show “Norm” for the MP servers</p>	<table><thead><tr><th>Network Element</th><th>Server Hostname</th><th>Appl State</th><th>Alm</th><th>DB</th><th>Report Status</th><th>Proc</th></tr></thead><tbody><tr><td>NOAMP_NE</td><td>tks5031302</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tks5031303</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>NOAMP_NE</td><td>tks5031301</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tks5031307</td><td>Enabled</td><td>Err</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tks5031308</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tks5031311</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr><tr><td>SOAM_NE</td><td>tks5031312</td><td>Enabled</td><td>Norm</td><td>Norm</td><td>Norm</td><td>Norm</td></tr></tbody></table> <div><ul style="list-style-type: none"><li>“Check off” the associated check-box as this step is completed for MP server.</li></ul><div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div></div>	Network Element	Server Hostname	Appl State	Alm	DB	Report Status	Proc	NOAMP_NE	tks5031302	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tks5031303	Enabled	Norm	Norm	Norm	Norm	NOAMP_NE	tks5031301	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tks5031307	Enabled	Err	Norm	Norm	Norm	SOAM_NE	tks5031308	Enabled	Norm	Norm	Norm	Norm	SOAM_NE	tks5031311	Enabled	Norm	Norm	Norm	Norm	SOAM_NE	tks5031312	Enabled	Norm	Norm	Norm	Norm
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26. <input type="checkbox"/>	Repeat <b>Steps 17 through 25</b> of this procedure for each additional MP server installed in the SOAM cabinet.																																																									
THIS PROCEDURE HAS BEEN COMPLETED																																																										

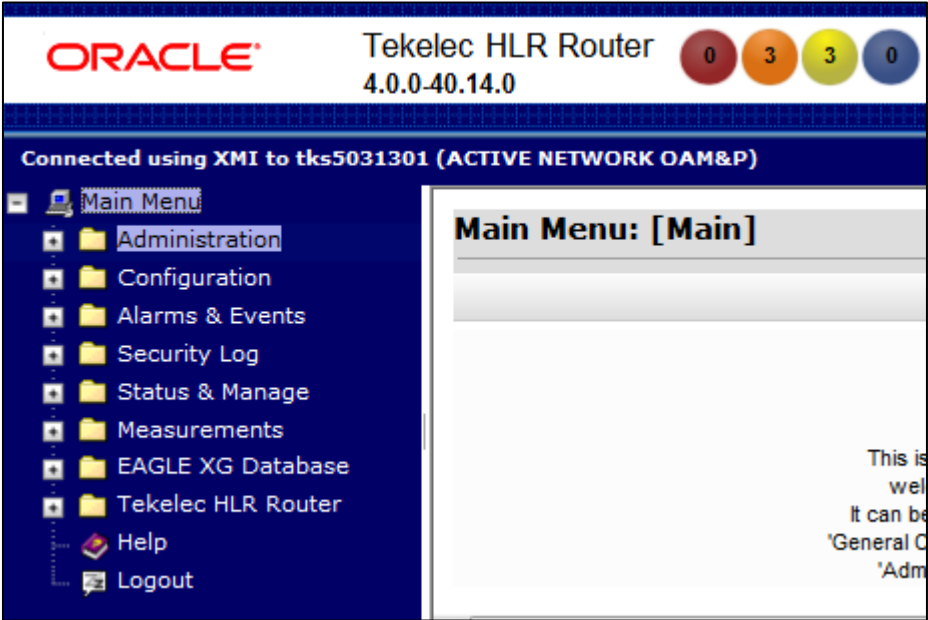
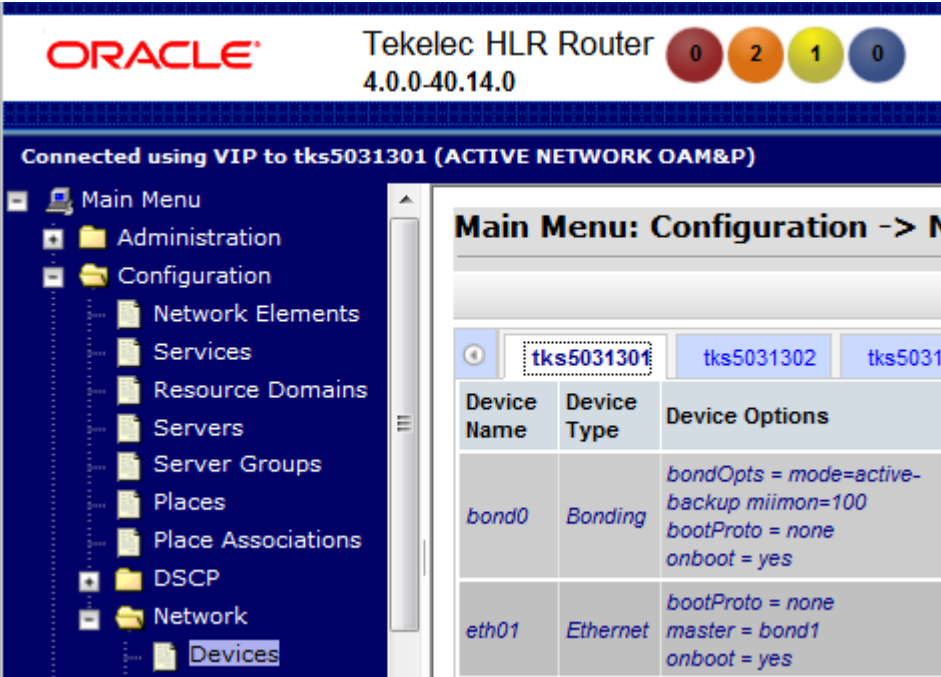
## 5.10 Configuring the MP Signaling Interfaces (All SOAM sites)

This procedure configures XSI-1 and XSI-2 IP Interfaces and adds the XSI signaling routes for all MP Servers

### Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
1. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Launch IE web browser and connect to the XMI IP address assigned to Primary NOAMP Server A</p> <p>Click on this link: <b>“Continue to this website (not recommended)”</b></p>	
2. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented the login screen shown on the right.</p> <p>Login to the GUI using the default user and password.</p>	

Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result									
3. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>The user should be presented the Main Menu as shown on the right.</p>										
Repeat the below steps for each MP											
4. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Select...</p> <p><u>Main Menu</u> → Configuration → Network → Devices</p> <p>...as shown on the right.</p> <p>2) Click on the desired <b>MP</b> server tab.</p>	 <table border="1"><thead><tr><th>Device Name</th><th>Device Type</th><th>Device Options</th></tr></thead><tbody><tr><td>bond0</td><td>Bonding</td><td>bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes</td></tr><tr><td>eth01</td><td>Ethernet</td><td>bootProto = none master = bond1 onboot = yes</td></tr></tbody></table> <ul style="list-style-type: none"><li>• “Check off” the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>	Device Name	Device Type	Device Options	bond0	Bonding	bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes	eth01	Ethernet	bootProto = none master = bond1 onboot = yes
Device Name	Device Type	Device Options									
bond0	Bonding	bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes									
eth01	Ethernet	bootProto = none master = bond1 onboot = yes									

Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result																											
5. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p><i>Take ownership of the eth02 device for the desired MP.</i></p> <p>1) Select the <b>eth02</b> device</p> <p>2) Click on the <b>Take Ownership</b> button.</p> <p>3) The user should be presented with status message stating “<b>Device import Pending</b>”</p>	<div><div><div><div><div><div>tk5031301</div><div>tk5031302</div><div>tk5031303</div><div>tk5031307</div><div>tk5031311</div></div><table><tr><th>Device Name</th><th>Device Type</th><th>Device Options</th></tr><tr><td>eth02</td><td></td><td>onboot = no</td></tr><tr><td>bond1</td><td>Bonding</td><td>bondInterfaces = eth01,eth03,eth01,eth03 bondOpts = mode=active-backup miimon= primary=eth01 updelay=200 downdelay=200 bootProto = none onboot = yes</td></tr><tr><td>eth04</td><td></td><td>onboot = no</td></tr><tr><td>bond1.2</td><td>Vlan</td><td>baseDevice = ["bond1"] bootProto = none onboot = yes</td></tr><tr><td>bond1.3</td><td>Vlan</td><td>baseDevice = ["bond1"] bootProto = none onboot = yes</td></tr><tr><td>bond0</td><td>Bonding</td><td>bondOpts = mode=active-backup miimon= bootProto = none onboot = yes</td></tr><tr><td>eth03</td><td>Ethernet</td><td>bootProto = none master = bond1 onboot = yes</td></tr><tr><td>eth01</td><td>Ethernet</td><td>bootProto = none master = bond1 onboot = yes</td></tr></table><div><div>Insert</div><div>Edit</div><div>Delete</div><div>Report</div><div>Report All</div><div>Take Ownership</div><div><input checked="" type="checkbox"/></div></div></div></div></div></div> <div><div><div>Status</div><div><div>Status</div><div><input checked="" type="checkbox"/> • Device import pending...</div></div><div>tk5031311</div><div>tk5031308</div><div>IP Interface (Network)</div><div>eth02</div><div>onboot = no</div></div></div>	Device Name	Device Type	Device Options	eth02		onboot = no	bond1	Bonding	bondInterfaces = eth01,eth03,eth01,eth03 bondOpts = mode=active-backup miimon= primary=eth01 updelay=200 downdelay=200 bootProto = none onboot = yes	eth04		onboot = no	bond1.2	Vlan	baseDevice = ["bond1"] bootProto = none onboot = yes	bond1.3	Vlan	baseDevice = ["bond1"] bootProto = none onboot = yes	bond0	Bonding	bondOpts = mode=active-backup miimon= bootProto = none onboot = yes	eth03	Ethernet	bootProto = none master = bond1 onboot = yes	eth01	Ethernet	bootProto = none master = bond1 onboot = yes
Device Name	Device Type	Device Options																											
eth02		onboot = no																											
bond1	Bonding	bondInterfaces = eth01,eth03,eth01,eth03 bondOpts = mode=active-backup miimon= primary=eth01 updelay=200 downdelay=200 bootProto = none onboot = yes																											
eth04		onboot = no																											
bond1.2	Vlan	baseDevice = ["bond1"] bootProto = none onboot = yes																											
bond1.3	Vlan	baseDevice = ["bond1"] bootProto = none onboot = yes																											
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eth03	Ethernet	bootProto = none master = bond1 onboot = yes																											
eth01	Ethernet	bootProto = none master = bond1 onboot = yes																											

• “Check off” the associated check-box as this step is completed for MP server.

