

**Oracle® Communications
Tekelec HLR Router
T1200 Installation Guide
Release 4.0
E56462, Revision 1.0**

August 2014

ORACLE®

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 to 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.

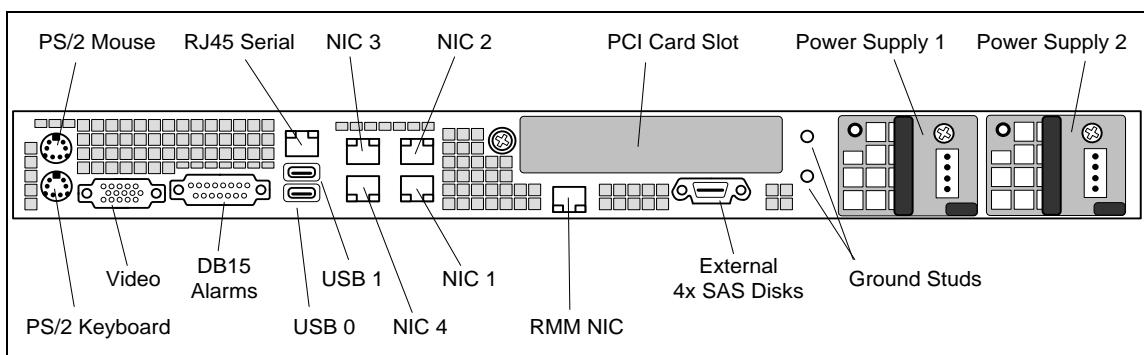


Figure 1 - T1200 Rear Panel: RJ45 Serial Port

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:

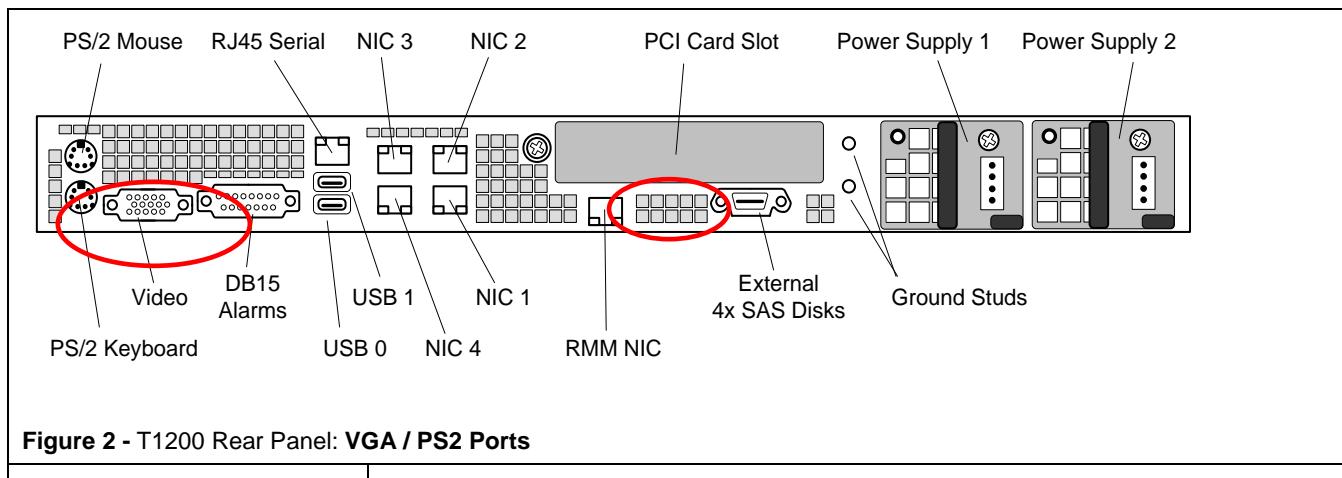


Figure 2 - T1200 Rear Panel: VGA / PS2 Ports

<p>One of the VGA Access Methods shown to the right may be used in the event that serial port access is not available.</p> <p>NOTE: 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.</p>	<p><input type="checkbox"/> Method 1) VGA Monitor and PS2 Keyboard.</p> <p><input type="checkbox"/> Method 2) Laptop +  KVM2USB Switch. http://www.epiphan.com/products/frame-grabbers/kvm2usb/</p> <p><input type="checkbox"/> Method 3) RMM VGA Redirection Window, Ethernet cable. (See Appendix B)</p>
--	---

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

HLR Router Installation Matrix

		Procedures to Perform									
		1	2	3	4	5	6	7	8	9	10
□	NOAMP	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗
□	DR NOAMP	✓	✓	✓	✗	✓	✗	✗	✓	✗	✗
□	Query Server	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗
□	SOAM	✓	✓	✓	✗	✓	✗	✗	✓	✗	✗
□	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

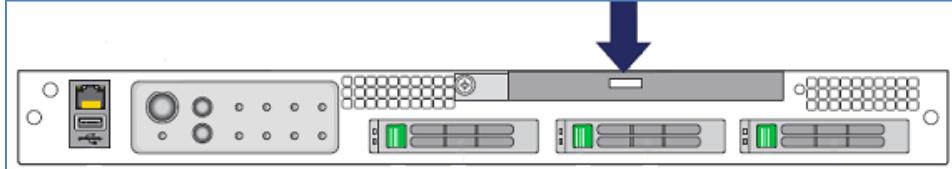
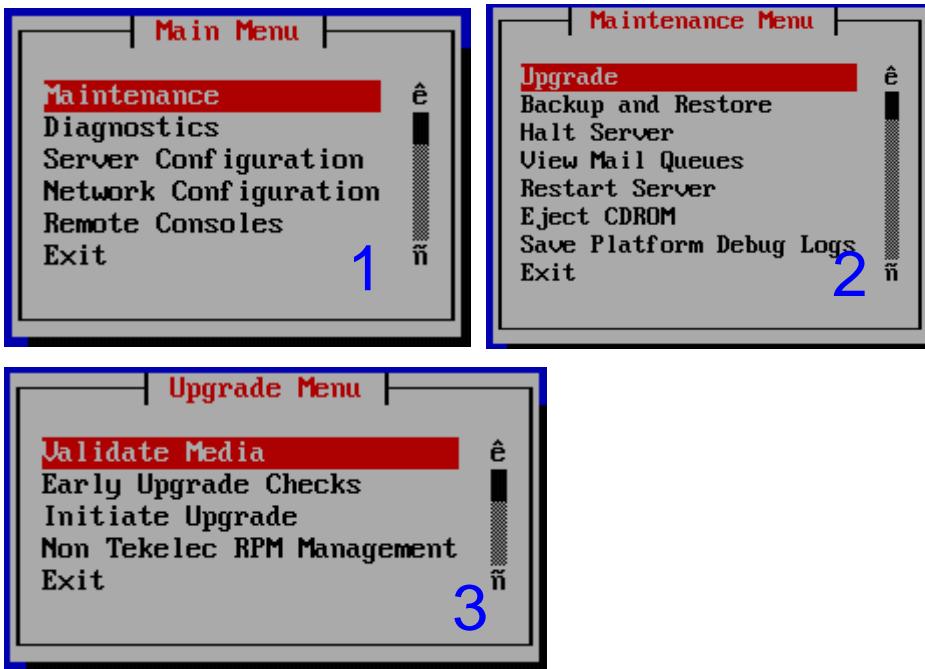
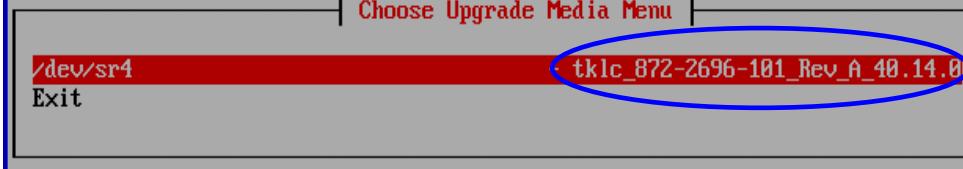
4.1 Installing the HLR Router Application

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 Section 2.0 .
2. <input type="checkbox"/>	Log into the T1200 server as the “root” user.	login: root Password: <root_password>
3. <input type="checkbox"/>	Verify the date and time are displayed in GMT (+/- 4 min)	# date -u Thu Jan 28 23:12:23 UTC 2014
 <ul style="list-style-type: none"> • 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]. • Otherwise, if the correct date and time (in GMT) are shown in previous step, then continue on to step 4 of this procedure. 		
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>NOTE: 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>NOTE: 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 CDROM containing HLR Router application software into the server's optical drive.	 Figure 3 - T1200 Front Panel: Optical Drive
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.	
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. <input type="checkbox"/>	Output similar to that shown on the right may be observed as HLRR application install progresses.	<pre>Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::AppWorksEarly 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 transition to finish * ***** waiting for /etc/rc3.d/S99smartd_runlevel_transition_complete to waiting for /etc/rc3.d/S99smartd_runlevel_transition_complete to waiting for /etc/rc3.d/S99smartd_runlevel_transition_complete to</pre>
11. <input type="checkbox"/>	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. <input type="checkbox"/>	Output similar to that shown on the right may be observed as the Application install progresses.	<pre>UMUT Validate Utility v2.2.2, (c)Tekelec, June 2012 Validating /dev/sr1 Date&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>

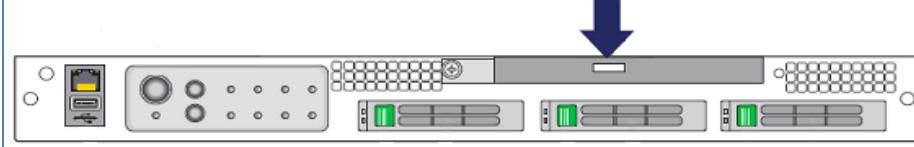
Procedure 1: Installing the HLR Router Application

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/run/cm6.2 - Copied prod/cmbin to system cmbin - Added comcol group Successfully set COMCOL capabilities - Set comcol program capabilities comcol-mysql ##### ice ##### 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! lo.lo ##### </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: <root_password></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># grep COMPLETE /var/TKLC/log/upgrade/upgrade.log 1395014258:: UPGRADE IS COMPLETE</pre>
19. <input type="checkbox"/>	Verify that HLRR application release level shown on the console matches the target release.	<pre># appRev Install Time: Sun Mar 16 19:57:51 2014 Product Name: EXHR Product Release: 4.0.0_40.14.0 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># /var/TKLC/backout/accept</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 CDROM from the server's optical drive.	# eject /dev/hda
23. <input type="checkbox"/>	Remove the CDROM from the server's optical drive.	
24. <input type="checkbox"/>	Return to the login prompt of server's console	# exit
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.
THIS PROCEDURE HAS BEEN COMPLETED		

5.0 CONFIGURATION PROCEDURES

5.1 Configuring Telco switch1A (All sites)

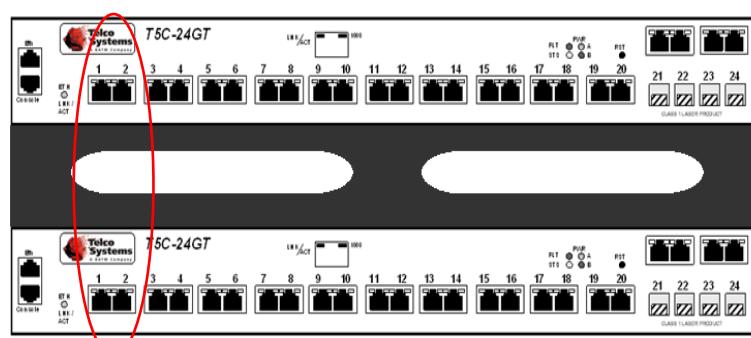
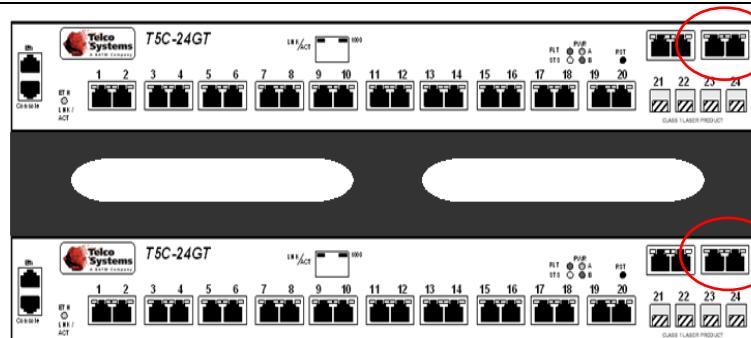
This procedure will configure a Telco T5C-24GT **switch1A** with an appropriate configuration from its corresponding management **server1A**.

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.

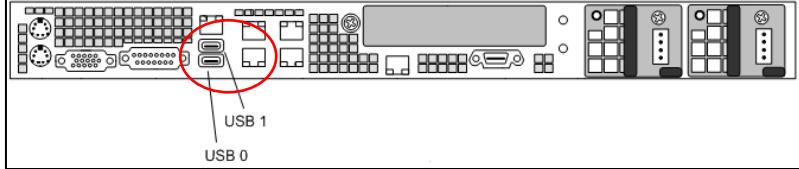
HLRR application provides a template file **vlan.conf** that can be edited for site specific info. This file is available for downloading at [/export/home/eagle/releases/TPD/prod/EXHR/4.0/InstallSupport/](http://export/home/eagle/releases/TPD/prod/EXHR/4.0/InstallSupport/)

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**)

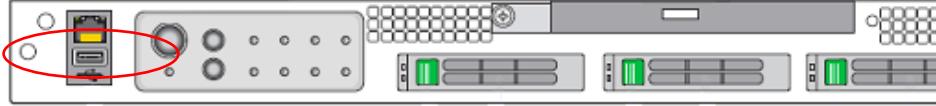
Procedure 2: Configuring Telco switch1A (All sites)

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

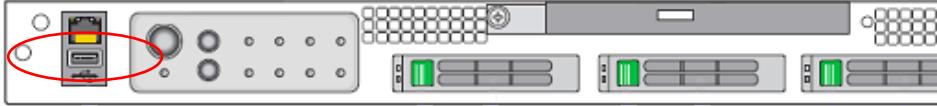
Procedure 2: Configuring Telco switch1A (All sites)

Step	Procedure	Result
3. <input type="checkbox"/>	<p>Verify that server1A (top-most server in the cabinet) has a USB-to-DB9M serial adaptor connected to the upper USB Port 1 (or USB Port 0) on the rear panel.</p> <p>NOTE: The USB-to-DB9M serial adaptor referenced above (OEM P/N: 2105-ROHS) should be connected to a DB9F-to-RJ45 serial cable (TKLC P/N: 830-1229-xx) which connects to the RJ45 console port of switch1A.</p>	
		<p>Figure 7 - T1200 Rear Panel: USB Port 1</p>
4. <input type="checkbox"/>	<p>Management server1A:</p> <p>Access the server1A console.</p>	<p>Connect to the server1A console using one of the access methods described in Section 2.0</p>
5. <input type="checkbox"/>	<p>Management server1A:</p> <p>Log into the server as the “root” user.</p>	<p>login: root Password: <root_password></p>
6. <input type="checkbox"/>	<p>Management server1A:</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>
7. <input type="checkbox"/>	<p>Management server1A:</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"/>	Management server1A: Set management IP address of server1A on bond1.1 interface	<i>Example command:</i> <code># netAdm add --device=bond1.1 --netmask=255.255.255.0 --address=169.254.1.254 --onboot=yes</code> <i>Example output:</i> Interface bond1.1 added
9. <input type="checkbox"/>	Management server1A: Add aliases for management IP addresses of switch1A and switch1B	<i>Example commands:</i> <code># delHost --alias=switch1A # addHost --force --alias=switch1A --ip=169.254.1.11 # delHost --alias=switch1B # addHost --force --alias=switch1B --ip=169.254.1.12</code>
10. <input type="checkbox"/>	Management server1A: Determine which access port is mapped to the switch1A	<code># ls -la /dev/ttyUSB*</code> <i>Example output:</i> crw-rw---- 1 root dialout 188, 0 Apr 25 15:39 /dev/ttyUSB0
11. <input type="checkbox"/>	Management server1A: 1) Place the vlan.conf file containing HLRR cabinet's configuration on a USB flash drive . 2) Insert the USB flash drive into the USB port on the front panel of server1A .	 Figure 9 - T1200 Front Panel: USB Port
12. <input type="checkbox"/>	Management server1A: Output similar to that shown on the right will appear. Press the <ENTER> key	<code># sdd: assuming drive cache: write through sdd: assuming drive cache: write through <ENTER> #</code>
13. <input type="checkbox"/>	Management server1A: Verify that the USB flash drive's partition has been mounted	<code># df grep usb</code> <code>/dev/sdd1 1018088 603372 414716 60% /var/tmp/usb_flash</code>
14. <input type="checkbox"/>	Management server1A: Copy vlan.conf file to the directory path specified on the right.	<code># cp -p /var/tmp/usb_flash/vlan.conf /usr/TKLC/plat/etc/</code> Verify that the switch configuration file was copied successfully: <code># ls -i /usr/TKLC/plat/etc/vlan.conf</code> <code>/usr/TKLC/plat/etc/vlan.conf</code>

Procedure 2: Configuring Telco switch1A (All sites)

Step	Procedure	Result
15. <input type="checkbox"/>	Management server1A: Remove any non-ASCII characters from the file.	# <code>dos2unix /usr/TKLC/plat/etc/vlan.conf</code> Note: This command is needed in case when this file was edited on a Windows PC machine.
16. <input type="checkbox"/>	Management server1A: Verify that <code>vlan.conf</code> 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 \ NOTE: If the output doesn't match to that found in Step 10 above, then edit this file to correct it. Otherwise continue onto next step.
17. <input type="checkbox"/>	Management server1A: Remove the USB flash drive from the USB port on the front panel of server1A .	 Figure 10 - T1200 Front Panel: USB Port
18. <input type="checkbox"/>	Management server1A: Output similar to that shown on the right may appear. Press the <ENTER> key	scsi 7:0:0:0: rejecting I/O to dead device FAT: Directory bread(block 538) failed <ENTER> #
19. <input type="checkbox"/>	Management server1A: Verify the Telco switch1A console connection	Determine whether needed minicom files are already available by issuing the following command: # <code>ls -i /etc/minirc.*</code> NOTE: If the file "minirc.<Switch1A_name>" is not listed, proceed with the rest of this step, otherwise skip to Step 20 . Set up the serial connection to the switch1A by the following command : # <code>/usr/TKLC/plat/bin/remoteConsole --add --name=<Switch1A_name> --bps=9600 --port=ttyUSB0</code>
20. <input type="checkbox"/>	Management server1A: Verify if the file "minirc.<Switch1A_name>" has the correct access port	# <code>cat /etc/minirc.<Switch1A_name> grep "pr port"</code> <u>Example output:</u> pr port /dev/ttyUSB0 NOTE: If the output doesn't match to that found in Step 10 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
21. <input type="checkbox"/>	Management server1A: Attach to the Telco switch1A console	<p>Connect serially to the switch by issuing the following command as admusr on the management server:</p> <pre># minicom <Switch1A_name> 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 Enter Password: <Switch1A_password> T5C-24GT> Switch> enable Password: <Switch1A_enable_password> T5C-24GT#</pre> <p>NOTE: 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 Step 22. If not, and the switch is in a factory default configuration, skip to Step 23</p>
22. <input type="checkbox"/>	Management server1A (switch console session): Initialize switch1A to the factory default configuration.	<p>(Optional) Type the following commands in the switch1A console session to restore the switch to factory default configuration:</p> <pre>T5C-24GT# write erase wait ... T5C-24GT# reload no-save Proceed with reload? [y/n] : y 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>
23. <input type="checkbox"/>	Management server1A (switch console session): Exit from the switch1A console and minicom session	<p>To exit the console session and minicom program:</p> <p>If you are at the “T5C-24GT#” or “T5C-24GT>” prompt in the switch console session , log out first by typing exit and pressing Enter.</p> <p>After you log out of the switch, exit the minicom session by pressing CTRL and A, then press X, then press Enter</p>

Procedure 2: Configuring Telco switch1A (All sites)

Step	Procedure	Result
24. <input type="checkbox"/>	Management server1A: Verify that the switch firmware binary exists	<p>Check to see if the correct firmware binary is present on the system.</p> <pre># ls -i /var/TKLC/switchconfig/<T5CL3_24G_firmware_image_file></pre> <p>NOTE: 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>NOTE: If the appropriate image exists, then continue with Step 25</p>
25. <input type="checkbox"/>	Management server1A: Check the tftp status	<p>Check to see if the tftp service is enabled.</p> <pre># chkconfig --list tftp tftp off</pre> <p>If the tftp service is set to "off" continue with this step. If the tftp service is set to "on", skip to Step 26</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 tftp on</pre>
26. <input type="checkbox"/>	Management server1A: Check xinetd service is running	<pre># service xinetd status</pre> <p>If xinetd is running, then restart this service</p> <pre># service xinetd restart Stopping xinetd: [OK] Starting xinetd: [OK]</pre> <p>If xinetd is stopped, then start this service</p> <pre># service xinetd start Starting xinetd: [OK]</pre>
27. <input type="checkbox"/>	Management server1A: Modify iptables to allow tftp.	<p>Run prepswconf to modify iptables to allow the switch to pull configuration data from the server.</p> <pre># /usr/TKLC/plat/sbin/prepswconf --prepare</pre> <p>Note: 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
28. <input type="checkbox"/>	Management server1A: Run switchconfig to configure the switch1A.	<pre># /usr/TKLC/plat/sbin/switchconfig --swname=<Switch1A_name></pre> <p>Successfully enabled on switch <Switch1A_name>. Reloading switch <Switch1A_name> with defaults, please standby... Switch <Switch1A_name> successfully set to default configuration. Successfully started management VLAN on <Switch1A_name>. Startup configuration created OK. Successfully uploaded startup config for <Switch1A_name>. Removing config file <Switch1A_name>.startup-config from /var/lib/tftpboot. Reloading switch <Switch1A_name>, please standby... Reload of switch <Switch1A_name> complete. Switch <Switch1A_name> successfully configured.</p> <p>Note: 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>
29. <input type="checkbox"/>	Management server1A: Restore iptables to block tftp.	<pre># /usr/TKLC/plat/sbin/prepswconf --clean</pre>
30. <input type="checkbox"/>	Management server1A: Stop the xinetd service.	Stop the xinetd service once the switch has been upgraded and configured: <pre># service xinetd stop</pre> <p>Stopping xinetd: [OK]</p>
31. <input type="checkbox"/>	Management server1A: Disable tftp services.	<pre># chkconfig tftp off</pre>
32. <input type="checkbox"/>	Telco T5CL3_24G switch1A: (OPTIONAL) Connect uplink cable to Port 23	Connect the uplink cable from the new Telco switch1A (Port 23) to the customer network.
33. <input type="checkbox"/>	Management server1A: (OPTIONAL) Test network flow/traffic through new Telco switch1A	<pre># ping <Remote_customer_ip></pre>

Procedure 2: Configuring Telco switch1A (All sites)

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

5.2 Configuring Telco switch1B (All sites)

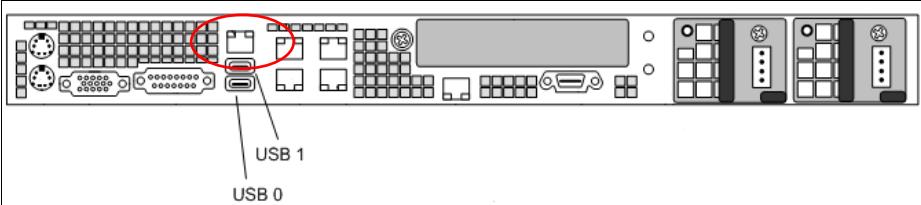
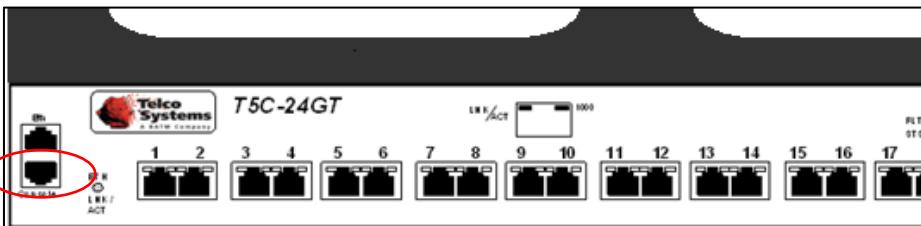
This procedure will configure a Telco T5C-24GT **switch1B** with an appropriate configuration from its corresponding management **server1B**.

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**)

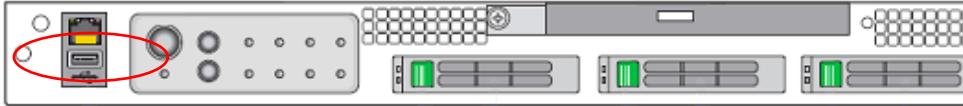
Procedure 3: Configuring Telco switch1B (All sites)

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

Procedure 3: Configuring Telco switch1B (All sites)

Step	Procedure	Result
4. <input type="checkbox"/>	Management server1B: Output similar to that shown on the right will appear as the server access 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>
5. <input type="checkbox"/>	Management server1B: Create an independent login shell.	<pre># screen</pre>
6. <input type="checkbox"/>	Management server1B: Set management IP address of server1B on bond1.1 interface	<p><u>Example command:</u></p> <pre># netAdm add --device=bond1.1 --netmask=255.255.255.0 -- address=169.254.1.253 --onboot=yes</pre> <p><u>Example output:</u></p> <pre>Interface bond1.1 added</pre>
7. <input type="checkbox"/>	Management server1B: Add aliases for management IP addresses of switch1A and switch1B	<p><u>Example commands:</u></p> <pre># delHost --alias=switch1A # addHost --force --alias=switch1A --ip=169.254.1.11 # delHost --alias=switch1B # addHost --force --alias=switch1B --ip=169.254.1.12</pre>
8. <input type="checkbox"/>	Management server1B: Determine which access port is mapped to the switch1B	<pre># ls -la /dev/ttUSB*</pre> <p><u>Example output:</u></p> <pre>crw-rw---- 1 root dialout 188, 0 Apr 25 15:39 /dev/ttUSB0</pre>
9. <input type="checkbox"/>	Management server1B: 1) Place the vlan.conf file containing HLRR cabinet's configuration on a USB flash drive . 2) Insert the USB flash drive into the USB port on the front panel of server1B .	 <p>Figure 13 - T1200 Front Panel: USB Port</p>

Procedure 3: Configuring Telco switch1B (All sites)

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

Procedure 3: Configuring Telco switch1B (All sites)

Step	Procedure	Result
17. <input type="checkbox"/>	Management server1B: Verify the Telco switch1B console connection	Determine whether needed minicom files are already available by issuing the following command: <code># ls -i /etc/minirc.*</code> NOTE: If the file "minirc.<Switch1B_name>" is not listed, proceed with the rest of this step, otherwise skip to Step 18 . Set up the serial connection to the switch1B by issuing the following command: <code># /usr/TKLC/plat/bin/remoteConsole --add --name=<Switch1B_name> --bps=9600 --port=ttyUSB0</code>
18. <input type="checkbox"/>	Management server1B: Verify if the file "minirc.<Switch1B_name>" has the correct access port	<code># cat /etc/minirc.<Switch1B_name> grep "pr port"</code> <i>Example output:</i> <code>pr port /dev/ttyUSB0</code> NOTE: If the output doesn't match to that found in Step 8 above, then edit this file to correct the access port. Otherwise please continue onto next step.
19. <input type="checkbox"/>	Management server1B: Attach to the Telco switch1B console	Connect serially to the switch by issuing the following command as admusr on the management server: <code># minicom <Switch1B_name></code> 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 Enter Password: <Switch1B_password> T5C-24GT> Switch> enable Password: <Switch1B_enable_password> T5C-24GT# NOTE: 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 Step 20 . If not, and the switch is in a factory default configuration, skip to Step 21

Procedure 3: Configuring Telco switch1B (All sites)

Step	Procedure	Result
20. <input type="checkbox"/>	Management server1B (switch console session): Initialize switch1B to the factory default configuration.	<p>(Optional)</p> <p>Type the following commands in the switch1B console session to restore the switch to factory default configuration:</p> <pre>T5C-24GT# write erase wait ... T5C-24GT# reload no-save Proceed with reload? [y/n] : y 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>
21. <input type="checkbox"/>	Management server1B (switch console session): Exit from the switch1B console and minicom session	<p>To exit the console session and minicom program:</p> <p>If you are at the “T5C-24GT# “ or “T5C-24GT>” prompt in the switch console session , log out first by typing exit and pressing Enter.</p> <p>After you log out of the switch, exit the minicom session by pressing CTRL and A, then press X, then press Enter</p>
22. <input type="checkbox"/>	Management server1B: Verify that the switch1B firmware binary exists	<p>Check to see if the correct firmware binary is present on the system.</p> <pre># ls -i /var/TKLC/switchconfig/<T5CL3_24G_firmware_image_file></pre> <p>NOTE: 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>NOTE: If the appropriate image exists, then continue with Step 23</p>
23. <input type="checkbox"/>	Management server1B: Check the tftp status	<p>Check to see if the tftp service is enabled.</p> <pre># chkconfig --list tftp tftp off</pre> <p>If the tftp service is set to “off” continue with this step. If the tftp service is set to “on”, then skip to Step 24</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 tftp on</pre>

Procedure 3: Configuring Telco switch1B (All sites)

Step	Procedure	Result
24. <input type="checkbox"/>	Management server1B: Check xinetd service is running	<pre># service xinetd status</pre> <ul style="list-style-type: none"> If xinetd is running, then restart this service <pre># service xinetd restart Stopping xinetd: [OK] Starting xinetd: [OK]</pre> <ul style="list-style-type: none"> If xinetd is stopped, then start this service <pre># service xinetd start Starting xinetd: [OK]</pre>
25. <input type="checkbox"/>	Management server1B: 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>Note: 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>
26. <input type="checkbox"/>	Management server1B: Run switchconfig to configure the switch1B.	<pre># /usr/TKLC/plat/sbin/switchconfig --swname=<Switch1B_name></pre> <p>Successfully enabled on switch <Switch1B_name>. Reloading switch <Switch1B_name> with defaults, please standby... Switch <Switch1B_name> successfully set to default configuration. Successfully started management VLAN on < Switch1B_name>. Startup configuration created OK. Successfully uploaded startup config for <Switch1B_name>. Removing config file <Switch1B_name>.startup-config from /var/lib/tftpboot. Reloading switch <Switch1B_name>, please standby... Reload of switch <Switch1B_name> complete. Switch <Switch1B_name> successfully configured.</p> <p>Note: 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>
27. <input type="checkbox"/>	Management server1B: Restore iptables to block tftp.	<pre># /usr/TKLC/plat/sbin/prepswconf --cleanup</pre>

Procedure 3: Configuring Telco switch1B (All sites)

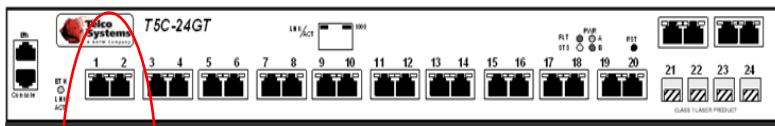
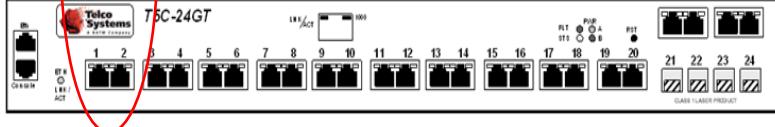
Step	Procedure	Result
28. <input type="checkbox"/>	Management server1B: Stop the xinetd service. Stop the xinetd service.	Stop the xinetd service once the switch has been upgraded and configured: <code># service xinetd stop</code> Stopping xinetd: [OK]
29. <input type="checkbox"/>	Management server1B: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

Figure 15 - Telco Switches: ISL Connections

Procedure 3: Configuring Telco switch1B (All sites)

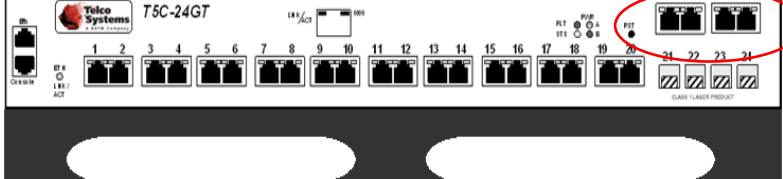
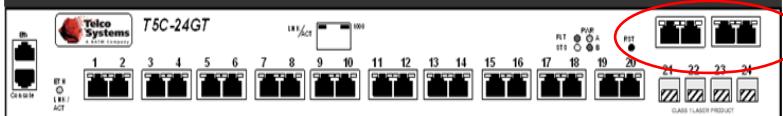
Step	Procedure	Result
35. <input type="checkbox"/>	<p>Reconnect the Telco Switches to the customer network:</p> <p>1) Verify that... switch1A, Port 23 is connected</p> <p>2) Verify that... switch1B, Port 23 is connected</p>	<p>switch1A (top)</p>  <p>switch1B (bottom)</p> 

Figure 16 - Telco Switches: Uplink Connections

THIS PROCEDURE HAS BEEN COMPLETED

5.3 Configuring Primary NOAMP Server A (1st 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 (1st NOAM site only)

Step	Procedure	Result
1. <input type="checkbox"/>	Primary NOAMP Server A console: Access the server's console.	Connect to the T1200 server designated as Primary NOAMP Server A using one of the access methods described in Section 2.0
2. <input type="checkbox"/>	Primary NOAMP Server A console: Log into this server as the “root” user.	login: root Password: <root_password>
3. <input type="checkbox"/>	Primary NOAMP Server A console: Output similar to that shown on the right will appear	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 ~]# _
4. <input type="checkbox"/>	Primary NOAMP Server A console: Set XMI IP address of this server to establish a network connection for accessing the NOAMP GUI	Set IP address on XMI interface # netAdm add --device=bond1.2 --onboot=yes --bootproto=none -- netmask=[XMI_IP_NETMASK] --address=[XMI_IP_ADDRESS] <u>Example output:</u> Interface bond1.2 added
5. <input type="checkbox"/>	Primary NOAMP Server A console: Add a default route to the XMI interface of this server	Add a default route to the XMI interface # netAdm add --route=default --device=bond1.2 -- gateway=[XMI_GATEWAY_IP] <u>Example output:</u> Route to bond1.2 added

