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Oracle CGBU

User's Guide

HLR Router 4.1 Initial Installation and Configuration for T1200

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Oracle® Communications Tekelec HLR Router 4.1, Initial Installation and Configuration User's Guide for T1200

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

My Oracle Support (MOS) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Refer to **Appendix K** - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service.

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1.0 INTRODUCTION

1.1 Purpose and Scope

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

This document only describes HLR Router automated SW installation on the T1200 application server, deployed within HLR Router cabinet using Telco switches. It does not cover hardware installation, site survey, customer network configuration, IP assignments, customer router configurations, or the configuration of any device outside of the HLR Router cabinet.

1.2 References

- [1] TPD Initial Product Manufacture, Release 5.0+, E54521
- [2] T1200 Solutions Firmware Upgrade Pack, 909-1618-001
- [3] Platform 7.0 Configuration Guide, E53486
- [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 4.1 Disaster Recovery Guide for T1200, E76021-01

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 7.0.3 or higher as described in the TPD Initial Product Manufacture Procedure, Release 5.0+ [1].
- The user has reviewed the HLR Router Network Implementation Guide 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 NOAM, SOAM or DR-NOAM Network Element must be maintained and accessible for use in Disaster Recovery procedures. Oracle's Consulting Practices Engineer (if retained) 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 **"My Oracle Support"** (MOS) personnel if needed for use in Disaster Recovery operations. Refer to **Appendix K** - *Accessing My Oracle Support (MOS)*, for more information on contacting Oracle Customer Service.

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 panels including any STEP specific WARNINGS or NOTES.

If a procedural STEP fails to execute successfully, **STOP** and contact **"My Oracle Support"** (MOS) for assistance before attempting to continue. Refer to **Appendix K** - *Accessing My Oracle Support (MOS)*, for more information on contacting Oracle Customer Service.

NOTE: Selected procedures within this document have been modularized for use with Disaster Recovery (DR) procedures (e.g. Procedure 7.1, 7.2, 7.3, etc.). It should be understood by the user that this restructuring has no relevance during initial installation procedures.

Proper execution of these procedures has been clarified in the examples provided below:

- If executing Procedure 7 during initial installation, the user would execute all sub-sections contained within Procedure 7 in the order in which they appear (e.g. Procedure 7.1, 7.2, 7.3, etc.).
- If executing Procedure 7 during Disaster Recovery, the user would only execute specific sub-sections (e.g. Procedure 7.2, 7.4) as directed by the HLR Router 4.1 Disaster Recovery Guide for T1200 [7].

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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 8.0, or higher 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 1GB of available space.
- TPD "root" user password.
- TPD "admusr" user password.

2.2 Installation Prerequisites

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:



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.

		Procedures to Perfom									
	1	2	3	4	5	6	7	8	9	10	11
Primary NOAM / Query Server	>	√	>	1	~	×	×	×	×	×	×
DR NOAM / Query Server	>	✓	~	×	×	<	-	×	×	×	×
SOAM	>	>	>	×	×	×	>	>	×	×	×
MP	>	×	×	×	×	×	×	×	1	>	-

HLR Router Installation Matrix

 Table 3 - HLR Router Installation Matrix

HLR Router Installation: List of Procedures

Procedure	Title	Page
1	Installing the HLR Router Application	11
2	Configuring Telco switch1A (All Sites)	20
3	Configuring Telco switch1B (All Sites)	31
4	Configuring the Primary NOAM Site (1st NOAMP Site Only)	41
5	OAM Pairing for the Primary NOAM Site (1st NOAM Site Only)	54
6	Configuring the DR NOAM Site (Optional)	66
7	OAM Pairing for DR NOAM / SOAM Sites (DR NOAM / SOAM Sites Only)	77
8	Configuring the SOAM Site	91
9	Configuring the MP Server (All SOAM Sites)	102
10	Configure XSI Signaling Networks (All SOAM Sites)	123
11	Configuring the MP Signaling Interfaces (All SOAM Sites)	127

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 [5] before beginning this procedure.

Procedure 1:	Installing	the HLR	Router	Application
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Step	Procedure	Result						
1.	Access the T1200 server's console.	Connect to the T1200 server's console using one of the access methods described in Section 0.						
2. Log into the T1200 server as the "root" user. login: root Password: <root_password></root_password>								
3.	Verify the date and time are displayed in GMT (+/- 4 min)	# date -u Thu Jan 28 23:12:23 UTC 2014						
	 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 [5]. Otherwise, if the correct date and time (in GMT) are shown in previous step, then continue on to Step 4 of this procedure. 							
4.	Verify that the TPD release is 7.0.x.	<pre>[root@hostname1260476221 ~]# getPlatRev 7.0.3.0.0-86.38.0 [root@hostname1260476221 ~]#</pre>						
	 If the Platform Revision shown in the previous step does NOT start with "7.0.x" or "6.5.x" then Execute <i>TPD Initial Product Manufacture, Release 5.0+</i>, E54521 [1] for T1200. Otherwise, if the Platform Revision shown is valid, then continue on to Step 5 of this procedure. 							
5.	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 NOTE: The user should stop and resolve any errors returned from "syscheck" before</pre>						
		continuing on to the next step.						

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Procedure 1:	Installing the HLR	Router Application
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Step	Procedure	Result
6.	If CDROM media is to be used to perform the HLR Router Application install, place the CDROM into the Optical Drive and SKIP to Step 15 of this procedure.	Figure 3 - T1200 Front Panel: Optical Drive
	If a <mark>USB flash drive</mark> is to be used, then CONTINUE to Step 7 of this procedure.	
7.	If the HLR Router Application ISO file has been placed on a USB flash drive, insert the USB flash drive into the USB port on the front panel of server1A.	Figure 4 - T1200 Front Panel: USB Port
8.	Output similar to that shown on the right may appear on the terminal. Press the <enter></enter> key to return to the command prompt.	<pre># sdd: assuming drive cache: write through sdd: assuming drive cache: write through <enter> #</enter></pre>
9.	Verify that the USB flash drive's partition has been mounted .	# df grep media /dev/sdd1 1018088 603372 414716 60% /media/sdd1
10.	Copy the HLR Router Application ISO file to the directory path specified on the right.	<pre># cp -p /media/sdd1/EXHR-4.1.0_41.2.0-x86_64.iso /var/TKLC/upgrade/</pre>
11.	Unmount the USB flash drive partition.	<pre># umount /media/sdd1 #</pre>
12.	Once the command prompt returns to the terminal, REMOVE the USB flash drive from the USB port on the front panel of the server.	Figure 4 - T1200 Front Panel: USB Port

Procedure 1:	Installing	the HLR	Router	Application
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Step	Procedure	Result	
13.	Output similar to that shown on the right may appear on the terminal as the USB flash drive is removed.	<pre>scsi 7:0:0:0: rejecting I/O to dead device FAT: Directory bread(block 538) failed <enter> #</enter></pre>	
	Press the <enter></enter> key to return to the command prompt.		
14.	Verify that the disk partitions are not in resync (command should return no output).	<pre># cat /proc/mdstat grep resync # Frample Output (resync in progress);</pre>	
	NOTE: If the command output shows that there is a resync in progress, then wait and periodically repeat this command until it returns no output before continuing to the next step.	<pre># cat /proc/mdstat grep resync</pre>	
15.	Login to the " platcfg" utility.	# su - platofg	
16.	From the "platcfg" Main Menu Select each option as shown on the right, pressing the <enter></enter> key after each selection.	Main Menu Maintenance Menu Maintenance Paintenance Diagnostics Packup and Restore Server Configuration Backup and Restore Network Configuration Restart Server Remote Consoles Pieter Consoles Exit 1 Upgrade Menu Validate Media Early Upgrade Checks Initiate Upgrade Non Tekelec RPM Management 3	

Procedure 1:	Installing the HLR	Router Application
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Step	Procedure	Result
17.	Verify that HLRR application release level shown matches the target release.	Choose Upgrade Media Menu Aev/sr0 ExHR-4.1.0_41.2.0-x86_64 Exit
18.	Output similar to that shown on the right may be observed as HLRR application install progresses.	Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::AppWorksEa Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::TPDEarlyCh Verified server is not pending accept of previous upgrade Hardware architectures match Install products match. No Application installed yet Skip alarm check! Verified all raid mirrors are synced. Early Upgrade Checks Have Passed! Initializing upgrade information The runlevel transition complete RC file was created as /etc/rc3. Changing to run-level 3 **********************************
19.	Output similar to that shown on the right may be observed as HLRR application install progresses.	Checking for stale RPM DB locks Installing public key /mmt/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

Step	Procedure	Result	
20.	Output similar to that shown on the right may be observed as the Application install progresses.	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 /mmt/upgrade/upgrade/etc/fs.d	
21.	Output similar to that shown on the right may be observed as the Application install progresses.	Installing the /var/TKLC/log/upgrade/manifest.normal.UPGRADE manifest? Preparing ##################################	
22.	Output similar to that shown on the right may be observed at the completion of the Application install.	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	

Procedure 1: Installing the HLR Router Application

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Procedure 1:	Installing the HLF	R Router Application
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Step	Procedure	Result
23.	Output similar to that shown on the right may be observed as the server initiates a post-install reboot.	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
24.	After the server has completed the reboot, log back into the T1200 server as the " root " user.	login: root Password: <root_password></root_password>
25.	Output similar to that shown on the right will appear as the server returns to a command prompt.	CentOS release 6.5 (Final) Kernel 2.6.32-431.3.1.el6prerel6.5.2_82.30.0.x86_64 on an x86_64 hostname1396462623 login: root Password: Last login: Wed Apr 2 14:18:08 on tty1 :====================================
26.	Verify successful installation of the Application software.	<pre># grep COMPLETE /var/TKLC/log/upgrade/upgrade.log 1395014258:: UPGRADE IS COMPLETE</pre>