MP-1

MP-2

## Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result																																													
6. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p><i>Edit eth02 device for the desired MP.</i></p> <p>1) Select... <b>Main Menu</b> → <b>Configuration</b> → <b>Network</b> → <b>Devices</b></p> <p>2) Click on the desired <b>MP</b> server tab.</p> <p>3) Select the <b>eth02</b> device</p> <p>4) Device's configuration status should change from "<b>Discovered</b>" to "<b>Deployed</b>"</p> <p>5) Click on the <b>Edit</b> button.</p>	<div><div><div><div><div><div></div><div>31302</div><div>tks5031303</div><div>tks5031307</div><div>tks5031311</div><div>tks5031308</div><div>tks5031312</div></div></div><div><table><thead><tr><th>Device Name</th><th>Device Type</th><th>Device Options</th><th>IP Interface (Network)</th><th>Configuration</th></tr></thead><tbody><tr><td>eth02</td><td></td><td>onboot = no</td><td></td><td>Deployed</td></tr><tr><td>bond1</td><td>Bonding</td><td>bondInterfaces = eth01,eth03,eth01,eth03 bondOpts = mode=active-backup miimon=100 primary=eth01 updelay=200 downdelay=200 bootProto = none onboot = yes</td><td>fe80::21e:67ff:fe00:9172 (/64)</td><td>Discovered</td></tr><tr><td>eth04</td><td></td><td>onboot = no</td><td></td><td>Discovered</td></tr><tr><td>bond1.2</td><td>Vlan</td><td>baseDevice = ["bond1"] bootProto = none onboot = yes</td><td>192.168.182.89 (XMI) 192.168.182.91 (/28) fe80::21e:67ff:fe00:9172 (/64)</td><td>Deployed</td></tr><tr><td>bond1.3</td><td>Vlan</td><td>baseDevice = ["bond1"] bootProto = none onboot = yes</td><td>192.168.182.102 (IMI) fe80::21e:67ff:fe00:9172 (/64)</td><td>Deployed</td></tr><tr><td>bond0</td><td>Bonding</td><td>bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes</td><td></td><td>Discovered</td></tr><tr><td>eth03</td><td>Ethernet</td><td>bootProto = none master = bond1 onboot = yes</td><td></td><td>Discovered</td></tr><tr><td></td><td></td><td>bootProto = none</td><td></td><td></td></tr></tbody></table></div><div><div></div><div>III</div><div></div></div><div><div>Insert</div><div>Edit</div><div>Delete</div><div>Report</div><div>Report All</div><div>Take Ownership</div><div><input checked="" type="checkbox"/> Pause U</div></div></div></div></div>	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration	eth02		onboot = no		Deployed	bond1	Bonding	bondInterfaces = eth01,eth03,eth01,eth03 bondOpts = mode=active-backup miimon=100 primary=eth01 updelay=200 downdelay=200 bootProto = none onboot = yes	fe80::21e:67ff:fe00:9172 (/64)	Discovered	eth04		onboot = no		Discovered	bond1.2	Vlan	baseDevice = ["bond1"] bootProto = none onboot = yes	192.168.182.89 (XMI) 192.168.182.91 (/28) fe80::21e:67ff:fe00:9172 (/64)	Deployed	bond1.3	Vlan	baseDevice = ["bond1"] bootProto = none onboot = yes	192.168.182.102 (IMI) fe80::21e:67ff:fe00:9172 (/64)	Deployed	bond0	Bonding	bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes		Discovered	eth03	Ethernet	bootProto = none master = bond1 onboot = yes		Discovered			bootProto = none		
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7. <div><input type="checkbox"/></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Enable eth02 device</i></p> <p>The configuration screen “Devices [Edit]” will appear</p> <p>1) Click on the <b>General Options</b> tab.</p> <p>2) Check the <b>“Enable”</b> check box (to make it enabled).</p> <p>3) Click on “IP Interfaces” tab</p>	<div><div>Edit device eth02 on tks5031311</div><div><div>General OptionsMII Monitoring OptionsARP Monitoring OptionsIP Interfaces</div><table><thead><tr><th>Field</th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>Device Type</td><td><div><input checked="" type="radio"/> Ethernet <input type="radio"/> Bonding <input type="radio"/> Vlan <input type="radio"/> Alias</div></td><td>Select the device type. It cannot be changed after device is created. [Default = N/A. Range = Bonding, Vlan, Alias.]</td></tr><tr><td>Device Monitoring</td><td><div>-- Monitoring Type--</div></td><td>Choose a monitoring style to use with a bonding device. Disabled for non-bonding devices. [Default = MII. Options = MII, ARP.]</td></tr><tr><td>Start On Boot</td><td><div><input checked="" type="checkbox"/> Enable</div></td><td>Start the device, and also start on boot. [Default = enabled]</td></tr><tr><td>Boot Protocol</td><td><div>None</div></td><td>Select the boot protocol. [Default = None, Range = None,DHCP]</td></tr><tr><td>Base Device(s)</td><td><div><input type="checkbox"/> bond0 <input type="checkbox"/> bond1 <input type="checkbox"/> bond1.2 <input type="checkbox"/> bond1.3 <input type="checkbox"/> eth01 <input type="checkbox"/> eth02 <input type="checkbox"/> eth03 <input type="checkbox"/> eth04</div></td><td>The base device(s) for Bonding, Alias and Vlan device types. Alias and Vlan devices require 1 selection; Bonding devices require 2 selections. It cannot be changed after device is created. [Default = N/A. Range = available base devices per device type.]</td></tr></tbody></table><div><div>Ok</div><div>Apply</div><div>Cancel</div></div></div><div><ul style="list-style-type: none"><li>“Check off” the associated check-box as this step is completed for MP server.</li></ul></div><div><div><input type="checkbox"/> MP-1</div><div><input type="checkbox"/> MP-2</div></div></div>	Field	Value	Description	Device Type	<div><input checked="" type="radio"/> Ethernet <input type="radio"/> Bonding <input type="radio"/> Vlan <input type="radio"/> Alias</div>	Select the device type. It cannot be changed after device is created. [Default = N/A. Range = Bonding, Vlan, Alias.]	Device Monitoring	<div>-- Monitoring Type--</div>	Choose a monitoring style to use with a bonding device. Disabled for non-bonding devices. [Default = MII. Options = MII, ARP.]	Start On Boot	<div><input checked="" type="checkbox"/> Enable</div>	Start the device, and also start on boot. [Default = enabled]	Boot Protocol	<div>None</div>	Select the boot protocol. [Default = None, Range = None,DHCP]	Base Device(s)	<div><input type="checkbox"/> bond0 <input type="checkbox"/> bond1 <input type="checkbox"/> bond1.2 <input type="checkbox"/> bond1.3 <input type="checkbox"/> eth01 <input type="checkbox"/> eth02 <input type="checkbox"/> eth03 <input type="checkbox"/> eth04</div>	The base device(s) for Bonding, Alias and Vlan device types. Alias and Vlan devices require 1 selection; Bonding devices require 2 selections. It cannot be changed after device is created. [Default = N/A. Range = available base devices per device type.]
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8. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Add an IP address on eth02 device.</i></p> <p>1) Click the <b>Add Row</b> button</p> <p>3) Set the Network Name to <b>XSI 1</b>.</p> <p>3) Enter the <b>XSI 1</b> IP Address.</p> <p>4) Click on the <b>Ok</b> button.</p>	<p><b>Edit Ethernet device eth02 on tks5031311</b></p> <p>General Options   MII Monitoring Options   ARP Monitoring Options   <b>IP Interfaces</b></p> <p>IP Address List:   <b>Add Row</b></p> <p>192.168.69.90   XSI1 (192.168.69.0/24) ▼</p> <p><b>Remove</b></p> <p>Ok   Apply   Cancel</p> <ul style="list-style-type: none"><li>• “<b>Check off</b>” the associated check-box as this step is completed for MP server.</li></ul> <p><input type="checkbox"/> MP-1                      <input type="checkbox"/> MP-2</p>										
9. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Select... <b>Main Menu</b> → <b>Configuration</b> → <b>Network</b> → <b>Devices</b></p> <p>2) Click on the desired <b>MP</b> server tab.</p> <p>3) Verify eth02 is configured with XSI1 IP address</p>	<p><b>Main Menu: Configuration -&gt; Network -&gt; Devices</b></p> <p>Fri Apr 11 19:12:16 20</p> <p>02   tks5031303   tks5031307   <b>tks5031311</b>   tks5031308   tks5031312</p> <table><thead><tr><th>Device Name</th><th>Device Type</th><th>Device Options</th><th>IP Interface (Network)</th><th>Configuration Status</th></tr></thead><tbody><tr><td>eth02</td><td>Ethernet</td><td>onboot = yes bootProto = none</td><td>192.168.69.90 (XSI1) fe80::21e:67ff:fe00:9173 (/64)</td><td>Deployed</td></tr></tbody></table> <ul style="list-style-type: none"><li>• “<b>Check off</b>” the associated check-box as this step is completed for MP server.</li></ul> <p><input type="checkbox"/> MP-1                      <input type="checkbox"/> MP-2</p>	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration Status	eth02	Ethernet	onboot = yes bootProto = none	192.168.69.90 (XSI1) fe80::21e:67ff:fe00:9173 (/64)	Deployed
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10. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>1) Select...</p> <p><u>Main Menu</u> → Configuration → Network → Devices</p> <p>...as shown on the right.</p> <p>2) Click on the desired <b>MP</b> server tab.</p>	<div><div><div>ORACLE</div><div>Tekelec HLR Router 4.0.0-40.14.0</div><div><div>0</div><div>2</div><div>1</div><div>0</div></div></div><div><div>Connected using VIP to tks5031301 (ACTIVE NETWORK OAM&amp;P)</div><div><div><div>Main Menu</div><div>Administration</div><div>Configuration</div><div>Network Elements</div><div>Services</div><div>Resource Domains</div><div>Servers</div><div>Server Groups</div><div>Places</div><div>Place Associations</div><div>DSCP</div><div>Network</div><div>Devices</div></div><div><div>Main Menu: Configuration -&gt; M</div><div><div>tks5031301</div><div>tks5031302</div><div>tks5031303</div></div><table><thead><tr><th>Device Name</th><th>Device Type</th><th>Device Options</th></tr></thead><tbody><tr><td>bond0</td><td>Bonding</td><td>bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes</td></tr><tr><td>eth01</td><td>Ethernet</td><td>bootProto = none master = bond1 onboot = yes</td></tr></tbody></table></div></div></div><div><ul style="list-style-type: none"><li>“Check off” the associated check-box as this step is completed for MP server.</li></ul></div><div><div><input type="checkbox"/> MP-1</div><div><input type="checkbox"/> MP-2</div></div></div>	Device Name	Device Type	Device Options	bond0	Bonding	bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes	eth01	Ethernet	bootProto = none master = bond1 onboot = yes
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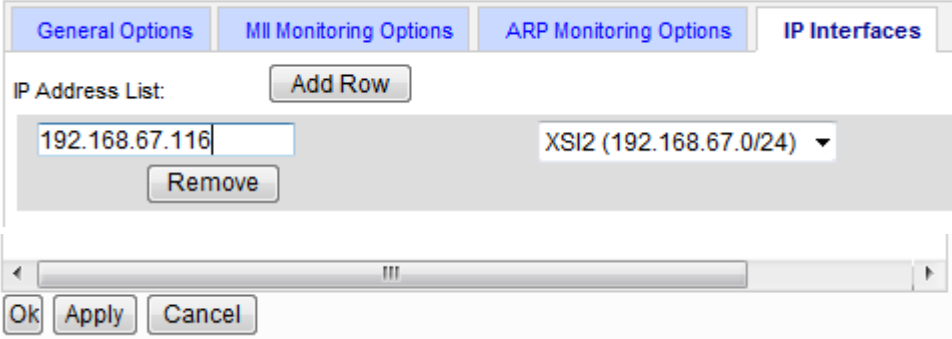
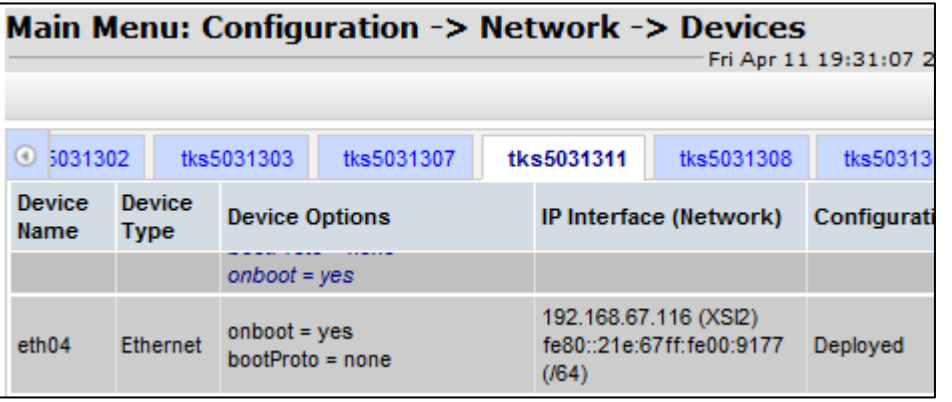
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12. <div></div>	<p>Primary NOAMP VIP GUI:</p> <p><i>Edit eth04 device for the desired MP.</i></p> <p>1) Select... <b>Main Menu</b> → <b>Configuration</b> → <b>Network</b> → <b>Devices</b></p> <p>2) Click on the desired <b>MP</b> server tab.</p> <p>3) Select the <b>eth04</b> device</p> <p>4) Device's configuration status should change from "<b>Discovered</b>" to "<b>Deployed</b>"</p> <p>5) Click on the <b>Edit</b> button.</p>	<div><div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><d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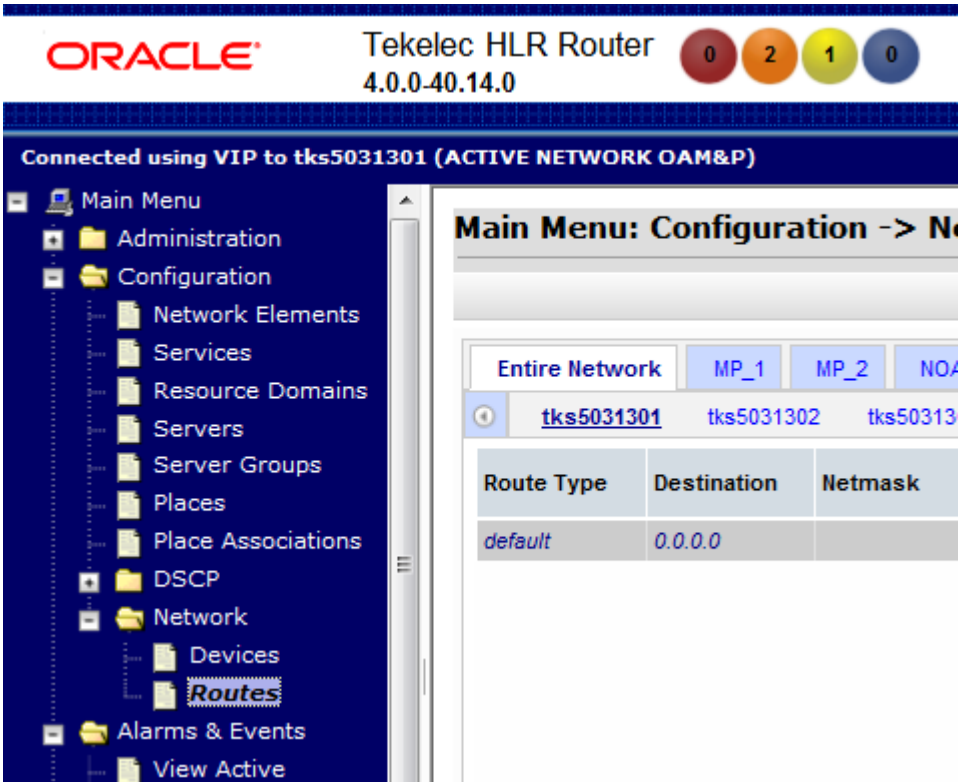
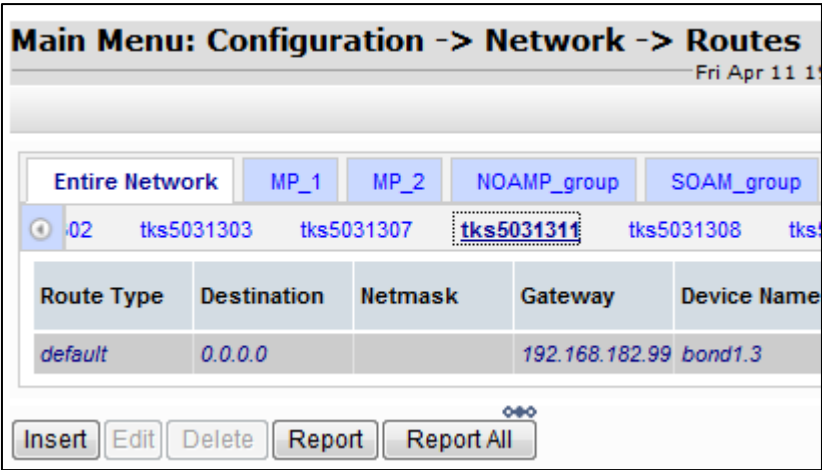
Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result																		
13. <div></div>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><b>Enable eth04 device</b></p> <p>The configuration screen “Devices [Edit]” will appear</p> <p>1) Click on the <b>General Options</b> tab.</p> <p>2) Check the <b>“Enable”</b> check box (to make it enabled).</p> <p>3) Click on <b>IP Interfaces</b> tab</p>	<div><div>Edit device eth04 on tks5031311</div><div><div>General OptionsMII Monitoring OptionsARP Monitoring OptionsIP Interfaces</div><table><thead><tr><th>Field</th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>Device Type</td><td><div><div>Ethernet</div><div>Bonding</div><div>Vlan</div><div>Alias</div></div></td><td>Select the device type. It cannot be changed after device is created. [Default = N/A. Range = Bonding, Vlan, Alias.]</td></tr><tr><td>Device Monitoring</td><td><div>— Monitoring Type—</div></td><td>Choose a monitoring style to use with a bonding device. [Default = MII. Options = MII, ARP, IP, MAC, Port, Link, All.]</td></tr><tr><td>Start On Boot</td><td><div><input checked="" type="checkbox"/> Enable</div></td><td>Start the device, and also start on boot. [Default = Yes]</td></tr><tr><td>Boot Protocol</td><td><div>None</div></td><td>Select the boot protocol. [Default = None, Range = None, ARP, RARP, BOOTP, DHCP, BOOTP+DHCP]</td></tr><tr><td>Base Device(s)</td><td><div><div><input type="checkbox"/> bond0</div><div><input type="checkbox"/> bond1</div><div><input type="checkbox"/> bond1.2</div><div><input type="checkbox"/> bond1.3</div><div><input type="checkbox"/> eth01</div><div><input type="checkbox"/> eth02</div><div><input type="checkbox"/> eth03</div><div><input type="checkbox"/> eth04</div></div></td><td>The base device(s) for Bonding, Alias and Vlan devices require 1 selection; Bonding devices require 1-3 selections. It cannot be changed after device is created. [Default = N/A. Range = available base devices per device type]</td></tr></tbody></table><div><div>Ok</div><div>Apply</div><div>Cancel</div></div></div></div> <div><div><div>• “Check off” the associated check-box as this step is completed for MP server</div><div><div><div></div>MP-1</div><div><div></div>MP-2</div></div></div></div>	Field	Value	Description	Device Type	<div><div>Ethernet</div><div>Bonding</div><div>Vlan</div><div>Alias</div></div>	Select the device type. It cannot be changed after device is created. [Default = N/A. Range = Bonding, Vlan, Alias.]	Device Monitoring	<div>— Monitoring Type—</div>	Choose a monitoring style to use with a bonding device. [Default = MII. Options = MII, ARP, IP, MAC, Port, Link, All.]	Start On Boot	<div><input checked="" type="checkbox"/> Enable</div>	Start the device, and also start on boot. [Default = Yes]	Boot Protocol	<div>None</div>	Select the boot protocol. [Default = None, Range = None, ARP, RARP, BOOTP, DHCP, BOOTP+DHCP]	Base Device(s)	<div><div><input type="checkbox"/> bond0</div><div><input type="checkbox"/> bond1</div><div><input type="checkbox"/> bond1.2</div><div><input type="checkbox"/> bond1.3</div><div><input type="checkbox"/> eth01</div><div><input type="checkbox"/> eth02</div><div><input type="checkbox"/> eth03</div><div><input type="checkbox"/> eth04</div></div>	The base device(s) for Bonding, Alias and Vlan devices require 1 selection; Bonding devices require 1-3 selections. It cannot be changed after device is created. [Default = N/A. Range = available base devices per device type]
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## Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
14. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Add an IP address on eth04 device.</i></p> <p>1) Click the <b>Add Row</b> button</p> <p>3) Set the Network Name to <b>XSI 2</b>.</p> <p>3) Enter the <b>XSI 2</b> IP Address.</p> <p>4) Click on the <b>Ok</b> button.</p>	<p>Edit device eth04 on tks5031311</p>  <ul style="list-style-type: none"> <li>• “Check off” the associated check-box as this step is completed for MP server.</li> </ul> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
15. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>1) Select... <b>Main Menu</b> → <b>Configuration</b> → <b>Network</b> → <b>Devices</b></p> <p>2) Click on the desired <b>MP</b> server tab.</p> <p>3) Verify <b>eth04</b> is configured with XSI2 IP address</p>	<p><b>Main Menu: Configuration -&gt; Network -&gt; Devices</b> Fri Apr 11 19:31:07 2010</p>  <ul style="list-style-type: none"> <li>• “Check off” the associated check-box as this step is completed for MP server.</li> </ul> <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
16. <input type="checkbox"/>	Repeat <b>STEPS 4</b> through <b>15</b> for each MP	

Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
17. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Select...</p> <p><u>Main Menu</u> → Configuration → Network → Routes</p> <p>...as shown on the right.</p>	<div></div> <ul style="list-style-type: none"><li>• “Check off” the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>
18. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p><i>Insert a new route for the MP</i></p> <p>1) Click on the desired <b>MP</b> tab.</p> <p>2) Click on the <b>Insert</b> button</p>	<div></div> <ul style="list-style-type: none"><li>• “Check off” the associated check-box as this step is completed for MP server.</li></ul> <div><input type="checkbox"/> MP-1<input type="checkbox"/> MP-2</div>

Procedure 10: Configure MP Signaling Interfaces

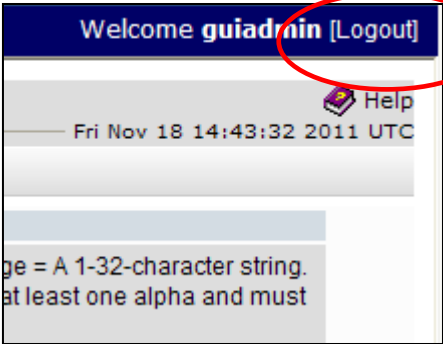
Step	Procedure	Result																		
19. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p><i>Insert signaling route on eth02</i></p> <p>1) Set <b>Route Type</b> to desired value</p> <p>2) Set <b>Device</b> to <b>eth02</b></p> <p>3) Enter <b>Destination</b> value</p> <p>4) Enter <b>Netmask</b> value</p> <p>5) Enter <b>Gateway IP</b> value</p> <p>6) Click <b>Apply</b> button</p> <p>7) Info message "Data committed!" will appear</p>	<div><div><div><div>Main Menu: Configuration -&gt; Network -&gt; Routes [Insert]</div><div>Fri Apr 11 19:39:01 2014</div><div>Info</div><div>Insert Route on tks5031311</div><table><thead><tr><th>Field</th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>Route Type</td><td><div><div>Net</div><div>Default</div><div>Host *</div></div></td><td>Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPV4 default route and one IPV6 default route on a given target machine.]</td></tr><tr><td>Device</td><td><div>eth02</div></td><td>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.]</td></tr><tr><td>Destination</td><td><div>10.250.54.0</div></td><td>The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]</td></tr><tr><td>Netmask</td><td><div>255.255.255.0</div></td><td>A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]</td></tr><tr><td>Gateway IP</td><td><div>192.168.69.250</div></td><td>The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]</td></tr></tbody></table><div><div>Ok</div><div>Apply</div><div>Cancel</div></div></div></div><div><div><div>Main Menu: Configuration -&gt; Network -&gt; Routes [Insert]</div><div>Fri Apr 11 19:39:</div><div>Info</div><div><div>Info</div><div><div>i</div><div>Data committed!</div></div></div><div>031311</div><div>Description</div></div></div><div><div><div>• “Check off” the associated check-box as this step is completed for MP server.</div><div><div><input type="checkbox"/> MP-1</div><div><input type="checkbox"/> MP-2</div></div></div></div></div>	Field	Value	Description	Route Type	<div><div>Net</div><div>Default</div><div>Host *</div></div>	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	<div>eth02</div>	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	<div>10.250.54.0</div>	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]	Netmask	<div>255.255.255.0</div>	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	<div>192.168.69.250</div>	The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]
Field	Value	Description																		
Route Type	<div><div>Net</div><div>Default</div><div>Host *</div></div>	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	<div>eth02</div>	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	<div>10.250.54.0</div>	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]																		
Netmask	<div>255.255.255.0</div>	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	<div>192.168.69.250</div>	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.]																		

Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result																		
20. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p><i>Insert signaling route on eth02</i></p> <p>1) Set <b>Route Type</b> to desired value</p> <p>2) Set <b>Device</b> to <b>eth02</b></p> <p>3) Enter <b>Destination</b> value</p> <p>4) Enter <b>Netmask</b> value</p> <p>5) Enter <b>Gateway IP</b> value</p> <p>6) Click <b>Apply</b> button</p> <p>7) Info message "Data committed!" will appear</p>	<div><div><div><div>Main Menu: Configuration -&gt; Network -&gt; Routes [Insert]</div><div>Fri Apr 11 19:39:01 2014 E</div><div>Info</div><div>Insert Route on tks5031311</div><table><thead><tr><th>Field</th><th>Value</th><th>Description</th></tr></thead><tbody><tr><td>Route Type</td><td><div><div>Net</div><div>Default</div><div>Host *</div></div></td><td>Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPV4 default route and one IPV6 default route on a given target machine.]</td></tr><tr><td>Device</td><td><div>eth04</div></td><td>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.</td></tr><tr><td>Destination</td><td><div>10.250.55.0</div></td><td>The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]</td></tr><tr><td>Netmask</td><td><div>255.255.255.0</div></td><td>A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]</td></tr><tr><td>Gateway IP</td><td><div>192.168.67.250</div></td><td>The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]</td></tr></tbody></table><div><div>Ok</div><div>Apply</div><div>Cancel</div></div></div></div><div><div><div>Main Menu: Configuration -&gt; Network -&gt; Routes [Insert]</div><div>Fri Apr 11 19:39:</div><div>Info</div><div><div>Info</div><div><div><div>i</div><div>• Data committed!</div></div></div></div><div>031311</div><div>Description</div></div></div><div><div>• "Check off" the associated check-box as this step is completed for MP server.</div><div><div><input type="checkbox"/> MP-1</div><div><input type="checkbox"/> MP-2</div></div></div></div>	Field	Value	Description	Route Type	<div><div>Net</div><div>Default</div><div>Host *</div></div>	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	<div>eth04</div>	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	<div>10.250.55.0</div>	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]	Netmask	<div>255.255.255.0</div>	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	<div>192.168.67.250</div>	The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]
Field	Value	Description																		
Route Type	<div><div>Net</div><div>Default</div><div>Host *</div></div>	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	<div>eth04</div>	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	<div>10.250.55.0</div>	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]																		
Netmask	<div>255.255.255.0</div>	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	<div>192.168.67.250</div>	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.]																		



Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
21. <input type="checkbox"/>	Repeat steps 17 - 20 for each MP	
22. <input type="checkbox"/>	<p><b>Primary NOAMP VIP GUI:</b></p> <p>Click the “<b>Logout</b>” link on the HLRR server GUI.</p>	
THIS PROCEDURE HAS BEEN COMPLETED		

## Appendix A. CREATING CONFIGURATION FILES FOR HLRR INSTALLATION

The customer (external) network information is needed to configure the NOAMP and SOAM connected through Telco switches.

### 1. Template file for configuring NOAMP Network Element :

Network Element for NOAMP must be configured and stored as XML file.

Here is an example of a filled-out XML file for an NOAMP Network Element.

**NOTE:** If IMI network is not routable then set IMI default gateway to "false" and XMI default gateway to "true"

```
<?xml version="1.0"?>
<networkelement>
  <name>NOAMP_NE</name>
  <networks>
    <network>
      <name>XMI</name>
      <vlanId>2</vlanId>
      <ip>10.240.16.48</ip>
      <mask>255.255.255.240</mask>
      <gateway>10.240.16.49</gateway>
      <isDefault>true</isDefault>
    </network>
    <network>
      <name>IMI</name>
      <vlanId>3</vlanId>
      <ip>10.240.16.80</ip>
      <mask>255.255.255.240</mask>
      <gateway>10.240.16.81</gateway>
      <isDefault>false</isDefault>
    </network>
  </networks>
</networkelement>
```

### 2. Template file for configuring SOAM Network Element :

Network Element for SOAM must be configured and stored as XML file.

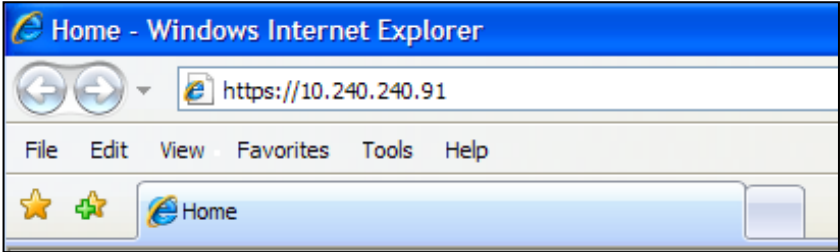
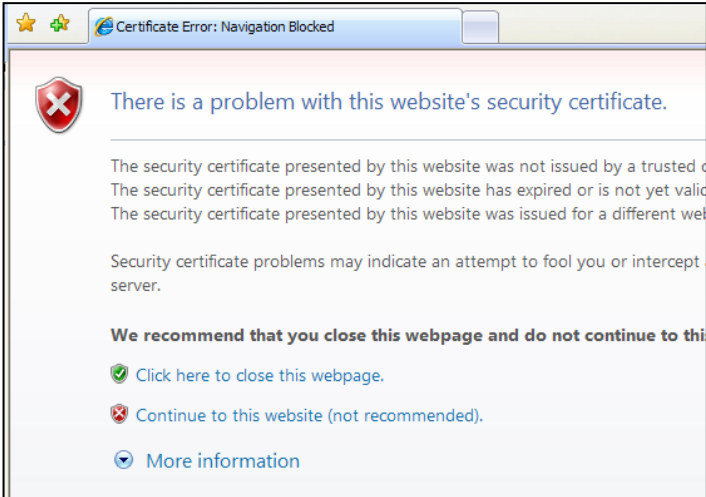

Here is an example of a filled-out XML file for SOAM network element:

**NOTE:** If IMI network is not routable, then set IMI default gateway to "false" and XMI default gateway to "true"

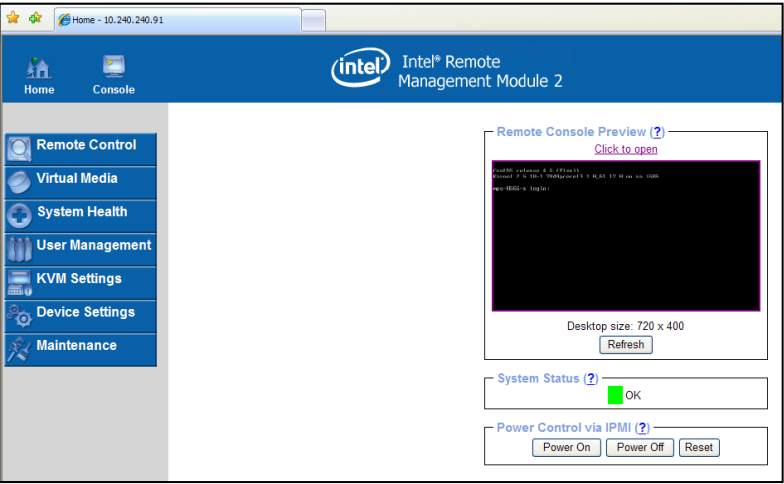
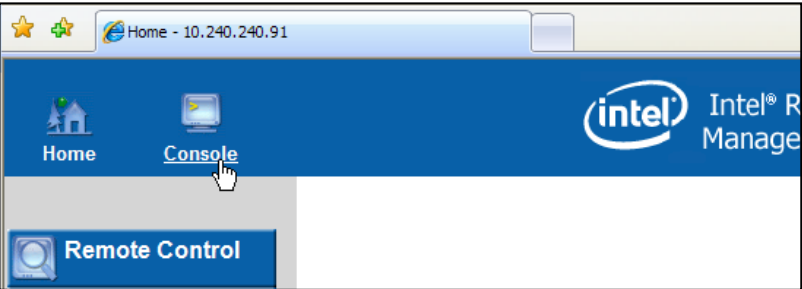
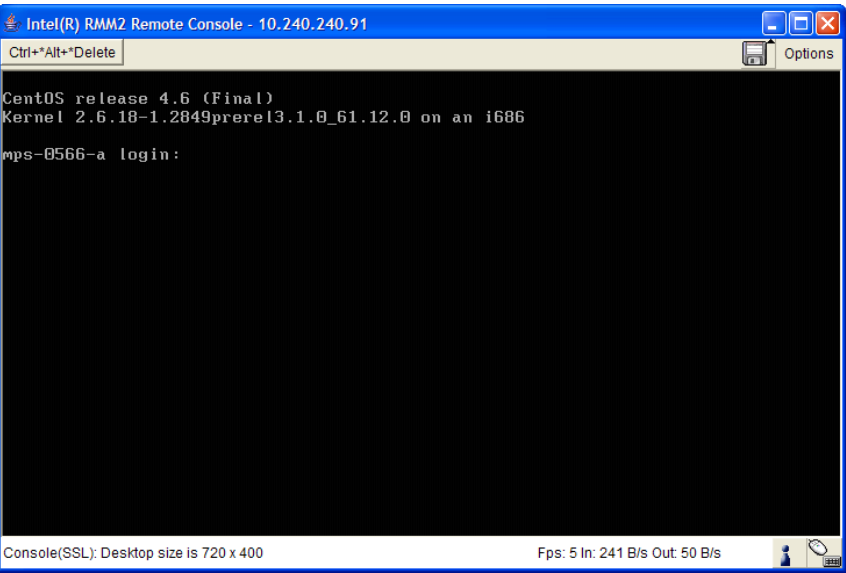
```
<?xml version="1.0"?>
<networkelement>
  <name>SOAM_NE</name>
  <networks>
    <network>
      <name>XMI</name>
      <vlanId>2</vlanId>
      <ip>10.240.16.64</ip>
      <mask>255.255.255.240</mask>
      <gateway>10.240.16.65</gateway>
      <isDefault>>false</isDefault>
    </network>
    <network>
      <name>IMI</name>
      <vlanId>3</vlanId>
      <ip>10.240.16.96</ip>
      <mask>255.255.255.240</mask>
      <gateway>10.240.16.97</gateway>
      <isDefault>>true</isDefault>
    </network>
  </networks>
</networkelement>
```

## Appendix B. ACCESSING THE RMM VGA REDIRECTION WINDOW

### Appendix B: Accessing the RMM VGA Redirection Window

Step	Procedure	Result
1. <input type="checkbox"/>	<p>Launch Internet Explorer and connect to the RMM interface</p> <p><b>NOTE 1:</b> Always use <b>https</b> for GUI access.</p> <p><b>NOTE 2:</b> If needed, see Appendix C or Appendix D to determine MFG default IP assignments.</p> <p><b>NOTE 3:</b> If needed, see Appendix E to determine preconfigured IP settings.</p>	
2. <input type="checkbox"/>	<p>Internet Explorer will display a warning message regarding the Security Certificate.</p> <p>Click on the link "Continue to the website (not recommended)"</p>	
3. <input type="checkbox"/>	<p>Login to the RMM console as "admin" user</p>	

Appendix B: Accessing the RMM VGA Redirection Window

<div>4.</div> <div></div>	<p>The admin GUI is displayed.</p>	
<div>5.</div> <div></div>	<p>Select the “Console” button in the upper left corner of the GUI</p>	
<div>6.</div> <div></div>	<p>The RMM Console window is displayed.</p> <p><b>NOTE:</b> <i>The console window resembles an MS-DOS window but DOES NOT have a scroll-back buffer.</i></p>	
<p>THIS PROCEDURE HAS BEEN COMPLETED</p>		

## Appendix C. RMM DEFAULT IP ADDRESSES (CABINET / RACKED)

### Static IP Addresses on the T1200 RMM by Frame Position (as set by Tekelec MFG)

This section establishes the convention for static IP address on the Remote Management Module of the T1200 Server. The table below summarizes the RMM IP address assignments by Frame position. The Frame position (U number) is the last two digits of the T1200 designation on the label located immediately to the right of each server on the frame rail.

#### 1. RMM IP Common Values

<b>RMM Subnet Mask</b>	255.255.255.0
<b>RMM Default Gateway</b>	Not set (0.0.0.0)

#### 2. RMM IP Address Assignments by Frame Position

<b>T1200 Frame Position (U number)</b>	<b>RMM IP Address Assignment</b>
U18	192.168.100. <b>18</b>
U19	192.168.100. <b>19</b>
U20	192.168.100. <b>20</b>
U21	192.168.100. <b>21</b>
U22	192.168.100. <b>22</b>
U23	192.168.100. <b>23</b>
U24	192.168.100. <b>24</b>
U25	192.168.100. <b>25</b>
U26	192.168.100. <b>26</b>
U27	192.168.100. <b>27</b>
U28	192.168.100. <b>28</b>
U29	192.168.100. <b>29</b>
U30	192.168.100. <b>30</b>
U31	192.168.100. <b>31</b>
U32	192.168.100. <b>32</b>
U33	192.168.100. <b>33</b>
U34	192.168.100. <b>34</b>
U35	192.168.100. <b>35</b>

**Table 5** - RMM IP Addresses by Frame Position

Appendix D. RMM DEFAULT IP ADDRESSES (SHIP LOOSE / RMA)

Static IP Addresses on the T1200 RMM by System Serial Number (as set by Oracle’s Tekelec MFG)

For “ship loose” T1200 servers (custom build / RMA) the last two digits of the T1200 serial number will be used to assign the RMM IP address based on a 192.168.100.xx subnet.

3. RMM IP Common Values:

RMM Subnet Mask	255.255.255.0
RMM Default Gateway	Not set (0.0.0.0)

4. RMM IP Address Assignments by System Serial Number

Locate system serial number of the server.

From the rear of the server, it can be found on a sticker attached to the bottom of the PCI Card Slot opening.

Example:

For S/N: NNG05085100566, the last octet would be “66”.

Therefore, the IP address as set by Oracle’s Tekelec MFG would be “192.168.100.66”.