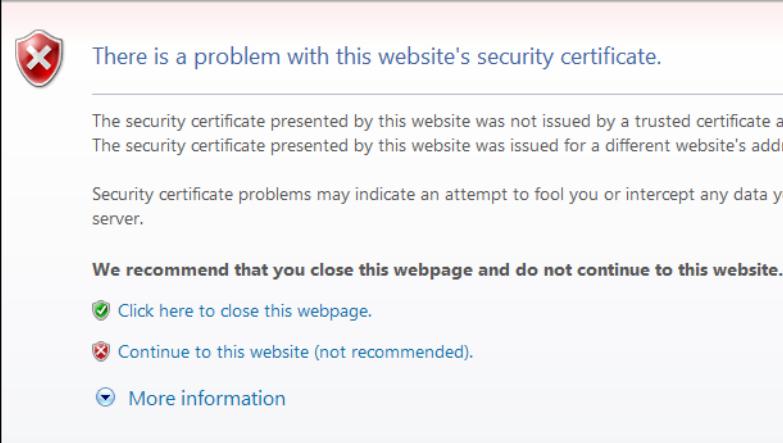
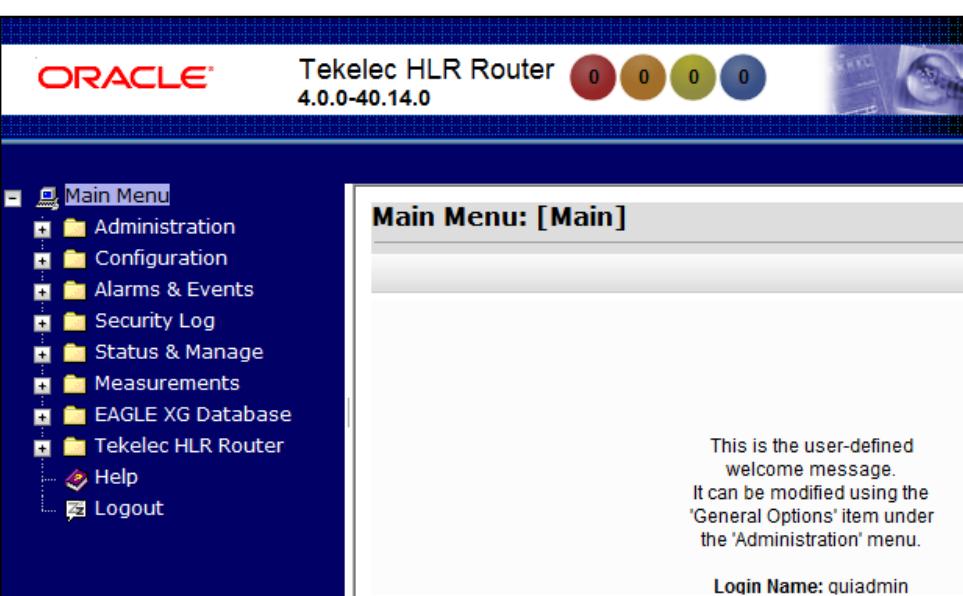
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result
6. <input type="checkbox"/>	Primary NOAMP Server A console: Restart the network on this server	<pre># service network restart</pre> <p><i>Example output:</i></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><i>Note:</i> If the output returns any errors like FAILED, please stop and contact Oracle's Tekelec Customer Care Center for assistance.</p>
7. <input type="checkbox"/>	Primary NOAMP Server A console: Wait a few minutes and then ping external IP address to ensure network connectivity.	<pre># ping <IP_address></pre> <p><i>Example output:</i></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"/>	Primary NOAMP Server A console: Configure the time zone	<pre># set_ini_tz.pl <time zone></pre> <p><i>Example:</i></p> <pre># set_ini_tz.pl "America/New_York"</pre>
9. <input type="checkbox"/>	Primary NOAMP Server A console: Reboot this server	<pre># init 6</pre> <div style="background-color: black; color: white; padding: 10px;"> <pre>scsi9 : SCSI emulation for USB Mass Storage devices scsi10 : SCSI emulation for USB Mass Storage devices scsi11 : 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> </div>

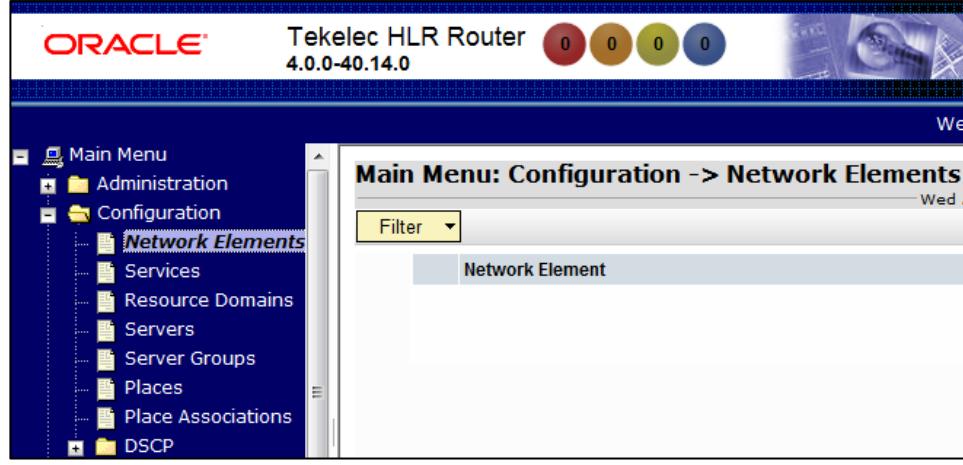
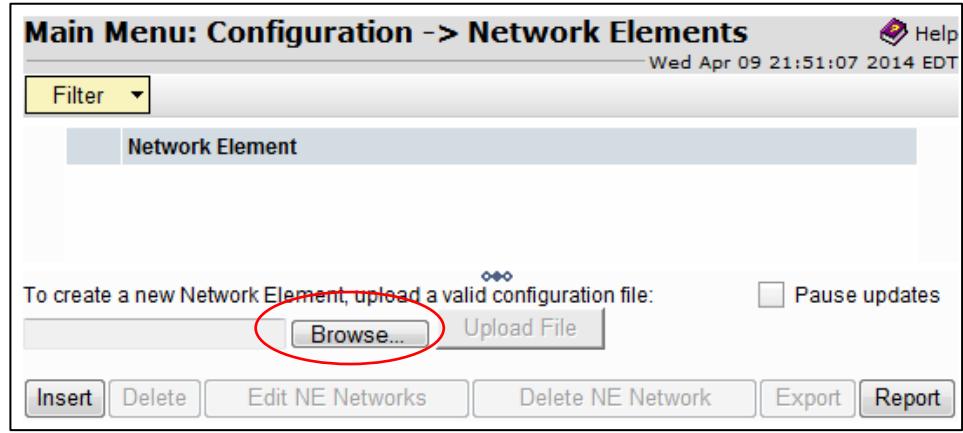
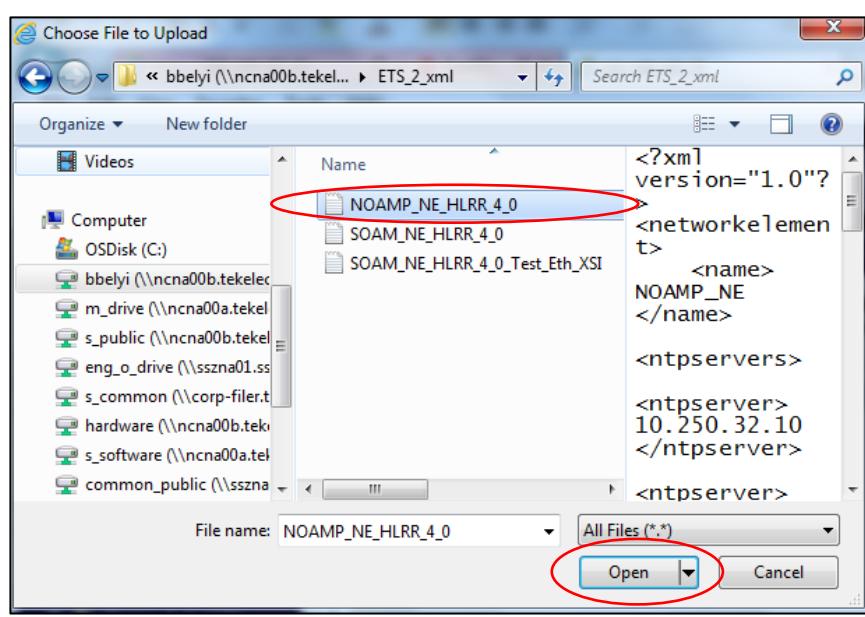
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result
10. <input type="checkbox"/>	Primary NOAMP Server A console: Wait until the reboot completes and login prompt appears	<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 hostname1396463702 login:</pre>
11. <input type="checkbox"/>	Primary NOAMP Server A console: Log into this server as the "root" user	<pre>login: root Password: <root_password></pre>
12. <input type="checkbox"/>	Primary NOAMP Server A console: 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>
13. <input type="checkbox"/>	Primary NOAMP Server A console: Verify alarm status of this server	<pre># alarmMgr --alarmStatus</pre> <p>NOTE: 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>
14. <input type="checkbox"/>	Primary NOAMP Server A console: Verify the current health of this server	<pre># syscheck</pre> <p><u>Example output:</u></p> <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>NOTE: If any errors are reported on the output, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.</p>

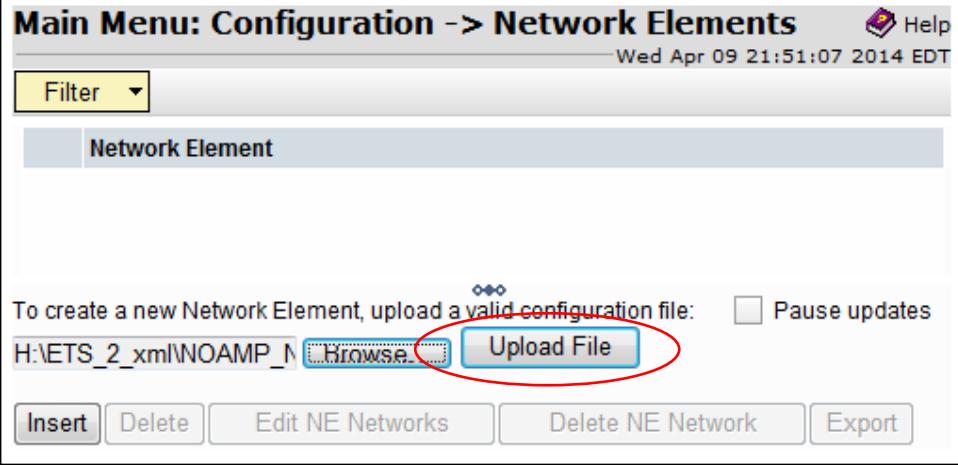
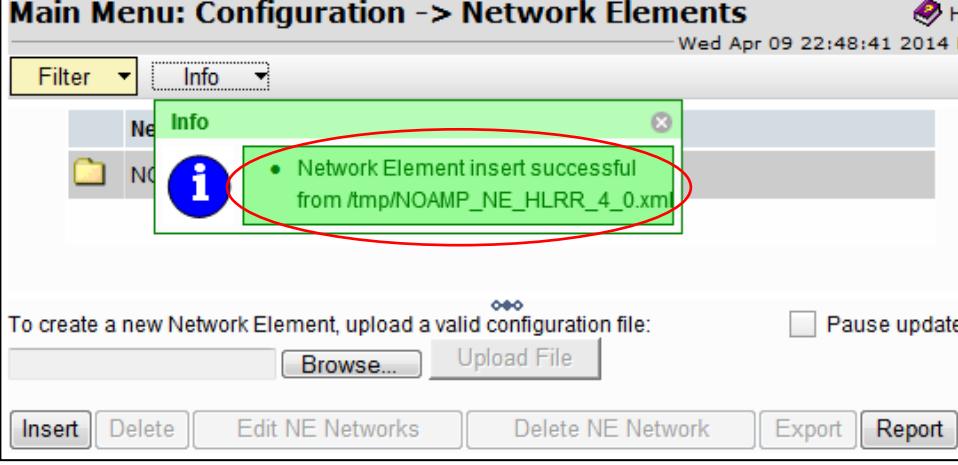
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result
15.	Primary NOAMP Server A GUI: Launch IE web browser and connect to the XMI IP address assigned to Primary NOAMP Server A Click on this link: “Continue to this website (not recommended)”	
16.	Primary NOAMP Server A GUI: The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	
17.	Primary NOAMP Server A GUI: The user should be presented the HLRR Main Menu as shown on the right.	

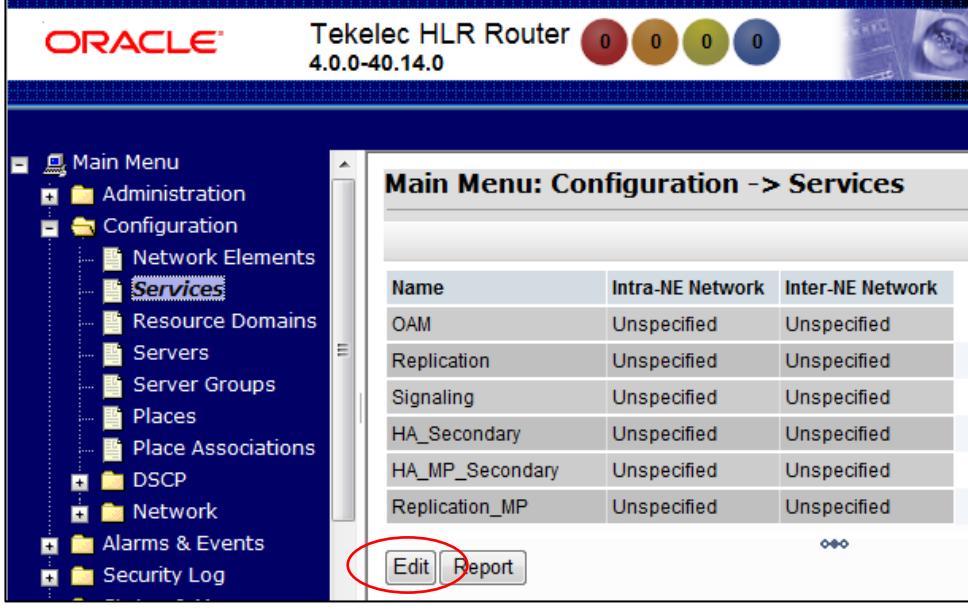
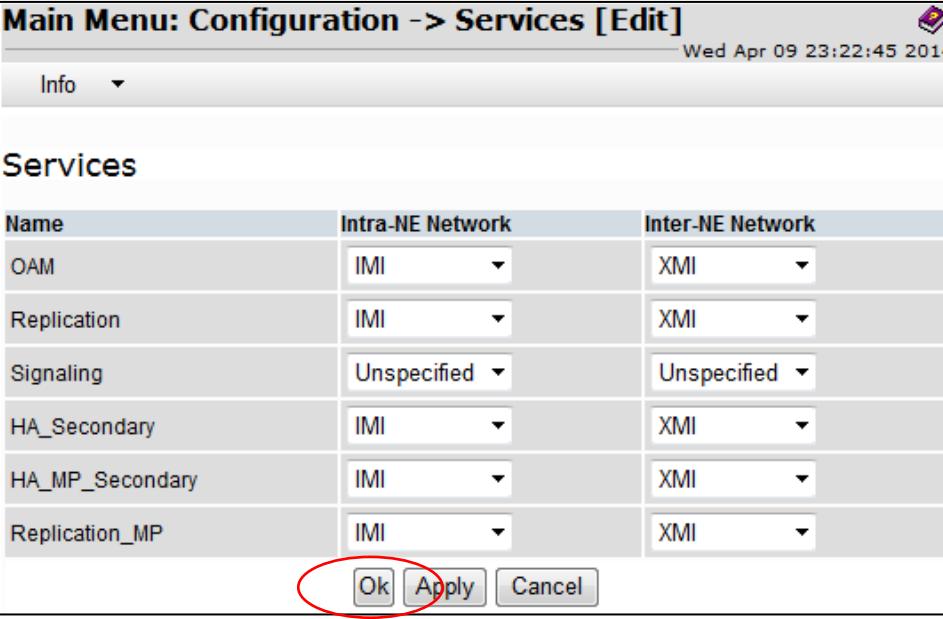
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

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

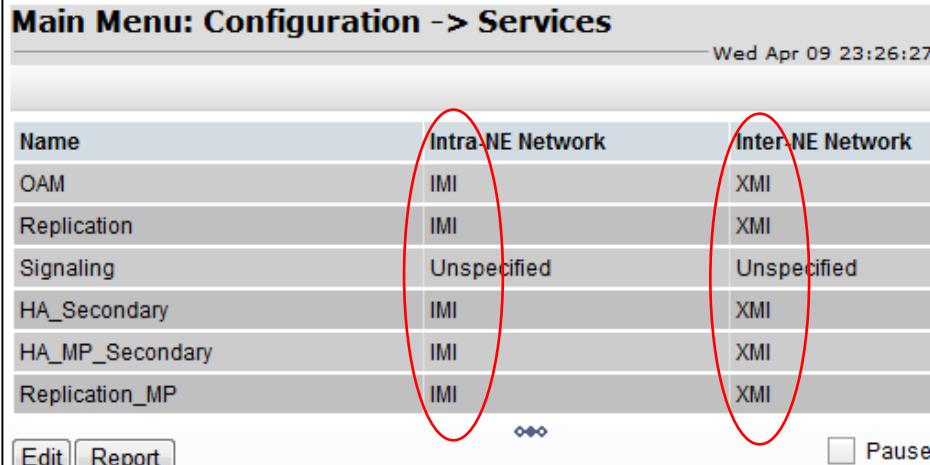
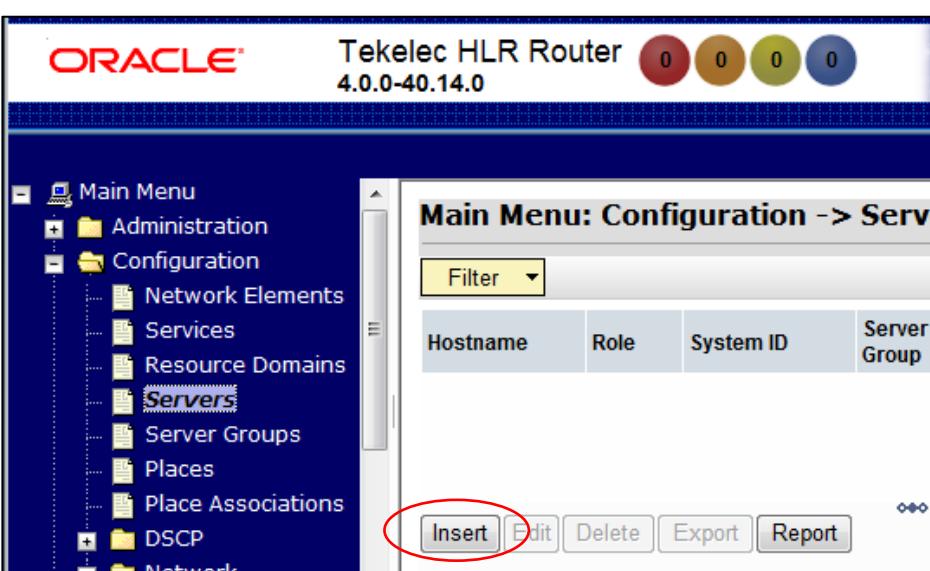
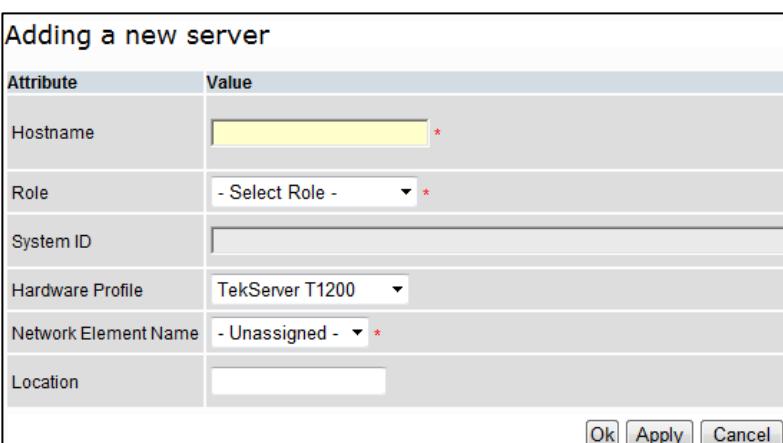
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result
21. <input type="checkbox"/>	Primary NOAMP Server A GUI: <i>Configuring Network Element</i> Select the “Upload File” dialogue button (bottom left corner of screen).	
22. <input type="checkbox"/>	Primary NOAMP Server A GUI: <i>Configuring Network Element</i> If the values in XML file for Primary NOAMP Network Element will pass the validation, then a banner message will appear informing that NE insert was successful	
23. <input type="checkbox"/>	Repeat steps 18 – 22 of this Procedure for the SOAM Network Element(s).	
24. <input type="checkbox"/>	Optional: Repeat steps 18 – 22 of this Procedure for the DR-NOAMP Network Element, if a DR-NOAMP site exists.	

Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result																					
25.	<p>Primary NOAMP Server A GUI:</p> <p><i>Configuring Services</i></p> <p>1) Select... <u>Main Menu</u> → Configuration → Services</p> <p>2) The configuration screen “Services” will appear.</p> <p>3) Click on “Edit” dialogue button.</p>	 <table border="1" data-bbox="861 608 1432 882"> <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.	<p>Primary NOAMP Server A GUI:</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>	 <table border="1" data-bbox="502 1220 1432 1558"> <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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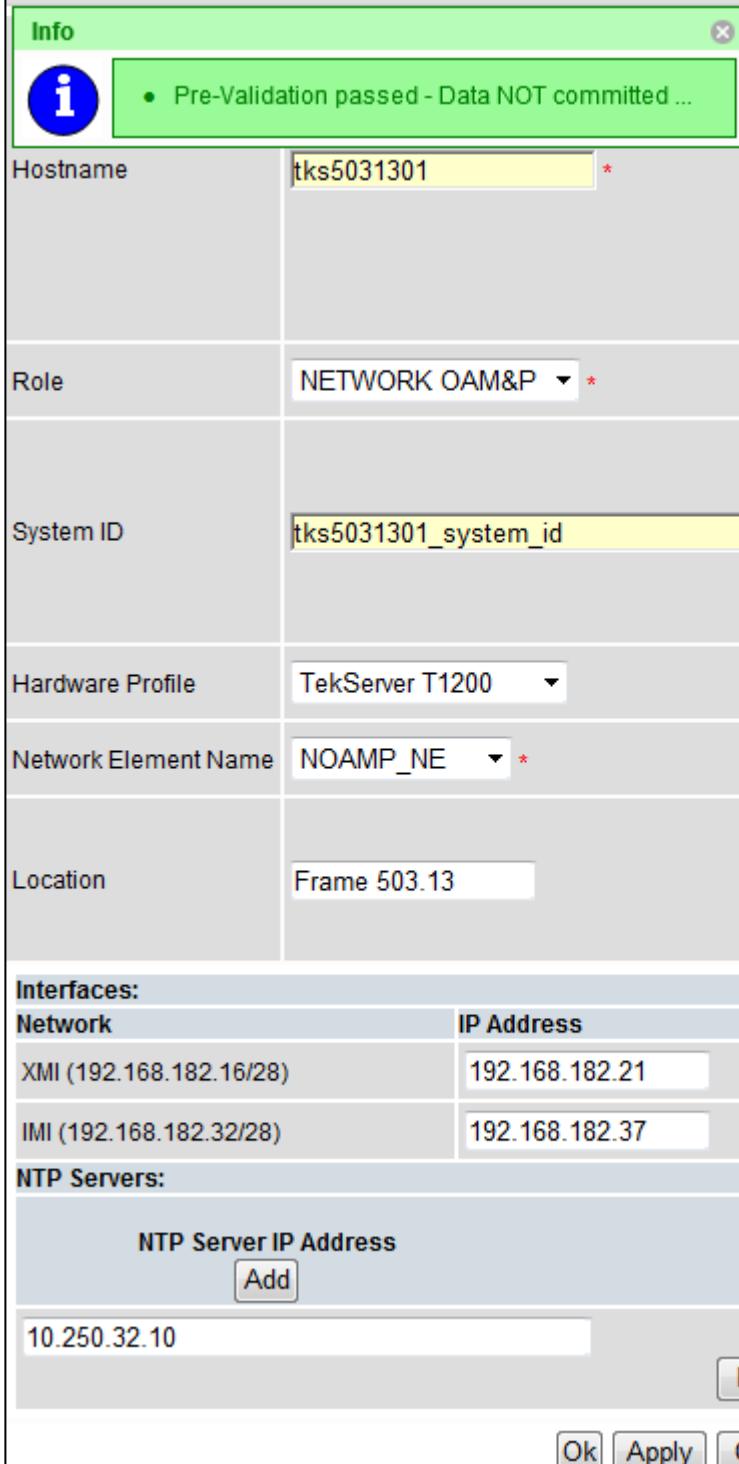
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result																					
27.	<p>Primary NOAMP Server A GUI:</p> <p>Configuring Services</p> <p>The configuration screen “Services” will appear and display newly set values for service.</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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Signaling	Unspecified	Unspecified																					
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HA_MP_Secondary	IMI	XMI																					
Replication_MP	IMI	XMI																					
28.	<p>Primary NOAMP Server A GUI:</p> <p>Configuring HLR Server</p> <p>1) Select Main Menu → Configuration → Servers</p> <p>2) The configuration screen “Servers” will appear.</p> <p>3) Click on “Insert” dialogue button.</p>																						
29.	<p>Primary NOAMP Server A GUI:</p> <p>The configuration screen “Adding a new server” will appear.</p>	 <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <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> </tbody> </table>	Attribute	Value	Hostname	*	Role	- Select Role - *	System ID		Hardware Profile	TekServer T1200	Network Element Name	- Unassigned - *	Location								
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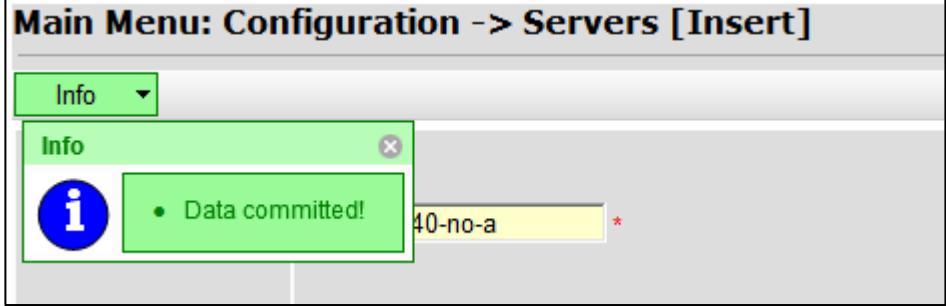
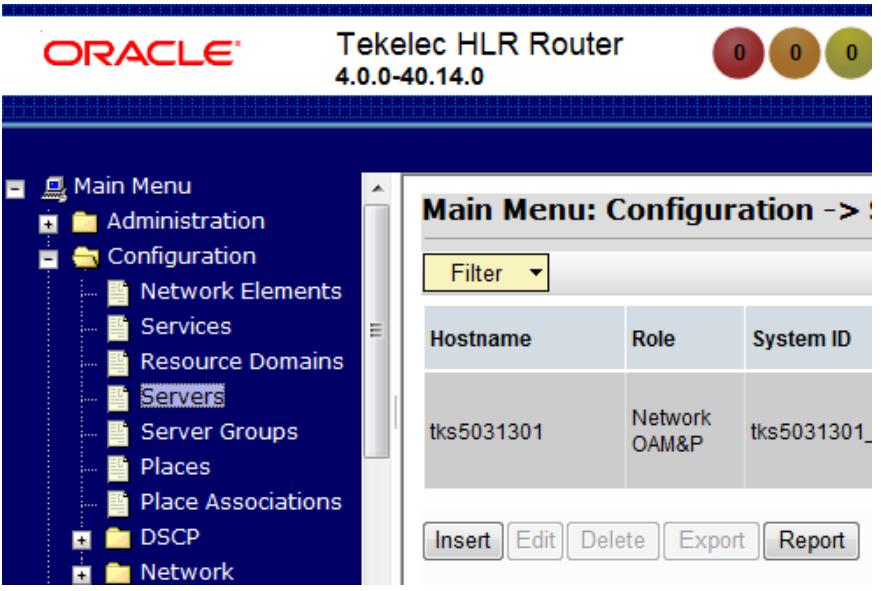
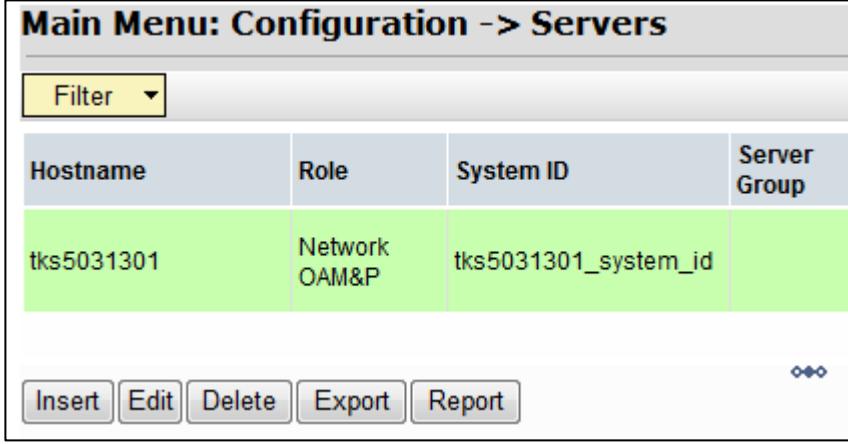
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result																																						
30.	<p>Primary NOAMP Server A GUI:</p> <p>1) Enter the assigned hostname</p> <p>2) Select “NETWORK OAM&P” as role</p> <p>3) Enter the assigned System ID (optional)</p> <p>4) Select “TekServer 1200” 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 bond1 and IMI interface to bond1</p> <p>9) Check the VLAN boxes</p> <p>10) Click “Add” button and assign IP address for the first NTP Server</p> <p>11) Optional: Click “Add” button and assign IP address for the second NTP Server</p> <p>12) Optional: Click on check box to select preferred NTP Servers</p>	<p>Adding a new server</p> <table border="1"> <thead> <tr> <th>Attribute</th><th>Value</th></tr> </thead> <tbody> <tr> <td>Hostname</td><td>tks5031301 *</td></tr> <tr> <td>Role</td><td>NETWORK OAM&P *</td></tr> <tr> <td>System ID</td><td>tks5031301_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>NOTE: After the Network Element Name is selected, the Interfaces fields will be displayed</p> <table border="1"> <thead> <tr> <th colspan="3">Interfaces:</th></tr> <tr> <th>Network</th><th>IP Address</th><th>Interface</th></tr> </thead> <tbody> <tr> <td>XMI (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> <table border="1"> <thead> <tr> <th colspan="2">NTP Server IP Address</th><th>Prefer</th></tr> <tr> <th colspan="2"><input type="button" value="Add"/></th><th></th></tr> </thead> <tbody> <tr> <td>10.250.32.51</td><td><input type="checkbox"/></td><td><input type="button" value="Remove"/></td></tr> <tr> <td>10.250.32.10</td><td><input type="checkbox"/></td><td><input type="button" value="Remove"/></td></tr> </tbody> </table> <p>Ok Apply Cancel</p>	Attribute	Value	Hostname	tks5031301 *	Role	NETWORK OAM&P *	System ID	tks5031301_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	<input type="button" value="Add"/>			10.250.32.51	<input type="checkbox"/>	<input type="button" value="Remove"/>	10.250.32.10	<input type="checkbox"/>	<input type="button" value="Remove"/>
Attribute	Value																																							
Hostname	tks5031301 *																																							
Role	NETWORK OAM&P *																																							
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10.250.32.10	<input type="checkbox"/>	<input type="button" value="Remove"/>																																						

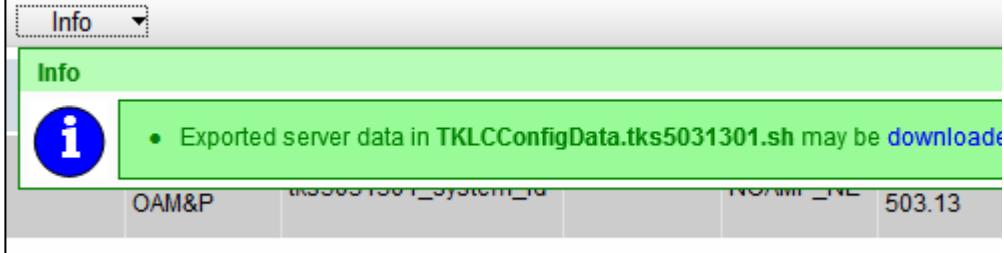
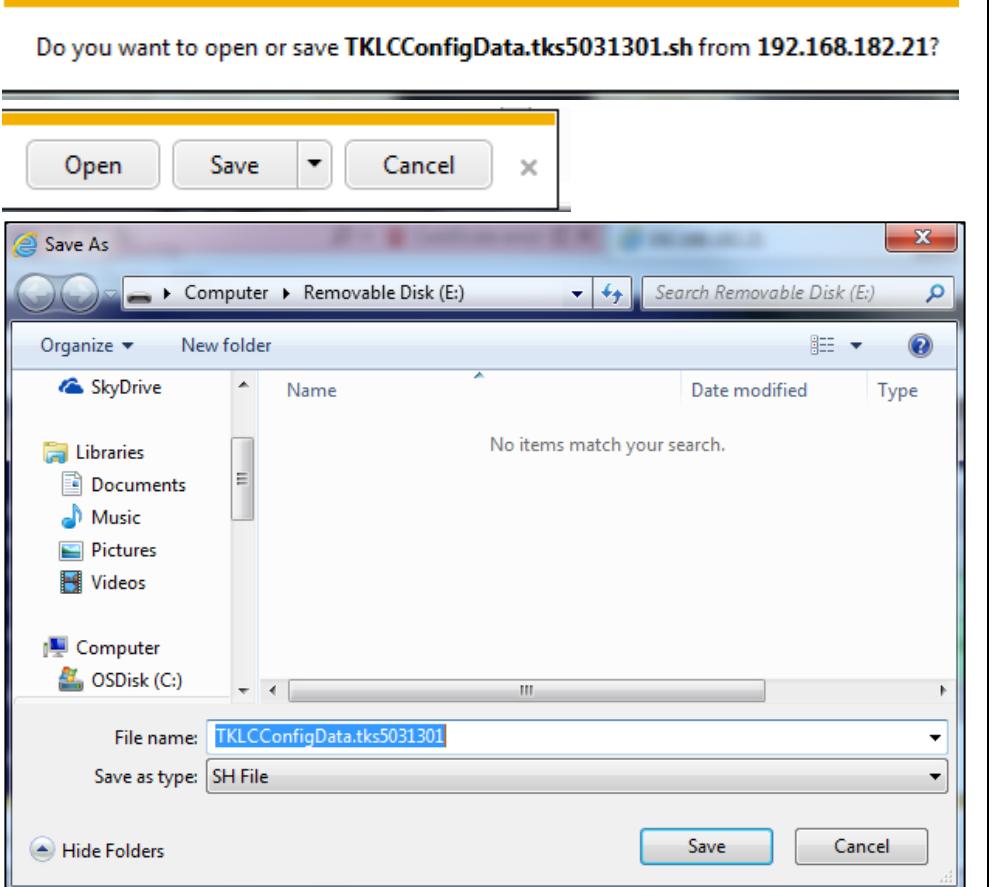
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result													
31. <input type="checkbox"/>	<p>Primary NOAMP Server A GUI:</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 “Pre-Validation passed”.</p> <p>2) Click the “Apply” dialogue button.</p>	 <p>The screenshot shows the configuration interface for a Primary NOAMP Server A. The configuration fields include:</p> <ul style="list-style-type: none"> Hostname: tks5031301 Role: NETWORK OAM&P System ID: tks5031301_system_id Hardware Profile: TekServer T1200 Network Element Name: NOAMP_NE Location: Frame 503.13 <p>Interfaces:</p> <table border="1"> <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</td> </tr> <tr> <td>IMI (192.168.182.32/28)</td> <td>192.168.182.37</td> <td>bond1</td> </tr> </tbody> </table> <p>NTP Servers:</p> <table border="1"> <thead> <tr> <th>NTP Server IP Address</th> <th>Prefer</th> </tr> </thead> <tbody> <tr> <td>10.250.32.10</td> <td><input type="checkbox"/></td> </tr> </tbody> </table> <p>Buttons at the bottom: Ok, Apply, Cancel.</p>	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	10.250.32.10	<input type="checkbox"/>
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														
10.250.32.10	<input type="checkbox"/>														

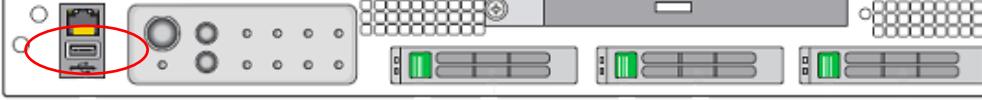
Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result						
32.	Primary NOAMP Server A GUI: <input type="checkbox"/> <p>The user will receive a banner information message showing that the data has been committed to the DB.</p>							
33.	Primary NOAMP Server A GUI: <i>Applying the NOAMP Server A Configuration File</i> 1) Select... <u>Main Menu</u> → Configuration → Servers 2) The configuration screen "Servers" will appear.	 <table border="1" data-bbox="910 925 1367 1178"> <thead> <tr> <th data-bbox="910 988 1041 1015">Hostname</th> <th data-bbox="1041 988 1155 1015">Role</th> <th data-bbox="1155 988 1367 1015">System ID</th> </tr> </thead> <tbody> <tr> <td data-bbox="910 1083 1041 1110">tks5031301</td> <td data-bbox="1041 1083 1155 1110">Network OAM&P</td> <td data-bbox="1155 1083 1367 1110">tks5031301</td> </tr> </tbody> </table>	Hostname	Role	System ID	tks5031301	Network OAM&P	tks5031301
Hostname	Role	System ID						
tks5031301	Network OAM&P	tks5031301						
34.	Primary NOAMP Server A GUI: 1) Use the cursor to select the Primary NOAMP Server A entry. <i>The selected row will be highlighted in GREEN</i> 2) Select the "Export" dialogue button.							

Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result
35.	<p>Primary NOAMP Server A GUI:</p> <p>1) A banner information message will show a download link for the Primary NOAMP Server A configuration data.</p> <p>2) Click on the word “downloaded” to download and save the configuration file.</p>	 <p>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.<hostname>.sh.</p>
36.	<p>Primary NOAMP Server A GUI:</p> <p>1) Click the “Save As” dialogue button.</p> <p>2) Save Primary NOAMP Server A configuration file to a USB flash drive.</p>	
37.	<p>Primary NOAMP Server A console:</p> <p>Access server console.</p>	<p>Connect to the Primary NOAMP Server A console using one of the access methods described in Section 2.0</p>

Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

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

Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result
44. <input type="checkbox"/>	Primary NOAMP Server A console: After the script completes, a broadcast message will appear Press the <ENTER> key to return to the command prompt.	*** NO OUTPUT FOR ≈ 3...20 MINUTES *** Broadcast message from root@tks5031301 (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. <ENTER>
45. <input type="checkbox"/>	Primary NOAMP Server A console: Initiate a reboot of this server. Wait until the reboot completes	# init 6 Broadcast message from root@tks5031301 (/dev/pts/0) at 15:14 ... The system is going down for reboot NOW!
46. <input type="checkbox"/>	Primary NOAMP Server A: Log into the server as the "root" user	login: root Password: <root_password>
47. <input type="checkbox"/>	Primary NOAMP Server A: Output similar to that shown on the right will appear as the server accesses the command prompt.	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 ~]# <input type="checkbox"/>
48. <input type="checkbox"/>	Primary NOAMP Server A: Verify that XMI and IMI IP addresses entered in Step 30 have been applied	# ifconfig grep in grep -v inet6 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

Procedure 4: Configuring Primary NOAMP Server A (1st NOAM site only)

Step	Procedure	Result
49. <input type="checkbox"/>	Primary NOAMP Server A: Verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).	# ntpq -np <pre> 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 -</pre>
50. <input type="checkbox"/>	Primary NOAMP Server A console: Verify alarm status of this server	# alarmMgr --alarmStatus <p>NOTE: 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. <input type="checkbox"/>	Primary NOAMP Server A console: Verify the current health of this server	# syscheck <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>NOTE: 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.

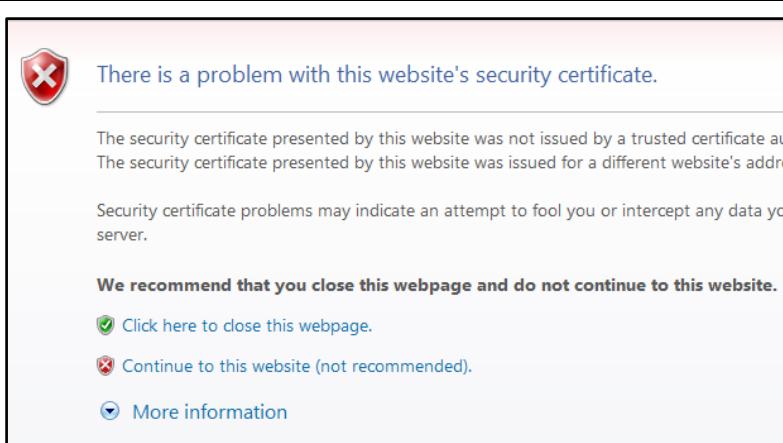
Following servers shall be configured by this Procedure 5:

<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

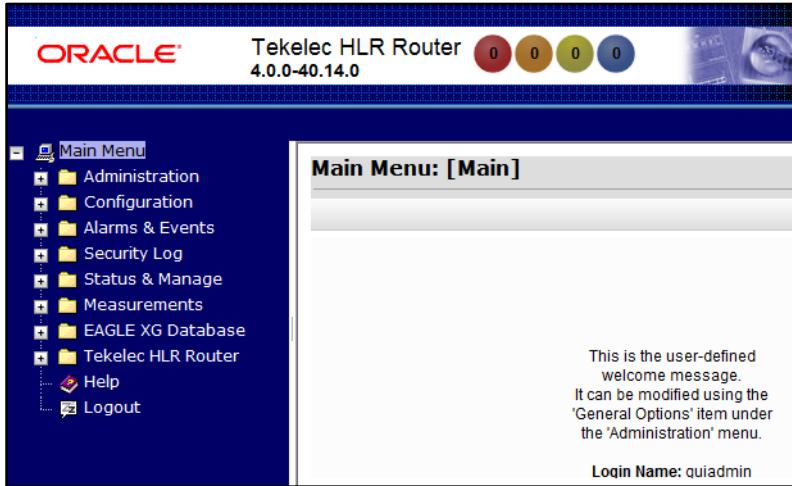
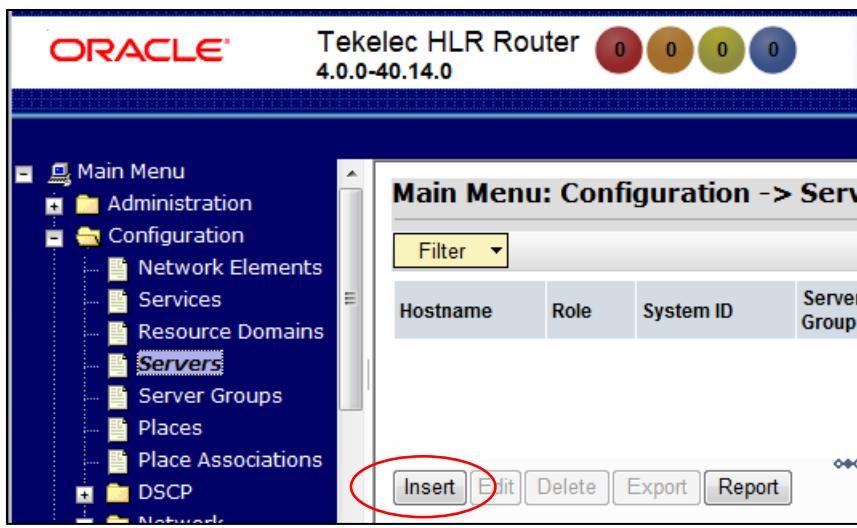
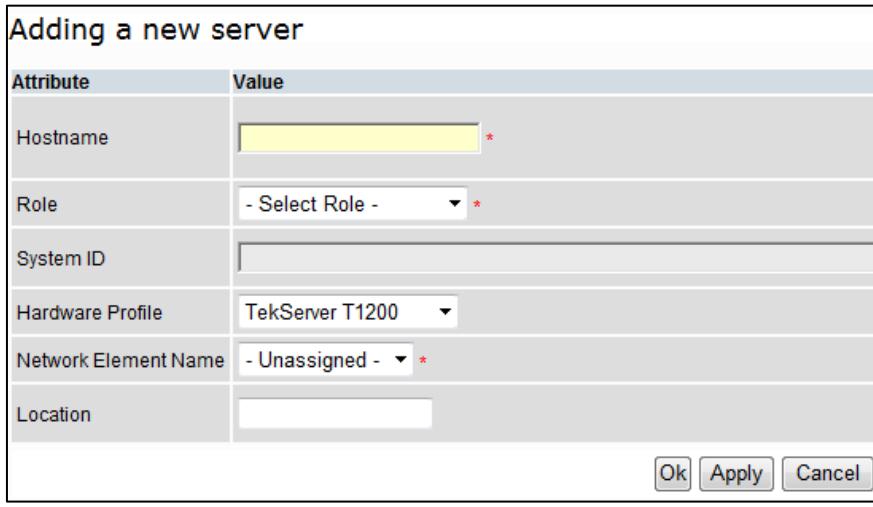
Note: The above list of HLRR T1200 servers is an example . The actual number of QS, DR-NOAMP, SOAM and MP servers will vary per customer site. Start this procedure by configuring **Primary NOAMP Server B**.

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

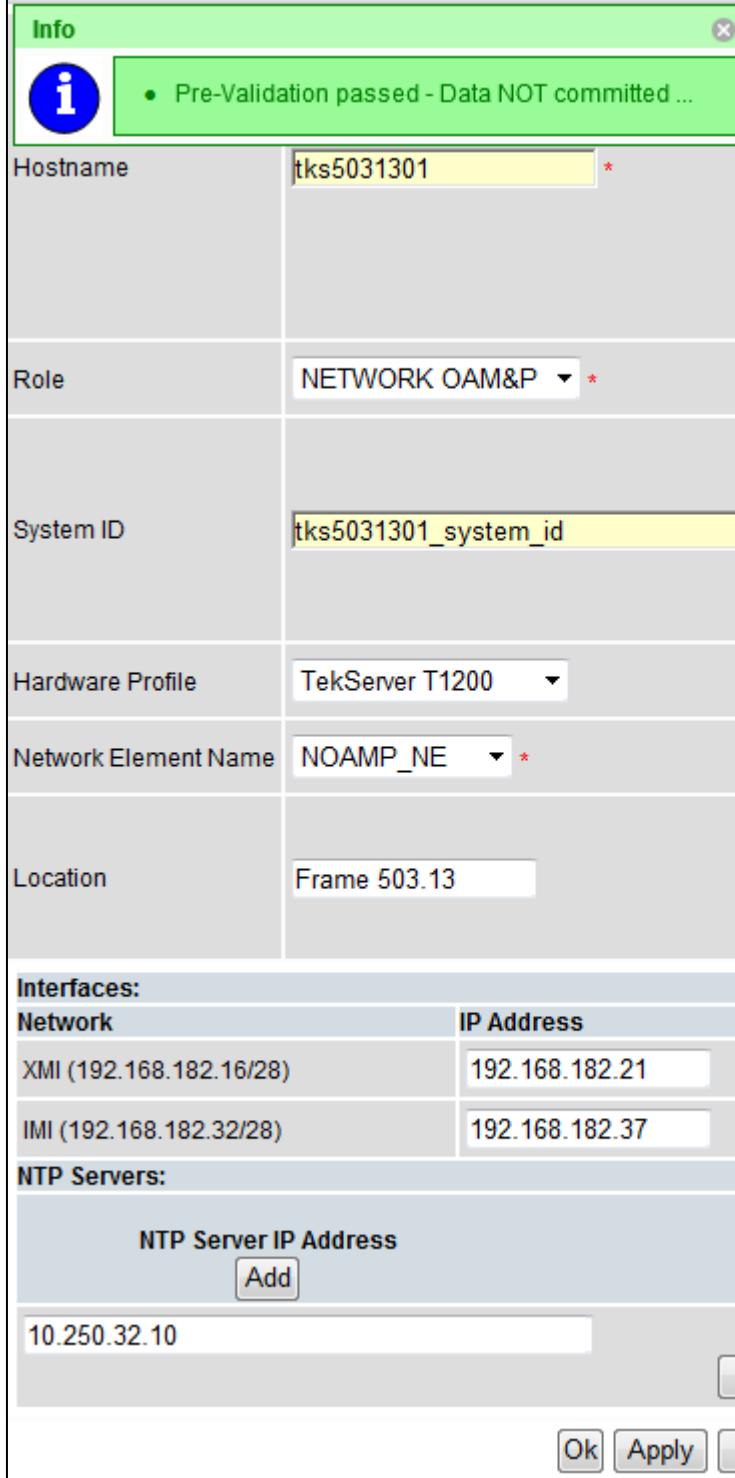
Procedure 5: Configuring Remaining HLRR Servers (All Sites)

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

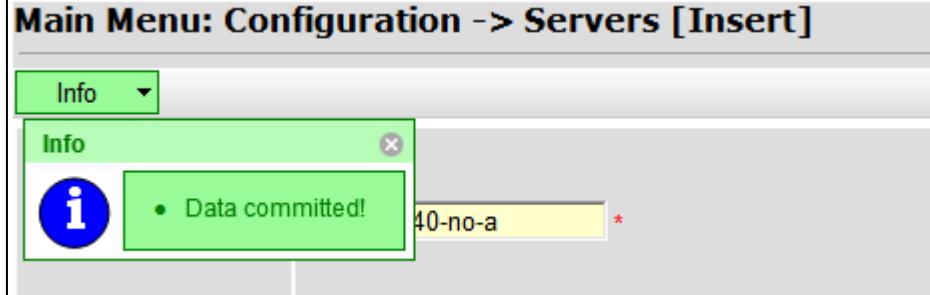
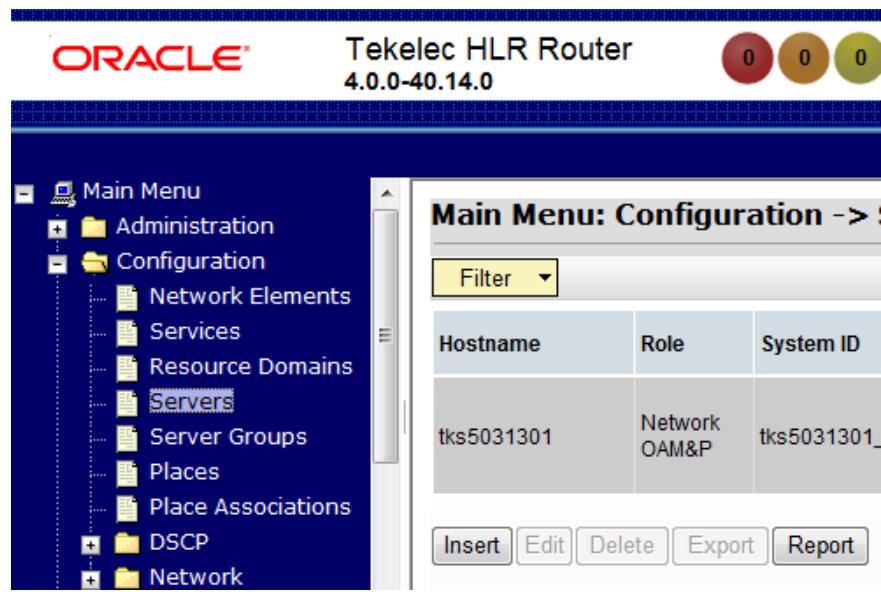
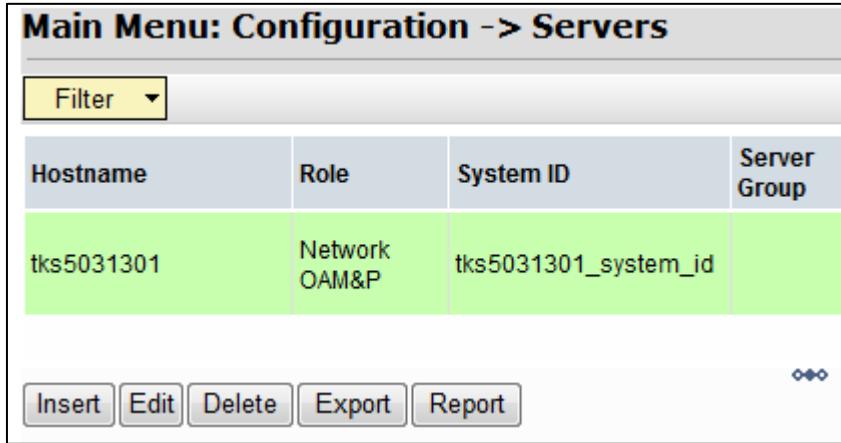
Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result																																
6.	<p>Primary NOAMP Server A GUI:</p> <p>Configuring HLRR Server</p> <p>1) Enter the assigned hostname</p> <p>2) Select the appropriate server Role from the pull-down menu.</p> <p>3) Enter the assigned System ID (optional)</p> <p>4) Select TekServer 1200 as hardware profile</p> <p>5) Select the Network Element Name 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 bond1 and IMI interface to bond1</p> <p>9) Check the VLAN boxes</p> <p>10) Click “Add” button and assign IP address for the first NTP Server</p> <p>11) Optional: Click “Add” button and assign IP address for the second NTP Server</p> <p>12) Optional: Click on check box to select preferred NTP Server(s)</p>	<p>Adding a new server</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Hostname</td> <td>tks5031301 *</td> </tr> <tr> <td>Role</td> <td>NETWORK OAM&P *</td> </tr> <tr> <td>System ID</td> <td>tks5031301_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>NOTE: After the Network Element Name is selected, the Interfaces fields will be displayed</p> <p>NOTE: 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 border="1"> <thead> <tr> <th colspan="3">Interfaces:</th> </tr> <tr> <th>Network</th> <th>IP Address</th> <th>Interface</th> </tr> </thead> <tbody> <tr> <td>XMI (192.168.182.16/28)</td> <td>192.168.182.21</td> <td>bond1 <input checked="" type="button"/> VLAN (2)</td> </tr> <tr> <td>IMI (192.168.182.32/28)</td> <td>192.168.182.37</td> <td>bond1 <input checked="" type="button"/> VLAN (3)</td> </tr> </tbody> </table> <table border="1"> <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> <p>Ok Apply Cancel</p>	Attribute	Value	Hostname	tks5031301 *	Role	NETWORK OAM&P *	System ID	tks5031301_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="button"/> VLAN (2)	IMI (192.168.182.32/28)	192.168.182.37	bond1 <input checked="" type="button"/> VLAN (3)	NTP Server IP Address	Prefer	10.250.32.51	<input type="checkbox"/> Remove	10.250.32.10	<input type="checkbox"/> Remove
Attribute	Value																																	
Hostname	tks5031301 *																																	
Role	NETWORK OAM&P *																																	
System ID	tks5031301_system_id																																	
Hardware Profile	TekServer T1200																																	
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10.250.32.10	<input type="checkbox"/> Remove																																	

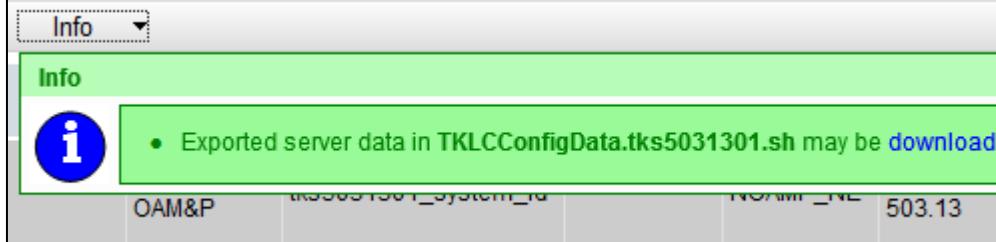
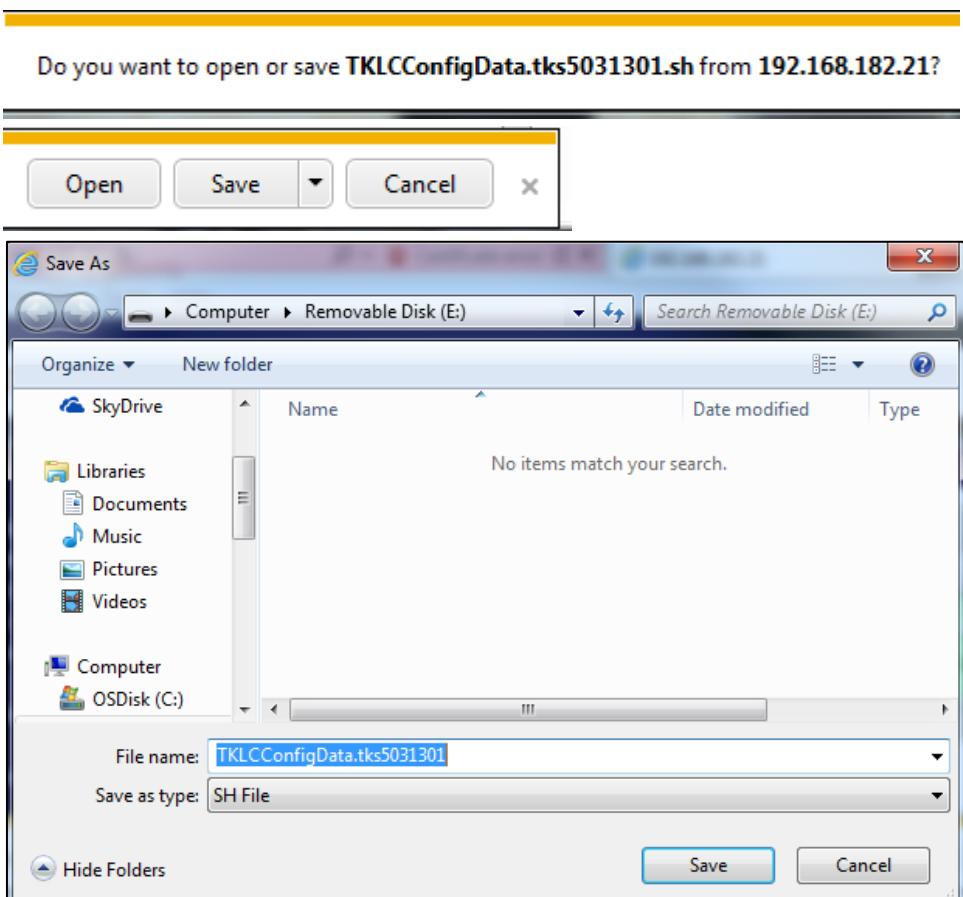
Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
7.	<p>Primary NOAMP Server A GUI:</p> <p>Configuring HLRR Server</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 “Pre-Validation passed”.</p> <p>2) Click the “Apply” dialogue button.</p>	

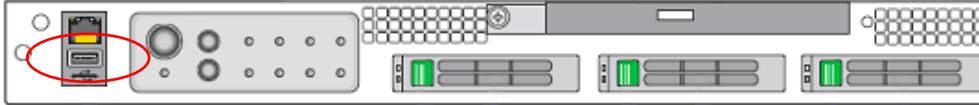
Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
8.	<p>Primary NOAMP Server A GUI:</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.	<p>Primary NOAMP Server A GUI:</p> <p><i>Applying HLRR Server Configuration File</i></p> <p>1) Select... <u>Main Menu</u> → Configuration → Servers</p> <p>2) The configuration screen “Servers” will appear.</p>	
10.	<p>Primary NOAMP Server A GUI:</p> <p><i>Applying HLRR Server Configuration File</i></p> <p>1) Use the cursor to select the newly added HLRR server entry. <i>The selected row will be highlighted in GREEN</i></p> <p>2) Select the “Export” dialogue button.</p>	

Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
11.	<p>Primary NOAMP Server A GUI:</p> <p>Applying HLRR Server Configuration File</p> <p>1) A banner information message will show a download link for the HLRR Server configuration data.</p> <p>2) Click on the word “downloaded” to download and save the configuration file.</p>	 <p>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.<hostname>.sh.</p>
12.	<p>Primary NOAMP Server A GUI:</p> <p>Applying HLRR Server Configuration File</p> <p>1) Click the “Save As” dialogue button.</p> <p>2) Save HLRR Server configuration file to a USB flash drive.</p>	

Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
13. <input type="checkbox"/>	HLRR Server console: Access server console	Connect to the HLRR Server console using one of the access methods described in Section 2.0
14. <input type="checkbox"/>	HLRR Server console: Log into the server as the “ root ” user.	login: root Password: <root_password>
15. <input type="checkbox"/>	HLRR Server console: 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"/>	HLRR Server console: Insert the USB flash drive containing the server configuration file into the USB port on the front panel	 Figure 18 shows the front panel of the T1200 router. On the left side, there is a row of ports and buttons. The second port from the left is a USB port, indicated by a small icon of a USB drive. This port is highlighted with a red oval.
17. <input type="checkbox"/>	HLRR Server console: Press the <ENTER> key to return to the command prompt.	# sde: assuming drive cache: write through sde: assuming drive cache: write through <ENTER> #
18. <input type="checkbox"/>	HLRR Server console: Verify that the USB flash drive has been mounted by the OS.	# df grep usb /dev/sde1 1018088 603372 414716 60% /var/tmp/usb_flash

Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
19. <input type="checkbox"/>	HLRR Server console: Copy the server configuration file to the “ /var/tmp ” directory on the server, rename the file by omitting the server hostname from the file name.	Example: TKLCConfigData.<server_hostname>.sh → will translate to → TKLCConfigData.sh # cp -p /var/tmp/usb_flash/TKLCConfigData.tks5031301.sh /var/tmp/TKLCConfigData.sh NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.
20. <input type="checkbox"/>	HLRR Server console: After the script completes, a broadcast message will appear Press the <ENTER> key to return to the command prompt.	*** NO OUTPUT FOR ≈ 3...20 MINUTES *** Broadcast message from root@tks5031301 (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. <ENTER>
21. <input type="checkbox"/>	HLRR Server console: Initiate a reboot of this server. Wait until the reboot completes	# init 6 Broadcast message from root@tks5031301 (/dev/pts/0) at 15:14 ... The system is going down for reboot NOW!
22. <input type="checkbox"/>	HLRR Server console: Log into the server as the “ root ” user	login: root Password: <root_password>
23. <input type="checkbox"/>	HLRR Server console: Output similar to that shown on the right will appear as the server accesses the command prompt.	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 ~]#

Procedure 5: Configuring Remaining HLRR Servers (All Sites)

Step	Procedure	Result
24. <input type="checkbox"/>	HLRR Server console: Verify that XMI and IMI IP addresses entered in Step 6 have been applied	<pre># ifconfig grep in grep -v inet6 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 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. <input type="checkbox"/>	HLRR Server console: Verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).	<pre># ntpq -np remote refid st t when poll reach delay ===== *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</pre>
26. <input type="checkbox"/>	HLRR Server console: Verify alarm status of this server	<pre># alarmMgr --alarmStatus</pre> <p>NOTE: 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. <input type="checkbox"/>	HLRR Server console: Verify the current health of this server	<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>NOTE: If any errors are reported on the output, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.</p>

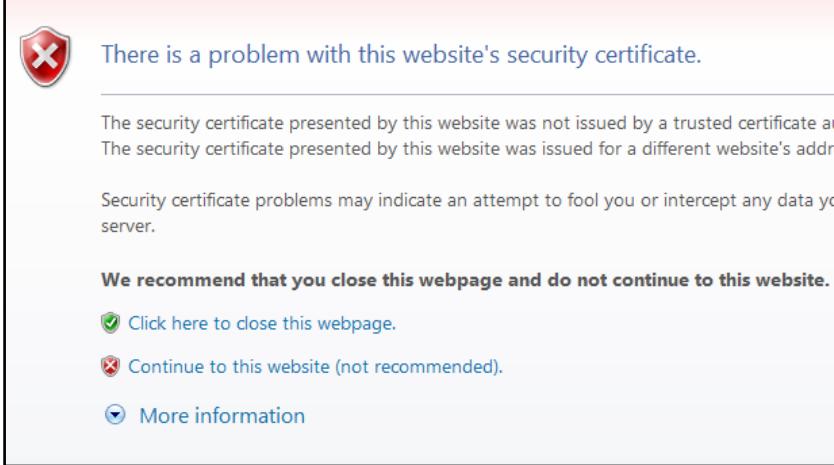
Procedure 5: Configuring Remaining HLRR Servers (All Sites)

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

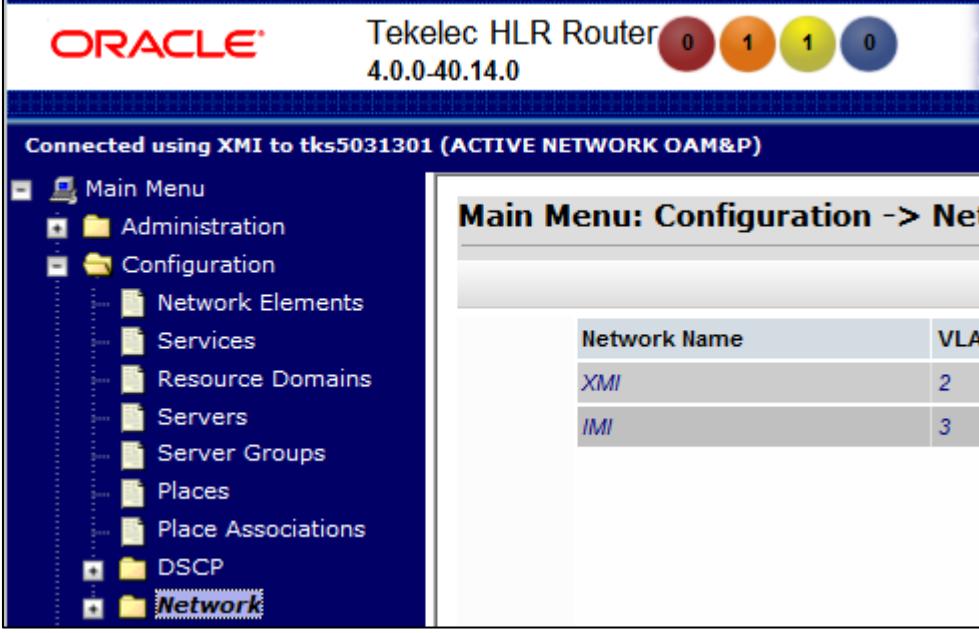
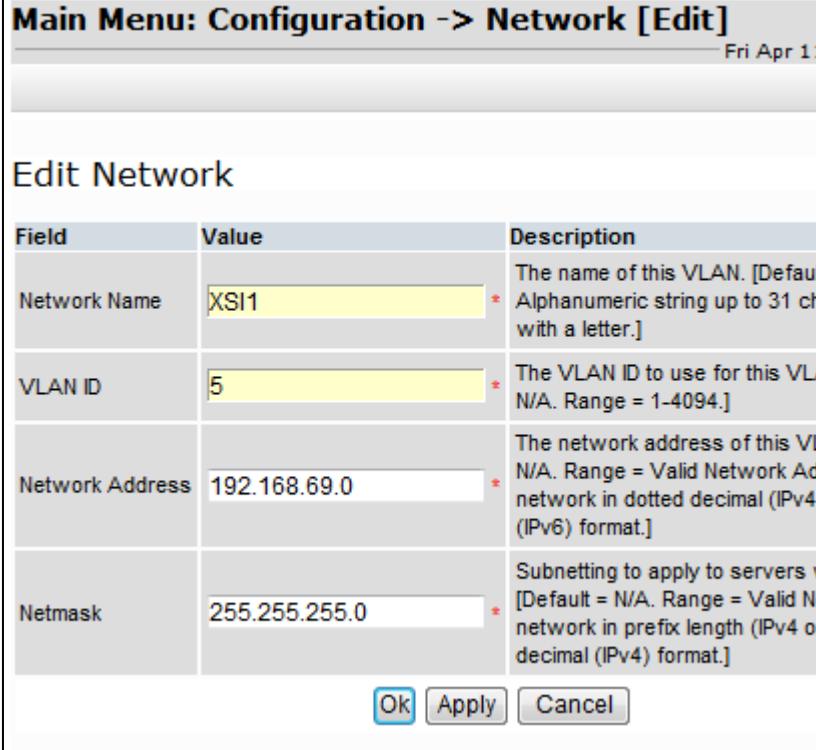
Procedure 6: Configure XSI Networks

Step	Procedure	Result
1.	<p>Primary NOAMP Server A GUI:</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: “Continue to this website (not recommended)”</p>	
2.	<p>Primary NOAMP Server A GUI:</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 6: Configure XSI Networks

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

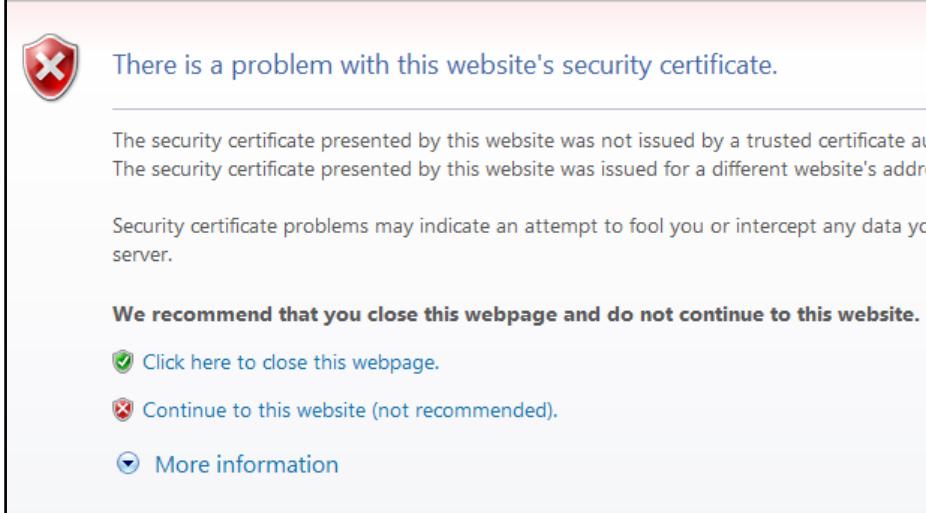
Step	Procedure	Result
5.	<p>Primary NOAMP Server A GUI:</p> <p><i>Add the XSI 1 and XSI 2 networks</i></p> <p>Select...</p> <p>Main Menu → Configuration → Network</p> <p>...as shown on the right.</p>	
6.	<p>NOAMP Server A</p> <p>Configuration screen “Network [Insert]” will appear</p> <p>1) Enter all 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>	
THIS PROCEDURE HAS BEEN COMPLETED		

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

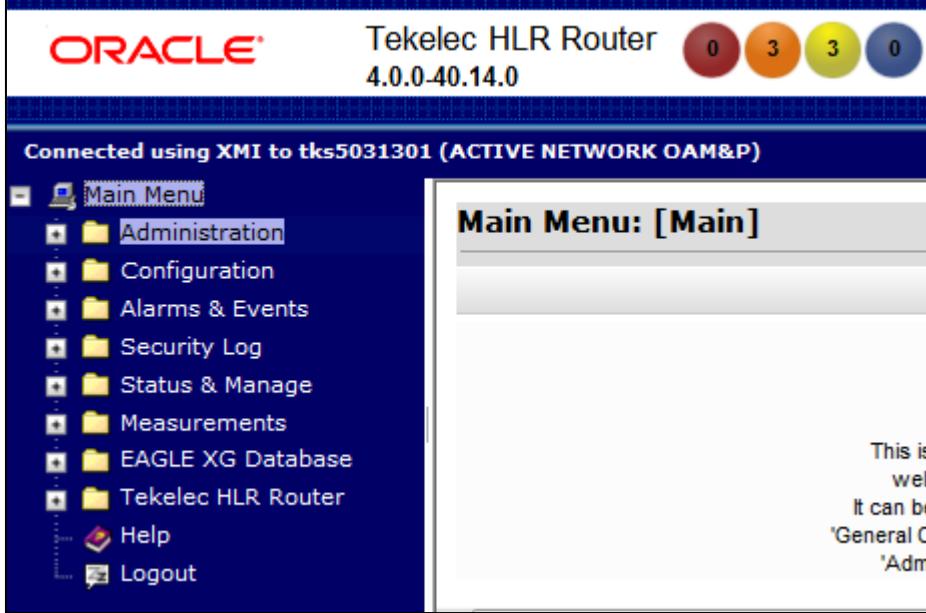
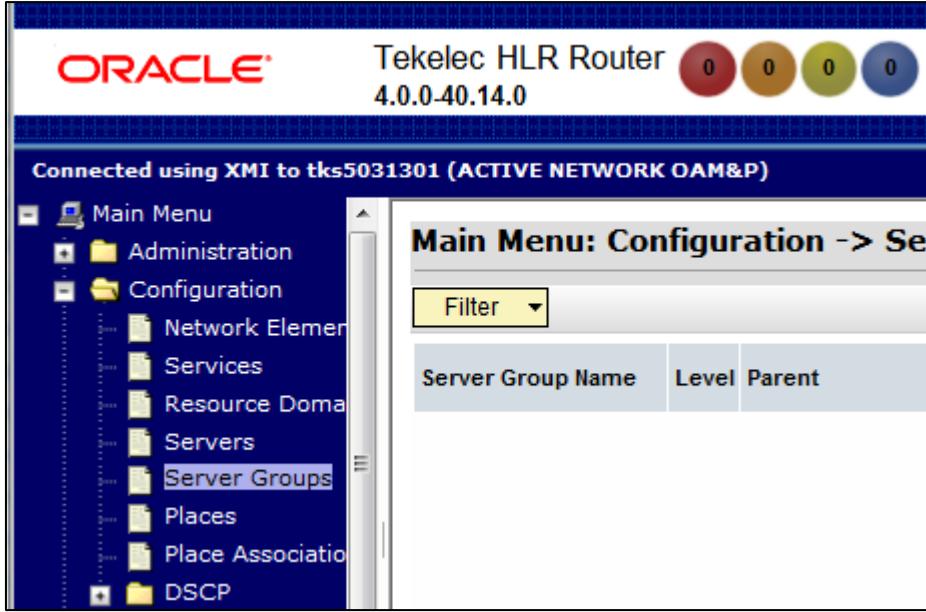
The user should be aware that during the NOAMP Pairing procedure, various errors may be seen at different stages of the procedure. During the execution of a step, the user is directed to ignore errors related to values other than the ones referenced by that step.