Step	Procedure	Result	
27.	Verify that HLRR application release level shown on the console matches the target release.	<pre># appRev Install Time: Wed Jan 27 18:12:44 2016 Product Name: EXHR Product Release: 4.1.0_41.2.0 Base Distro Product: TPD Base Distro Release: 7.0.3.0.0_86.38.0 Base Distro ISO: TPD.install-7.0.3.0.0_86.38.0-OracleLinux6.7- x86_64.iso ISO name: EXHR-4.1.0_41.2.0-x86_64.iso OS: OracleLinux 6.7</pre>	
28.	Accept HLRR application install	# /var/TKLC/backout/accept	
29.	Output similar to that shown on the right will appear as the server returns to a command prompt.	Iroot@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 /boot Checking /usr Checking /usr Checking /var Checking /var Checking /var/TKLC Checking /var/TKLC Checking /var/TKLCAppw/logs/Process Checking /var/TKLC/appw/logs/Process Checking /var/TKLC/appw/logs/Security Checking /var/TKLC/appw/logs/Security Checking /var/TKLC/appw/logs/Security Checking /var/TKLC/appw/logs/Process Checking /var/TKLC/mpw/logs/Security Checking /var/TKLC/appw/logs/Security Checking /var/TKLC/moth Starting cleanup of RCS repository. INFO: Removing '/var/lib/prelink/force' from RCS repository INFO: Removing '/etc/my.cnf' from RCS repository InFO: Removing '/etc/my.cnf' from RCS repository	
30.	Verify that the default remoteConsole settings are present.	<pre># remoteConsole -query switch1A switch1B</pre>	

Procedure 1: Installing the HLR Router Application

Procedure 1:	Installing	the HLR	Router	Application
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Step	Procedure	Result
31.	If installing the HLR Router application on a NOAM or SOAM server, add additional remoteConsole settings as required. Otherwise, if installing	 Refer to Appendix J - Quad-Serial card Configuration for NOAM / SOAM servers, to configure additional remoteConsole settings as required.
	the application on a Query Server or MP, SKIP to the next step.	
32.	Configure the desired time zone .	<pre># set_ini_tz.pl <time zone=""></time></pre>
	NOTE: If not otherwise specified by the customer, use "Etc/UTC" for the time zone setting.	<u>Example:</u> # set_ini_tz.pl "Etc/UTC"
33.	Verify that the date now reflects the time zone chosen in the previous step.	# date Fri Jan 29 15:03:30 UTC 016
34.	If CDROM media was used to perform the Application install, then eject the CDROM from the server's Optical drive as shown to the right.	# eject /dev/sr0
	Otherwise, SKIP to Step 36 of this procedure.	
	NOTE: The device name uses a numerical zero , not the letter "O".	
35.	Remove the CDROM from the server's optical drive.	Figure 3 - T1200 Front Panel: Optical Drive

Procedure 1:	Installing th	ne HLR Router	Application
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Step	Procedure	Result	
36.	Initiate a reboot of this server. Wait until the reboot completes	<pre># init 6 Broadcast message from root@tks5031301</pre>	
37.	Repeat this procedure for each additional server to be installed at the site.	 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 Systems T5C-24GT Switch (switch1A) with a Tekelec HLR Router configuration pushed from a corresponding management server (server1A).

Configuration of the Telco Switch requires a configured **vlan.conf** file for use by the Platform **switchconfig** utility. An example template of a configured vlan.conf file has been documented in **Appendix I** - *Creating a vlan.conf file for Telco Switch Configuration*. An example template file is also located on the HLR Router server in the following location:

/usr/TKLC/exhr/install/switch/telco_switch_template_vlan.conf.

CAUTION: If an existing **vlan.conf** file was backed up from the "**lusr/TKLC/plat/etc/**" directory for a previous installation of a given site, then it may be reused for that site only. The user should be aware that the **vlan.conf** file must be customized with **"site specific"** network configuration information for each **Network Element** site.

NOTE: This procedure assumes a management **server1A** running **TPD 7.0.3** (or higher) and connected serially to the Telco T5C-24GT **switch1A** console port via access port **/dev/ttyUSB1**.

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

Procedure 2:	Configuring	Telco switch1A	(All Sites)
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Step	Procedure	Result	
3.	1) Verify that server1A (top-most server in the cabinet) has a "SEALEVEL" USB- to-DB9M Serial adaptor (OEM P/N: 2105R) connected to the upper USB Port 1 on the rear panel.	Figure 7 - T1200 Rear Panel: USB Port 1	
	 2) Verify that the USB- to-DB9M Serial adaptor referenced above is connected to a DB9F-to-RJ45 Serial cable (TKLC P/N: 830-1229-xx). 3) Verify that the DB9F-to-RJ45 Serial cable is connected to the RJ45 Console port of switch1A. 	Figure 9 - Telco Switches: switch1A Console Port	
4.	OAM Server A:		
	Access the server1A console.	Connect to the server1A console using one of the access methods described in Section 0 .	
5.	OAM Server A:	login: root	
	Log into the server as the " root " user.	Password: <root_password></root_password>	

Step	Procedure	Result
6.	OAM Server A: Output similar to that shown on the right will appear as the server access the command prompt.	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:/u 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:/u PRODPATH=/opt/comcol/prod RUNID=00 Iroot@hostname1396462623 ~1#
7.	OAM Server A: Create an independent login shell.	# screen
8.	OAM Server A: Create interface bond1.	<pre># netAdm adddevice=bond1 Interface bond1 added</pre>
9.	OAM Server A: Add interface eth01 to bond1. NOTE: When connected to the console, erroneous errors such as those shown to the right may be safely ignored as long as the output ends with "Interface eth01 updated".	<pre># netAdm setdevice=eth01bootproto=nonetype=Ethernet master=bond1slave=yesonboot=yes /sys/class/net/bond1/bonding/primary has 0 lines, nothing to do. bond1: cannot release eth01 bond1: option slaves: invalid value (-eth01) Interface eth01 updated</pre>
10.	OAM Server A: Verify that interface eth01 has been added to bond1.	<pre># cat /sys/class/net/bond1/bonding/slaves eth01</pre>
11.	OAM Server A: Set the management IP address of server1A on the bond1.1 interface	<pre># netAdm adddevice=bond1.1netmask=255.255.255.0 address=169.254.1.11onboot=yes Interface bond1.1 added</pre>

Step	Procedure	Result	
12.	OAM Server A: Verify that bond1.1 has been configured with the IP address specified in the previous step.	<pre># ifconfig bond1.1 bond1.1 Link encap:Ethernet HWaddr 00:1E:67:00:AB:74 inet addr:169.254.1.11 Bcast:169.254.1.255 Mask:255.255.255.0 inet6 addr: fe80::21e:67ff:fe00:ab74/64 Scope:Link UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:0 errors:0 dropped:0 overruns:0 frame:0 TX packets:197 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:0 RX bytes:0 (0.0 b) TX bytes:14482 (14.1 KiB)</pre>	
13.	OAM Server A: Add aliases for the management IP addresses of switch1A and switch1B.	<pre># delHostalias=switch1A # addHostforcealias=switch1Aip=169.254.1.1 # delHostalias=switch1B # addHostforcealias=switch1Bip=169.254.1.2</pre>	
14.	OAM Server A: Determine and record the access port which should be mapped to switch1A.	<pre># 1s -la /dev/ttyUSB* <u>Example output:</u> crw-rw 1 root dialout 188, 0 Apr 25 15:39 /dev/ttyUSB1 Record the value: /dev/ttyUSB</pre>	
15.	 OAM Server A: 1) Place the vlan.conf file containing switch configuration for the HLRR site on a USB flash drive. 2) Insert the USB flash drive into the USB port on the front panel of server1A. 	Figure 4 - T1200 Front Panel: USB Port	
16.	OAM Server A: Output similar to that shown on the right may appear on the terminal. Press the <enter> key to return to the command prompt.</enter>	<pre># sdd: assuming drive cache: write through sdd: assuming drive cache: write through <enter> #</enter></pre>	
17.	OAM Server A: Verify that the USB flash drive's partition has been mounted .	# df grep usb /dev/sdd1 1018088 603372 414716 60% /var/tmp/usb_flash	

Step	Procedure	Result
18.	OAM Server A:	<pre># cp -p /var/tmp/usb_flash/vlan.conf /usr/TKLC/plat/etc/</pre>
	Copy vlan.conf file to the directory path specified on the right.	
19.	OAM Server A:	<pre># chown root:root /usr/TKLC/plat/etc/vlan.conf</pre>
	Change file ownship to the "root" user as shown to the right.	
20.	OAM Server A:	<pre># chmod 755 /usr/TKLC/plat/etc/vlan.conf</pre>
	Change file permissions as shown to the right.	
21.	OAM Server A:	# 1s -1 /usr/TKLC/plat/etc/vlan.conf
	Verify that the file permissions and ownship have been successfully updated as shown to the right.	
22.	OAM Server A:	<pre># dos2unix /usr/TKLC/plat/etc/vlan.conf</pre>
	Remove any non- ASCII characters from the file.	
	NOTE: This command is necessary in cases where the vlan.conf file was edited using a non-ASCII compliant Editor.	
23.	OAM Server A:	<pre># grep USB /usr/TKLC/plat/etc/vlan.conf</pre>
	Verify that accessport name displayed matches the value recorded in Step 14 of this procedure.	<pre>Example output: accessport=/dev/ttyUSB1 \ accessport=/dev/ttyUSB1 \</pre>
	NOTE : <i>If the output doesn't match the value recorded in</i> Step 14 , <i>then edit the file to correct it.</i>	
	Otherwise, continue to the next step.	