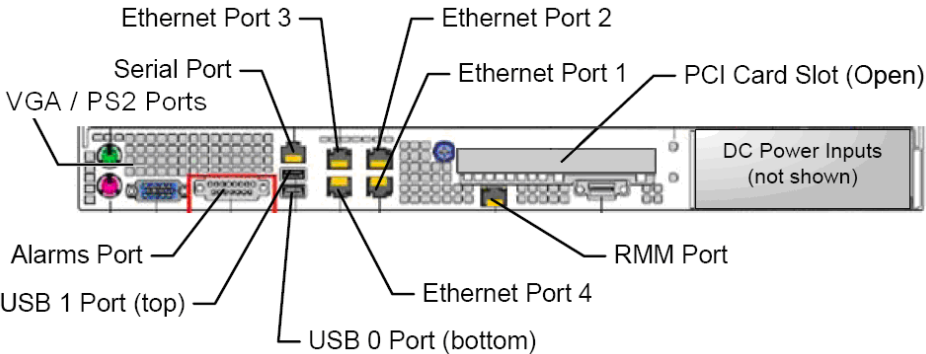
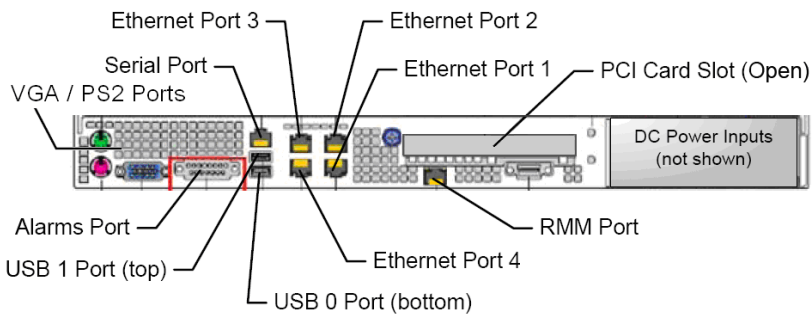


Figure 19 - RMM IP Addresses by System Serial Number.

## Appendix E. BASIC “KIRATOOL” COMMANDS FOR RMM SETUP

The third party utility, “**kiratool**”, is included with TPD. The “**kiratool**” utility provides a command line interface to the T1200 RMM hardware. Examples of basic “kiratool” commands are provided in the table below.

### Appendix E: Basic Kiratool Commands for RMM Setup

Step	Procedure	Result
1.	<p>Connect to the T1200 server using “ssh” (configured server) or the <b>VGA access method</b> chosen in <b>Section 2.0</b>.</p> <p><b>NOTE:</b> The illustration of the T1200 rear panel (shown right) displays the location of the VGA / PS2 Ports and the RMM Port (Ethernet).</p>	
2.	<p><b>Viewing the RMM IP Address:</b></p> <p>Perform this step to view RMM's IP address.</p>	<pre># kiratool -u admin -p password ip</pre> <p>IP address: 10.0.0.65</p>
3.	<p><b>Setting the RMM IP Address:</b></p> <p>Perform this step to set RMM's IP address.</p>	<pre># kiratool -u admin -p password ip set 192.168.100.18</pre> <p>Successfully set IP address to 192.168.100.18</p>
4.	<p><b>Viewing the RMM IP Source:</b></p> <p>Perform this step to verify RMM's IP source.</p>	<pre># kiratool -u admin -p password ipsrc</pre> <p>IP source: Static Address</p>
5.	<p><b>Setting the RMM IP Source:</b></p> <p>Perform this step to set RMM's IP source to static.</p>	<pre># kiratool -u admin -p password ipsrc set static</pre> <p>Successfully set IP source to Static address</p>
6.	<p><b>Viewing the RMM Netmask:</b></p> <p>Perform this step to verify RMM's subnet mask.</p>	<pre># kiratool -u admin -p password netmask</pre> <p>Subnet mask: 255.255.255.0</p>
7.	<p><b>Setting the RMM Netmask:</b></p> <p>Perform this step to set RMM's subnet mask.</p>	<pre># kiratool -u admin -p password netmask set 255.255.255.0</pre> <p>Successfully set Subnet mask to 255.255.255.0</p>
8.	<p><b>Viewing the RMM GW:</b></p> <p>Verify RMM's default gateway.</p>	<pre># kiratool -u admin -p password gw</pre> <p>Default gateway: 0.0.0.0</p>
9.	<p><b>Setting the RMM GW:</b></p> <p>Perform this step to set RMM's default gateway.</p>	<pre># kiratool -u admin -p password gw set 192.168.100.1</pre> <p>Successfully set Default gateway to 192.168.100.1</p>



**Appendix E: Basic Kiratool Commands for RMM Setup**

Step	Procedure	Result
10.	<b>Performing a “ping” from the RMM NIC:</b> Perform this step to execute a “ping” command from the RMM’s network interface.	<pre># kiratool -u admin -p password test nic ping 10.240.240.1</pre> <p>nic ping: ok</p>
11.	<b>Verifying the RMM firmware revision:</b> Perform this step to verify the current firmware revision of the RMM.	<pre># kiratool -u admin -p password fw</pre> <p>Firmware version: 4.2.2            Build number: 6912            Hardware ID: 0x21            Firmware tag: Standard Edition            OEM: intel</p>
12.	<b>Sending a Soft-Reset to the RMM:</b> Perform this step to send a soft-reset to the RMM. Note: The error message shown to the right is expected.	<pre># kiratool -u admin -p password reset</pre> <p>Resetting device. The device might not respond for about one minute.            Error resetting the device: No response from the device</p>
<b>THIS PROCEDURE HAS BEEN COMPLETED</b>		

## Appendix F. T1200 BIOS SETTINGS

### T1200 BIOS Settings

BIOS Screen	BIOS Parameter	Default Value	Correct Value
Advanced/Proc Conf	Intel ® Virtualization Technology	Disabled	Enabled
Advanced/ATA	Onboard PATA Controller	Enabled	
Advanced/Mass Stor	SAS Controller	Enabled	
Advanced/Mass Stor	Configure SAS as SW RAID	Disabled	
Advanced/Perf Conf	Throttling Mode	Open Loop	Closed Loop
Advanced/Ser Port Config	Serial A Enable		Enabled Address: 2F8 IRQ: 3
Advanced/Ser Port Config	Serial B Enable		Enabled Address: 3F8 IRQ: 4
Server Mngmt	Resume AC Power Loss	Stay Off	Last State
Server Mgmt	FRB-2 Enable	Enabled	
Server Mgmt/Console Redirection	Console Redirection	Disabled	Serial Port B
Server Mgmt/Console Redirection	Flow Control	None	
Server Mgmt/Console Redirection	Baud Rate	115.2K	115.2K
Server Mgmt/Console Redirection	Terminal Type	VT100	VT100
Server Mgmt/Console Redirection	Legacy OS Redirection	Disabled	Enabled
Boot Opts	Boot Option #1	IDE	
Boot Opts	Boot Option #2	GE Slot	LUN0
Boot Opts	Boot Option #3	LUN0	GE Slot
Boot Opts	Boot Option #4	EFI Shell	
Boot Opts	USB Boot Priority	Enabled	Disabled
Boot Opts/CDROM Order	CDROM# 1		Optiarc
Boot Opts/CDROM Order	CDROM# 2		RMM Vdrive 1
Boot Opts/CDROM Order	CDROM# 3		RMM Vdrive 2
Boot Opts/CDROM Order	CDROM# 4		RMM Vdrive 3
Boot Opts/CDROM Order	CDROM# 5		RMM Vdrive 4

**Table 6 – T1200 BIOS Settings**

**NOTE:** These settings are current as of Tekelec Document 820-6330-01, Revision J. (Manufacturing Acceptance Test Plan, DC T1200 Application). Please refer to the latest revision for current values.