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

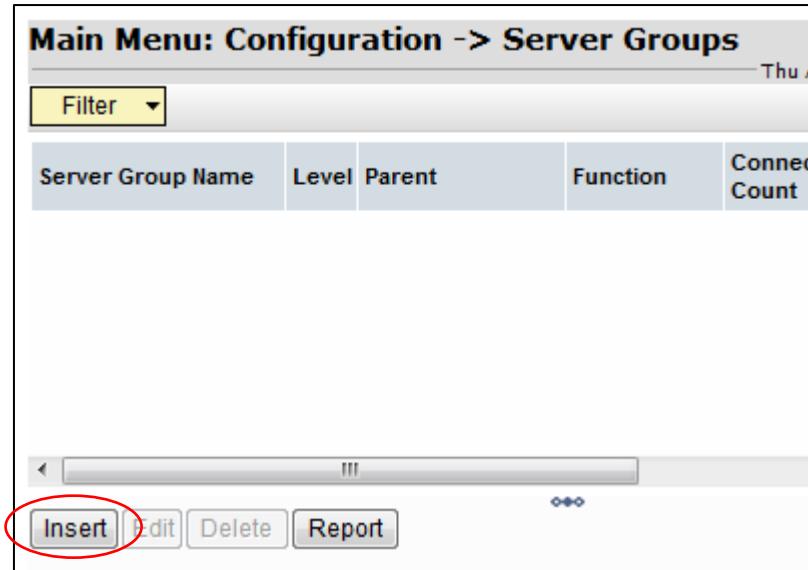
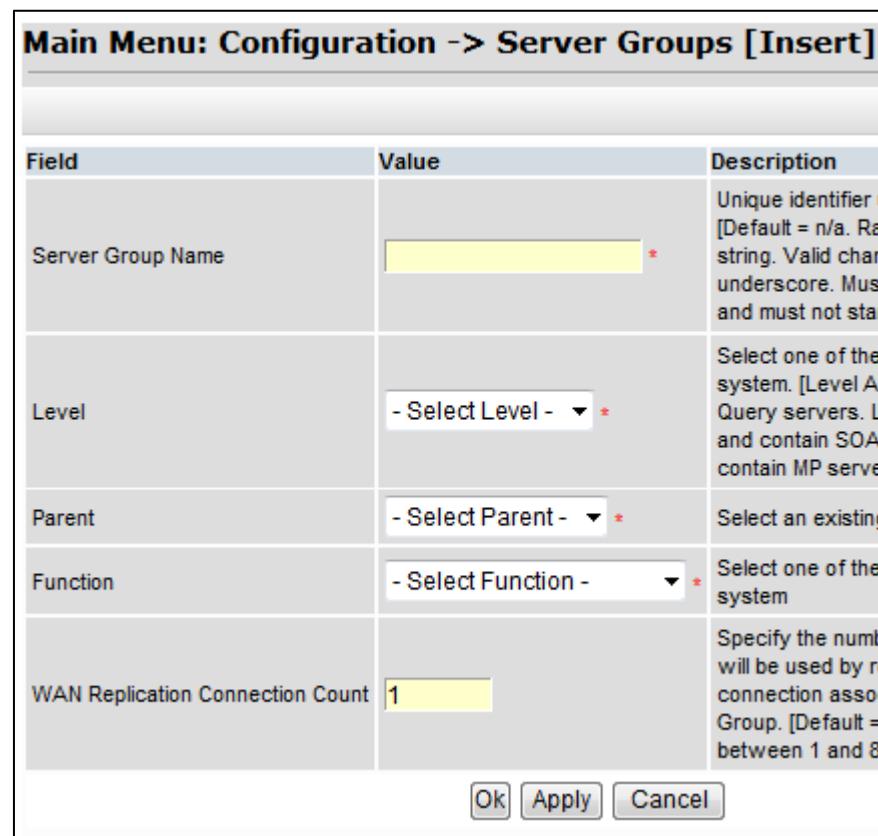
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
1. <input type="checkbox"/>	<p>Primary NOAMP Server A GUI:</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: “Continue to this website (not recommended)”</p>	
2. <input type="checkbox"/>	<p>Primary NOAMP Server A GUI:</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>	

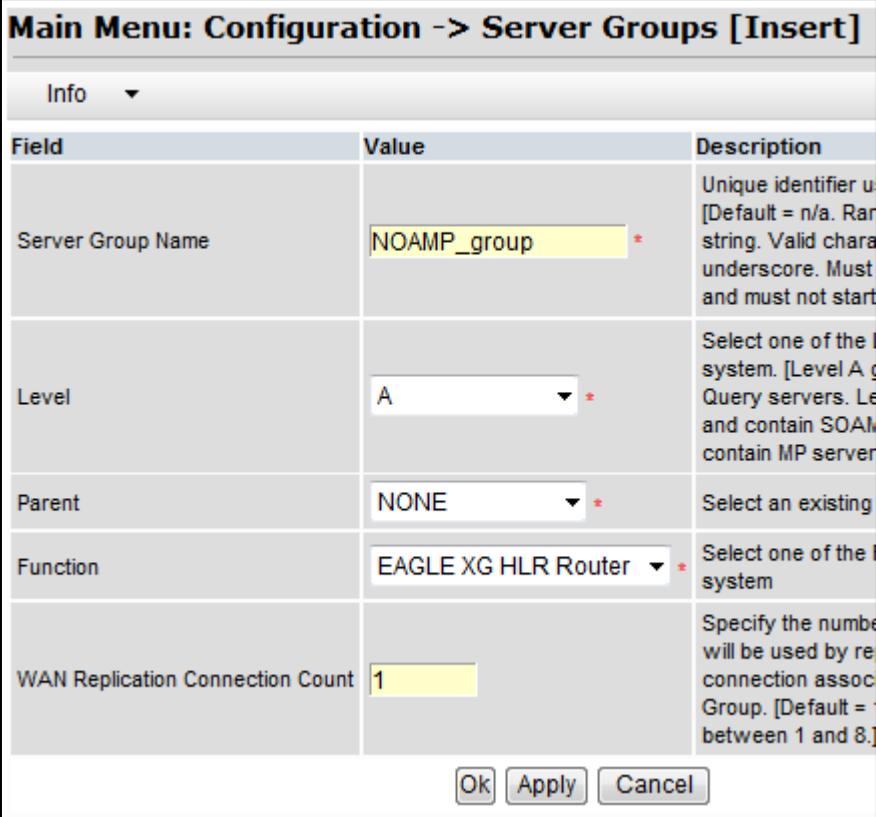
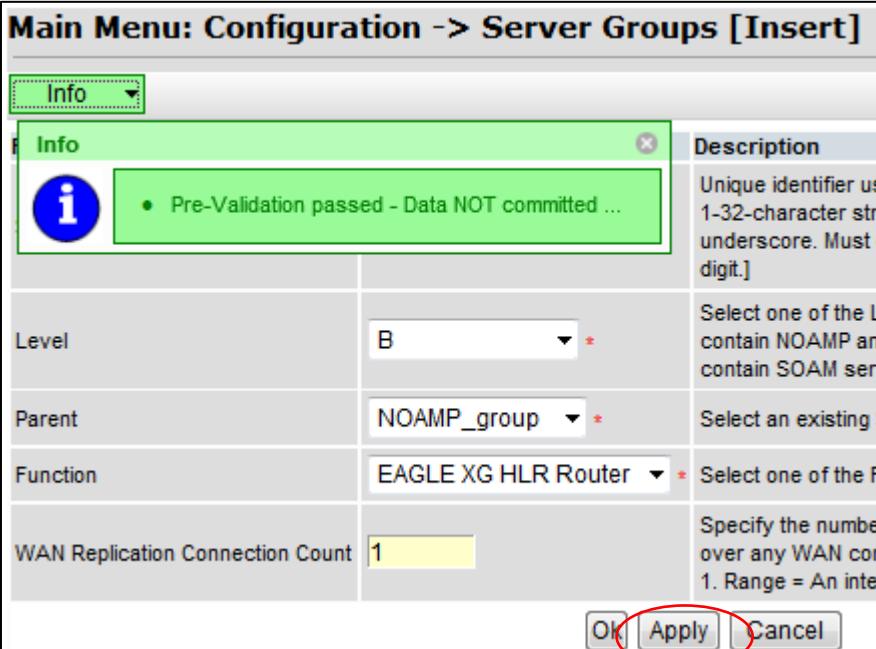
Procedure 7: OAM Pairing for the Primary NOAMP Servers

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

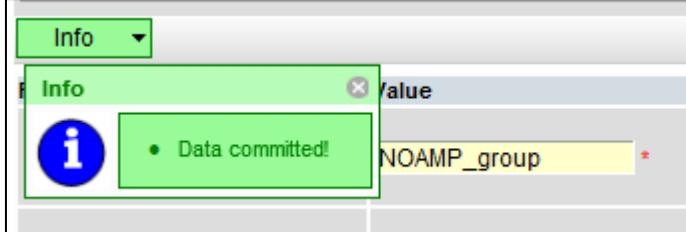
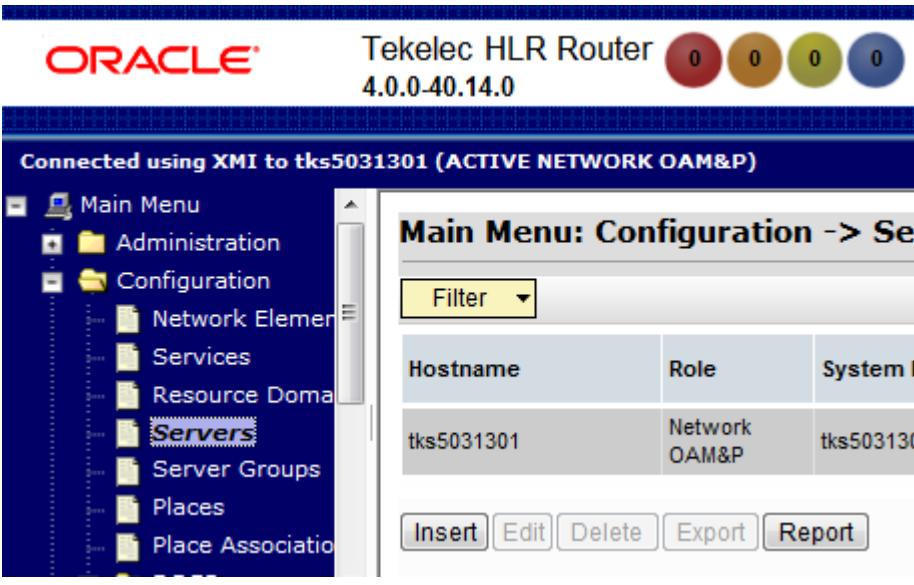
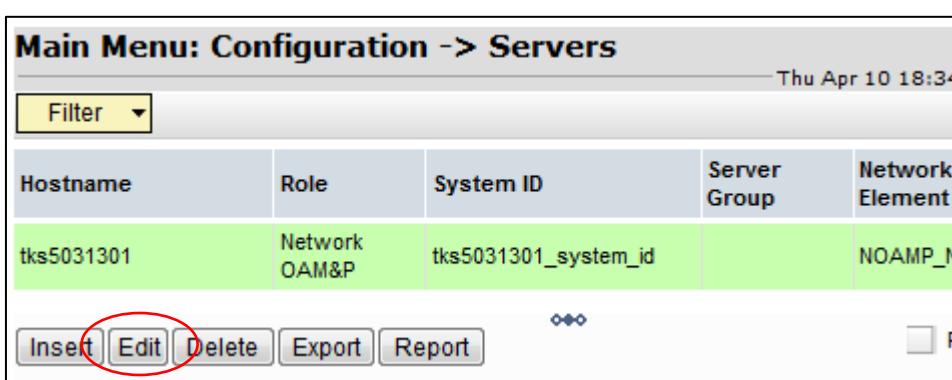
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
5.	<p>Primary NOAMP Server A:</p> <p>1) The user will be presented with the “Server Groups” configuration screen as shown on the right.</p> <p>2) Select the “Insert” dialogue button from the bottom left corner of the screen.</p>	
6.	<p>Primary NOAMP Server A:</p> <p>The configuration screen “Server Groups [Insert]” will appear</p>	

Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
7.	<p>Primary NOAMP Server A:</p> <ol style="list-style-type: none"> 1) Input the Server Group Name. 2) Select “A” on the “Level” pull-down menu. 3) Select “None” on the “Parent” pull-down menu. 4) Select “EAGLE XG HLR Router” on the “Function” pull-down menu. 5) Enter value for “WAN Replication Connection Count” field 	<p>Main Menu: Configuration -> Server Groups [Insert]</p> 
8.	<p>Primary NOAMP Server A:</p> <ol style="list-style-type: none"> 1) The user should be presented with a banner information message stating “Pre-Validation passed”. 2) Click on “Apply” button. 	<p>Main Menu: Configuration -> Server Groups [Insert]</p> 

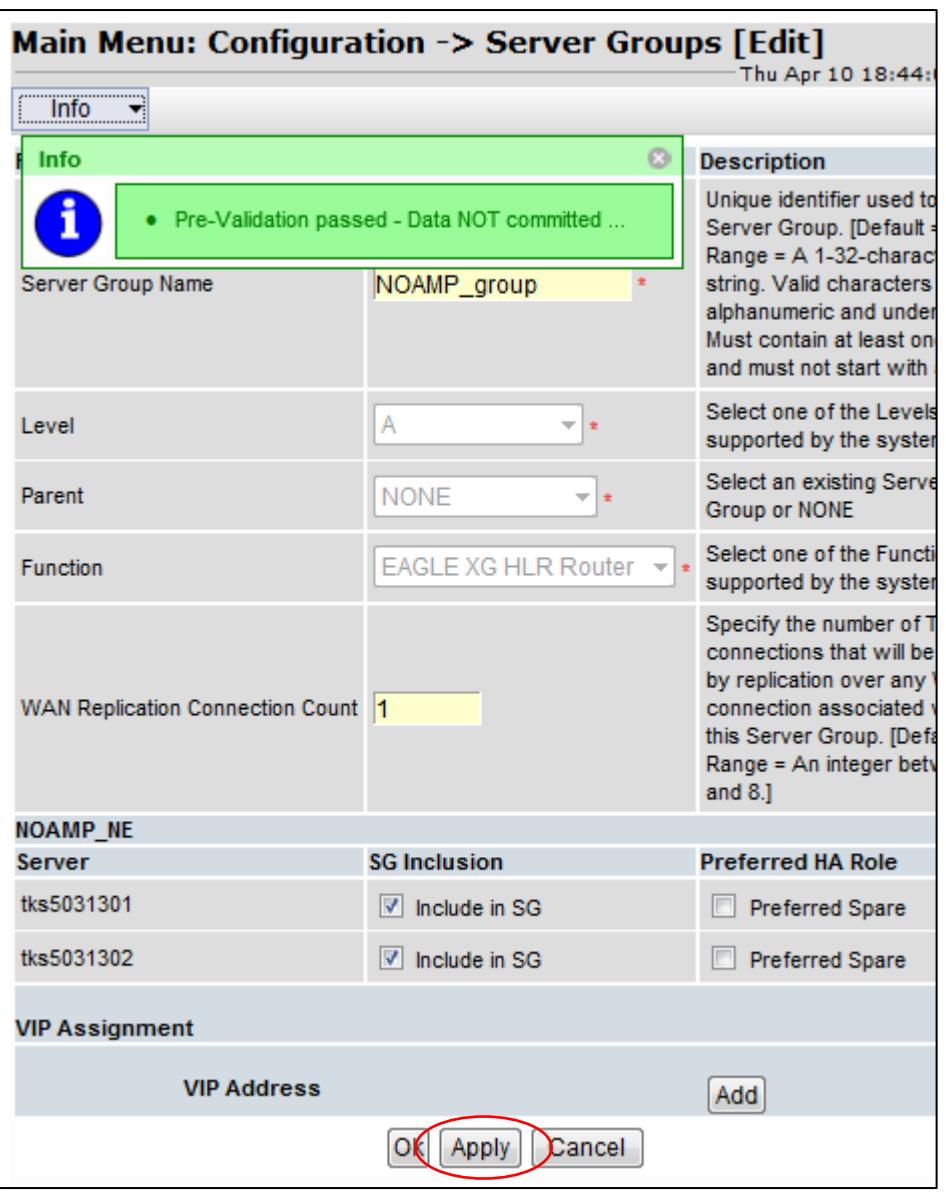
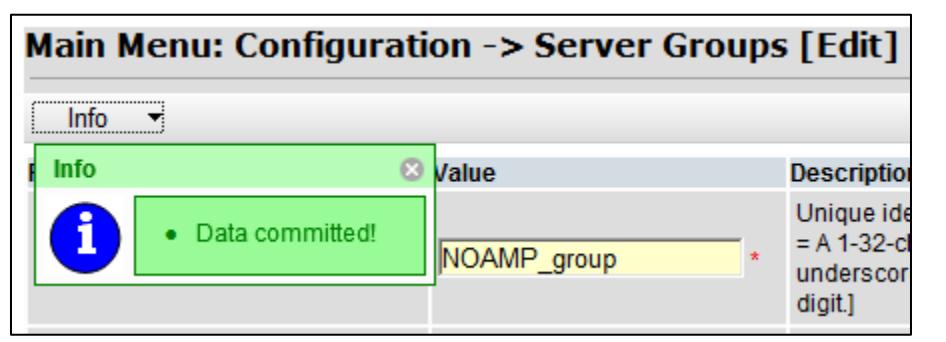
Procedure 7: OAM Pairing for the Primary NOAMP Servers

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

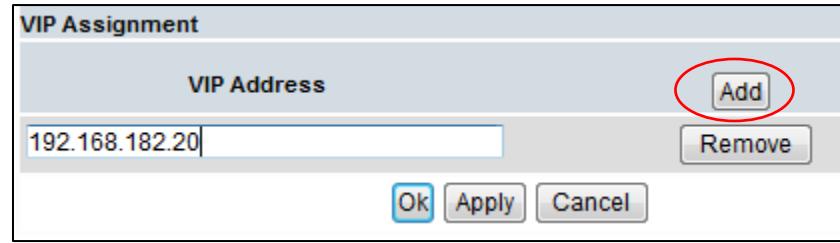
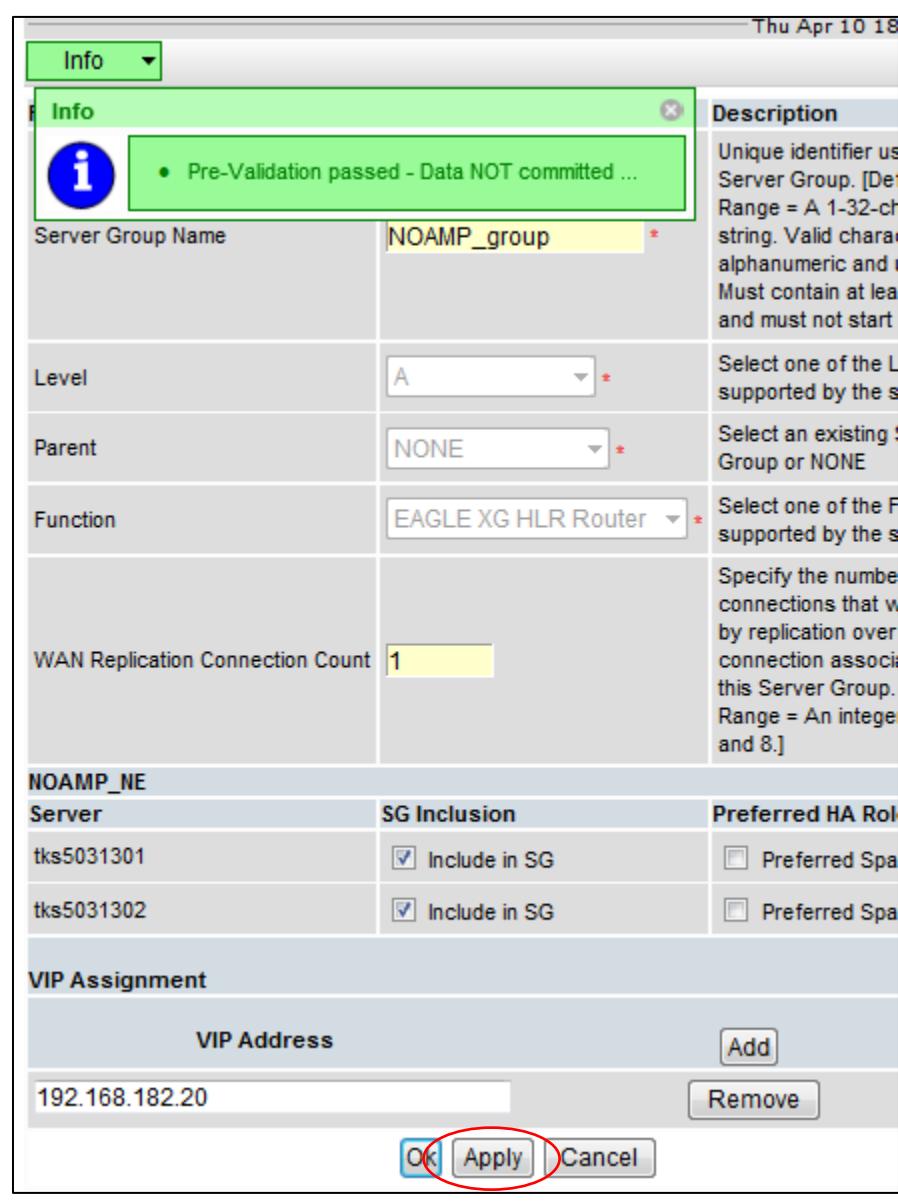
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result																												
12. <input type="checkbox"/>	<p>Primary NOAMP Server A:</p> <p>The user will be presented with the “Server Groups [Edit]” screen as shown on the right</p>	<p>Main Menu: Configuration -> Server Groups [Edit] Thu Apr 10 18:44:03</p> <p>Field Value Description</p> <table border="1"> <tbody> <tr> <td>Server Group Name</td> <td>NOAMP_group</td> <td>Unique identifier used to label this Server Group. [Default = none] Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alphanumeric character and must not start with a digit.</td> </tr> <tr> <td>Level</td> <td>A</td> <td>Select one of the Levels supported by the system</td> </tr> <tr> <td>Parent</td> <td>NONE</td> <td>Select an existing Server Group or 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 TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1] Range = An integer between 1 and 8.]</td> </tr> </tbody> </table> <p>NOAMP_NE</p> <table border="1"> <tbody> <tr> <th>Server</th> <th>SG Inclusion</th> <th>Preferred HA Role</th> </tr> <tr> <td>tks5031301</td> <td><input type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td>tks5031302</td> <td><input type="checkbox"/> Include in SG</td> <td><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p>VIP Assignment</p> <table border="1"> <tbody> <tr> <td>VIP Address</td> <td><input type="button" value="Add"/></td> </tr> <tr> <td colspan="2"><input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/></td> </tr> </tbody> </table>	Server Group Name	NOAMP_group	Unique identifier used to label this Server Group. [Default = none] Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alphanumeric character and must not start with a digit.	Level	A	Select one of the Levels supported by the system	Parent	NONE	Select an existing Server Group or NONE	Function	EAGLE XG HLR Router	Select one of the Functions supported by the system	WAN Replication Connection Count	1	Specify the number of TCP connections that will be used by replication over any WAN connection associated with this Server Group. [Default = 1] Range = An integer between 1 and 8.]	Server	SG Inclusion	Preferred HA Role	tks5031301	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	tks5031302	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	VIP Address	<input type="button" value="Add"/>	<input type="button" value="Ok"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/>	
Server Group Name	NOAMP_group	Unique identifier used to label this Server Group. [Default = none] Range = A 1-32-character string. Valid characters are alphanumeric and underscore. Must contain at least one alphanumeric character and must not start with a digit.																												
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VIP Address	<input type="button" value="Add"/>																													
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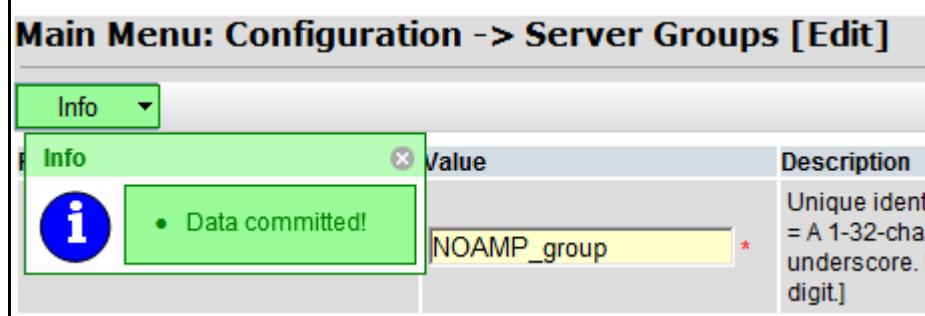
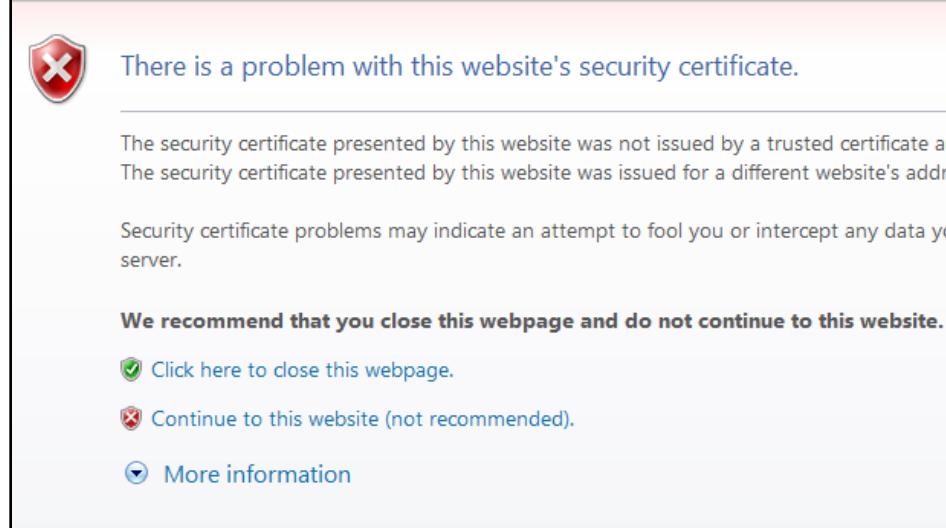
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
13.	<p>NOAMP Server A:</p> <p>1) To add a server to the server group, select the checkbox for SG Inclusion. 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 “Preferred HA Role”.</p> <p>3) The user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>4) Click “Apply” to submit</p>	
14.	<p>Primary NOAMP Server A:</p> <p>The user should be presented with a banner information message stating “Data committed”</p>	

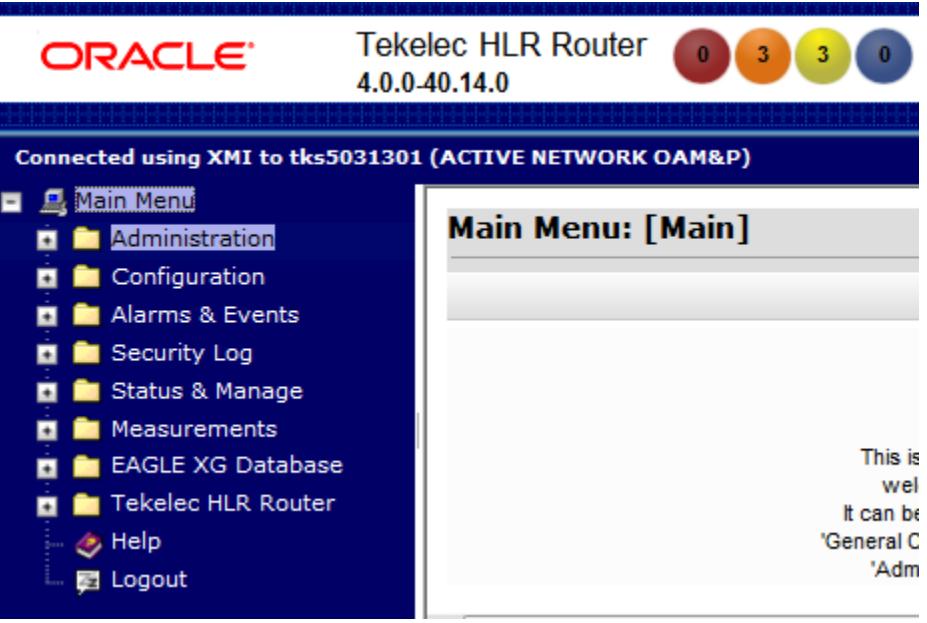
Procedure 7: OAM Pairing for the Primary NOAMP Servers

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

Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
17. <input type="checkbox"/>	Primary NOAMP Server A: The user should be presented with a banner information message stating “Data committed”.	
18. <input type="checkbox"/>	Primary NOAMP Server A: Click the “Logout” link on the Primary NOAMP GUI.	
19. <input type="checkbox"/>	IMPORTANT: Wait at least 5 minutes before proceeding on to the next Step.	<ul style="list-style-type: none"> Now that the server(s) have been paired within a Server Group they must establish a master/slave relationship for High Availability (HA). It may take several minutes for this process to be completed. Allow a minimum of 5 minutes before continuing to the next Step.
20. <input type="checkbox"/>	Primary NOAMP VIP GUI: Launch IE web browser and connect to the XML VIP IP address assigned in Step 15 above Click on this link: “Continue to this website (not recommended)”	

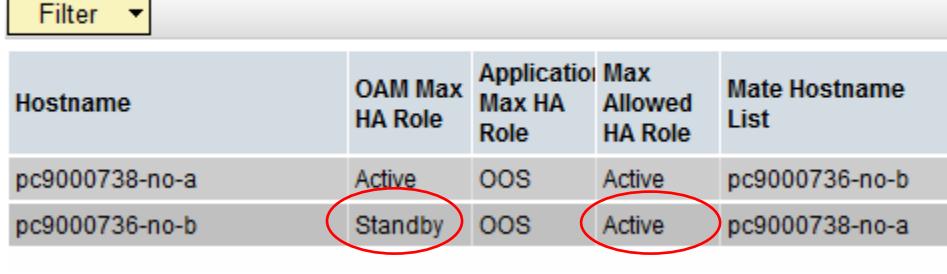
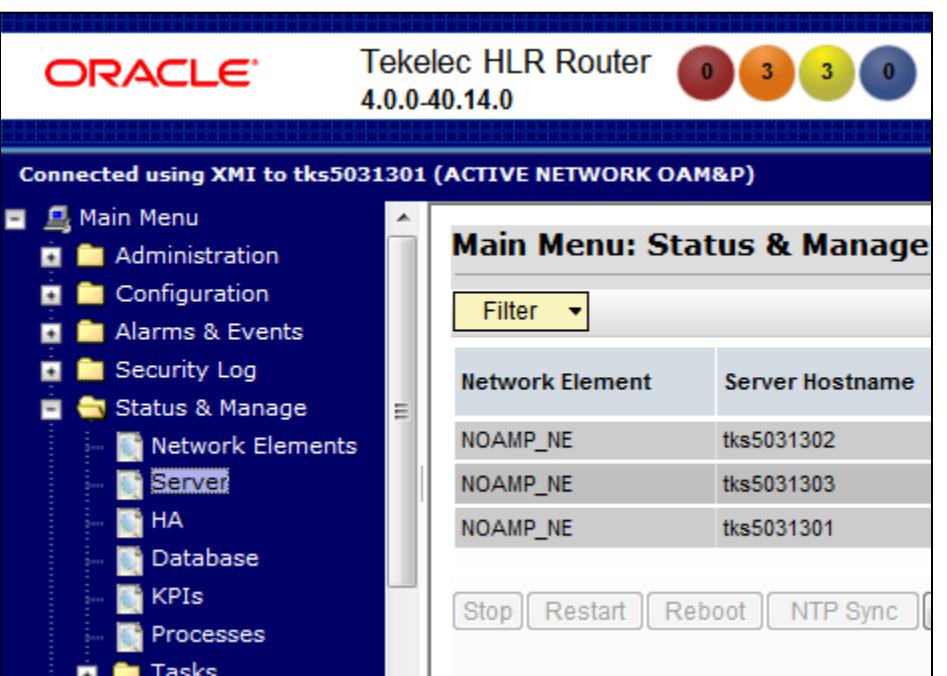
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
21.	<p>Primary NOAMP VIP GUI:</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>	 <p>ORACLE®</p> <p>Oracle System Login</p> <p>Wed Apr 9 17:06:39 2014 EDT</p> <p>Log In</p> <p>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>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>
22.	<p>Primary NOAMP VIP GUI:</p> <p>The user should be presented the Main Menu as shown on the right.</p>	 <p>ORACLE®</p> <p>Tekelec HLR Router</p> <p>4.0.0-40.14.0</p> <p>Connected using XMI to tks5031301 (ACTIVE NETWORK OAM&P)</p> <p>Main Menu: [Main]</p> <p>This is wel It can be 'General C 'Adm</p>