Procedure 2:	Configuring	Telco switch1A	(All Sites)
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Step	Procedure	Result
24 .	OAM Server A: Remove the USB flash drive from the USB port on the front panel of server1A.	Figure 4 - T1200 Front Panel: USB Port
25.	OAM Server A: Output similar to that shown on the right may appear on the terminal as the USB flash drive is removed. Press the <enter></enter> key to return to the command prompt.	<pre>scsi 7:0:0:0: rejecting I/O to dead device FAT: Directory bread(block 538) failed <enter> #</enter></pre>
26.	OAM Server A: Verify that minicom files are available on the server. If switch1A minicom	<pre># ls -1 /etc/minirc.* Example output: /etc/minirc.switch1A /etc/minirc.switch1B</pre>
	file was listed in the ouput for this command, then SKIP to Step 28 of this procedure.	
27.	OAM Server A: If the switch1A minicom file was NOT listed in the previous step, setup the remoteConsole connection to switch1A as shown to the right.	<pre># /usr/TKLC/plat/bin/remoteConsoleaddname=switch1Abps=9600port=ttyUSB1</pre>
28.	OAM Server A: Verify if that the switch1A minicom file is configured for the correct access port. NOTE: If the output doesn't match the value recorded in Step 14, then edit the file to correct it. Otherwise, continue to	<pre># grep USB /etc/minirc.switch1A Example output: pr port /dev/ttyUSB1</pre>

Step	Procedure	Result
29.	OAM Server A:	# minicom switch1A
	Connect serially to the switch1A console by issuing the following command on server1A .	Welcome to minicom 2.3 OPTIONS: I18n Compiled on Aug 19 2010, 05:50:19. Port /dev/ttyUSB0
	NOTE : <i>If the Telco</i> <i>Switch does not</i> <i>accept the factory</i> <i>default password, then</i> <i>a previous</i> <i>configuration may be</i> <i>present.</i>	Press CTRL-A Z for help on special keys <enter> Password: <factory_default_password> T5C-24GT> Switch> enable T5C-24GT#</factory_default_password></enter>
	If the switch console and switch enable passwords are known, then login and continue to the next step.	
	Otherwise, STOP and contact "My Oracle Support" (MOS) for assistance [refer to Appendix K - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service].	
30.	OAM Server A (switch console session):	T5C-24GT# reload to-defaults Restore factory setting and reboot the Switch ? [y/n] : y Rebooting
	Restore switch1A to factory default settings.	[Additional output omitted]
		user will be presented with the following prompt:
		User Access Verification
		Password:

Step	Procedure	Result
31.	OAM Server A (switch console session): Exit from the switch1A console and minicom session At the "Password:" prompt, exit the minicom session by pressing the following keyboard sequence: 1) CTRL-a 2) a 3) x 4) <enter> NOTE: If you are at the "T5C-24GT#" or "T5C-24GT#" or "T5C-24GT#" or "T5C-24GT#" or "T5C-24GT#" or "T5C-24GT#" or</enter>	CPU Interface Test : Passed Data Buffer Test : Passed On-board Power Test : Passed Fan Test : Passed //////////////////////////////////
32.	OAM Server A: Verify that the Telco Switch firmware binary version present on the server matches the one displayed to the right. NOTE: If the correct binary image file is not displayed, then refer to the T1200 Solutions Firmware Upgrade Pack [2], or contact "My Oracle Support" (MOS) for assistance [refer to Appendix K - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service].	<pre># ls /var/TKLC/switchconfig/*.bin /var/TKLC/switchconfig/BiNOS-T5CL3_24G-G_v8.6.R6.2.bin</pre>

Procedure 2:	Configuring	Telco switch1A	(All Sites)
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Step	Procedure	Result
33.	OAM Server A:	# chkconfig tftp on
	 Turn on the tftp service using the chkconfig utility. 	<pre># chkconfiglist tftp tftp on</pre>
	 Verify that the tftp service has been enabled. 	
34	OAM Server A:	# service xinetd start
	 Start the xinetd service as shown to the right. 	<pre>Starting xinetd: [OK] # service xinetd status xinetd (pid 24261) is running</pre>
	 Verify that the xinetd service is running. 	
35.	OAM Server A: Run the prepswconf script to modify server iptables (firewall) to allow tftp between the switch and the server.	<pre># /usr/TKLC/plat/sbin/prepswconfprepare</pre>
	NOTE: This command will temporarily open up iptables on the server to allow tftp access to the switch for 120 minutes .	
	The following step must be completed within that time frame. If not, the prepswconf script must be re-run before any subsequent attempt to complete the remaining steps of this procedure.	

Step	Procedure	Result		
36.	OAM Server A:	<pre># /usr/TKLC/plat/sbin/switchconfigswname=switch1A</pre>		
	Configure switch1A using the switchconfig utility.	Successfully enabled on switch switch1A. Reloading switch switch1A with defaults, please standby… Switch switch1A successfully set to default configuration. Successfully started management VLAN on switch1A.		
	NOTE: This step will take approximately 20 minutes to complete.	Startup configuration created OK. Successfully uploaded startup config for switchlA. Removing config file switchlA.startup-config from /var/lib/tftpboot. Reloading switch switchlA, please standby Reload of switch switchlA complete.		
	If the output fails to indicate a successful configuration, STOP and contact "My Oracle Support" (MOS) for assistance [refer to Appendix K - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service].	Switch switch1A successfully configured.		
37.	OAM Server A:	<pre># /usr/TKLC/plat/sbin/prepswconfclean</pre>		
	Restore the iptables configuration <i>(firewall)</i> to its original state.			
38.	OAM Server A:	# service xinetd stop		
	Stop the xinetd service.			
39.	OAM Server A:	# chkconfig tftp off		
	 Turn off the tftp service using the chkconfig utility. 	<pre># chkconfiglist tftp tftp off</pre>		
	2) Verify that the tftp service has been disabled.			
40.	OAM Server A:	# exit		
	Exit the screen session and logout of the server.	<pre>[screen is terminating] # exit legeut</pre>		

Procedure 2:	Configuring	Telco switch1A	(All Sites)
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5.2 Configuring Telco switch1B (All Sites)

This procedure will configure a Telco Systems T5C-24GT Switch (switch1B) with a Tekelec HLR Router configuration pushed from a corresponding management server (server1B).

Configuration of the Telco Switch requires a configured **vlan.conf** file for use by the Platform **switchconfig** utility. An example template of a configured vlan.conf file has been documented in **Appendix I** - *Creating a vlan.conf file for Telco Switch Configuration*. An example template file is also located on the HLR Router server in the following location:

/usr/TKLC/exhr/install/switch/telco_switch_template_vlan.conf.

CAUTION: If an existing **vlan.conf** file was backed up from the "**lusr/TKLC/plat/etc/**" directory for a previous installation of a given site, then it may be reused for that site only. The user should be aware that the **vlan.conf** file must be customized with **"site specific"** network configuration information for each **Network Element** site.

NOTE: This procedure assumes a management **server1B** running **TPD 7.0.3** (or higher) and connected serially to the Telco T5C-24GT **switch1B** console port via access port **/dev/ttyUSB1**.

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Step	Procedure	Result
1.	1) Verify that server1B (2nd server from the top in the cabinet) has a "SEALEVEL" USB- to-DB9M Serial adaptor (OEM P/N: 2105R) connected to	USB 1 USB 2
	on the rear panel.	Figure 7 - T1200 Rear Panel: USB Port 1
	 2) Verify that the USB- to-DB9M Serial adaptor referenced above is connected to a DB9F-to-RJ45 Serial cable (TKLC P/N: 830-1229-xx). 3) Verify that the DB9F-to-RJ45 Serial cable is connected to the RJ45 Console port of switch1B. 	
		Figure 8 - Telco Switch Console cable: USB-to-DB9M Serial adapter / DB9F-to-RJ45 Serial cable
		T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-24GT T5C-2
2	OAM Server B:	
Z .	Access the server1B console.	Connect to the server1B console using one of the access methods described in Section 0
3.	OAM Server B:	login: root
	Log into the server as the " root " user.	Password: <root_password></root_password>

Step	Procedure	Result
4.	OAM Server B: Output similar to that shown on the right will appear as the server access the command prompt.	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:/u 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:/u PRODPATH=/opt/comcol/prod RUNID=00 Lroot@hostname1396462623 ~]#
5.	OAM Server B:	# screen
	Create an independent login shell.	
6.	OAM Server B:	<pre># netAdm adddevice=bond1</pre>
	Create interface bond1.	Interface bondl added
7.	OAM Server A:	<pre># netAdm setdevice=eth03bootproto=nonetype=Ethernet master=bond1slave=vesonboot=ves</pre>
	Add interface eth01 to bond1.	/sys/class/net/bond1/bonding/primary has 0 lines, nothing to do. bond1: cannot release eth01
	NOTE: When connected to the console, erroneous errors such as those	bond1: option slaves: invalid value (-eth01) Interface eth03 updated
	shown to the right may be safely ignored as long as the output ends with " Interface eth03 updated ".	
8.	OAM Server A:	<pre># cat /sys/class/net/bond1/bonding/slaves</pre>
	Verify that interface eth03 has been added to bond1.	eth03
9.	OAM Server B:	<pre># netAdm adddevice=bond1.1netmask=255.255.255.0 address=169.254.1.12onboot=ves</pre>
	Set management IP address of server1B on the bond1.1 interface	Interface bondl.1 added