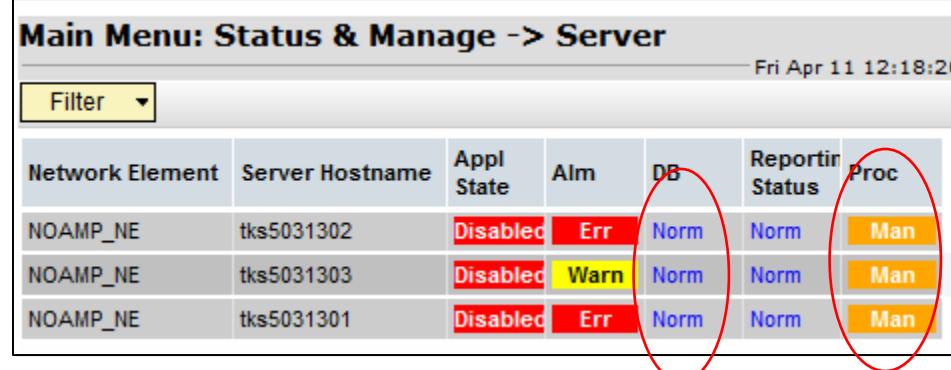
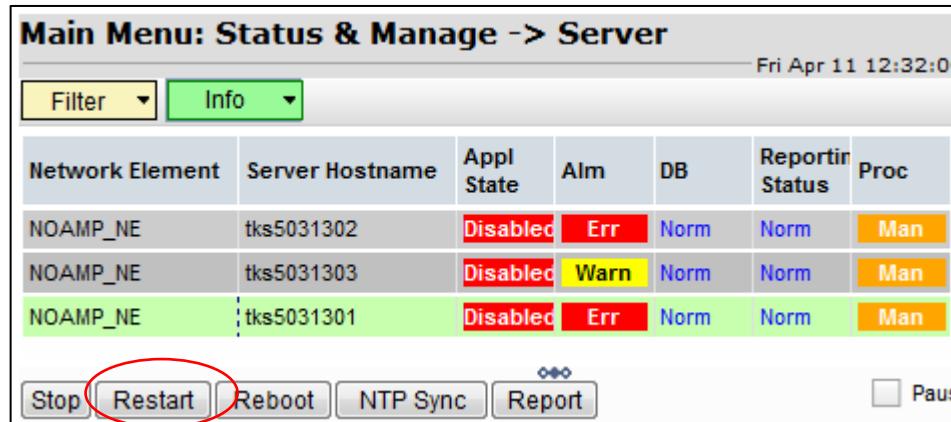
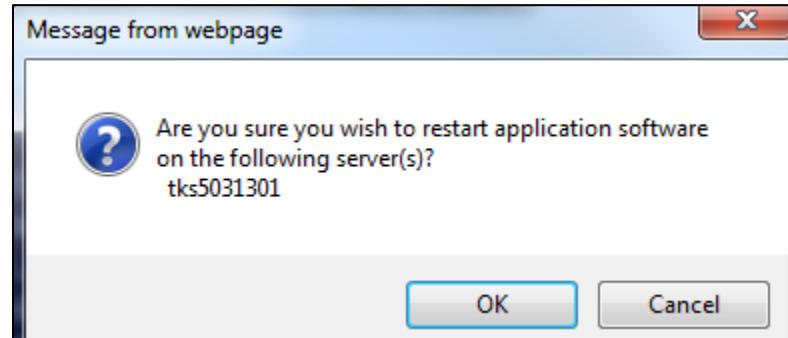
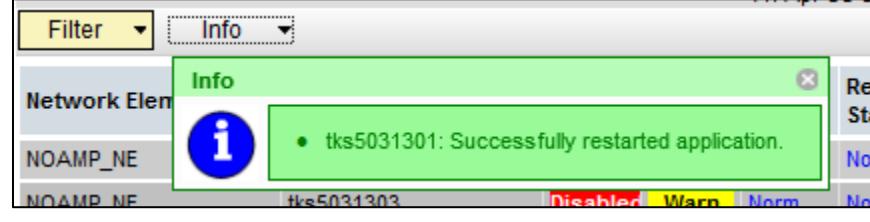
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result																								
23.	<p>Primary NOAMP VIP GUI:</p> <p><input type="checkbox"/> Select...</p> <p>Main Menu → Status & Manage → HA</p> <p>...as shown on the right.</p>	<table border="1"> <thead> <tr> <th>Hostname</th> <th>OAM Max HA Role</th> <th>Applica Max HA Role</th> <th>Max Allowed HA Role</th> <th>Mate Hostname List</th> <th>Network Element</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>Observe</td> <td>OOS</td> <td>Observe</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> </tbody> </table>	Hostname	OAM Max HA Role	Applica Max HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	tks5031302	Standby	OOS	Active	tks5031301	NOAMP_NE	tks5031303	Observe	OOS	Observe	tks5031301 tks5031302	NOAMP_NE	tks5031301	Active	OOS	Active	tks5031302	NOAMP_NE
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tks5031301	Active	OOS	Active	tks5031302	NOAMP_NE																					
24.	<p>Primary NOAMP VIP GUI:</p> <p>Verify that the OAM Max HA Role shows “Standby” and Max Allowed HA Role shows “Active” for Primary NOAMP Server B</p> <p>If it shows “OOS” then continue with the next step. Otherwise skip forward to Step 28 of this procedure.</p>	<p>Main Menu: Status & Manage -> HA</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>OAM Max HA Role</th> <th>Applica Max HA Role</th> <th>Max Allowed HA Role</th> <th>Mate Hostname List</th> <th>Network Element</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>Observe</td> <td>OOS</td> <td>Observe</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> </tbody> </table>	Hostname	OAM Max HA Role	Applica Max HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	tks5031302	Standby	OOS	Active	tks5031301	NOAMP_NE	tks5031303	Observe	OOS	Observe	tks5031301 tks5031302	NOAMP_NE	tks5031301	Active	OOS	Active	tks5031302	NOAMP_NE
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25.	<p>Primary NOAMP VIP GUI:</p> <p>(OPTIONAL)</p> <p>Click Edit button</p>	<p>Main Menu: Status & Manage -> HA</p> <table border="1"> <thead> <tr> <th>Hostname</th> <th>OAM Max HA Role</th> <th>Applica 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>OOS</td> <td>OOS</td> <td>OOS</td> <td>pc9000738-no-a</td> </tr> </tbody> </table> <p>Edit</p>	Hostname	OAM Max HA Role	Applica Max HA Role	Max Allowed HA Role	Mate Hostname List	pc9000738-no-a	Active	OOS	Active	pc9000736-no-b	pc9000736-no-b	OOS	OOS	OOS	pc9000738-no-a									
Hostname	OAM Max HA Role	Applica Max HA Role	Max Allowed HA Role	Mate Hostname List																						
pc9000738-no-a	Active	OOS	Active	pc9000736-no-b																						
pc9000736-no-b	OOS	OOS	OOS	pc9000738-no-a																						

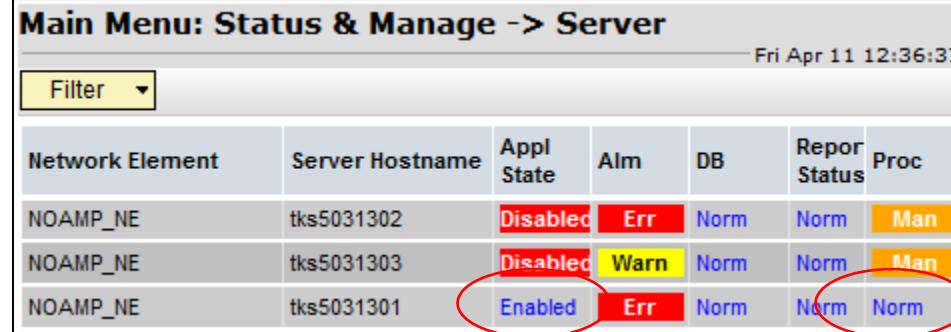
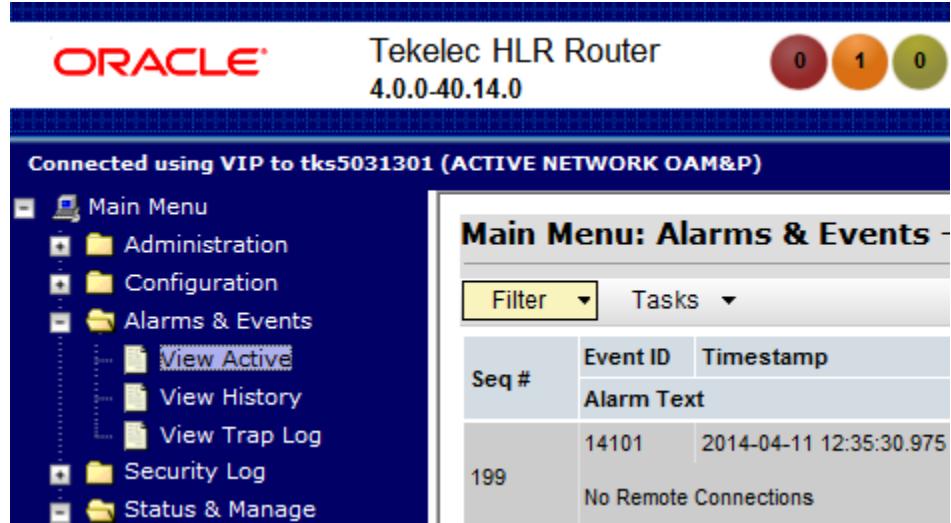
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
26.	<p>Primary NOAMP VIP GUI:</p> <p>(OPTIONAL)</p> <p>Change the Max Allowed HA Role for Primary NOAMP Server B to Active and click OK button</p>	<p>Main Menu: Status & Manage -> HA [Edit]</p> 
27.	<p>Primary NOAMP VIP GUI:</p> <p>(OPTIONAL)</p> <p>Verify that the OAM Max HA Role shows "Standby" and Max Allowed HA Role shows "Active" for Primary NOAMP Server B</p>	<p>Main Menu: Status & Manage -> HA</p> 
28.	<p>Primary NOAMP VIP GUI:</p> <p>Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	

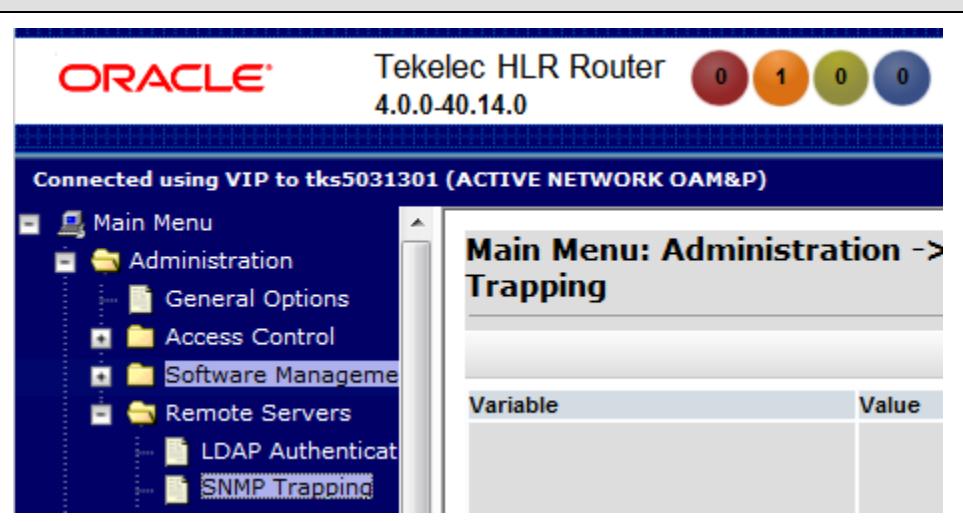
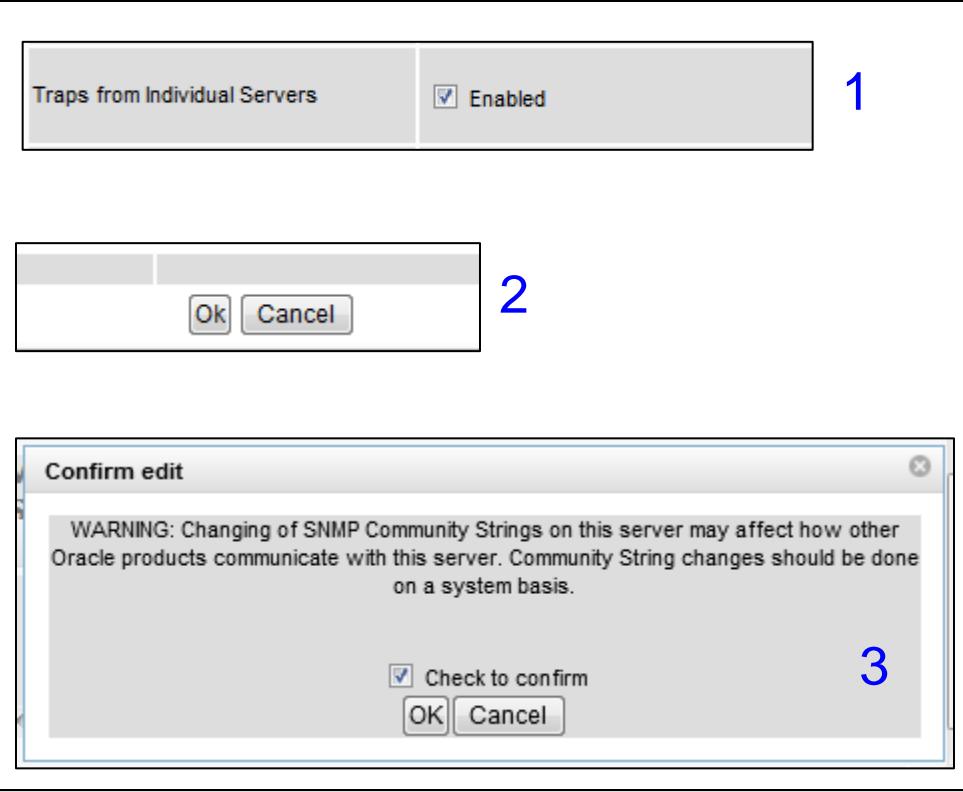
Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
29.	<p>Primary NOAMP VIP GUI:</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>	
30.	<p>Primary NOAMP VIP GUI:</p> <p>1) Using the mouse, select Primary NOAMP Server A. Line entry will be highlighted in GREEN.</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 Primary NOAMP Server A stating: “Successfully restarted application”.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.</p>	  

Procedure 7: OAM Pairing for the Primary NOAMP Servers

Step	Procedure	Result
31. <input type="checkbox"/>	Primary NOAMP VIP GUI: Verify that the “Appl State” now shows “Enabled” and the “Proc” status column show “Norm” for NOAMP Server A before proceeding to the next Step.	
32. <input type="checkbox"/>	Primary NOAMP VIP GUI: 1) Restart application on Primary NOAMP Server B 2) Restart application on Query Server (optional)	<ul style="list-style-type: none"> Repeat Step 30 of this Procedure to restart application on Primary NOAMP Server B Repeat Step 31 of this Procedure to verify application and process state on Primary NOAMP Server B Repeat Step 30 of this Procedure to restart application on Query Server (optional) Repeat Step 31 of this Procedure to verify application and process state on Query Server (optional)
33. <input type="checkbox"/>	Primary NOAMP VIP GUI: <i>Verifying Primary NOAMP Alarm status</i> Select... <u>Main Menu</u> → <u>Alarms & Events</u> → <u>View Active</u> ...as shown on the right.	
34. <input type="checkbox"/>	Primary NOAMP VIP GUI: Verify that Event ID 14101 (“ <i>No remote provisioning clients are connected</i> ”) is the only alarm present on the HLRR system	

Procedure 7: OAM Pairing for the Primary NOAMP Servers

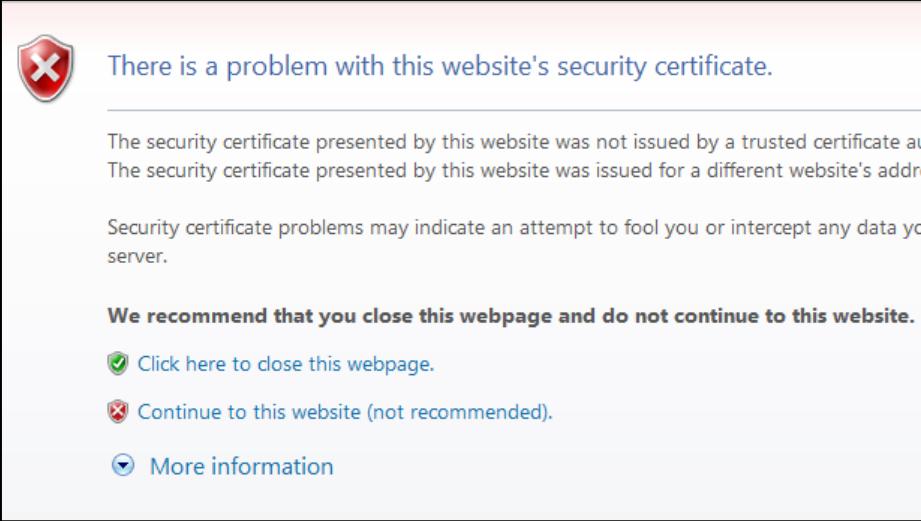
Step	Procedure	Result
35.	<p>Primary NOAMP VIP GUI:</p> <p><i>Configuring SNMP for Traps from Individual Servers</i></p> <p>Select...</p> <p><u>Main Menu</u> → Administration → Remote Servers → SNMP Trapping</p> <p>...as shown on the right.</p>	
36.	<p>Primary NOAMP VIP GUI:</p> <p><i>Configuring SNMP for Traps from Individual Servers</i></p> <p>1) Using the cursor, place a "check" in the check box for "Traps from Individual Servers".</p> <p>2) Click the "OK" 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 "OK" button to make the change</p>	

THIS PROCEDURE HAS BEEN COMPLETED

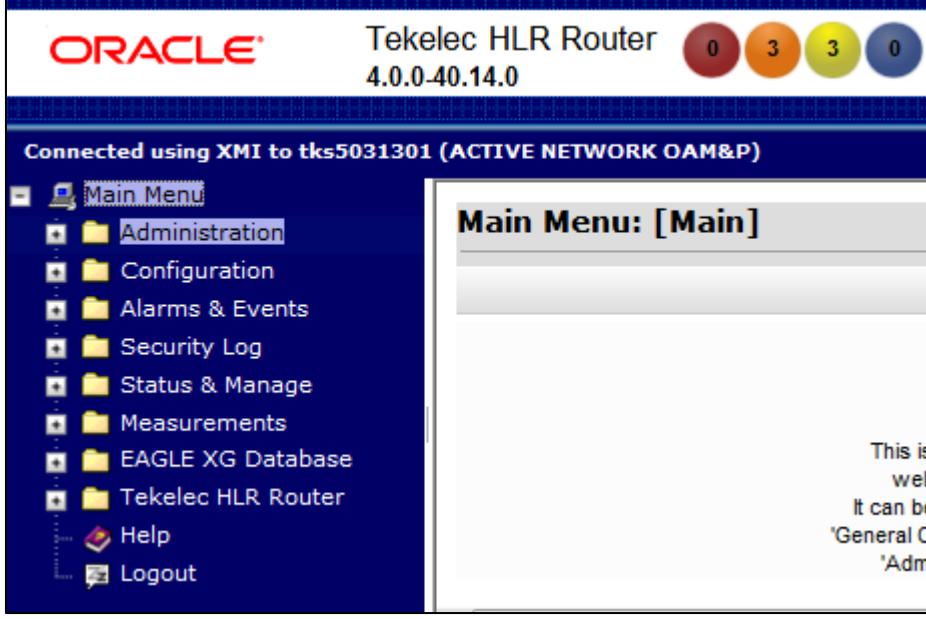
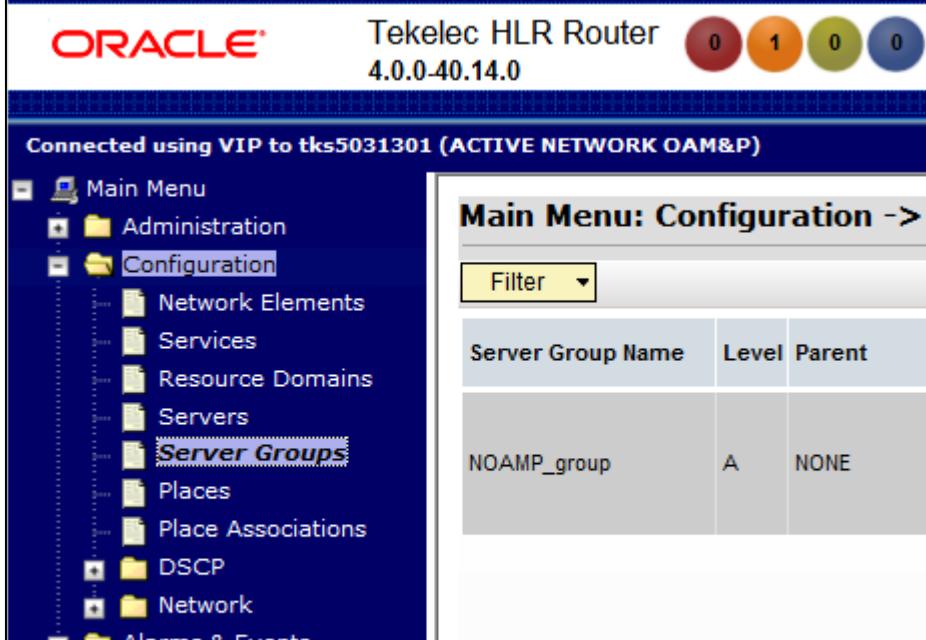
5.8 OAM Pairing for SOAM and DR sites (All SOAM and DR sites)

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.

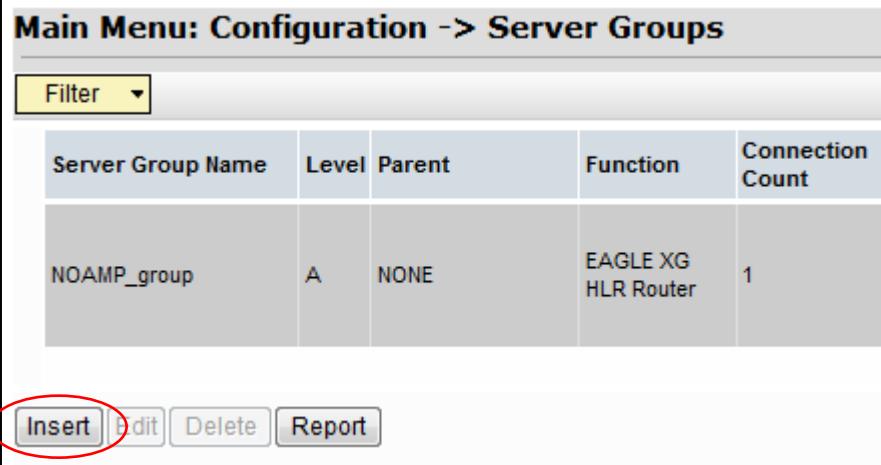
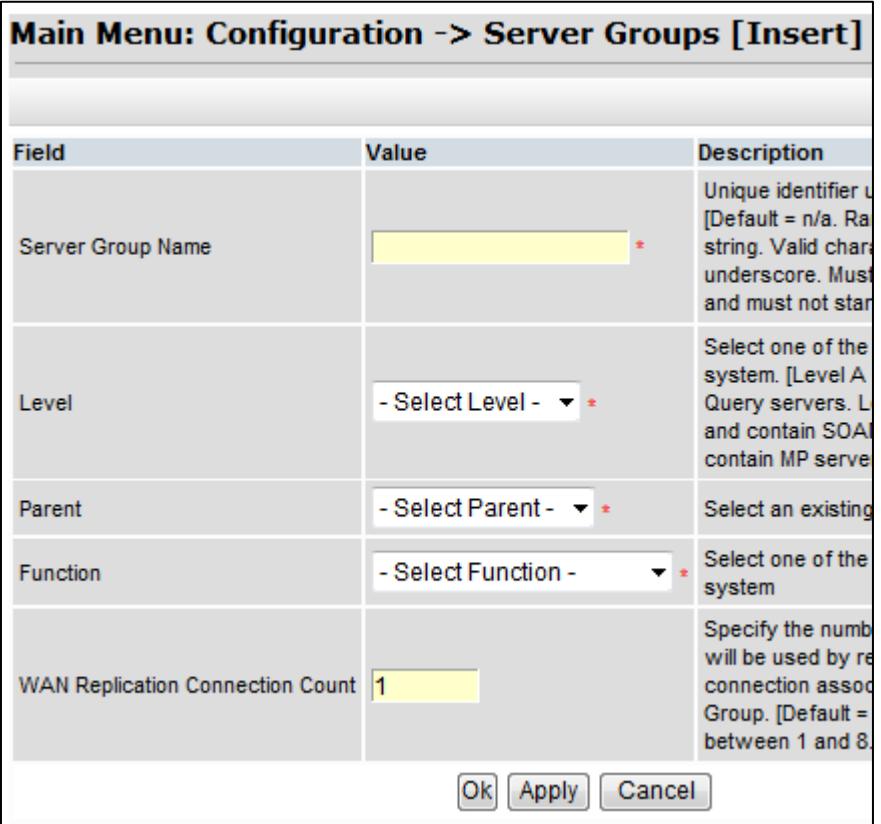
Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result
1.	<p>Primary NOAMP VIP GUI:</p> <p>Launch IE web browser and connect to Primary NOAMP VIP address</p> <p>Click on this link: “Continue to this website (not recommended)”</p>	
2.	<p>Primary NOAMP VIP GUI:</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 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result						
3. <input type="checkbox"/>	Primary NOAMP VIP GUI: The user should be presented the Main Menu as shown on the right.							
4. <input type="checkbox"/>	Primary NOAMP VIP GUI: 1) Select... <u>Main Menu</u> → Configuration → <u>Server Groups</u> ...as shown on the right.	 <table border="1" data-bbox="959 1353 1428 1564"> <thead> <tr> <th data-bbox="959 1353 1188 1385">Server Group Name</th> <th data-bbox="1188 1353 1253 1385">Level</th> <th data-bbox="1253 1353 1428 1385">Parent</th> </tr> </thead> <tbody> <tr> <td data-bbox="959 1453 1188 1484">NOAMP_group</td> <td data-bbox="1188 1453 1253 1484">A</td> <td data-bbox="1253 1453 1428 1484">NONE</td> </tr> </tbody> </table>	Server Group Name	Level	Parent	NOAMP_group	A	NONE
Server Group Name	Level	Parent						
NOAMP_group	A	NONE						

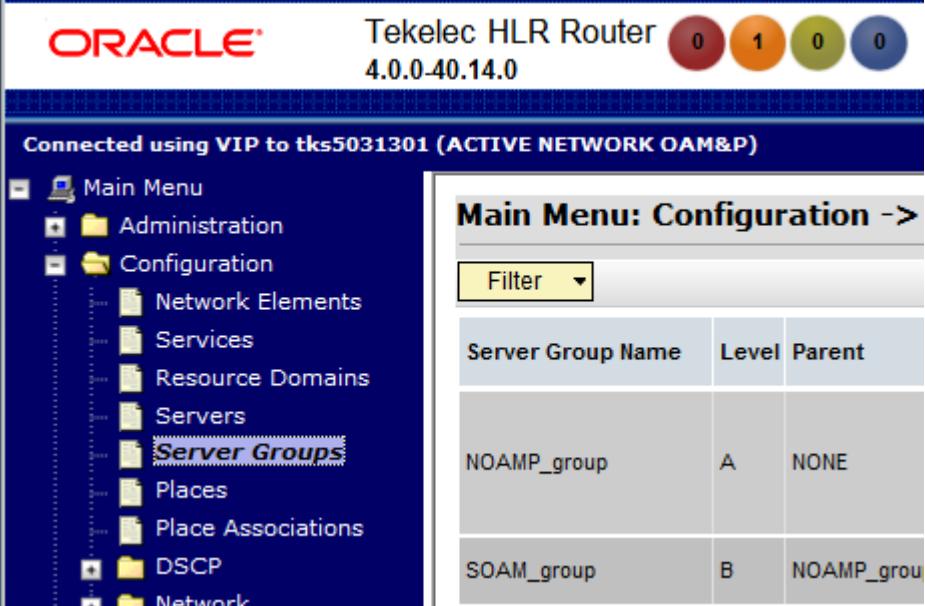
Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result
5.	<p>Primary NOAMP VIP GUI:</p> <p>1) The user will be presented with the “Server Groups” configuration screen as shown on the right.</p> <p>2) Select the “Insert” dialogue button</p>	
6.	<p>Primary NOAMP VIP GUI:</p> <p>The configuration screen “Server Groups [Insert]” will appear</p>	

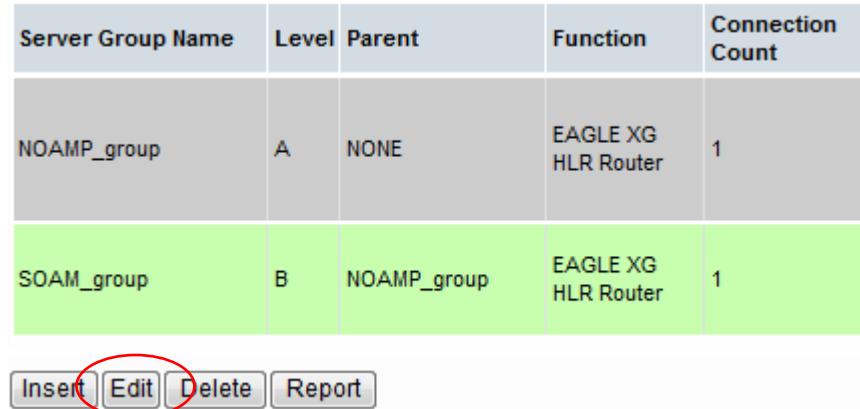
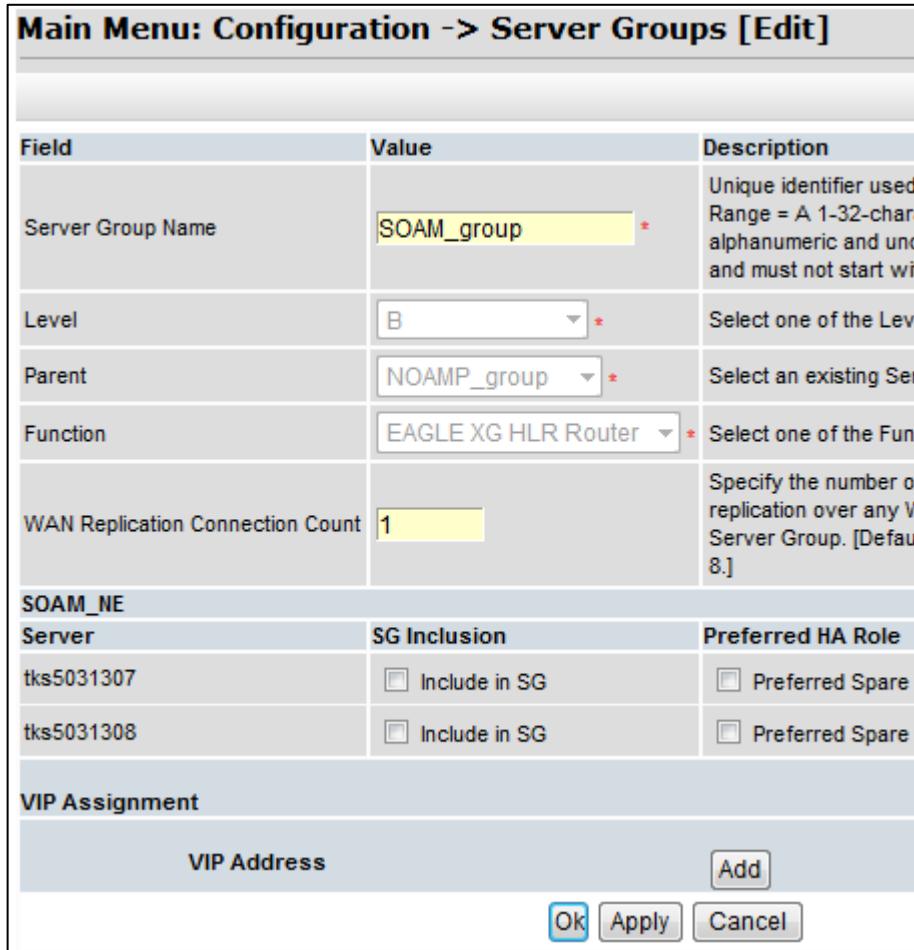
Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result																		
7.	<p>Primary NOAMP VIP GUI:</p> <p>1) Input the Server Group Name.</p> <p>2) For SOAM server group, select “B” on the “Level” pull-down menu.</p> <p>For DR NOAMP server group, select “A” on the “Level” pull-down menu.</p> <p>3) Select a Parent from the pull-down menu</p> <p>4) Select “EAGLE XG HLR Router” on the “Function” pull-down menu.</p> <p>5) Enter value for “WAN Replication Connection Count” field</p>	<p>Main Menu: Configuration -> Server Groups [Insert]</p> <p>Info ▾</p> <table border="1"> <thead> <tr> <th data-bbox="494 460 747 492">Field</th><th data-bbox="747 460 1000 492">Value</th><th data-bbox="1000 460 1416 492">Description</th></tr> </thead> <tbody> <tr> <td data-bbox="494 492 747 692">Server Group Name</td><td data-bbox="747 492 1000 692">SOAM_group *</td><td data-bbox="1000 492 1416 692">Unique identifier used for the Server Group. [Default = SOAM_group. Range = A 1-32-character string. Valid characters are alpha, numeric, and underscore. Must contain at least one alpha and one numeric character with a digit.]</td></tr> <tr> <td data-bbox="494 692 747 893">Level</td><td data-bbox="747 692 1000 893">B *</td><td data-bbox="1000 692 1416 893">Select one of the Level values assigned by the system. [Level A contains NOAMP servers. Level B contains optional SOAM servers. Level C contains optional DR NOAMP servers.]</td></tr> <tr> <td data-bbox="494 893 747 998">Parent</td><td data-bbox="747 893 1000 998">NOAMP_group *</td><td data-bbox="1000 893 1416 998">Select an existing Server Group. [Default = NONE]</td></tr> <tr> <td data-bbox="494 998 747 1083">Function</td><td data-bbox="747 998 1000 1083">EAGLE XG HLR Router *</td><td data-bbox="1000 998 1416 1083">Select one of the Functions supported by the system.</td></tr> <tr> <td data-bbox="494 1083 747 1241">WAN Replication Connection Count</td><td data-bbox="747 1083 1000 1241">1</td><td data-bbox="1000 1083 1416 1241">Specify the number of WAN connections that will be used for replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 100.]</td></tr> </tbody> </table> <p>Ok Apply Cancel</p>	Field	Value	Description	Server Group Name	SOAM_group *	Unique identifier used for the Server Group. [Default = SOAM_group. Range = A 1-32-character string. Valid characters are alpha, numeric, and underscore. Must contain at least one alpha and one numeric character with a digit.]	Level	B *	Select one of the Level values assigned by the system. [Level A contains NOAMP servers. Level B contains optional SOAM servers. Level C contains optional DR NOAMP servers.]	Parent	NOAMP_group *	Select an existing Server Group. [Default = NONE]	Function	EAGLE XG HLR Router *	Select one of the Functions supported by the system.	WAN Replication Connection Count	1	Specify the number of WAN connections that will be used for replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 100.]
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8.	<p>Primary NOAMP VIP GUI:</p> <p>The user should be presented with a banner information message stating “Pre-Validation passed”.</p>	<p>Info</p> <p>i • Pre-Validation passed - Data NOT committed ...</p> <table border="1"> <thead> <tr> <th data-bbox="494 1516 747 1548">Field</th><th data-bbox="747 1516 1000 1548">Value</th><th data-bbox="1000 1516 1416 1548">Description</th></tr> </thead> <tbody> <tr> <td data-bbox="494 1548 747 1611">Level</td><td data-bbox="747 1548 1000 1611">B *</td><td data-bbox="1000 1548 1416 1611">Select one of the Level values assigned by the system. [Level A contains NOAMP servers. Level B contains optional SOAM servers.]</td></tr> <tr> <td data-bbox="494 1611 747 1674">Parent</td><td data-bbox="747 1611 1000 1674">NOAMP_group *</td><td data-bbox="1000 1611 1416 1674">Select an existing Server Group. [Default = NONE]</td></tr> <tr> <td data-bbox="494 1674 747 1759">Function</td><td data-bbox="747 1674 1000 1759">EAGLE XG HLR Router *</td><td data-bbox="1000 1674 1416 1759">Select one of the Functions supported by the system.</td></tr> <tr> <td data-bbox="494 1759 747 1822">WAN Replication Connection Count</td><td data-bbox="747 1759 1000 1822">1</td><td data-bbox="1000 1759 1416 1822">Specify the number of WAN connections that will be used for replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 100.]</td></tr> </tbody> </table> <p>Ok Apply Cancel</p>	Field	Value	Description	Level	B *	Select one of the Level values assigned by the system. [Level A contains NOAMP servers. Level B contains optional SOAM servers.]	Parent	NOAMP_group *	Select an existing Server Group. [Default = NONE]	Function	EAGLE XG HLR Router *	Select one of the Functions supported by the system.	WAN Replication Connection Count	1	Specify the number of WAN connections that will be used for replication over any WAN connection associated with this Server Group. [Default = 1. Range = An integer between 1 and 100.]			
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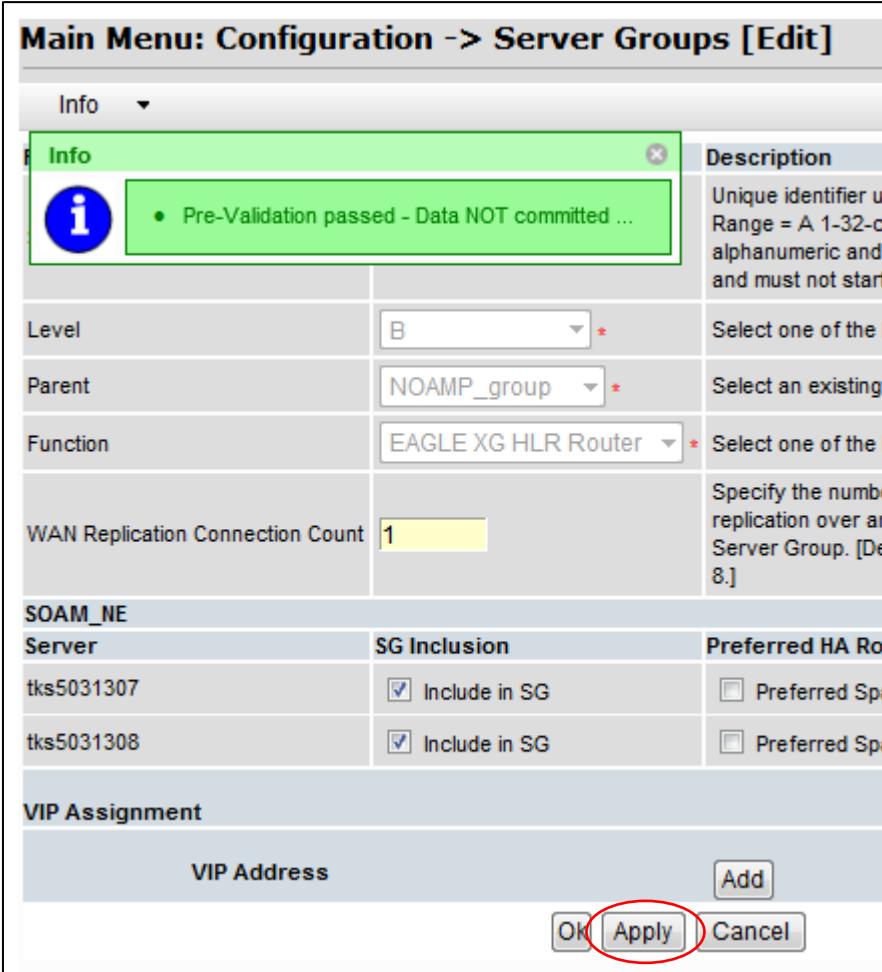
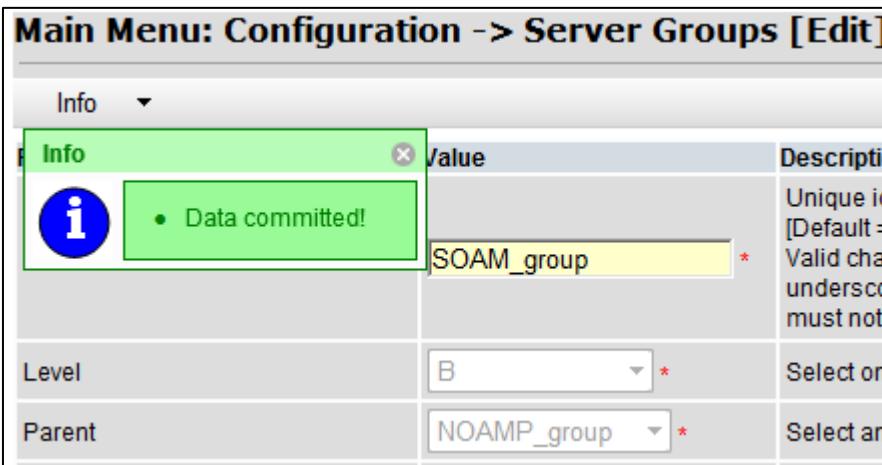
Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result																		
9.	<p>Primary NOAMP VIP GUI:</p> <p>Click “Apply” button to submit</p> <p>The user should be presented with a banner information message stating “Data committed”.</p>	 <table border="1" data-bbox="507 460 1416 861"> <tr> <td>Value</td> <td>OAM_group</td> <td>Description Unique identifier used to identify the group. [1-32-character string. Can contain letters, numbers, underscore. Must contain at least one digit.]</td> </tr> <tr> <td>Level</td> <td>B</td> <td>Select one of the Levels. [A contains NOAMP and Quasi NOAMP servers; B 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 connections over any WAN connection. [1..1000. Range = An integer]</td> </tr> <tr> <td colspan="3" style="text-align: right;"> <input type="button" value="OK"/> <input style="border: 2px solid red; border-radius: 50%; padding: 2px; margin-right: 5px;" type="button" value="Apply"/> <input type="button" value="Cancel"/> </td> </tr> </table>	Value	OAM_group	Description Unique identifier used to identify the group. [1-32-character string. Can contain letters, numbers, underscore. Must contain at least one digit.]	Level	B	Select one of the Levels. [A contains NOAMP and Quasi NOAMP servers; B 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 connections over any WAN connection. [1..1000. Range = An integer]	<input type="button" value="OK"/> <input style="border: 2px solid red; border-radius: 50%; padding: 2px; margin-right: 5px;" type="button" value="Apply"/> <input type="button" value="Cancel"/>		
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10.	<p>Primary NOAMP VIP GUI:</p> <p>Select...</p> <p><u>Main Menu</u> → Configuration → Server Groups</p> <p>...as shown on the right.</p>	 <p>Main Menu: Configuration -></p> <table border="1" data-bbox="948 1227 1432 1522"> <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>	Server Group Name	Level	Parent	NOAMP_group	A	NONE	SOAM_group	B	NOAMP_group									
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11.	<p>Primary NOAMP VIP GUI:</p> <p>The Server Group entry should be shown on the “Server Groups” configuration screen as shown on the right.</p>	<table border="1" data-bbox="507 1564 1367 1875"> <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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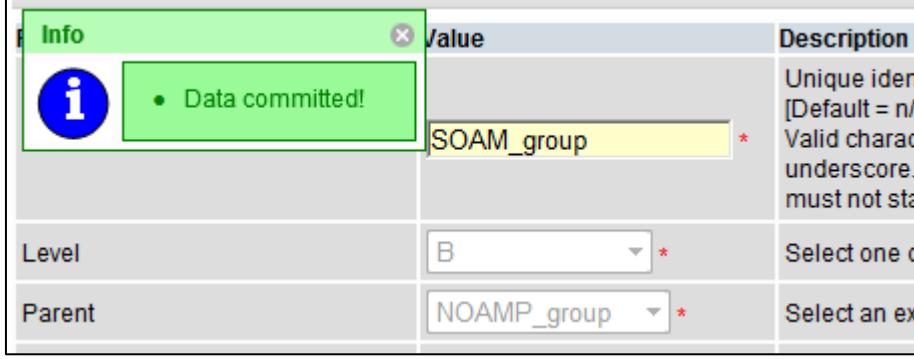
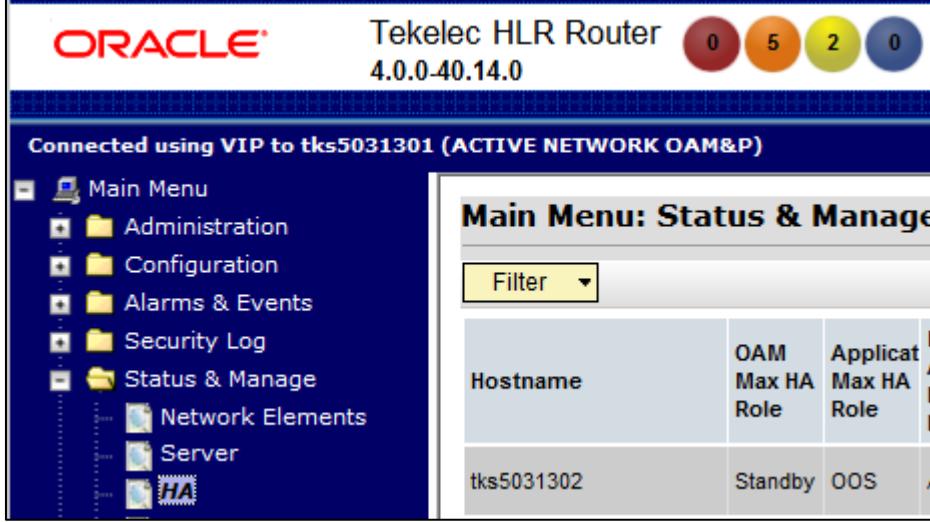
Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result																															
12. <input type="checkbox"/>	Primary NOAMP VIP GUI: <p>1) Select the Server Group entry created in Step 5 through Step 9. The line entry will be highlighted in GREEN.</p> <p>2) Click “Edit” dialogue button</p>	 <table border="1" data-bbox="507 325 1367 650"> <thead> <tr> <th data-bbox="507 325 747 382">Server Group Name</th> <th data-bbox="747 325 817 382">Level</th> <th data-bbox="817 325 975 382">Parent</th> <th data-bbox="975 325 1144 382">Function</th> <th data-bbox="1144 325 1367 382">Connection Count</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 382 747 523">NOAMP_group</td> <td data-bbox="747 382 817 523">A</td> <td data-bbox="817 382 975 523">NONE</td> <td data-bbox="975 382 1144 523">EAGLE XG HLR Router</td> <td data-bbox="1144 382 1367 523">1</td> </tr> <tr> <td data-bbox="507 523 747 650">SOAM_group</td> <td data-bbox="747 523 817 650">B</td> <td data-bbox="817 523 975 650">NOAMP_group</td> <td data-bbox="975 523 1144 650">EAGLE XG HLR Router</td> <td data-bbox="1144 523 1367 650">1</td> </tr> </tbody> </table> <p data-bbox="507 692 878 734">Insert Edit Delete Report</p>	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. <input type="checkbox"/>	Primary NOAMP VIP GUI: <p>Adding a Server to the OAM Server Group (SOAM or DR NOAMP)</p> <p>The configuration screen “Server Groups [Edit]” will appear</p>	 <table border="1" data-bbox="507 783 1421 1374"> <thead> <tr> <th data-bbox="507 903 747 931">Field</th> <th data-bbox="747 903 1144 931">Value</th> <th data-bbox="1144 903 1421 931">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 988 747 1015">Server Group Name</td> <td data-bbox="747 988 1144 1015">SOAM_group *</td> <td data-bbox="1144 988 1421 1072">Unique identifier used. Range = A 1-32-character alphanumeric and underscore and must not start with a number.</td> </tr> <tr> <td data-bbox="507 1085 747 1113">Level</td> <td data-bbox="747 1085 1144 1113">B *</td> <td data-bbox="1144 1085 1421 1113">Select one of the Levels.</td> </tr> <tr> <td data-bbox="507 1125 747 1153">Parent</td> <td data-bbox="747 1125 1144 1153">NOAMP_group *</td> <td data-bbox="1144 1125 1421 1153">Select an existing Server Group.</td> </tr> <tr> <td data-bbox="507 1165 747 1193">Function</td> <td data-bbox="747 1165 1144 1193">EAGLE XG HLR Router *</td> <td data-bbox="1144 1165 1421 1193">Select one of the Functions.</td> </tr> <tr> <td data-bbox="507 1262 747 1290">WAN Replication Connection Count</td> <td data-bbox="747 1262 1144 1290">1</td> <td data-bbox="1144 1262 1421 1353">Specify the number of replication over any WAN Server Group. [Default = 8.]</td> </tr> </tbody> </table> <p data-bbox="507 1374 633 1402">SOAM_NE</p> <table border="1" data-bbox="507 1402 1421 1537"> <thead> <tr> <th data-bbox="507 1402 747 1429">Server</th> <th data-bbox="747 1402 1144 1429">SG Inclusion</th> <th data-bbox="1144 1402 1421 1429">Preferred HA Role</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 1442 747 1469">tks5031307</td> <td data-bbox="747 1442 1144 1469"><input type="checkbox"/> Include in SG</td> <td data-bbox="1144 1442 1421 1469"><input type="checkbox"/> Preferred Spare</td> </tr> <tr> <td data-bbox="507 1482 747 1510">tks5031308</td> <td data-bbox="747 1482 1144 1510"><input type="checkbox"/> Include in SG</td> <td data-bbox="1144 1482 1421 1510"><input type="checkbox"/> Preferred Spare</td> </tr> </tbody> </table> <p data-bbox="507 1564 703 1592">VIP Assignment</p> <table border="1" data-bbox="507 1607 1421 1733"> <thead> <tr> <th data-bbox="507 1607 1144 1634">VIP Address</th> <th data-bbox="1144 1607 1421 1634">Add</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 1647 1144 1689"></td> <td data-bbox="1144 1647 1421 1689">Ok Apply Cancel</td> </tr> </tbody> </table>	Field	Value	Description	Server Group Name	SOAM_group *	Unique identifier used. Range = A 1-32-character alphanumeric and underscore and must not start with a number.	Level	B *	Select one of the Levels.	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 replication over any WAN Server Group. [Default = 8.]	Server	SG Inclusion	Preferred HA Role	tks5031307	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	tks5031308	<input type="checkbox"/> Include in SG	<input type="checkbox"/> Preferred Spare	VIP Address	Add		Ok Apply Cancel
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	Ok Apply Cancel																																

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

Step	Procedure	Result
14.	<p>Primary NOAMP VIP GUI:</p> <p>1) To add a server to the server group, select the checkbox for SG Inclusion. 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 “Preferred HA Role”.</p> <p>3) The user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>4) Click Apply to submit</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p> 
15.	<p>Primary NOAMP VIP GUI:</p> <p>The user should be presented with a banner information message stating “Data committed”.</p>	<p>Main Menu: Configuration -> Server Groups [Edit]</p> 

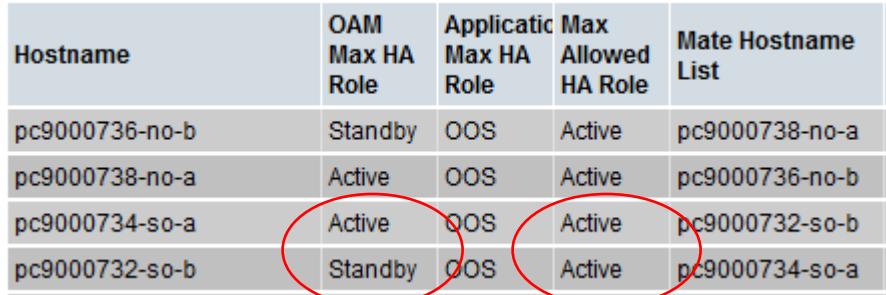
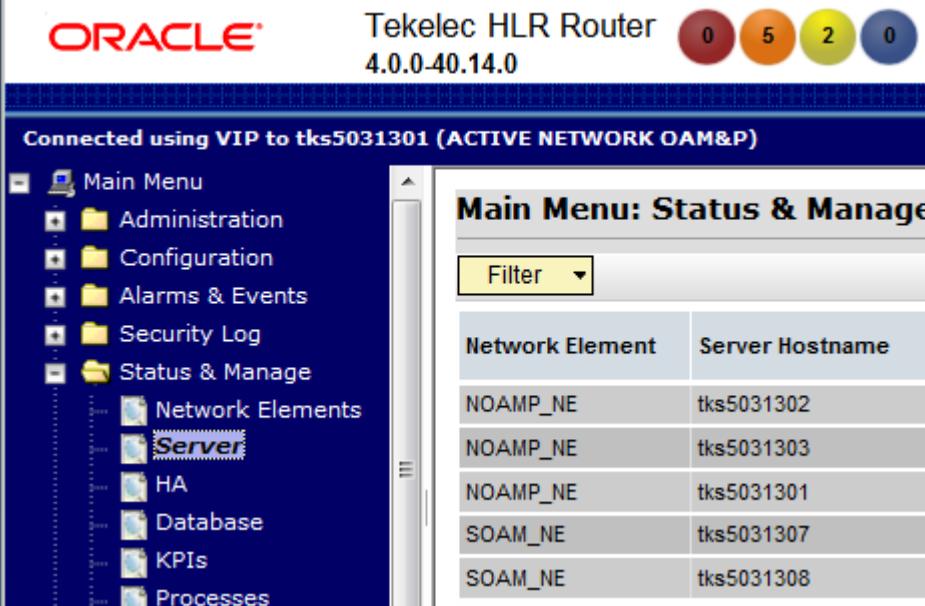
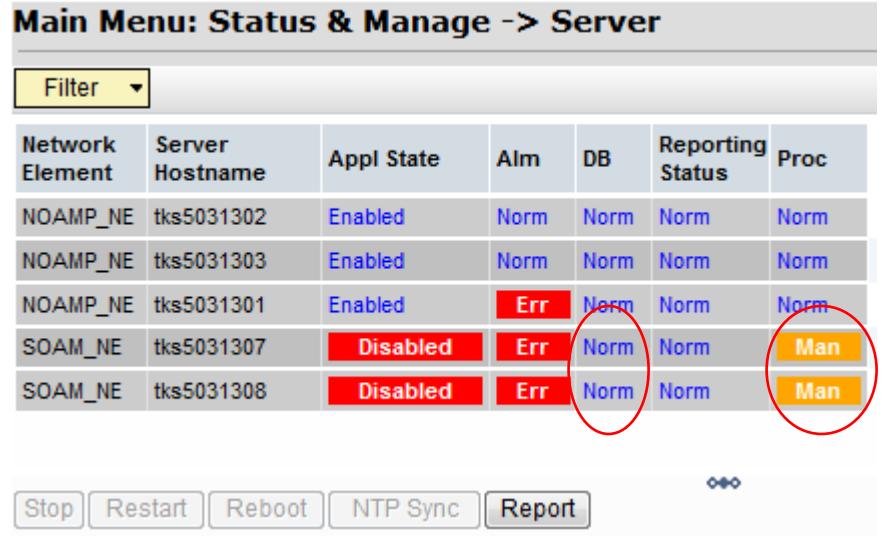
Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

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

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

Step	Procedure	Result																																				
20.	<p>Primary NOAMP VIP GUI:</p> <p>Verify that the OAM Max HA Role shows “Standby” and “Active” and Max Allowed HA Role shows “Active” for SOAM servers “A” and “B”</p> <p>If it shows “OOS” then continue with the next step.</p> <p>Otherwise skip forward to Step 24 of this Procedure.</p>	<p>Main Menu: Status & Manage -> HA</p> <p>Fri Apr 1</p> <p>Filter ▾</p> <table border="1"> <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 Ele</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>	Hostname	OAM Max HA Role	Applicat Max HA Role	Max Allowed HA Role	Mate Hostname List	Network Ele	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.	<p>Primary NOAMP VIP GUI:</p> <p>Click Edit button</p>	<table border="1"> <thead> <tr> <th>Hostname</th> <th>OAM Max HA Role</th> <th>Application Max HA Role</th> <th>Max Allowed HA Role</th> </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> <p>Edit</p>	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.	<p>Primary NOAMP VIP GUI:</p> <p>Change the Max Allowed HA Role for SOAM server(s) to Active and click OK button</p>	<table border="1"> <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> <p>Ok Cancel</p>	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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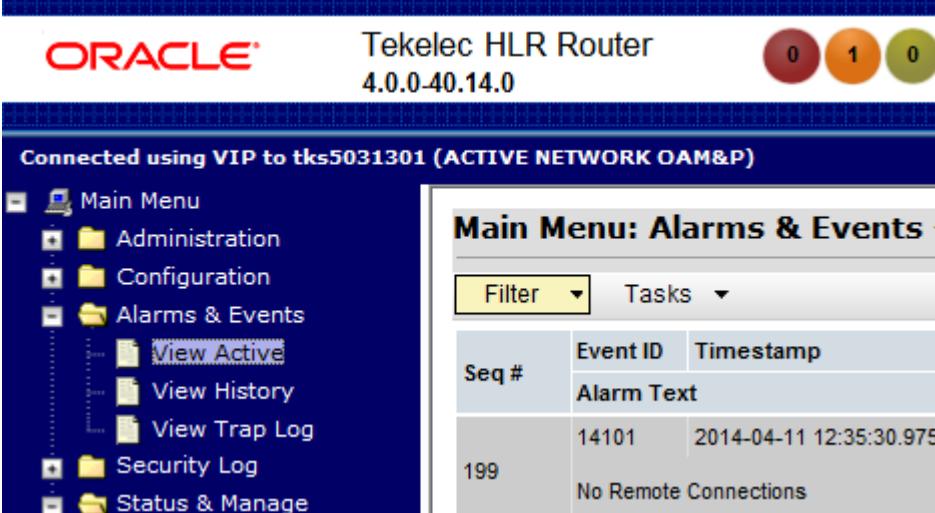
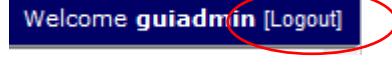
Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

Step	Procedure	Result
23. <input type="checkbox"/>	Primary NOAMP VIP GUI: Verify that the OAM Max HA Role shows “ Standby ” and “ Active ” and Max Allowed HA Role shows “ Active ” for SOAM servers “A” and “B”	
24. <input type="checkbox"/>	Primary NOAMP VIP GUI: <i>Restarting the OAM Server Application (SOAM)</i> Select... <u>Main Menu</u> → Status & Manage → Server ...as shown on the right.	
25. <input type="checkbox"/>	Primary NOAMP VIP GUI: 1) SOAM servers “A” and “B” should now appear in the right panel. 2) Verify that the “DB” status shows “Norm” and the “Proc” status shows “Man” for both servers before proceeding to the next Step.	

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

Step	Procedure	Result																																										
26.	<p>Primary NOAMP VIP GUI:</p> <p>1) Using the mouse, select SOAM Server A. Line entry will be highlighted in GREEN.</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 SOAM Server A stating: “Successfully restarted application”.</p> <p>NOTE: <i>The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.</i></p>	<p>Main Menu: Status & Manage -> Server</p> <table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>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> <p>Stop Restart (circled in red) Reboot NTP Sync Report</p> <p>Are you sure you wish to restart application software on the following server(s)? tks5031307</p> <p>OK (circled in red) Cancel</p> <p>Main Menu: Status & Manage -> Server</p> <p>Info</p> <p>tks5031307: Successfully restarted application.</p>	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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27.	<p>Primary NOAMP VIP GUI:</p> <p>For SOAM Server A verify that the “Appl State” now shows “Enabled” and the “Proc” status column show “Norm” before proceeding to the next Step.</p>	<table border="1"> <thead> <tr> <th>Network Element</th> <th>Server Hostname</th> <th>Appl State</th> <th>Alm</th> <th>DB</th> <th>Reporting Status</th> <th>Proc</th> </tr> </thead> <tbody> <tr> <td>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>Disabled</td> <td>Err</td> <td>Norm</td> <td>Norm</td> <td>Man</td> </tr> </tbody> </table>	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	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	Disabled	Err	Norm	Norm	Man
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Procedure 8: Pairing the OAM Servers for SOAM or DR NOAMP sites

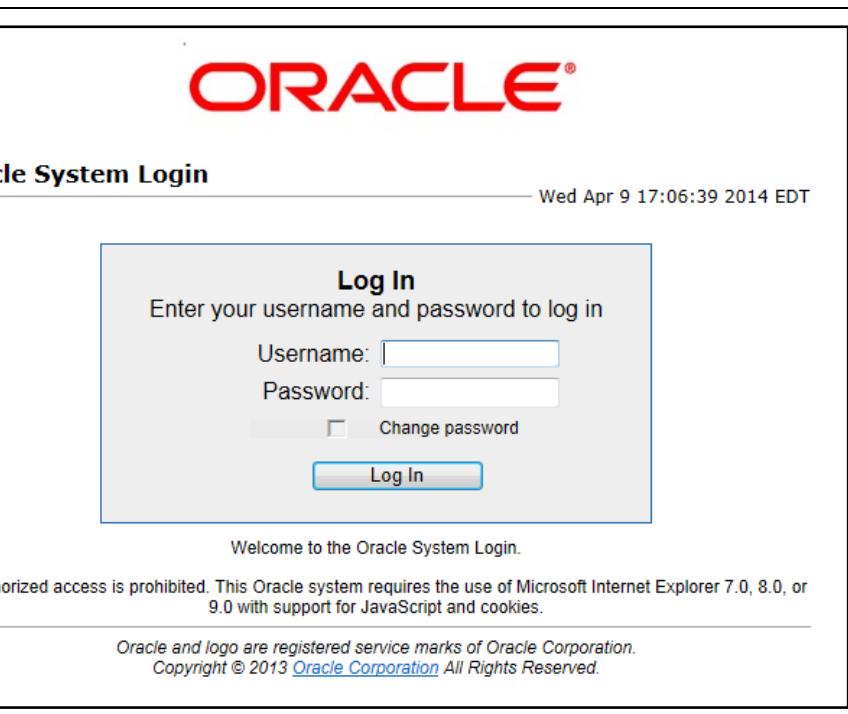
Step	Procedure	Result																																										
28. <input type="checkbox"/>	Primary NOAMP VIP GUI: Repeat Step 26 of this Procedure for SOAM Server B	To restart server application on SOAM Server B - repeat Step 26 of this Procedure for SOAM Server B																																										
29. <input type="checkbox"/>	Primary NOAMP VIP GUI: For SOAM Server B verify that the “ Appl State ” now shows “ Enabled ” and the “ Proc ” status column show “ Norm ” before proceeding to the next Step.	<table border="1"> <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> </tbody> </table>	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
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30.	Primary NOAMP VIP GUI: <i>Verifying Primary NOAMP Alarm status</i> Select... <u>Main Menu</u> → Alarms & Events → View Active ...as shown on the right.																																											
31. <input type="checkbox"/>	Primary NOAMP VIP GUI: Verify that Event ID 14101 (“ <i>No remote provisioning clients are connected</i> ”) is the only alarm present on the HLRR system	<table border="1"> <thead> <tr> <th>Seq #</th> <th>Event ID</th> <th>Timestamp</th> <th>Severity</th> <th>Product</th> <th>Process</th> </tr> </thead> <tbody> <tr> <td colspan="3">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>pdbs</td> </tr> <tr> <td colspan="3">No Remote Connections</td> <td colspan="3">GN_DOWN/WRN No remote prov More...</td> </tr> </tbody> </table>	Seq #	Event ID	Timestamp	Severity	Product	Process	Alarm Text			Additional Info			199	14101	2014-04-11 12:35:30.975 EDT	MAJOR	EXHR	pdbs	No Remote Connections			GN_DOWN/WRN No remote prov More...																				
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32. <input type="checkbox"/>	Primary NOAMP VIP GUI: Click the “ Logout ” 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..

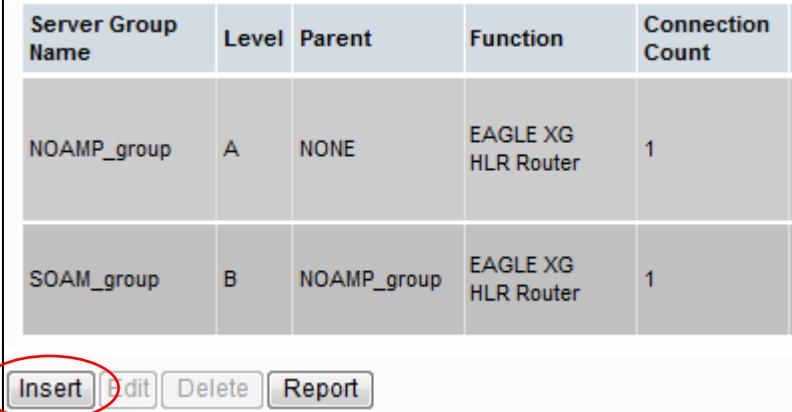
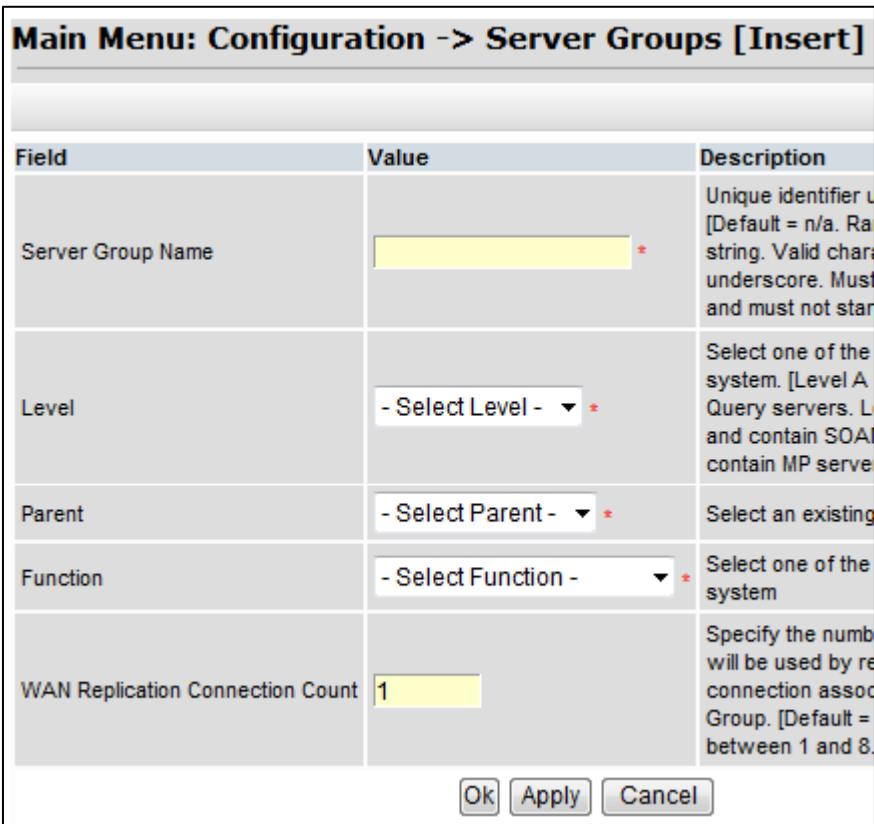
Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
1. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>Launch IE web browser and connect to Primary NOAMP VIP address</p> <p>Click on this link: “Continue to this website (not recommended)”</p>	 <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.</p> <p>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 this server.</p> <p>We recommend that you close this webpage and do not continue to this website.</p> <p><input checked="" type="checkbox"/> Click here to close this webpage.</p> <p><input type="checkbox"/> Continue to this website (not recommended).</p> <p><input type="checkbox"/> More information</p>
2. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</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>	 <p>ORACLE®</p> <p>Oracle System Login <small>Wed Apr 9 17:06:39 2014 EDT</small></p> <div style="border: 1px solid #ccc; padding: 10px; width: fit-content; margin: 20px auto;"> <p style="text-align: center;">Log In</p> <p style="text-align: center;">Enter your username and password to log in</p> <p style="text-align: center;">Username: <input type="text"/></p> <p style="text-align: center;">Password: <input type="password"/></p> <p style="text-align: center;"><input type="checkbox"/> Change password</p> <p style="text-align: center;">Log In</p> </div> <p>Welcome to the Oracle System Login.</p> <p>Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 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>