Step	Procedure	Result
10.	OAM Server B: Verify that bond1.1 has been configured with the IP address specified in the previous step.	<pre># ifconfig bond1.1 bond1.1 Link encap:Ethernet HWaddr 00:1E:67:00:AB:74 inet addr:169.254.1.12 Bcast:169.254.1.255 Mask:255.255.255.0 inet6 addr: fe80::21e:67ff:fe00:ab74/64 Scope:Link UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:0 errors:0 dropped:0 overruns:0 frame:0 TX packets:197 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:0 RX bytes:0 (0.0 b) TX bytes:14482 (14.1 KiB)</pre>
11.	OAM Server B: Add aliases for management IP addresses of switch1A and switch1B.	<pre># delHostalias=switch1A # addHostforcealias=switch1Aip=169.254.1.1 # delHostalias=switch1B # addHostforcealias=switch1Bip=169.254.1.2</pre>
12.	OAM Server B: Determine and record the access port which should be mapped to switch1B.	<pre># 1s -la /dev/ttyUSB* <u>Example output:</u> crw-rw 1 root dialout 188, 0 Apr 25 15:39 /dev/ttyUSB1 Record the value: /dev/ttyUSB</pre>
13.	OAM Server B: 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	Figure 4 - T1200 Front Panel: USB Port
14.	panel of server1B. OAM Server B: Output similar to that shown on the right will appear. Press the <enter> key to return to the command prompt.</enter>	<pre># sdd: assuming drive cache: write through sdd: assuming drive cache: write through <enter> #</enter></pre>
15.	OAM Server B: Verify that the USB flash drive's partition has been mounted .	# df grep usb /dev/sdd1 1018088 603372 414716 60% /var/tmp/usb_flash

Step	Procedure	Result
16.	OAM Server B:	<pre># cp -p /var/tmp/usb_flash/vlan.conf /usr/TKLC/plat/etc/</pre>
	Copy vlan.conf file to the directory path specified on the right.	
17.	OAM Server B:	<pre># chown root:root /usr/TKLC/plat/etc/vlan.conf</pre>
	Change file ownship to the "root" user as shown to the right.	
18	OAM Server B:	<pre># chmod 755 /usr/TKLC/plat/etc/vlan.conf</pre>
	Change file permissions as shown to the right.	
19.	OAM Server B:	# 1s -1 /usr/TKLC/plat/etc/vlan.conf
	Verify that the file permissions and ownship have been successfully updated as shown to the right.	-fwxf-xf-x i foot foot fofoz Aug i 2014 usf/ikic/plat/etc/vian.com
20.	OAM Server B:	<pre># dos2unix /usr/TKLC/plat/etc/vlan.conf</pre>
	Remove any non- ASCII characters from the file.	
	NOTE: This command is necessary in cases where the vlan.conf file was edited using a non-ASCII compliant Editor.	
21	OAM Server B:	<pre># grep USB /usr/TKLC/plat/etc/vlan.conf</pre>
	Verify that accessport name displayed matches the value recorded in Step 12 of this procedure.	<pre>Example output: accessport=/dev/ttyUSB1 \ accessport=/dev/ttyUSB1 \</pre>
	NOTE : <i>If the output</i> <i>doesn't match the</i> <i>value recorded in</i> <i>Step</i> 12, <i>then edit the</i> <i>file to correct it.</i>	
	Otherwise, continue to the next step.	

Procedure 3:	Configuring	Telco switch1B	(All Sites)
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Step	Procedure	Result
22.	OAM Server B: Remove the USB flash drive from the USB port on the front panel of server1B.	Figure 4 - T1200 Front Panel: USB Port
23.	OAM Server B: Output similar to that shown on the right may appear on the terminal as the USB flash drive is removed.	<pre>scsi 7:0:0:0: rejecting I/O to dead device FAT: Directory bread(block 538) failed <enter> #</enter></pre>
	Press the <enter></enter> key to return to the command prompt.	
24.	OAM Server B: Verify that minicom files are available on the server. If switch1B minicom file was listed in the ouput for this command, then SKIP to Step 26 of this procedure.	<pre># ls -1 /etc/minirc.* <u>Example output:</u> /etc/minirc.switch1A /etc/minirc.switch1B</pre>
25.	OAM Server B: If the switch1B minicom file was NOT listed in the previous step, setup the remoteConsole connection to switch1B as shown to the right.	<pre># /usr/TKLC/plat/bin/remoteConsoleaddname=switch1Bbps=9600port=ttyUSB1</pre>

Step	Procedure	Result
26.	OAM Server B:	<pre># grep USB /etc/minirc.switch1B</pre>
	Verify if that the switch1B minicom file is configured for the correct access port.	<u>Example output:</u> pr port /dev/ttyUSB1
	NOTE : <i>If the output doesn't match the value recorded in</i> Step 12, <i>then edit the file to correct it.</i>	
	Otherwise, continue to the next step.	
27.	OAM Server B:	# minicom switch1B
	Connect serially to the	Welcome to minicom 2.3
	issuing the following command on server1B.	OPTIONS: I18n Compiled on Aug 19 2010, 05:50:19. Port /dev/ttyUSB0
	NOTE: If the Telco	Press CTRL-A Z for help on special keys
	Switch does not accept the factory default password, then a previous configuration may be present.	Password: <factory_default_password> T5C-24GT> Switch> enable T5C-24GT#</factory_default_password>
	If the switch console	
	and switch enable passwords are known, then login and	
	continue to the next step.	
	Otherwise, STOP and contact "My Oracle Support" (MOS) for assistance [refer to Appendix K - Accessing My Oracle Support (MOS), for more information on contacting Oracle	
Procedure 3: Configuring Telco switch1B (All Sites)

Step	Procedure	Result
28.	OAM Server B (switch console	T5C-24GT# reload to-defaults Restore factory setting and reboot the Switch ? [y/n] : y
	36331011).	Rebooting
	Restore switch1B to factory default settings.	[Additional output omitted]
		The switch will reboot to a factory default configuration. Once the reboot has completed, the user will be presented with the following prompt:
		User Access Verification
		Password:
29 .	OAM Server B (switch console session):	CPU Interface Test : Passed Data Buffer Test : Passed Power Supply Test : Passed Leave Minicom? On-board Power Test : Passed Yes No
	Exit from the switch1B console and minicom session	Fan Test : Passed
	At the " Password: " prompt, exit the minicom session by	// // // BATM Advanced Communications // // // Telco Systems //
	keyboard sequence:	// // Switch model : T5CL3-24GT 256M (G-Series) // // SW version : 8.6.R6.2 created Sep 16 2009 - 11:03:39 // // //
	2) a 3) x	,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	4) <enter></enter>	User Access Verification
	NOTE: If you are at the "T5C-24GT#" or "T5C-24GT>" prompt, log out by typing "exit" and pressing the <ented boy<="" th=""><th>Password: switch1B>en Password: switch1B#exit User Access Verification Password:</th></ented>	Password: switch1B>en Password: switch1B#exit User Access Verification Password:
	uie >ENTER> Key.	CIKL-H Z FOR NEID YOUU 8NT NUK MINICOM 2.3 VI1U2 Offline

Procedure 3:	Configuring	Telco switch1B	(All Sites)
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Step	Procedure	Result
30.	OAM Server B: Verify that the Telco Switch firmware binary version present on the server matches the one displayed to the right.	<pre># ls /var/TKLC/switchconfig/*.bin /var/TKLC/switchconfig/BiNOS-T5CL3_24G-G_v8.6.R6.2.bin</pre>
	NOTE: If the correct binary image file is not displayed, then refer to the T1200 Solutions Firmware Upgrade Pack [2], or contact "My Oracle Support" (MOS) for assistance [refer to Appendix K - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service].	
31.	 OAM Server B: 1) Turn on the tftp service using the chkconfig utility. 2) Verify that the tftp 	<pre># chkconfig tftp on # chkconfiglist tftp tftp on</pre>
	service has been enabled.	
32.	OAM Server B: 1) Start the xinetd service as shown to the right.	<pre># service xinetd start Starting xinetd: [OK] # service xinetd status xinetd (pid 24261) is running</pre>
	 Verify that the xinetd service is running. 	

Procedure 3:	Configuring	Telco switch1B	(All Sites)
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Step	Procedure	Result		
33.	OAM Server B: Run the prepswconf script to modify server iptables (firewall) to allow tftp between the switch and the server.	<pre># /usr/TKLC/plat/sbin/prepswconfprepare</pre>		
	NOTE: <i>This</i> <i>command will</i> <i>temporarily open up</i> <i>iptables on the server</i> <i>to allow tftp access to</i> <i>the switch for</i> 120 <i>minutes</i> .			
	The following step must be completed within that time frame. If not, the prepswconf script must be re-run before any subsequent attempt to complete the remaining steps of this procedure.			
34.	OAM Server B:	<pre># /usr/TKLC/plat/sbin/switchconfigswname=switch1B</pre>		
	Configure switch1B using the switchconfig utility.	Successfully enabled on switch switch1B. Reloading switch switch1B with defaults, please standby Switch switch1B successfully set to default configuration. Successfully started management VLAN on switch1B.		
	NOTE: This step will take approximately 20 minutes to complete.	Successfully uploaded startup config for switch1B. Removing config file switch1B.startup-config from /var/lib/tftpboot Reloading switch switch1B, please standby Reload of switch switch1B complete.		
	If the output fails to indicate a successful configuration, STOP and contact "My Oracle Support" (MOS) for assistance [refer to Appendix K - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service].	Switch switch1B successfully configured.		
35.	OAM Server B:	<pre># /usr/TKLC/plat/sbin/prepswconfclean</pre>		
	Restore the iptables configuration <i>(firewall)</i> to its original state.			

Procedure 3: Configuring Telco switch1B (All Sites)

Step	Procedure	Result			
36.	OAM Server B: Stop the xinetd service.	<pre># service xinetd stop Stopping xinetd: [OK]</pre>			
37.	 OAM Server B: 1) Turn off the tftp service using the chkconfig utility. 2) Verify that the tftp service has been disabled. 	<pre># chkconfig tftp off # chkconfiglist tftp tftp off</pre>			
38.	OAM Server B: Exit the screen session and logout of the server.	<pre># exit [screen is terminating] # exit logout</pre>			
39.	Set/Verify the following cable configuration at the Telco Switches : 1) Verify that the ISL from switch1A, Port 1 to	switch1A (top)			
	2) Verify that the ISL from switch1A, Port 2 to switch1B, Port 2 is CONNECTED.	switch1B (bottom) Figure 5 - Telco Switches: ISL Connections			
40 .	Reconnect the Telco Switches to the customer network:	switch1A (top)			
	 Verify that switch1A, Port 23 is CONNECTED. Verify that switch1B, Port 23 is 	switch1B (bottom)			
	CONNECTED.	Figure 6 - Telco Switches: Uplink Connections			
	THIS PROCEDURE HAS BEEN COMPLETED				

5.3 Configuring the Primary NOAM Site (1st NOAMP Site Only)

NOTE: This procedure assumes that the XML file for configuring the Primary NOAM Network Element has been previously prepared, as described in **Appendix A**.

Procedure 4: Configuring the Primary NOAM Site (1st NOAM Site Only)

Step	Procedure	Result				
1.	Primary NOAM-A GUI (XMI): Access the NOAM server A GUI.	Connect to the NOAM server A GUI as described in Appendix G (<i>Establishiing a local Ethernet connection to access the HLRR GUI</i>).				
2.	Primary NOAM-A GUI (XMI): Configure the Primary NOAM Network Element.	Configure the Primary NOAM Network Element as described in Appendix H (Configuring the Network Element from XML file).				
3.	Primary NOAM-A GUI (XMI): <i>Configuring</i> <i>Services</i> 1) Select	ORACLE Tekelec HLR Router 4.0.0-40.14.0 Main Menu Administration Administration Configuration Main Menu: Configuration -> Services				
	→ Configuration	Network Elements Services Name Intra-NE Network Inter-NE Network				
	 2) The configuration screen "Services" will appear. 3) Click on "Edit" dialogue button. 	Allorms & Events OAM Unspecified Unspecified Allorms & Events Security Log CAM Unspecified Unspecified Allorms & Events Security Log Edit Peport OAM Unspecified Unspecified				

Procedure 4:	: Configuring the Primary NOAM Site (1st NOAM Site Only)	
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Step	Procedure	Result				
4.	Primary NOAM-A GUI (XMI):	Main Menu: Configuration -> Services [Edit]				
	Configuring Services					
	1) Set the services values as shown on	Services				
	the right.	Name	Intra-NE Network	Inter-NE Network		
	2) Click the "OK"	OAM	INTERNALIMI 🔻	INTERNALXMI 🔻		
	dialogue button at the bootom of the	Replication	INTERNALIMI -	INTERNALXMI -		
	Ealt screen.	Signaling	Unspecified -	Unspecified -		
	3) Click the "OK" dialogue button on	HA_Secondary	INTERNALIMI -	INTERNALXMI -		
	the pop-up confirmation box.	HA_MP_Secondary	INTERNALIMI -	INTERNALXMI -		
		Replication_MP	INTERNALIMI -	INTERNALXMI -		
			Ok Apply Cancel			
		You must restart all Sen	vers to apply any services change OK	es, ComAgent Cancel		
5.	Primary NOAM-A GUI (XMI):	Main Menu: Co	nfiguration -> Ser	vices		
	Configuring Services		\sim			
		Name	htra-NE Network	Inter-NE Network		
	The configuration screen "Services"	OAM	INTERNALIM	INTERNALXMI		
	will appear and	Replication	INTERNALIMI	INTERNALXMI		
	values for service	Signaling	Unspecified	Unspecified		
	as shown to the right.	HA_Secondary	INTERNALIMI	INTERNALXMI		
		HA_MP_Secondary	INTERNALIMI	INTERNALXMI		
		Replication_MP	INTERNALIM	INTERNALXMI		



Step	Procedure	Result			
6.	Primary NOAM-A GUI (XMI): 1) Select	ORACLE Tekelec HLR Router 0 0 0 0			
	Main Menu → Configuration → Servers 2) The configuration screen "Servers"	 Main Menu Administration Configuration Network Elements Services 			
	will appear. 3) Click on "Insert" dialogue button.	Resource Domains Servers Server Groups Places Place Associations DSCP Notwork			
7. Primary NOAM-A GUI (XMI): Adding a new server					
	The configuration screen "Adding a new server" will appear.	Attribute Value Hostname * Role - Select Role - * System ID			
		Location			
		Ok Apply Cancel			

Step	Procedure			
8.	Primary NOAM-A GUI (XMI):	Adding a new se	erver	
	NOTE: <i>If</i> executing this procedure for the 1st time, use values associated with the Primary NOAM-A server.	Attribute	Value	
		Hostname	exhrNO-mrsvnc-a *	
	1) Enter the	Role	NETWORK OAM&P 🔻	
	Hostname.	System ID		
	2) Select the Role. For a NOAM server, select "NETWORK OAM&P". For a Query Server select "Query Server".	Hardware Profile	TekServer T1200 -	
		Network Element Name	NO_MRSVNC - *	
		Location	Frame 503.13	
	3) Enter the System ID if known (optional), otherwise, leave it blank.			1
	3) Select "TekServer 1200" as Hardware Profile.			
	4) From the pull- down, select the Primary NOAM NE name as the Network Element Name.			
	5) Enter the site Location (optional)			

Step	Procedure	Result				
9.	Primary NOAM GUI (VIP): NOTE: <i>If executing</i> <i>this procedure for</i> <i>the 1st time during</i> <i>initial installation</i>	Interfaces: Network INTERNALXMI (10. INTERNALIMI (10.2	240.40.64/28) 240.40.80/28)	P Address 10.240.40.68 10.240.40.84	Interfac bond1 bond1	e VLAN (2) VLAN (3)
	use values associated with the Primary NOAM-A server.	MANAGEMENT (16	9.254.1.0/24)	169.254.1.11	bond1	▼
	1) Enter the INTERNALXMI and	(Primary NOAM)	Network	IP Address	Interface	VLAN Checkbox
	 INTERNALIMI IP addresses of the server. 2) Enter the MANAGEMENT IP address based on the chart shown to the right. 3) Set all "Interface" values to "bond1". 4) Make sure that both the INTERNALXMI and INTERNALIMI VLAN checkboxes are CHECKED. 5) Check the MANAGEMENT 	NOAM-A	MANAGEMENT	169.254.1.11	bond1	
		NOAM-B	MANAGEMENT	169.254.1.12	bond1	
		Query Server NOTE: After the "Ne "Interfaces" fields v	MANAGEMENT	N/A (Leave Blank)	bond1	us step), the
	VLAN checkbox according to the chart shown to the right.					

Step	Procedure		Result	
10.	Primary NOAM-A GUI (XMI):	NTP Servers:		
	1) Click "Add" button and assign	NTP Server IP Address	Prefer	Add
	IP address for the 1st NTP Server	10.250.78.247		Remove
	2) Click the "Add" button to assign an	10.250.32.10		Remove
	IP address for the 2nd NTP Server (required).	10.250.32.51		Remove
	 3) Click the "Add" button to assign an IP address for the 3rd NTP Server (required). 4) Click the "Add" button to assign an IP address any desired additional NTP Servers (optional). 5) Check the "Prefer" checkbox to select any preferred NTP Servers (optional). 			

Step	Procedure	Result	
11.	 Primary NOAM-A GUI (XMI): 1) If the values provided by the user matches the network ranges assigned to the NOAMP NE, the user will receive a banner information message stating "Pre-Validation passed". 2) Click the "Apply" dialogue button. 	Main Menu: Configuration -> Servers [Insert] Info	
12.	Primary NOAM-A GUI (XMI): The user will receive a banner information message showing that the data has been committed to the DB.	Main Menu: Configuration -> Servers [Insert] Info Info	

Step	Procedure	Result
13.	Primary NOAM-A GUI (XMI): Applying the Server Configuration File 1) Select <u>Main Menu</u> → Configuration → Servers 2) The configuration screen "Servers" will appear.	Connected using VIP to exhrNO-mrsvnc-b (ACTIVE NETWORK OAM&P) Main Menu Administration Administration Configuration Network Elements Services Resource Domains Servers Servers Servers Servers Servers Servers Servers
14.	Primary NOAM-A GUI (XMI): 1) Use the cursor to select the Server configured in Steps 7-11 of this procedure. The selected row will be highlighted in GREEN 2) Select the "Export" dialogue button	Main Menu: Configuration -> Servers Filter Image: System ID Server Group Hostname Role System ID Server Group exhrNO-mrsvnc-a Network OAM&P Image: Server Group Image: Server Group Insert Edit Delete Export Report
15.	 Primary NOAM-A GUI (XMI): 1) A banner information message will show a download link for the Server configuration file. 2) Click on the word "downloaded" to download and save the configuration file. 	Main Menu: Configuration -> Servers Filter • Info Info Info Info exhrNo-mrsvnc-a.sh may be downloaded exhrNo-mrsvnc-a Network OAM&P Note: The configurationt 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.</hostname>