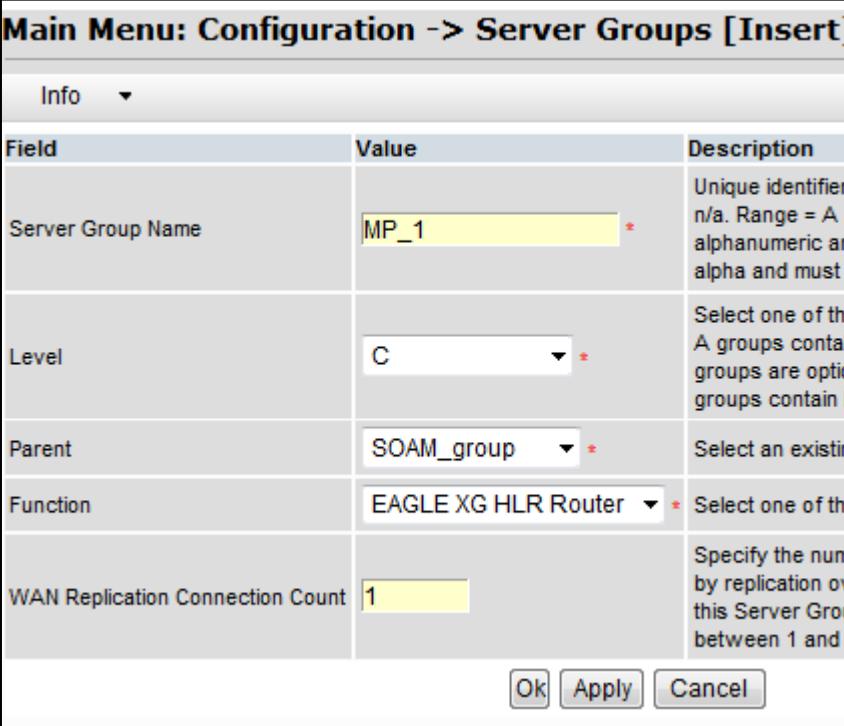
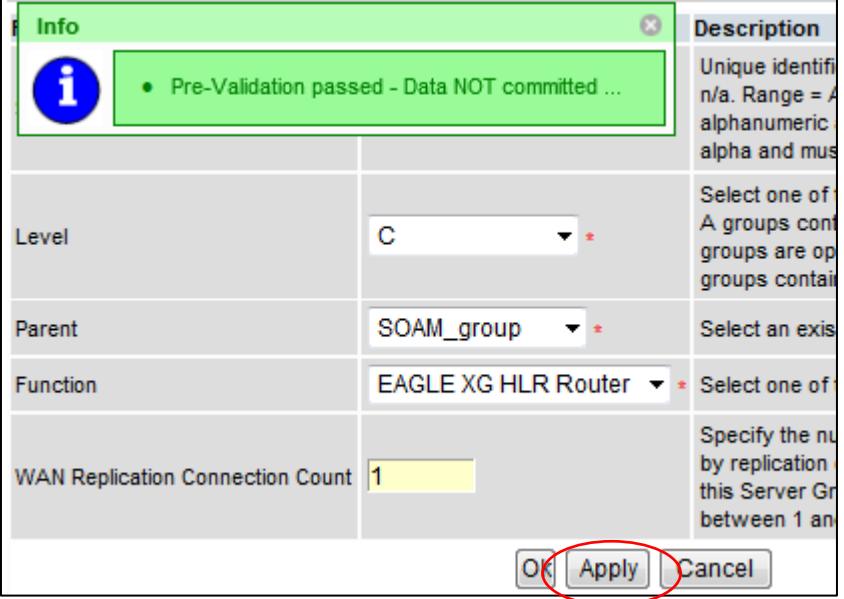
Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
3. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>The user should be presented the Main Menu as shown on the right.</p>	
4. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>Select...</p> <p><u>Main Menu</u> → <u>Configuration</u> → <u>Server Groups</u></p> <p>...as shown on the right.</p>	<p>• “Check off” 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>

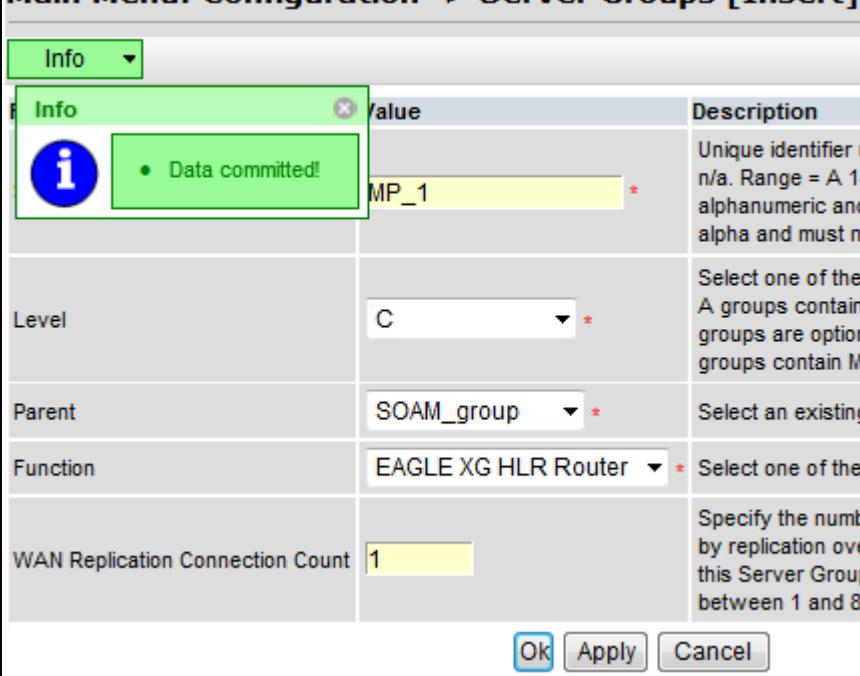
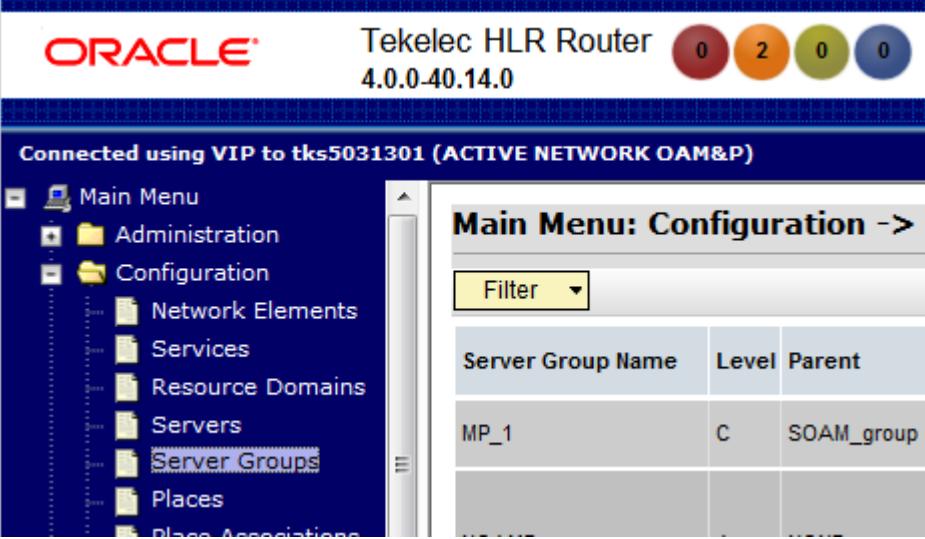
Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
5. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>1) The user will be presented with the “Server Groups” configuration screen as shown on the right.</p> <p>2) Click on “Insert” dialogue button</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Insert” dialogue button visible.</p>	 <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2
6. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>The configuration screen “Server Groups [Insert]” will appear</p>	 <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2

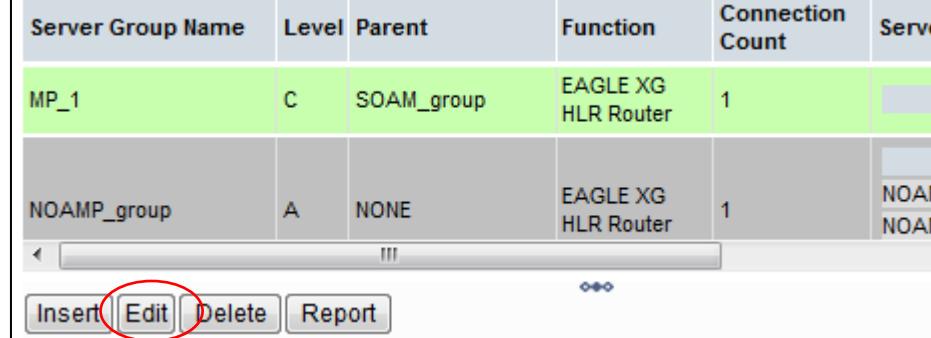
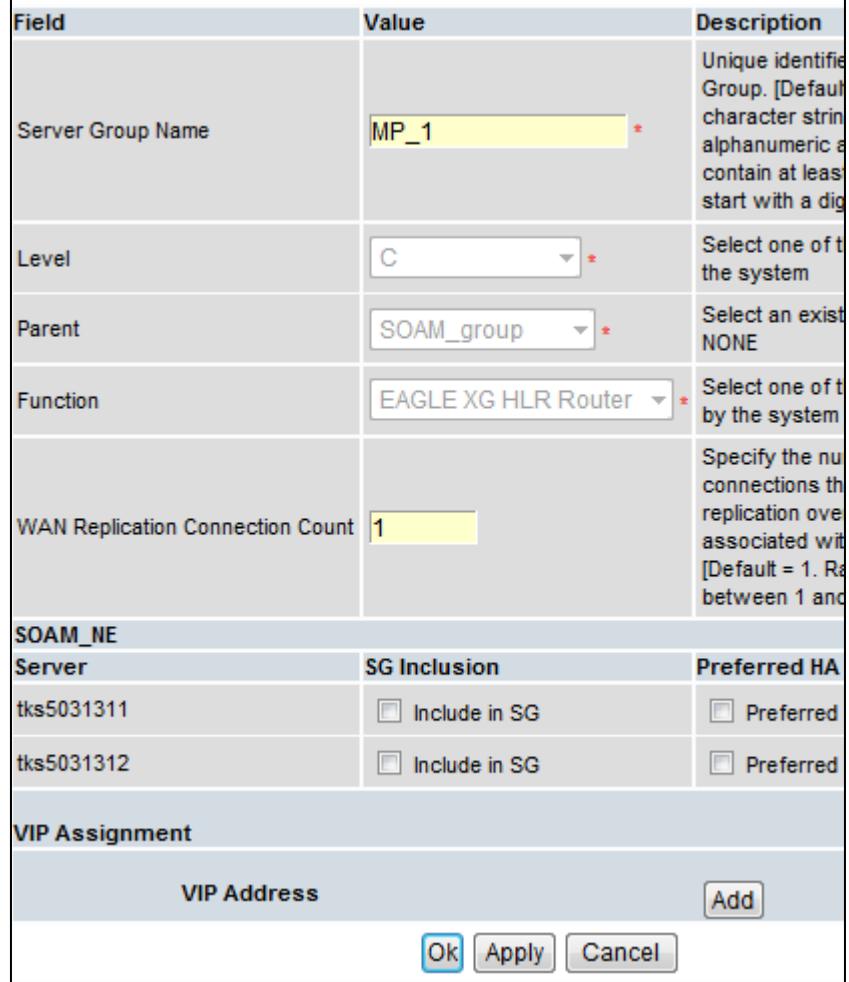
Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
7. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>1) Input the Server Group Name.</p> <p>2) For MP server group, select “C” on the “Level” pull-down menu.</p> <p>3) Select a Parent from the pull-down menu</p> <p>4) Select “EAGLE XG HLR Router” on the “Function” pull-down menu.</p> <p>5) Enter value for “WAN Replication Connection Count” field</p>	<p>Main Menu: Configuration -> Server Groups [Insert]</p>  <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
8. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>1) The user should be presented with a banner information message stating “Pre-Validation passed”.</p> <p>2) Select the “Apply” dialogue button</p>	 <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>

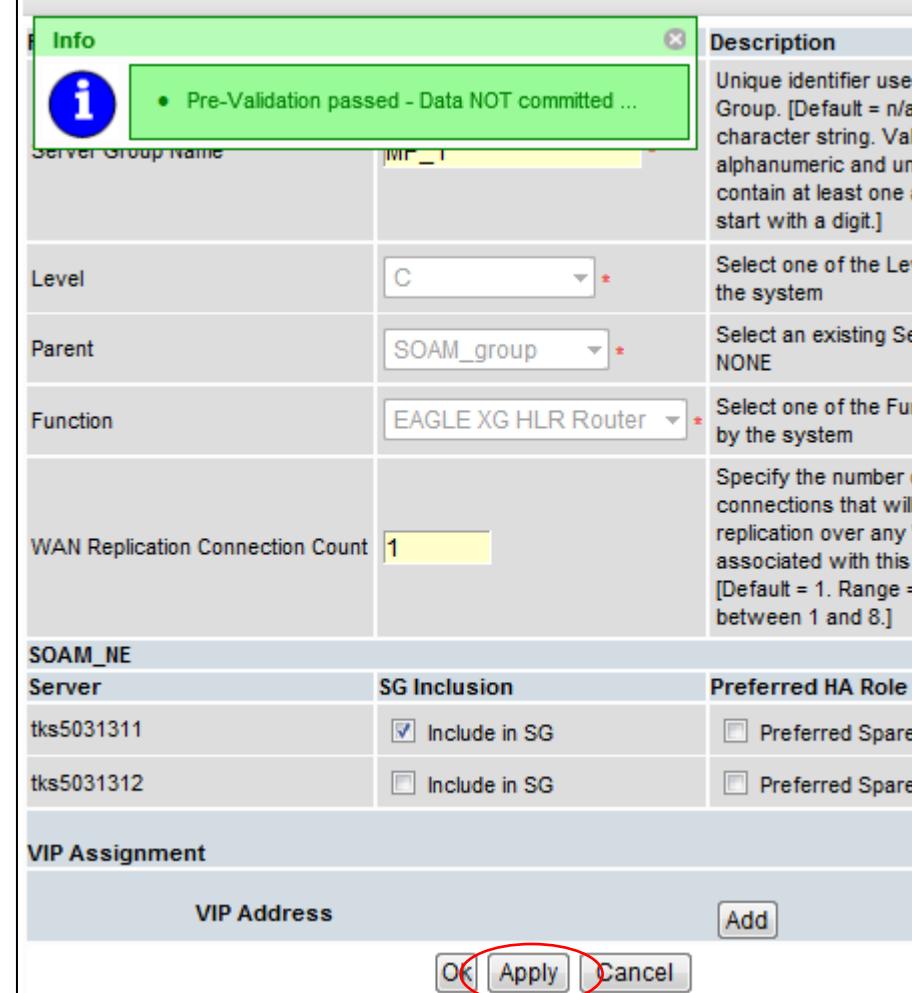
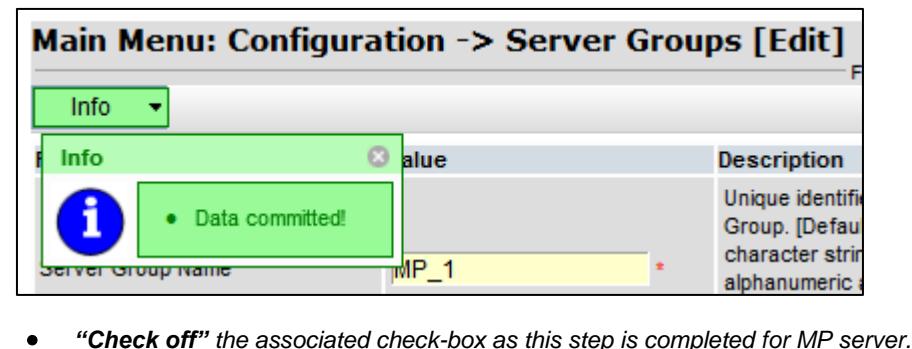
Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
9.	<p>Primary NOAMP VIP GUI:</p> <p><input type="checkbox"/> The user should be presented with a banner information message stating “Data committed”.</p>	<p>Main Menu: Configuration -> Server Groups [Insert]</p>  <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
10.	<p>Primary NOAMP VIP GUI:</p> <p>Select...</p> <p>Main Menu → Configuration → Server Groups</p> <p>...as shown on the right.</p>	 <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>

Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
11.	<p>Primary NOAMP VIP GUI:</p> <p>1) Select the MP Server Group associated with the MP being installed.</p> <p>2) Select the “Edit” dialogue button from the bottom left corner of the screen.</p>	 <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
12.	<p>Primary NOAMP VIP GUI:</p> <p>The user will be presented with the “Configuration → Server Groups [Edit]” screen as shown on the right</p>	 <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>

Procedure 9: Configuring MP Server Groups

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

Procedure 9: Configuring MP Server Groups

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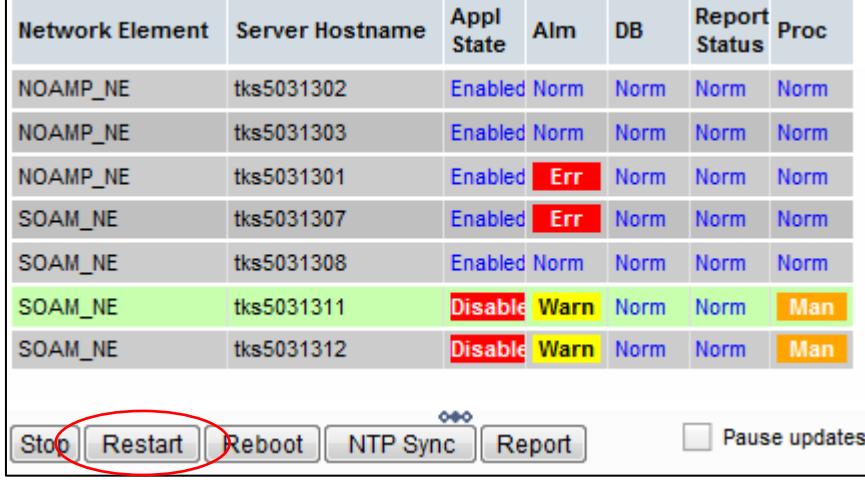
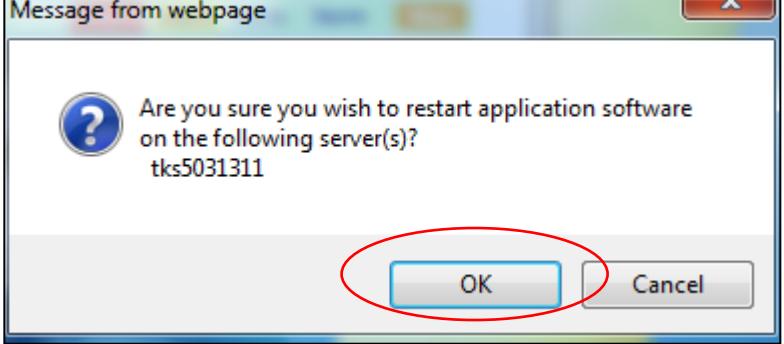
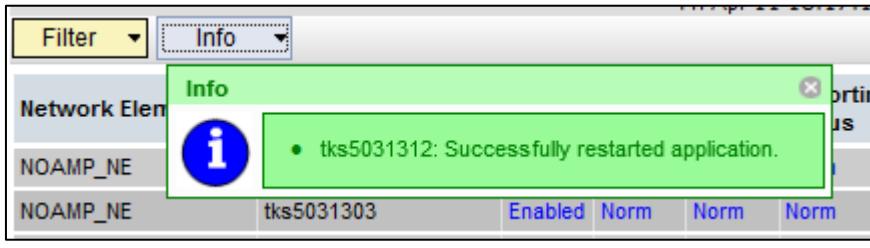
Procedure 9: Configuring MP Server Groups

Step	Procedure	Result																																								
19. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>Click Edit button</p>	<table border="1"> <thead> <tr> <th data-bbox="514 327 791 411">Hostname</th> <th data-bbox="791 327 905 411">OAM Max HA Role</th> <th data-bbox="905 327 1019 411">Applicati Max HA Role</th> <th data-bbox="1019 327 1134 411">Max Allowed HA Role</th> <th data-bbox="1134 327 1444 411">Mate Hostname List</th> </tr> </thead> <tbody> <tr> <td data-bbox="514 411 791 454">tks5031302</td><td data-bbox="791 411 905 454">Standby</td><td data-bbox="905 411 1019 454">OOS</td><td data-bbox="1019 411 1134 454">Active</td><td data-bbox="1134 411 1444 454">tks5031301</td></tr> <tr> <td data-bbox="514 454 791 496">tks5031303</td><td data-bbox="791 454 905 496">Observer</td><td data-bbox="905 454 1019 496">OOS</td><td data-bbox="1019 454 1134 496">Observer</td><td data-bbox="1134 454 1444 496">tks5031301 tks5031302</td></tr> <tr> <td data-bbox="514 496 791 538">tks5031301</td><td data-bbox="791 496 905 538">Active</td><td data-bbox="905 496 1019 538">OOS</td><td data-bbox="1019 496 1134 538">Active</td><td data-bbox="1134 496 1444 538">tks5031302</td></tr> <tr> <td data-bbox="514 538 791 580">tks5031307</td><td data-bbox="791 538 905 580">Standby</td><td data-bbox="905 538 1019 580">OOS</td><td data-bbox="1019 538 1134 580">Active</td><td data-bbox="1134 538 1444 580">tks5031308</td></tr> <tr> <td data-bbox="514 580 791 623">tks5031308</td><td data-bbox="791 580 905 623">Active</td><td data-bbox="905 580 1019 623">OOS</td><td data-bbox="1019 580 1134 623">Active</td><td data-bbox="1134 580 1444 623">tks5031307</td></tr> <tr> <td data-bbox="514 623 791 665">tks5031311</td><td data-bbox="791 623 905 665">OOS</td><td data-bbox="905 623 1019 665">OOS</td><td data-bbox="1019 623 1134 665">OOS</td><td data-bbox="1134 623 1444 665"></td></tr> <tr> <td data-bbox="514 665 791 707">tks5031312</td><td data-bbox="791 665 905 707">OOS</td><td data-bbox="905 665 1019 707">OOS</td><td data-bbox="1019 665 1134 707">OOS</td><td data-bbox="1134 665 1444 707"></td></tr> </tbody> </table> <p>Edit</p> <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>	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	
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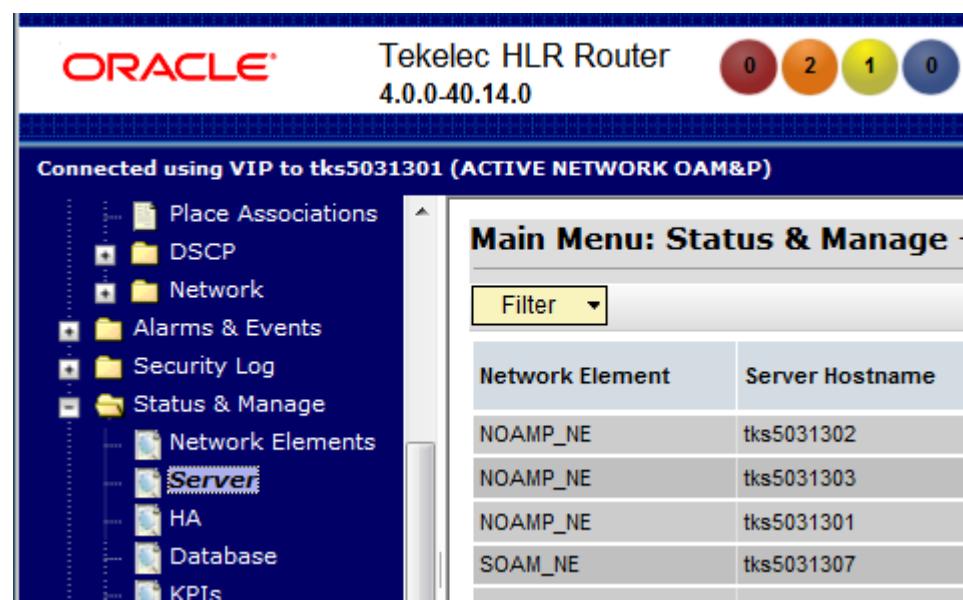
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21.	<p>Primary NOAMP VIP GUI:</p> <p><input type="checkbox"/> Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	<ul style="list-style-type: none"> • "Check off" the associated Check Box as addition is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>																																																								
22.	<p>Primary NOAMP VIP GUI:</p> <p>Verify that the "DB & Reporting Status" columns all show "Norm" for the MP at this point.</p> <p>The "Proc" column should show "Man".</p> <p>The "Appl State" column should show "Disabled"</p>	<table border="1"> <thead> <tr> <th data-bbox="491 1142 670 1184">Network Element</th> <th data-bbox="670 1142 915 1184">Server Hostname</th> <th data-bbox="915 1142 980 1184">Appl State</th> <th data-bbox="980 1142 1046 1184">Alm</th> <th data-bbox="1046 1142 1111 1184">DB</th> <th data-bbox="1111 1142 1241 1184">Report Status</th> <th data-bbox="1241 1142 1323 1184">Proc</th> </tr> </thead> <tbody> <tr> <td data-bbox="491 1184 670 1227">NOAMP_NE</td> <td data-bbox="670 1184 915 1227">tks5031302</td> <td data-bbox="915 1184 980 1227">Enabled</td> <td data-bbox="980 1184 1046 1227">Norm</td> <td data-bbox="1046 1184 1111 1227">Norm</td> <td data-bbox="1111 1184 1241 1227">Norm</td> <td data-bbox="1241 1184 1323 1227">Norm</td> </tr> <tr> <td data-bbox="491 1227 670 1269">NOAMP_NE</td> <td data-bbox="670 1227 915 1269">tks5031303</td> <td data-bbox="915 1227 980 1269">Enabled</td> <td data-bbox="980 1227 1046 1269">Norm</td> <td data-bbox="1046 1227 1111 1269">Norm</td> <td data-bbox="1111 1227 1241 1269">Norm</td> <td data-bbox="1241 1227 1323 1269">Norm</td> </tr> <tr> <td data-bbox="491 1269 670 1311">NOAMP_NE</td> <td data-bbox="670 1269 915 1311">tks5031301</td> <td data-bbox="915 1269 980 1311">Enabled</td> <td data-bbox="980 1269 1046 1311">Err</td> <td data-bbox="1046 1269 1111 1311">Norm</td> <td data-bbox="1111 1269 1241 1311">Norm</td> <td data-bbox="1241 1269 1323 1311">Norm</td> </tr> <tr> <td data-bbox="491 1311 670 1353">SOAM_NE</td> <td data-bbox="670 1311 915 1353">tks5031307</td> <td data-bbox="915 1311 980 1353">Enabled</td> <td data-bbox="980 1311 1046 1353">Err</td> <td data-bbox="1046 1311 1111 1353">Norm</td> <td data-bbox="1111 1311 1241 1353">Norm</td> <td data-bbox="1241 1311 1323 1353">Norm</td> </tr> <tr> <td data-bbox="491 1353 670 1396">SOAM_NE</td> <td data-bbox="670 1353 915 1396">tks5031308</td> <td data-bbox="915 1353 980 1396">Enabled</td> <td data-bbox="980 1353 1046 1396">Norm</td> <td data-bbox="1046 1353 1111 1396">Norm</td> <td data-bbox="1111 1353 1241 1396">Norm</td> <td data-bbox="1241 1353 1323 1396">Norm</td> </tr> <tr> <td data-bbox="491 1396 670 1438">SOAM_NE</td> <td data-bbox="670 1396 915 1438">tks5031311</td> <td data-bbox="915 1396 980 1438">Disable</td> <td data-bbox="980 1396 1046 1438">Warn</td> <td data-bbox="1046 1396 1111 1438">Norm</td> <td data-bbox="1111 1396 1241 1438">Norm</td> <td data-bbox="1241 1396 1323 1438">Man</td> </tr> <tr> <td data-bbox="491 1438 670 1480">SOAM_NE</td> <td data-bbox="670 1438 915 1480">tks5031312</td> <td data-bbox="915 1438 980 1480">Disable</td> <td data-bbox="980 1438 1046 1480">Warn</td> <td data-bbox="1046 1438 1111 1480">Norm</td> <td data-bbox="1111 1438 1241 1480">Norm</td> <td data-bbox="1241 1438 1323 1480">Man</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • "Check off" the associated check-box as this step is completed for MP server.. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>	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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SOAM_NE	tks5031311	Disable	Warn	Norm	Norm	Man																																																				
SOAM_NE	tks5031312	Disable	Warn	Norm	Norm	Man																																																				

Procedure 9: Configuring MP Server Groups

Step	Procedure	Result
23. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>1) Using the mouse, select the “MP” hostname. The line entry should now be highlighted in GREEN.</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 the “MP” stating: “Successfully restarted application”.</p> <p>NOTE: The user may need to use the vertical scroll-bar in order to make the “Restart” dialogue button visible.</p>	<p>Network Element Server Hostname Appl State Alm DB Report Status Proc</p>  <p>Message from webpage</p>  <p>Filter Info</p>  <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>

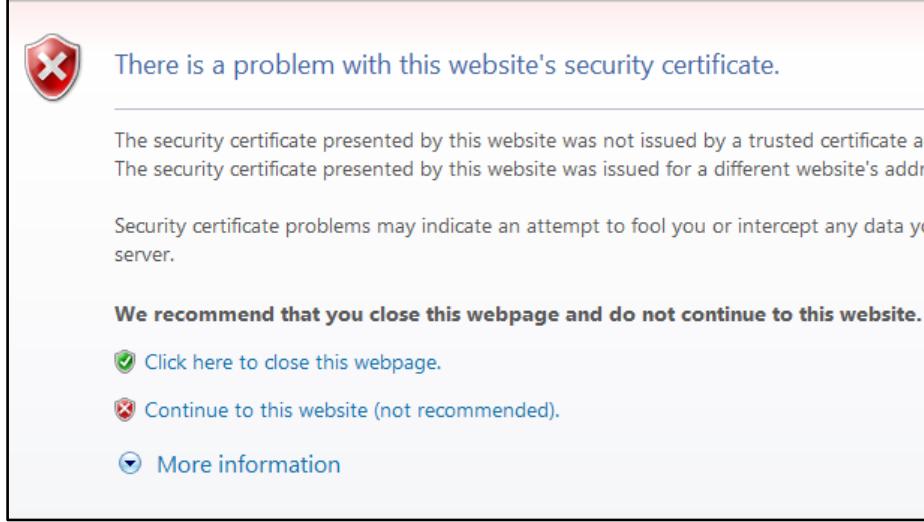
Procedure 9: Configuring MP Server Groups

Step	Procedure	Result																																																								
24.	<p>Active NOAMP VIP: <input type="checkbox"/> Select...</p> <p>Main Menu → Status & Manage → Server</p> <p>...as shown on the right.</p>	 <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>																																																								
25.	<p>Active NOAMP VIP: <input type="checkbox"/> Verify that the “App State” now shows “Enabled”</p> <p>Verify that the “Alm, DB, Reporting Status & Proc” status columns all show “Norm” for the MP servers</p>	<table border="1"> <thead> <tr> <th data-bbox="491 1100 682 1163">Network Element</th> <th data-bbox="682 1100 931 1163">Server Hostname</th> <th data-bbox="931 1100 997 1163">App State</th> <th data-bbox="997 1100 1062 1163">Alm</th> <th data-bbox="1062 1100 1127 1163">DB</th> <th data-bbox="1127 1100 1225 1163">Reporting Status</th> <th data-bbox="1225 1100 1356 1163">Proc</th> </tr> </thead> <tbody> <tr> <td data-bbox="491 1163 682 1205">NOAMP_NE</td> <td data-bbox="682 1163 931 1205">tks5031302</td> <td data-bbox="931 1163 997 1205">Enabled</td> <td data-bbox="997 1163 1062 1205">Norm</td> <td data-bbox="1062 1163 1127 1205">Norm</td> <td data-bbox="1127 1163 1225 1205">Norm</td> <td data-bbox="1225 1163 1356 1205">Norm</td> </tr> <tr> <td data-bbox="491 1205 682 1248">NOAMP_NE</td> <td data-bbox="682 1205 931 1248">tks5031303</td> <td data-bbox="931 1205 997 1248">Enabled</td> <td data-bbox="997 1205 1062 1248">Norm</td> <td data-bbox="1062 1205 1127 1248">Norm</td> <td data-bbox="1127 1205 1225 1248">Norm</td> <td data-bbox="1225 1205 1356 1248">Norm</td> </tr> <tr> <td data-bbox="491 1248 682 1290">NOAMP_NE</td> <td data-bbox="682 1248 931 1290">tks5031301</td> <td data-bbox="931 1248 997 1290">Enabled</td> <td data-bbox="997 1248 1062 1290">Err</td> <td data-bbox="1062 1248 1127 1290">Norm</td> <td data-bbox="1127 1248 1225 1290">Norm</td> <td data-bbox="1225 1248 1356 1290">Norm</td> </tr> <tr> <td data-bbox="491 1290 682 1332">SOAM_NE</td> <td data-bbox="682 1290 931 1332">tks5031307</td> <td data-bbox="931 1290 997 1332">Enabled</td> <td data-bbox="997 1290 1062 1332">Err</td> <td data-bbox="1062 1290 1127 1332">Norm</td> <td data-bbox="1127 1290 1225 1332">Norm</td> <td data-bbox="1225 1290 1356 1332">Norm</td> </tr> <tr> <td data-bbox="491 1332 682 1374">SOAM_NE</td> <td data-bbox="682 1332 931 1374">tks5031308</td> <td data-bbox="931 1332 997 1374">Enabled</td> <td data-bbox="997 1332 1062 1374">Norm</td> <td data-bbox="1062 1332 1127 1374">Norm</td> <td data-bbox="1127 1332 1225 1374">Norm</td> <td data-bbox="1225 1332 1356 1374">Norm</td> </tr> <tr> <td data-bbox="491 1374 682 1417">SOAM_NE</td> <td data-bbox="682 1374 931 1417">tks5031311</td> <td data-bbox="931 1374 997 1417">Enabled</td> <td data-bbox="997 1374 1062 1417">Norm</td> <td data-bbox="1062 1374 1127 1417">Norm</td> <td data-bbox="1127 1374 1225 1417">Norm</td> <td data-bbox="1225 1374 1356 1417">Norm</td> </tr> <tr> <td data-bbox="491 1417 682 1459">SOAM_NE</td> <td data-bbox="682 1417 931 1459">tks5031312</td> <td data-bbox="931 1417 997 1459">Enabled</td> <td data-bbox="997 1417 1062 1459">Norm</td> <td data-bbox="1062 1417 1127 1459">Norm</td> <td data-bbox="1127 1417 1225 1459">Norm</td> <td data-bbox="1225 1417 1356 1459">Norm</td> </tr> </tbody> </table> <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>	Network Element	Server Hostname	App 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	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.	Repeat Steps 17 through 25 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

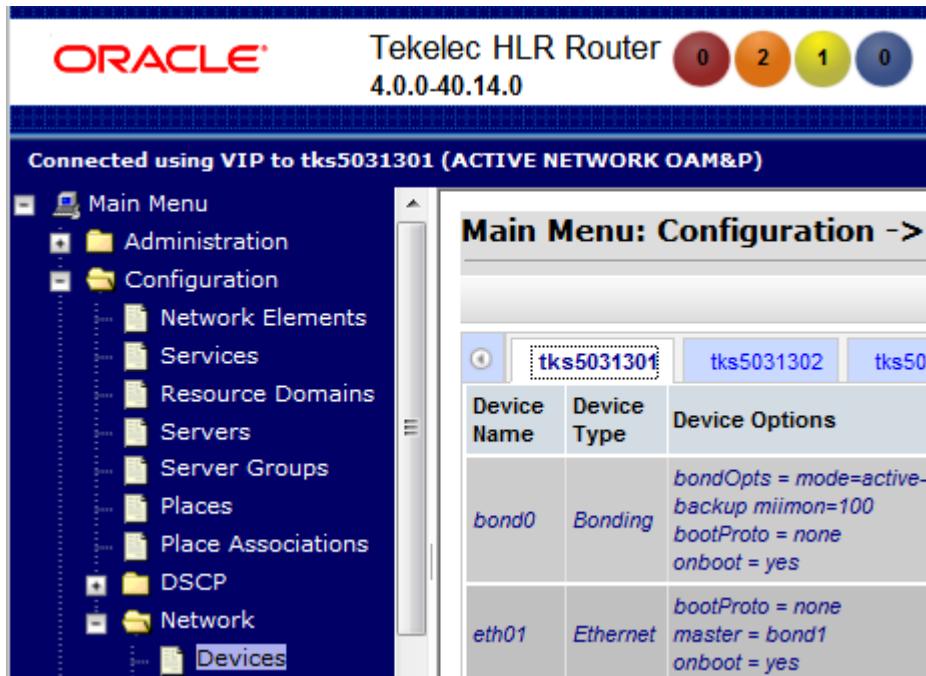
Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
1.	<p>Primary NOAMP VIP GUI:</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: “Continue to this website (not recommended)”</p>	
2.	<p>Primary NOAMP VIP GUI:</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>Primary NOAMP VIP GUI:</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>Primary NOAMP VIP GUI:</p> <p>1) Select...</p> <p>Main Menu → Configuration → Network → Devices</p> <p>...as shown on the right.</p> <p>2) Click on the desired MP server tab.</p>	 <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
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Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result																											
5. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p><i>Take ownership of the eth02 device for the desired MP.</i></p> <p>1) Select the eth02 device</p> <p>2) Click on the Take Ownership button.</p> <p>3) The user should be presented with status message stating “Device import Pending”</p>	<p>Main Menu: Configuration -> Network -> Devices</p> <p>Fri Apr 11 18:39:10 2014</p> <table border="1"> <thead> <tr> <th>Device Name</th> <th>Device Type</th> <th>Device Options</th> </tr> </thead> <tbody> <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=primary=eth01 updelay=200 downdelay=200 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> </tbody> </table> <p>Status</p> <p>Status</p> <p>• Device import pending...</p> <p>IP Interface (Network)</p> <p>eth02 onboot = no</p> <p> <input type="checkbox"/> Take Ownership </p> <p> <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 </p>	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=primary=eth01 updelay=200 downdelay=200 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																											
bond0	Bonding	bondOpts = mode=active-backup miimon=primary=eth01 updelay=200 downdelay=200 bootProto = none onboot = yes																											
eth03	Ethernet	bootProto = none master = bond1 onboot = yes																											
eth01	Ethernet	bootProto = none master = bond1 onboot = yes																											

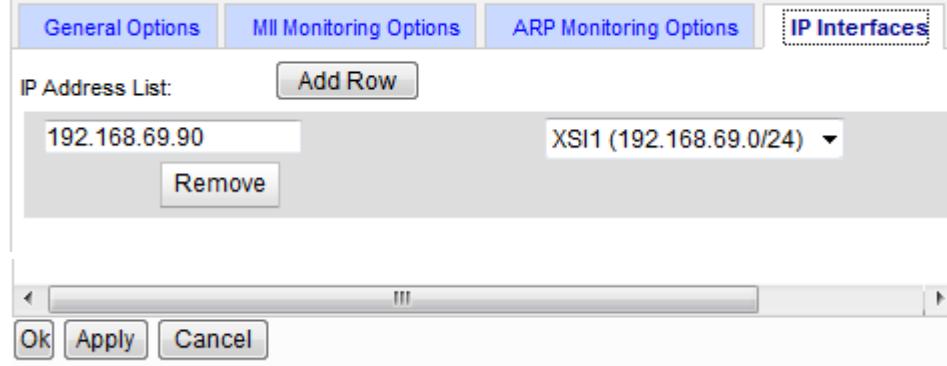
Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
6. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p><i>Edit eth02 device for the desired MP.</i></p> <p>1) Select... <u>Main Menu</u> → Configuration → Network → Devices</p> <p>2) Click on the desired MP server tab.</p> <p>3) Select the eth02 device</p> <p>4) Device's configuration status should change from "Discovered" to "Deployed"</p> <p>5) Click on the Edit button.</p>	<p>Main Menu: Configuration -> Network -> Devices</p> <p>Fri Apr 11 18:55:46 2011</p> <p> <input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2 </p> <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server.

Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result																		
7. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>Enable eth02 device</p> <p>The configuration screen “Devices [Edit]” will appear</p> <p>1) Click on the General Options tab.</p> <p>2) Check the “Enable” check box (to make it enabled).</p> <p>3) Click on “IP Interfaces” tab</p>	<p>Edit device eth02 on tks5031311</p> <p>General Options MII Monitoring Options ARP Monitoring Options IP Interfaces</p> <table border="1"> <thead> <tr> <th data-bbox="523 424 687 456">Field</th><th data-bbox="687 424 948 456">Value</th><th data-bbox="948 424 1445 456">Description</th></tr> </thead> <tbody> <tr> <td data-bbox="523 456 687 614">Device Type</td><td data-bbox="687 456 948 614"> <input checked="" type="radio"/> Ethernet <input type="radio"/> Bonding <input type="radio"/> Vlan <input type="radio"/> Alias </td><td data-bbox="948 456 1445 614">Select the device type. It cannot be changed after device is created. [Default = N/A. Range = Bonding, Vlan, Alias.]</td></tr> <tr> <td data-bbox="523 656 687 720">Device Monitoring</td><td data-bbox="687 656 948 720">-- Monitoring Type --</td><td data-bbox="948 656 1445 720">Choose a monitoring style to use with a bonding device. Disabled for non-bonding devices. [Default = MII. Options = MII, ARP.]</td></tr> <tr> <td data-bbox="523 762 687 794">Start On Boot</td><td data-bbox="687 762 948 794"><input checked="" type="checkbox"/> Enable</td><td data-bbox="948 762 1445 794">Start the device, and also start on boot. [Default = enabled]</td></tr> <tr> <td data-bbox="523 825 687 857">Boot Protocol</td><td data-bbox="687 825 948 857">None</td><td data-bbox="948 825 1445 857">Select the boot protocol. [Default = None, Range = None,DHCP]</td></tr> <tr> <td data-bbox="523 889 687 1184">Base Device(s)</td><td data-bbox="687 889 948 1184"> <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 </td><td data-bbox="948 889 1445 1184">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> <p>Ok Apply Cancel</p> <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>	Field	Value	Description	Device Type	<input checked="" type="radio"/> Ethernet <input type="radio"/> Bonding <input type="radio"/> Vlan <input type="radio"/> Alias	Select the device type. It cannot be changed after device is created. [Default = N/A. Range = Bonding, Vlan, Alias.]	Device Monitoring	-- Monitoring Type --	Choose a monitoring style to use with a bonding device. Disabled for non-bonding devices. [Default = MII. Options = MII, ARP.]	Start On Boot	<input checked="" type="checkbox"/> Enable	Start the device, and also start on boot. [Default = enabled]	Boot Protocol	None	Select the boot protocol. [Default = None, Range = None,DHCP]	Base Device(s)	<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	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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Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
8.	<p><input type="checkbox"/> Primary NOAMP VIP GUI:</p> <p>Add an IP address on eth02 device.</p> <p>1) Click the Add Row button</p> <p>3) Set the Network Name to XSI 1.</p> <p>3) Enter the XSI 1 IP Address.</p> <p>4) Click on the Ok button.</p>	<p>Edit Ethernet device eth02 on tks5031311</p>  <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>
9.	<p><input type="checkbox"/> Primary NOAMP VIP GUI:</p> <p>1) Select... <u>Main Menu</u> → Configuration → Network → Devices</p> <p>2) Click on the desired MP server tab.</p> <p>3) Verify eth02 is configured with XSI1 IP address</p>	<p>Main Menu: Configuration -> Network -> Devices</p>  <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>

Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result									
10. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>1) Select...</p> <p>Main Menu → Configuration → <i>Network</i> → <i>Devices</i></p> <p>...as shown on the right.</p> <p>2) Click on the desired MP server tab.</p>	<p>Connected using VIP to tks5031301 (ACTIVE NETWORK OAM&P)</p> <p>Main Menu: Configuration -> Network -> Devices</p> <table border="1"> <thead> <tr> <th>Device Name</th> <th>Device Type</th> <th>Device Options</th> </tr> </thead> <tbody> <tr> <td>bond0</td> <td>Bonding</td> <td>bootProto = none bondOpts = mode=active-backup milimon=100 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"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>	Device Name	Device Type	Device Options	bond0	Bonding	bootProto = none bondOpts = mode=active-backup milimon=100 onboot = yes	eth01	Ethernet	bootProto = none master = bond1 onboot = yes
Device Name	Device Type	Device Options									
bond0	Bonding	bootProto = none bondOpts = mode=active-backup milimon=100 onboot = yes									
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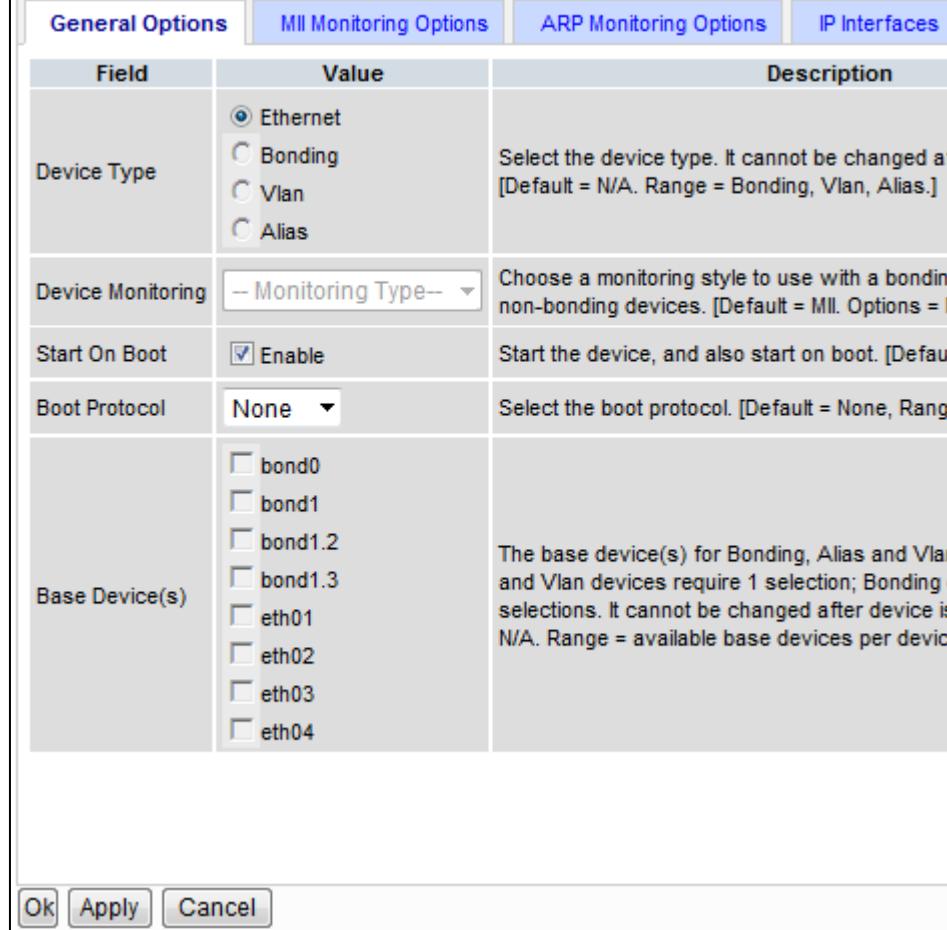
Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
11. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>Take ownership of the eth04 device for the desired MP</p> <p>1) Select the eth04 device</p> <p>2) Click on the Take Ownership button.</p> <p>3) The user should be presented with status message stating “Device import Pending”</p>	<p>Main Menu: Configuration -> Network -> Devices</p> <p>Fri Apr 11 19:12:1</p> <p>• “Check off” 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>

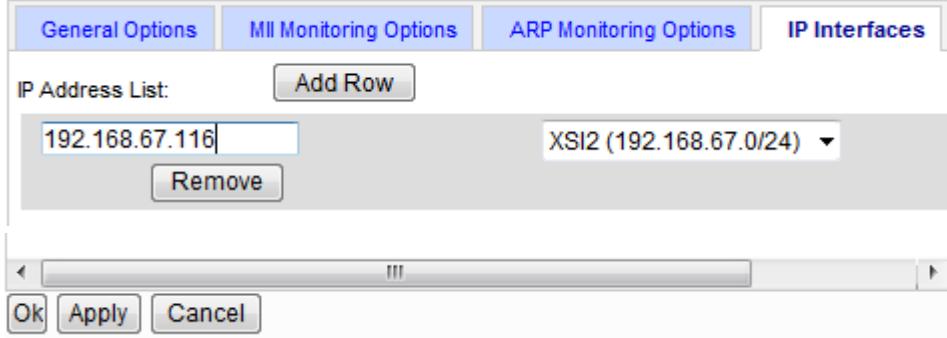
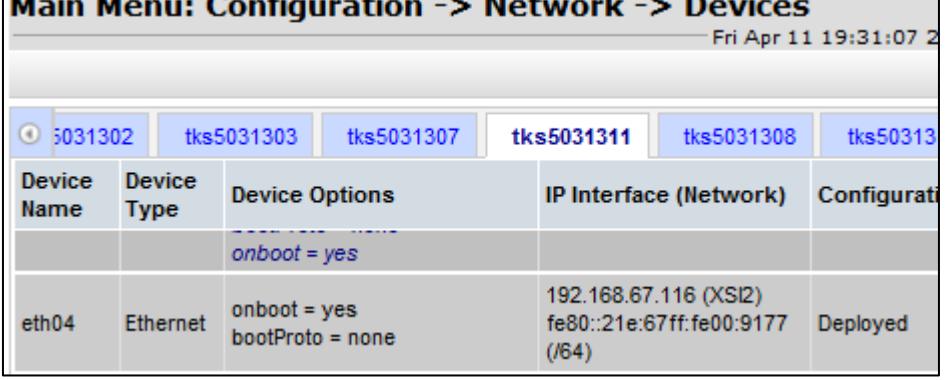
Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result																																								
12. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p><i>Edit eth04 device for the desired MP.</i></p> <p>1) Select... <u>Main Menu</u> → Configuration → Network → Devices</p> <p>2) Click on the desired MP server tab.</p> <p>3) Select the eth04 device</p> <p>4) Device's configuration status should change from "Discovered" to "Deployed"</p> <p>5) Click on the Edit button.</p>	<p>Main Menu: Configuration -> Network -> Devices</p> <p>Status ▾</p> <p>302 tks5031303 tks5031307 tks5031311 tks5031308 tks5031311</p> <table border="1"> <thead> <tr> <th>Device Name</th> <th>Device Type</th> <th>Device Options</th> <th>IP Interface (Network)</th> <th>Configuration Status</th> </tr> </thead> <tbody> <tr> <td>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> <tr> <td><i>bond1</i></td> <td><i>Bonding</i></td> <td><i>bondInterfaces = eth01,eth03,eth01,eth03 bondOpts = mode=active-backup miimon=100 primary=eth01 updelay=200 downdelay=200 bootProto = none onboot = yes</i></td> <td><i>fe80::21e:67ff:fe00:9172 (/64)</i></td> <td><i>Discovered</i></td> </tr> <tr> <td>eth04</td> <td></td> <td>onboot = no</td> <td></td> <td>Configured</td> </tr> <tr> <td><i>bond1.2</i></td> <td><i>Vlan</i></td> <td><i>baseDevice = ["bond1"] bootProto = none onboot = yes</i></td> <td><i>192.168.182.89 (XMI) 192.168.182.91 (/28) fe80::21e:67ff:fe00:9172 (/64)</i></td> <td><i>Deployed</i></td> </tr> <tr> <td><i>bond1.3</i></td> <td><i>Vlan</i></td> <td><i>baseDevice = ["bond1"] bootProto = none onboot = yes</i></td> <td><i>192.168.182.102 (IMI) fe80::21e:67ff:fe00:9172 (/64)</i></td> <td><i>Deployed</i></td> </tr> <tr> <td><i>bond0</i></td> <td><i>Bonding</i></td> <td><i>bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes</i></td> <td></td> <td><i>Discovered</i></td> </tr> <tr> <td><i>eth03</i></td> <td><i>Ethernet</i></td> <td><i>bootProto = none master = bond1 onboot = yes</i></td> <td></td> <td><i>Discovered</i></td> </tr> </tbody> </table> <p>Insert Edit Delete Report Report All Take Ownership <input checked="" type="checkbox"/> Pause</p> <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <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	<i>bond1</i>	<i>Bonding</i>	<i>bondInterfaces = eth01,eth03,eth01,eth03 bondOpts = mode=active-backup miimon=100 primary=eth01 updelay=200 downdelay=200 bootProto = none onboot = yes</i>	<i>fe80::21e:67ff:fe00:9172 (/64)</i>	<i>Discovered</i>	eth04		onboot = no		Configured	<i>bond1.2</i>	<i>Vlan</i>	<i>baseDevice = ["bond1"] bootProto = none onboot = yes</i>	<i>192.168.182.89 (XMI) 192.168.182.91 (/28) fe80::21e:67ff:fe00:9172 (/64)</i>	<i>Deployed</i>	<i>bond1.3</i>	<i>Vlan</i>	<i>baseDevice = ["bond1"] bootProto = none onboot = yes</i>	<i>192.168.182.102 (IMI) fe80::21e:67ff:fe00:9172 (/64)</i>	<i>Deployed</i>	<i>bond0</i>	<i>Bonding</i>	<i>bondOpts = mode=active-backup miimon=100 bootProto = none onboot = yes</i>		<i>Discovered</i>	<i>eth03</i>	<i>Ethernet</i>	<i>bootProto = none master = bond1 onboot = yes</i>		<i>Discovered</i>
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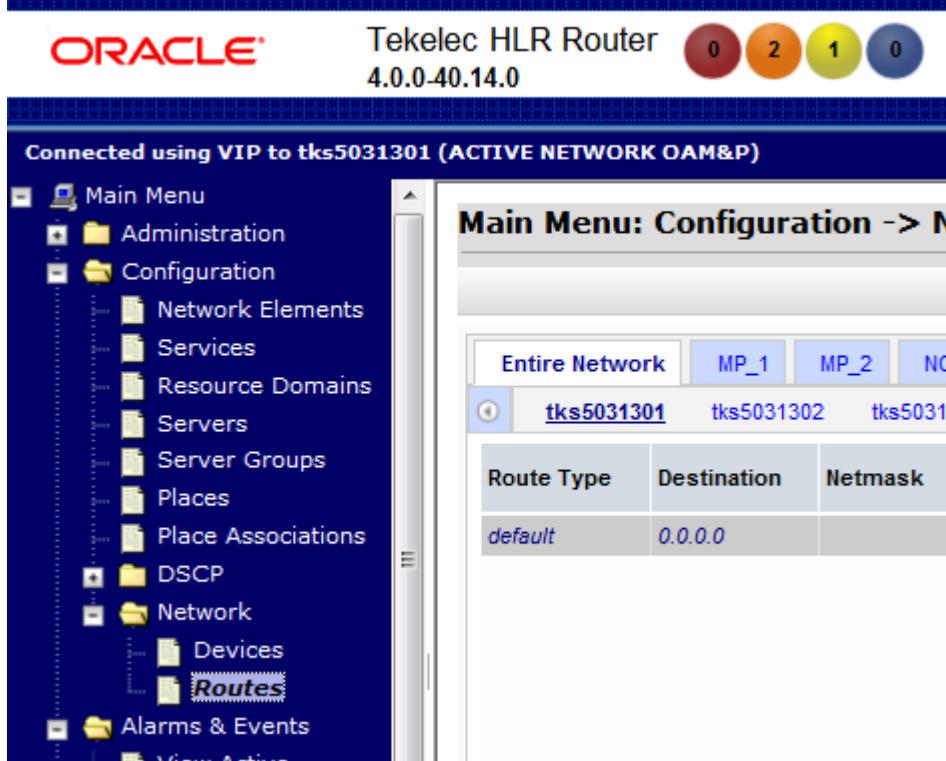
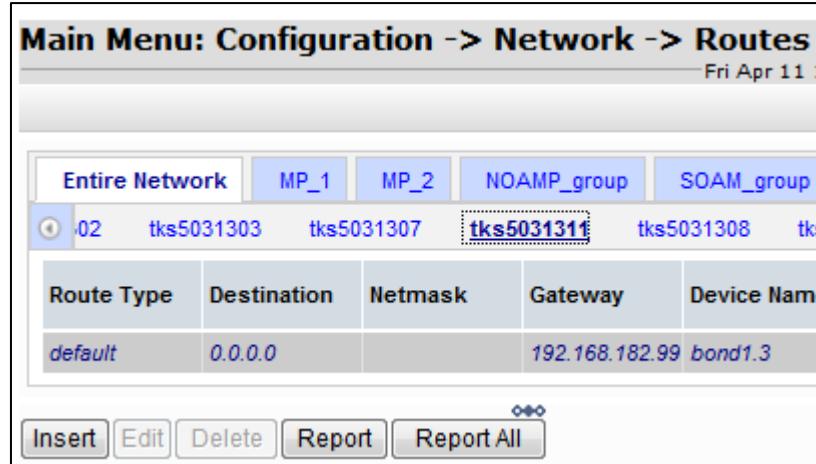
Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
13. <input type="checkbox"/>	<p>Primary NOAMP VIP GUI:</p> <p>Enable eth04 device</p> <p>The configuration screen “Devices [Edit]” will appear</p> <p>1) Click on the General Options tab.</p> <p>2) Check the “Enable” check box (to make it enabled).</p> <p>3) Click on IP Interfaces tab</p>	<p>Edit device eth04 on tks5031311</p>  <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>

Procedure 10: Configure MP Signaling Interfaces

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

Procedure 10: Configure MP Signaling Interfaces

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

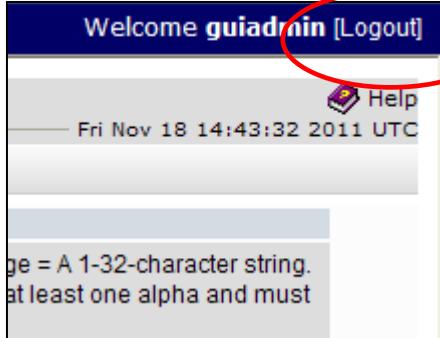
Procedure 10: Configure MP Signaling Interfaces

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 Route Type to desired value</p> <p>2) Set Device to eth02</p> <p>3) Enter Destination value</p> <p>4) Enter Netmask value</p> <p>5) Enter Gateway IP value</p> <p>6) Click Apply button</p> <p>7) Info message “Data committed!” will appear</p>	<p>Main Menu: Configuration -> Network -> Routes [Insert]</p> <p>Insert Route on tks5031311</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Route Type</td> <td> <input checked="" type="radio"/> Net <input type="radio"/> Default <input type="radio"/> Host * </td> <td>Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPV4 default route and one IPV6 default route on a given target machine.]</td> </tr> <tr> <td>Device</td> <td>eth02 *</td> <td>Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]</td> </tr> <tr> <td>Destination</td> <td>10.250.54.0</td> <td>The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]</td> </tr> <tr> <td>Netmask</td> <td>255.255.255.0</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>192.168.69.250 *</td> <td>The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]</td> </tr> </tbody> </table> <p>Main Menu: Configuration -> Network -> Routes [Insert]</p> <p>Insert Route on tks5031311</p> <p>Info</p> <p>• Data committed!</p> <ul style="list-style-type: none"> “Check off” the associated check-box as this step is completed for MP server. <p><input type="checkbox"/> MP-1 <input type="checkbox"/> MP-2</p>	Field	Value	Description	Route Type	<input checked="" type="radio"/> Net <input type="radio"/> Default <input type="radio"/> Host *	Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPV4 default route and one IPV6 default route on a given target machine.]	Device	eth02 *	Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]	Destination	10.250.54.0	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]	Netmask	255.255.255.0	A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]	Gateway IP	192.168.69.250 *	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.]
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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 Route Type to desired value</p> <p>2) Set Device to eth02</p> <p>3) Enter Destination value</p> <p>4) Enter Netmask value</p> <p>5) Enter Gateway IP value</p> <p>6) Click Apply button</p> <p>7) Info message "Data committed!" will appear</p>	<p>Main Menu: Configuration -> Network -> Routes [Insert]</p> <p>Insert Route on tks5031311</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Route Type</td> <td> <input checked="" type="radio"/> Net <input type="radio"/> Default <input type="radio"/> Host * </td> <td>Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPV4 default route and one IPV6 default route on a given target machine.]</td> </tr> <tr> <td>Device</td> <td>eth04 *</td> <td>Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]</td> </tr> <tr> <td>Destination</td> <td>10.250.55.0</td> <td>The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]</td> </tr> <tr> <td>Netmask</td> <td>255.255.255.0</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>192.168.67.250 *</td> <td>The IP address of the gateway for this route. [Default = N/A. Range = Valid IP address of the gateway in dotted decimal (IPv4) or colon hex (IPv6) format.]</td> </tr> </tbody> </table> <p>Main Menu: Configuration -> Network -> Routes [Insert]</p> <p>031311</p> <p>Info</p> <ul style="list-style-type: none"> • Data committed! <p>MP-1 <input type="checkbox"/> MP-2 <input type="checkbox"/></p>	Field	Value	Description	Route Type	<input checked="" type="radio"/> Net <input type="radio"/> Default <input type="radio"/> Host *	Select a route type. [Default = N/A. Options = Net, Default, Host. You can configure at most one IPV4 default route and one IPV6 default route on a given target machine.]	Device	eth04 *	Select the network device name through which traffic is being routed. The selection of AUTO will result in the device being selected automatically, if possible. [Default = N/A. Range = Provisioned devices on the selected server.]	Destination	10.250.55.0	The destination network address. [Default = N/A. Range = Valid Network Address of the network in dotted decimal (IPv4) or colon hex (IPv6) format.]	Netmask	255.255.255.0	A valid netmask for the network route destination IP address. [Default = N/A. Range = Valid Netmask for the network in prefix length (IPv4 or IPv6) or dotted decimal (IPv4) format.]	Gateway IP	192.168.67.250 *	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.]
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Procedure 10: Configure MP Signaling Interfaces

Step	Procedure	Result
21. <input type="checkbox"/>	Repeat steps 17 - 20 for each MP	
22. <input type="checkbox"/>	Primary NOAMP VIP GUI: Click the “Logout” link on the HLRR server GUI.	 ge = A 1-32-character string. at least one alpha and must
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"?>
<nworkelement>
  <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>
</nworkelement>
```

2. Template file for configuring SOAM Network Element :

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

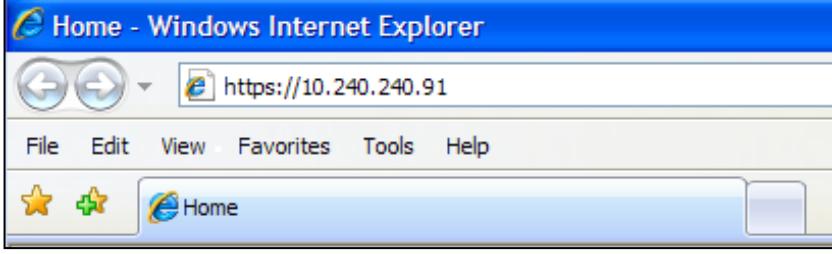
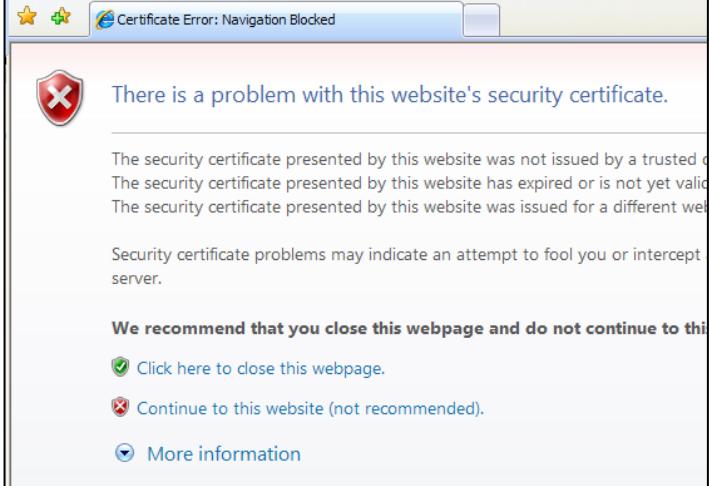
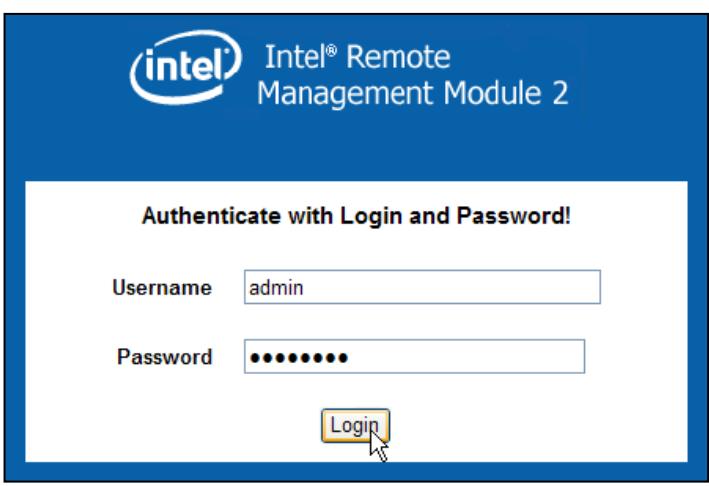
Here is an example of a filled-out XML file for SOAM network element:

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

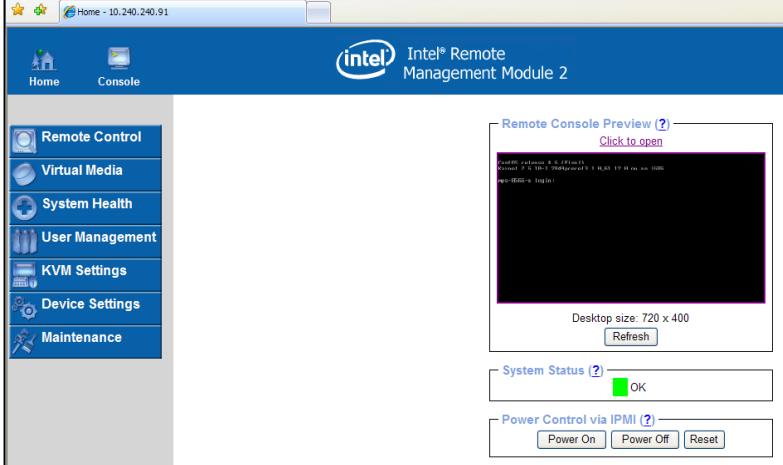
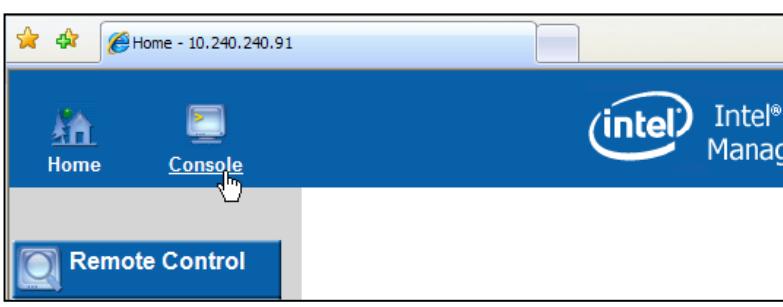
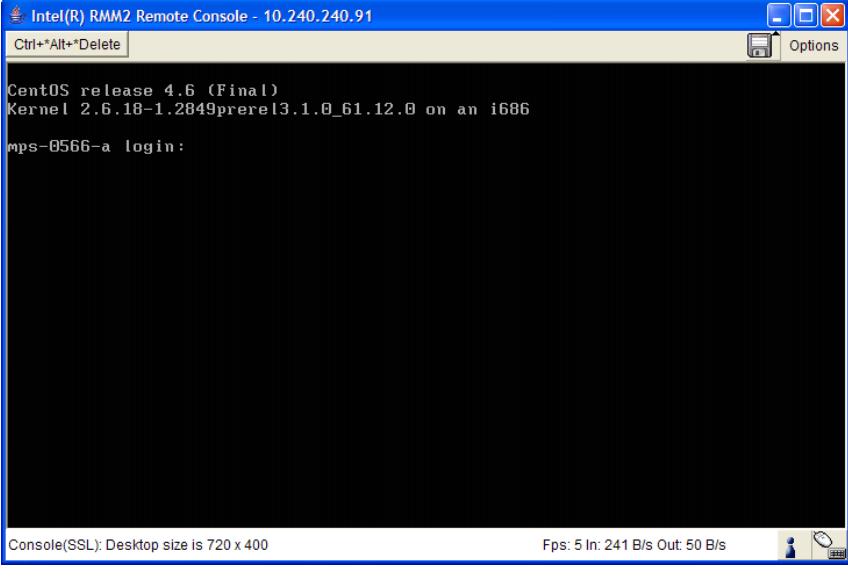
```
<?xml version="1.0"?>
<neterkelement>
  <name>SOAM_NE</name>
  <networks>
    <network>
      <name>XMI</name>
      <vlanId>2</vlanId>
      <ip>10.240.16.64</ip>
      <mask>255.255.255.240</mask>
      <gateway>10.240.16.65</gateway>
      <isDefault>false</isDefault>
    </network>
    <network>
      <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>
</neterkelement>
```

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>NOTE 1: Always use https for GUI access.</p> <p>NOTE 2: If needed, see Appendix C or Appendix D to determine MFG default IP assignments.</p> <p>NOTE 3: 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"/>	Login to the RMM console as “admin” user	

Appendix B: Accessing the RMM VGA Redirection Window

4. <input type="checkbox"/>	The admin GUI is displayed.	
5. <input type="checkbox"/>	Select the "Console" button in the upper left corner of the GUI	
6. <input type="checkbox"/>	The RMM Console window is displayed. NOTE: The console window resembles an MS-DOS window but DOES NOT have a scroll-back buffer.	

THIS PROCEDURE HAS BEEN COMPLETED

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

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

2. RMM IP Address Assignments by Frame Position

T1200 Frame Position (U number)	RMM IP Address Assignment
U18	192.168.100.18
U19	192.168.100.19
U20	192.168.100.20
U21	192.168.100.21
U22	192.168.100.22
U23	192.168.100.23
U24	192.168.100.24
U25	192.168.100.25
U26	192.168.100.26
U27	192.168.100.27
U28	192.168.100.28
U29	192.168.100.29
U30	192.168.100.30
U31	192.168.100.31
U32	192.168.100.32
U33	192.168.100.33
U34	192.168.100.34
U35	192.168.100.35

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

<p>Locate system serial number of the server.</p> <p>From the rear of the server, it can be found on a sticker attached to the bottom of the PCI Card Slot opening.</p> <p><u>Example:</u> For S/N: NNG05085100566, the last octet would be “66”.</p> <p>Therefore, the IP address as set by Oracle's Tekelec MFG would be “192.168.100.66”.</p>	
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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 VGA access method chosen in Section 2.0.</p> <p>NOTE: 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>Viewing the RMM IP Address: 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>Setting the RMM IP Address: 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>Viewing the RMM IP Source: 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>Setting the RMM IP Source: 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>Viewing the RMM Netmask: 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>Setting the RMM Netmask: 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>Viewing the RMM GW: Verify RMM's default gateway.</p>	<pre># kiratool -u admin -p password gw</pre> <p>Default gateway: 0.0.0.0</p>
9.	<p>Setting the RMM GW: 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.	Performing a “ping” from the RMM NIC: Perform this step to execute a “ping” command from the RMM’s network interface.	# kiratool -u admin -p password test nic ping 10.240.240.1 nic ping: ok
11.	Verifying the RMM firmware revision: Perform this step to verify the current firmware revision of the RMM.	# kiratool -u admin -p password fw Firmware version: 4.2.2 Build number: 6912 Hardware ID: 0x21 Firmware tag: Standard Edition OEM: intel
12.	Sending a Soft-Reset to the RMM: Perform this step to send a soft-reset to the RMM. Note: The error message shown to the right is expected.	# kiratool -u admin -p password reset Resetting device. The device might not respond for about one minute. Error resetting the device: No response from the device
THIS PROCEDURE HAS BEEN COMPLETED		

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.