Step	Procedure	Result
16.	Primary NOAM-A GUI (XMI):	Main Menu: Configuration -> Servers
	 Click the "download" link. When prompted to open or save the file, save the Server configuration file to a USB flash drive. 	Fill Opening TKLCConfigData.exhrNO-mrsvnc-a.sh Host You have chosen to open: if TKLCConfigData.exhrNO-mrsvnc-a.sh which is: sh File from: https://10.240.40.6 exhri Open with Browse Open with Browse Save File Do this automatically for files like this from now on. OK Cancel righnc_grp NO_RLGHNC
		Enter name of file to save to Computer > USB DRIVE (G:) • 49 Search IPMDISK (G:) • Organize • New folder Documents Documents Date modified Type Date modified Type No items match your search. Ibraries Mitchell, Chris Computer Mitchell, Chris Computer Mitchell, Chris To Dobk (C:) Dobk (C:) Dobk (C:) Dobk (C:) Disk (C:) Disk (C:) Disk (C:) File name: TKLCConfigData.exhrNO-mrsvnc-a.sh Save as type: sh File (*.sh) Hide Folders Save Cancel
17.	Server Console: Access server console.	Connect to the Server Console using one of the access methods described in Section 0

Step	Procedure	Result		
18.	Server Console: Login to the server as the "admusr" user.	login: admusr Password: <admusr_password></admusr_password>		
19.	Server Console: Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>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:/usr/ TKLC/awptransportmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@hostname1396462623 ~]\$</pre>		
20.	Insert the USB flash drive containing the server configuration file into the USB port on the front panel.	Figure 4 - T1200 Front Panel: USB Port		
21.	Server Console: Output similar to that shown to the right will appear on the console. Press the <enter></enter> key to return to the	<pre>\$ sde: assuming drive cache: write through sde: assuming drive cache: write through <enter></enter> \$</pre>		
22.	command prompt. 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		
23.	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.	<pre>Example: TKLCConfigData.<server_hostname>.sh → will translate to →TKLCConfigData.sh \$ cp -p /var/tmp/usb_flash/TKLCConfigData.tks5031301.sh /var/tmp/TKLCConfigData.sh</server_hostname></pre> NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.		

Step	Procedure	Result		
24.	Server Console:	*** NO OUTPUT FOR \approx 320 MINUTES ***		
	After the script completes, a	Broadcast message from root@tks5031301 (Thu Apr 10 15:13:15 2014):		
broadcast message will appear Press the <enter></enter> key to return to the command prompt.		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></enter>		
25.	Server Console:	<pre>\$ sudo init 6</pre>		
	Initiate a reboot of this server. Wait until the reboot completes	Broadcast message from root@tks5031301 (/dev/pts/0) at 15:14 The system is going down for reboot NOW!		
26.	Server Console:	login: root		
	Log into the server as the " root " user	Password: <root_password></root_password>		
27.	Server Console: Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>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:/usr /TKLC/awptransportmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@exhrNO-mrsvnc-a ~]\$</pre>		
28.	Server Console: Verify that XMI and IMI IP addresses entered in <i>Step 30</i> have been applied NOTE: Full path is required to execute this command as the "admusr" user.	<pre>\$ /sbin/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 Ccast:192.168.182.31 bond1.3 Link encap:Ethernet HWaddr 00:1E:67:00:90:DA inet addr:192.168.182.37 Ccast: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 inet addr:127.0.0.1 Mask:255.0.0.0</pre>		

Step	Procedure	Result		
29.	Server Console:	<pre>\$ ping -c 5 <xmi_gateway_ip_address></xmi_gateway_ip_address></pre>		
	Ping the XMI Gateway IP address to ensure network connectivity.	<pre>Example output: PING 192.168.182.1 (192.168.182.1) 56(84) bytes of data. 64 bytes from 192.168.182.1: icmp_seq=1 ttl=64 time=0.056 ms 64 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 64 bytes from 192.168.182.1: icmp_seq=3 ttl=64 time=0.018 ms 64 bytes from 192.168.182.1: icmp_seq=1 ttl=64 time=0.056 ms 64 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 192.168.182.1 ping statistics 3 packets transmitted, 3 received, 0% packet loss, time 2573ms</pre>		
30.	Server Console:	\$ ntpq -np		
	Verify that the server has	remote refid st t when poll reach delay		
	connectivity to the assigned Primary and Secondary NTP server(s).	*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		
31.	Server Console:	<pre>\$ sudo alarmMgralarmStatus</pre>		
	Verify alarm status of this server	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.		
32.	Server Console:	\$ sudo syscheck		
	Verify the current health of this server	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		
		NOTE : If any errors are reported on the output, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.		
33.	Server Console:	\$ exit		
	Exit the console session.	Logout		

User's Guide

Step	Procedure	Result
34.	Configure the Primary NOAM-B	• Repeat Steps 6 - 33 of this procedure to configure the Primary NOAM-B Server.
	server.	Primary NOAM-B
35.	Configure the Query Server (if	• Repeat Steps 6 - 33 of this procedure to configure the Query Server (<i>if equipped</i>).
	equipped).	Primary Query Server
		THIS PROCEDURE HAS BEEN COMPLETED

5.4 OAM Pairing for the Primary NOAM Site (1st NOAM Site Only)

The user should be aware that during the NOAM 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 a NOAM Server Group which will establish an Active/Standby relationship for the NOAM server pair (A & B) at the Primary Provisioning Site. This procedure will also integrate the Query Server (if equipped) into the NOAM Server Group.

Step	Procedure	Result
1.	Primary NOAM-A GUI (XMI): Access the NOAM server A GUI.	Connect to the NOAM server A GUI as described in Appendix G (<i>Establishiing a local Ethernet connection to access the HLRR GUI</i>).
2.	Primary NOAM-A GUI (XMI): Select <u>Main Menu</u> → Configuration → Server Groups as shown on the right.	Connected using INTERNALXMI to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Configuration Network Elements Services Resource Domains Server Groups Places
3.	 Primary NOAM-A GUI (XMI): 1) The user will be presented with the "Server Groups" configuration screen as shown on the right. 2) Select the "Insert" dialogue button from the bottom left corner of the screen. 	Main Menu: Configuration -> Server Groups Filter Server Group Name Level Parent Function Connec Count

Step	Procedure		Result	
4.	Primary NOAM-A GUI (XMI):	Main Menu: Configurati	ion -> Server Grou	os [Insert]
	The configuration			
	Groups [Insert]" will	Field	Value	Description
	appear	Server Group Name	*	Unique identifier used to label a Se are alphanumeric and underscore.
		Level	- Select Level - 💌 *	Select one of the Levels supported groups are optional and contain SC
		Parent	- Select Parent - 💌 *	Select an existing Server Group or I
		Function	- Select Function - 🔹	Select one of the Functions suppor
		WAN Replication Connection Count	1	Specify the number of TCP connect with this Server Group. [Default = 1.
				Ok Apply Cancel
5.	GUI (XMI): 1) Input the Server Group Name	Main Menu: Configurati	ion -> Server Grou	os [Insert]
	Group Name.	Field	Value	Description
	 Select "A" on the "Level" pull-down 	Server Group Name	NO_mrsvnc_grp *	Unique identifier used to label a Se are alphanumeric and underscore
	menu.	Level	A •	Select one of the Levels supported groups are optional and contain Se
	 Select "None" on the "Parent" pull- 	Parent	NONE *	Select an existing Server Group or
	down menu.	Function	EAGLE XG HLR Router 💌 *	Select one of the Functions suppo
	4) Select "EAGLE XG HI R Router" on	WAN Replication Connection Count	1	Specify the number of TCP connec with this Server Group. [Default = 1
	the "Function" pull- down menu.			Ok Apply Cancel
	5) Leave the value for "WAN Replication Connection Count" field defaulted to "1".			

Step	Procedure	Result
6.	Primary NOAM-A GUI (XMI): 1) The user should be presented with a	Main Menu: Configuration -> Server Groups [Insert]
	banner information message stating "Pre-Validation passed". 2) Click on "Apply"	Info Oescription Image: Info Image: Imag
	button.	Parent NONE * Select an existing Server Group or Function EAGLE XG HLR Router * Select one of the Functions suppor WAN Replication Connection Count 1 Specify the number of TCP connec with this Server Group. [Default = 1 Ol Apply Cancel
7.	Primary NOAM-A GUI (XMI): The user should be presented with a banner information message stating "Data committed".	Main Menu: Configuration -> Server Gi Info Info Value NO_mrsvnc_grp Level
8.	Primary NOAM-A GUI (XMI): Select <u>Main Menu</u> → Configuration → Server Groups as shown on the right.	Connected using INTERNALXMI to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Configuration Network Elements Services Resource Domains Servers Server Groups NO_mrsvnc_grp NONE

Step	Procedure		Result	
9.	Primary NOAM-A GUI (XMI):	Main Menu: Configura	ntion -> Server	Groups
	The Server Group entry applied in	Filter -		
	Step 6 should now appear on the "Server Groups"	Server Group Name	evel Parent	Function Connection Count
	configuration screen	NO mrsvnc grp A	NONE	EAGLE XG
	Group entry. The line entry should now be highlighted in			HLR Router
	GŘEĔN.	Insert Edit Delete F	Report	
	 Select the "Edit" dialogue button 	NOTE: The user may need to use the	e vertical scroll-bar in orc	der to make the " Edit" dialogue
10.	Primary NOAM-A GUI (XMI): The user will be presented with the	Main Menu: Configurati	on -> Server G	roups [Edit]
	"Server Groups	Field	Value	Description
	shown on the right	Server Group Name	NO_mrsvnc_grp	* Unique identifier used are alphanumeric and
		Level	A •	Select one of the Levels
		Parent	NONE × *	Select an existing Serve
		Function	EAGLE XG HLR Router	Select one of the Funct Specify the number of 1
		WAN Replication Connection Count	1	with this Server Group.
		NO_MRSVNC Server	SG Inclusion	Preferred HA Role
		exhrNO-mrsvnc-a	Include in SG	Preferred Spare
		exhrNO-mrsvnc-b	Include in SG	Preferred Spare
		qs-mrsvnc	Include in SG	Preferred Spare
		qs-mrsvnc VIP Assignment	Include in SG	Preferred Spare
		qs-mrsvnc VIP Assignment VIP Address	Include in SG	Preferred Spare

Step	Procedure	Result					
11.	Primary NOAM-A GUI (XMI): 1) CHECK the	Main Menu: Configuration -> Server Groups [Edit]					
		Info 👻		_			
	checkbox for both	Info	8	Description			
	NOAM Servers (A & B) and the Query Server (if equipped).	• Pre-Validation passe	d - Data NOT committed	Unique identifier used to are alphanumeric and u			
	2) If desired the user	Level	A *	Select one of the Levels			
	may set one of the two NOAM servers	Parent	NONE -	Select an existing Serve			
	as a " Preferred Spare" (optional).	Function	EAGLE XG HLR Router 🔻	Select one of the Function			
	NOTE: /f "Proferred	WAN Replication Connection Count	1	Specify the number of T with this Server Group. [
	Spare" is checked	NO_MRSVNC					
	for a NOAM server,	Server	SG Inclusion	Preferred HA Role			
	server will default to	exhrNO-mrsvnc-a	Include in SG	Preferred Spare			
	"Standby" mode	exhrNO-mrsvnc-b	Include in SG	Preferred Spare			
	It is recommended	qs-mrsvnc	Include in SG	Preferred Spare			
	that the "Preferred Spare" option be left unchecked to allow for both servers to be	VIP Assignment					
	automatically system	VIP Address	Add				
	managed.			O Apply ancel			
	 The user should be presented with a banner information message stating "Pre-Validation passed". 						
	 Click "Apply" to submit. 						
12.	Primary NOAM-A GUI (XMI):	Main Menu: Configura	tion -> Server G				
	The user should be presented with a banner information message stating "Data committed".	Info Info Data committed! Level	Value NO_mrsvnc_grp A *				

Step	Procedure		Result	
13.	Primary NOAM-A GUI (XMI): 1) To add a Virtual IP	VIP Assignment		
	address (VIP), click on " Add " dialogue button in the VIP Assignment section.	10.240.40.6	Remove	
	2) Enter the Virtual IP address in the VIP Address field.		Ok Appl	Cancel
14.	Primary NOAM-A GUI (XMI):	Main Menu: Configurat	ion -> Server Grou	ps [Edit]
	1) The user should be presented with a	Info 🔻		7
	banner information	, Info	8	Description
	"Pre-Validation passed".	• Pre-Validation passe	d - Data NOT committed	Unique identifier used to are alphanumeric and u
	2) Click on "Apply" button.	Level	A *	Select one of the Levels
		Parent	NONE *	Select an existing Serve
		Function	EAGLE XG HLR Router 👻 *	Select one of the Functio
		WAN Replication Connection Count	1	Specify the number of To with this Server Group. [
		NO_MRSVNC		
		Server	SG Inclusion	Preferred HA Role
		exhrNO-mrsvnc-a	Include in SG	Preferred Spare
		exhrNO-mrsvnc-b	Include in SG	Preferred Spare
		qs-mrsvnc	Include in SG	Preferred Spare
		VIP Assignment		
		VIP Address	Add	
		10.240.40.6	Remove	
				Ok Apply Gancel

Step	Procedure	Result				
15.	Primary NOAM-A GUI (XMI): The user should be presented with a banner information message stating "Data committed".	Main Menu: Configuration -> Server G				
16.	Primary NOAM-A GUI (XMI): Click the "Logout" link on the Primary NOAMP GUI.	Welcome guiadmin [Logout] Welcome guiadmin [Logout] Help Tue Jan 12 11:40:30 2016 EST				
17.	IMPORTANT: Wait at least 5 minutes before proceeding on to the next Step.	 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. 				
18.	Primary NOAM GUI (VIP): Launch IE web browser and connect to the XMI VIP IP address assigned in Step 14 above.	Oracle System Login × + ← ● https://10.240.40.6				
19.	If a security certificate error is received, click on the following link: "Continue to this website (not recommended)."	 There is a problem with this website's security certificate. The security certificate presented by this website was not issued by a trusted certificate at The security certificate presented by this website was issued for a different website's address of the security certificate problems may indicate an attempt to fool you or intercept any data yo server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage. Continue to this website (not recommended). More information 				

Step	Procedure	Result					
20.	Primary NOAM GUI (VIP): The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Cracle System Login Wed Apr 9 17:06:39 2014 EDT Image: Comparison of the part of the pa					
21.	Primary NOAM GUI (VIP): The user should be presented the Main Menu as shown on the right. Select Main Menu → Status & Manage → Server as shown on the right.	ORACLE Tekelec HLR Router 4.0.0-40.15.0 Connected using INTERNALXMI to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Administration Configuration Alarms & Events Security Log Security Log Network Elements Server No_MRSVNC exhrNO-mrsvnc-b No_MRSVNC exhrNO-mrsvnc-a No_MRSVNC exhrNO-mrsvnc-b No_MRSVNC exhrNO-mrsvnc-b No_MRSVNC exhrNO-mrsvnc-b Stop Restart Reboot NTP Sync Report					

Step	Procedure	Result					
22.	Primary NOAM GUI (VIP):	Status & Manage -> Server Wed Jan 13 19:49:19 2016 UTC					
	 The "A" and "B" Primary NOAM servers and Query Server (<i>if equipped</i>) should now appear in the right panel. Monitor the fields (<i>screen will auto-</i> <i>refresh</i>) until the "DB" status shows "Norm" and the "Proc" status shows "Man" for each of the servers before proceeding to the next Step. NOTE: If the desired status values are not reached within 15 minutes, STOP and contact "My Oracle Support" (MOS) for assistance before attempting to continue. <i>Refer to</i> 	Server Hostname Appl State Alm DB Reporting Status Proc exhrNO-mrsvnc-b Disabled Err Norm Norm Man gs-mrsvnc Disabled Warn Norm Norm Man					
	Appendix K - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service.						

Step	Procedure	Result						
23.	Primary NOAM GUI (VIP):	Main Menu: Status & Manage -> Server						
	1) Using the mouse, select Primary	Filter Info						
	NOAM-A server. The line entry will be	Network Element Server Hostname Appl State Alm DB Reporting Status Proc						
	highlighted in GREEN.	NO_MRSVNC exhrNO-mrsvnc-b Disabled Warn Norm Norm Man						
		NO_MRSVNC exhrNO-mrsvnc-a Disabled Warn Norm Norm Man						
	 Select the "Restart" dialogue button 	NO_MRSVNC qs-mrsvnc Disabled Warn Norm Norm Man						
	3) Click the " OK " button on the confirmation dialogue	Stop Restart Reboot NTP Sync Report Pause Updates						
	4) The user should be presented with a confirmation	Are you sure you wish to restart application software on the following server(s)? exhrNO-mrsvnc-a						
	message (in the banner area) for Primary NOAM-A server stating: "Successfully	OK Cancel						
	application".	Main Menu: Status & Manage -> Server						
	NOTE : The user may need to use the	Filter Info						
	vertical scroll-bar in order to make the " Restart " dialogue	Network Elem • exhrNO-mrsvnc-a: Successfully restarted application.						
	button visible.	NO_MRSVNC exhrNO-mrsvnc-a						
24.	Primary NOAM GUI (VIP):	Status & Manage -> Server						
	Verify that the " Appl	nfo 🔻						
	State" now shows "Enabled" and the "Proc" status column	Server Hostname Appl State Alm DB Reporting Status Proc						
	show "Norm" for the NOAM-A server	exhrNO-mrsvnc-b Disabled Warn Norm Norm Man						
	before proceeding to	exhrNO-mrsvnc-a Enabled Norm Norm Norm (Norm						
	the next step.	qs-mrsvnc Disabled Warn Norm Man						

Step	Procedure					F	Result			
25.	Primary NOAM GUI (VIP): Restart the Application on the Primary NOAM-B server and verify the "Appl State" and the "Proc" status post restart.	• Repeat Steps 23 - 24 of this procedure for the Primary NOAM-B server.								
26.	Primary NOAM GUI (VIP): Restart the Application on the Query Server (<i>if</i> <i>equipped</i>) and verify the "Appl State" and the "Proc" status post restart.	• Repeat Steps 23 - 24 of t			his p	rocedure	e for the P	rimary Que	ery Server (if e	quipped).
27.	Primary NOAM GUI (VIP): Select	Connecter Main Action Connecter Main Connecter Co	Connected using VIP to ext Main Menu Administration Configuration		hrNO- Ma	•mrsvnc-a ain Mer Filter 🔻	a (ACTIVE nu: Aları Tasks 🔻	NETWORK O ms & Eve	am&p) :nts -> View	/ Active
	Main Menu	Al 🚍 🖬	arms & Eve View Acti	nts Ve	Event ID		Timestamp		Severity	
	→ View Active		View Histo	ory		Seq # Alarm Text	t		Additional	
	as shown on the right.	 View Trap Log Security Log Status & Manage 			121949	14101 No Remote	2016-01-13 2 e Connections	0:53:12.821 UTC	MAJOR GN_DOWI <u>More</u>	
28.	Primary NOAM GUI (VIP):		Event ID	Time	stam	р		Severity	Product	Process
	Vorify that Event ID	Seq # Alarm Text						Additiona	Additional Info	
	14101 ("No remote		14101	2016	-01-1	3 20:53:12	2.821 UTC	MAJOR	EXHR	pdba
	provisioning clients are connected") is the only alarm present on the HLRR system		1949 No Remote Connections			GN_DOW <u>More</u>	GN_DOWN/WRN No remote provisio More			

Step	Procedure	Result
29.	Primary NOAM GUI (VIP): Select <u>Main Menu</u> → Administration → Remote Servers → SNMP Trapping as shown on the right.	Connected using VIP to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu General Options Central Options Configuration Main Menu: Administration Main Menu: Administration Variable Variable Variable Manager 1
30.	 Primary NOAM GUI (VIP): 1) Using the cursor, place a "check" in the check box for "Traps from Individual Servers". 2) Click the "OK" dialogue button located at the bottom of screen 3) Check the "Check to confirm" box on the new window, and then click on the "OK" button to make the change 	Traps from Individual Servers I Enabled 1
31.	Primary NOAM GUI (VIP): Click the "Logout" link on the GUI.	Welcome guiadmin [Logout] Welcome guiadmin [Log

5.5 Configuring the DR NOAM Site (Optional)

NOTE: This procedure assumes that the XML file for configuring the DR NOAM Network Element has been previously prepared, as described in **Appendix A**.

Procedure 6.1:	Configuring the DI	R NOAM Site /	Servers (C	Optional)

Step	Procedure		Result				
1.	Primary NOAM GUI (VIP): Access the Primary NOAM GUI (via the VIP) and configure the DR NOAM Network Element.	Connect to the Primary NOAM (Element as described in App <i>file</i>).	NOAM Network ment from XML				
2.	Primary NOAM GUI (VIP): 1) Select <u>Main Menu</u> → Configuration	Connected using VIP to exhrNO- Main Menu Administration Configuration Network Elements Services	-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu: Configuration -> Servers Filter - Hostname Role System				
	 → Servers 2) The configuration screen "Servers" will appear. 	Resource Domains Servers Server Groups Places Place Associations	exhrNO-mrsvnc-a	Network OAM&P			
	3) Click on "Insert" dialogue button.	a) Click on "Insert" lialogue button. b) Click on "Insert" b) Click on		Network OAM&P Query Server	t		
3.	Primary NOAM GUI (VIP): The configuration screen "Adding a new server" will appear.	Adding a new server Attribute Value Hostname - Role - Select Role System ID - Hardware Profile TekServer T12 Network Element Name - Location -	× • ▼ × • • • • • •	k Apply Cancel			

Step	Procedure	Result				
4.	Primary NOAM GUI (VIP):	Adding a new server				
	NOTE: If executing this procedure for the 1st time, use values associated with the DR NOAM -	Attribute	Value			
		Hostname	exhrNO-rlghnc-a *			
	A server.	Role	NETWORK OAM&P - *			
	 Enter the assigned Hostname. 	System ID				
	2) Select the Role.	Hardware Profile	TekServer T1200 🔻			
	For a NOAM server, select " NETWORK OAM&P"	Network Element Name	NO_RLGHNC ▼ *			
	For a Query Server select "Query Server".	Location	Frame 401.13			
	3) Enter the System ID if known (optional), otherwise, leave it blank.					
	3) Select " TekServer 1200 " as Hardware Profile.					
	4) From the pull- down, select the Primary NOAM NE name as the Network Element Name.					
	5) Enter the site Location (optional)					

Procedure 6.1: Configuring the DR NOAM Site / Servers (Optional)

Step	Procedure	Result								
5.	Primary NOAM GUI (VIP): NOTE: If executing this procedure for the 1st time during initial installation, use values associated with the DR NOAM-A	Interfaces: Network INTERNALXMI (10.240.40.64/28)			IP Address 10.240.40.68			Interface		
		INTERNALIMI (10.240.40.80/28) MANAGEMENT (169.254.1.0/24)			10.240.40.84 169.254.1.11			bond1 • VLAN (3) bond1 • VLAN (1)		
	 1) Enter the INTERNALXMI and INTERNALIMI IP addresses of the server. 2) Enter the MANAGEMENT IP address based on the chart shown to the right. 	HLR Router (Primary NOAM)	Network		IP Address	Int	terface	С	VLAN heckbox	
		DR NOAM-A	MANAGEME	NT	Г 169.254.1.11		ond1	 Image: A start of the start of		
		DR NOAM-B	MANAGEME	NT 169.254.1.12		bond1		✓		
		DR Query Server	MANAGEME	NT Nam	N/A (Leave Blank)	t n the	oond1	ste	p), the	
	 Set all "Interface" values to "bond1". 	"Interfaces" fields will be displayed.								
	4) Make sure that both the INTERNALXMI and INTERNALIMI VLAN checkboxes are CHECKED.									
	5) Check the MANAGEMENT VLAN checkbox according to the chart shown to the right.									

Procedure 6.1:	Configuring the DR NOAM Site / Servers (Optional)	
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Step	Procedure	Result
6.	Primary NOAM GUI (VIP):	NTP Servers:
	1) Click "Add" button and assign IP address for the 1st NTP Server (required).	NTP Server IP Address Prefer Add 10.250.78.247 Remove
	2) Click the "Add" button to assign an IP address for the 2nd NTP Server (required).	10.250.32.10 Remove 10.250.32.51 Remove
	 3) Click the "Add" button to assign an IP address for the 3rd NTP Server (required). 4) Click the "Add" button to assign an IP address any desired additional NTP Servers (optional). 	
	5) Check the "Prefer" checkbox to select any preferred NTP Servers <i>(optional)</i> .	
7.	 Primary NOAM GUI (VIP): 1) If the values provided by the user matches the network ranges assigned to the NOAMP NE, the user will receive a banner information message stating "Pre-Validation passed". 2) Click the "Apply" dialogue button. 	Main Menu: Configuration -> Servers [Insert] Info Info

Step	Procedure		Result		
8.	Primary NOAM GUI (VIP): The user will receive a banner information message showing that the data has been committed to the DB.	Main Menu: Con	figuration -> Servers [Insert]		
	PROCEDURE 6.1 HAS BEEN COMPLETED				

Procedure 6.2: Exporting the Server Configuration file								
Step	Procedure	Result						
9.	Primary NOAM GUI (VIP): Applying the Server Configuration File 1) Select Main Menu → Configuration → Servers 2) The configuration	Connected using VIP to exhrNO-m Main Menu Configuration Configuration Configuration Services Resource Domains Server Groups Places Place Associations DSCP		Result mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu: Configuration Filter Hostname Role exhrNO-mrsvnc-a Network			System	
	screen " Servers " will appear.	🛨 🔜 Network 🗄 🚞 Alarms & Ev	vents	exinted in				
10.	 Primary NOAM GUI (VIP): 1) Use the cursor to select the Server configured in Steps 7-11 of this procedure. The selected row will be highlighted in GREEN 2) Select the "Export" dialogue button. 	Main Menu: (Filter - Hostname qs-mrsvnc exhrNO-rlghnc-a < Insert Edit	Configuration	on -> Serve	Server Group	grp		
11.	 Primary NOAM GUI (VIP): 1) A banner information message will show a download link for the Server configuration file. 2) Click on the word "downloaded" to download/ssave the configuration file. 	Filter Info Info Hostname Info Info Info exhrNO-mrsvnc-a Network OAM&P NO_mrsvnc_grp NO_MRSVN Note: The configurationt file will be created and stored in the /var/TKLC/db/filemgmt directory. The configuration file will have a file name like TKLCConfigData. Hostname Structure				aded _MRSVNC		

Proco	duro 6.2: Exporting	the Server Configuration file
12.	Primary NOAM	Main Menu: Configuration -> Servers
	 GUI (VIP): 1) Click the "download" link. 2) When prompted to open or save the file, save the Server configuration file to 	Fill Opening TKLCConfigData.exhrNO-rlghnc-a.sh Host You have chosen to open: Image: TKLCConfigData.exhrNO-rlghnc-a.sh Image: Sh may be downlnaded which is: sh File from: https://10.240.40.6 Image: Whet should Einsfor do with this file?
	a USB flash drive.	exhr1 Open with Browse Description Description
		Enter name of file to save to <p< th=""></p<>
		Image: Documents Name Image: Documents Name Image: Documents Name Image: Documents No items match your search. No items match your search. Image: Documents Image: Documents <
		File name: TKLCConfigData.exhrNO-rlghnc-a.sh Save as type: sh File (*.sh) Hide Folders Save
13.	Server Console: Access server console.	Connect to the Server Console using one of the access methods described in Section 0
Proce	dure 6.2: Exporting	g the Server Configuration file
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14.	Server Console: Login to the server as the "admusr" user.	login: admusr Password: <admusr_password></admusr_password>
15.	Server Console: Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>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:/usr/ TKLC/awptransportmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@hostname1396462623 ~]\$</pre>
16.	Insert the USB flash drive containing the server configuration file into the USB port on the front panel.	Figure 4 - T1200 Front Panel: USB Port
17.	Server Console: Output similar to that shown to the right will appear on the console.	<pre>\$ sde: assuming drive cache: write through sde: assuming drive cache: write through <enter> \$</enter></pre>
	Press the <enter></enter> key to return to the command prompt.	
18.	Server Console: Verify that the USB flash drive has been mounted by the OS.	<pre>\$ df grep usb /dev/sde1 1018088 603372 414716 60% /var/tmp/usb_flash</pre>
19.	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.	<pre>Example: TKLCConfigData.<server_hostname>.sh → will translate to →TKLCConfigData.sh \$ cp -p /var/tmp/usb_flash/TKLCConfigData.tks5031301.sh /var/tmp/TKLCConfigData.sh</server_hostname></pre> NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.

Proce	dure 6.2: Exporting	the Server Configuration file		
20.	Server Console:	*** NO OUTPUT FOR \approx 320 MINUTES ***		
	After the script completes, a broadcast message will appear Press the <enter></enter> key to return to the	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.		
	command prompt.	<enter></enter>		
21.	Server Console:	<pre>\$ sudo init 6</pre>		
	Initiate a reboot of this server. Wait until the reboot completes	Broadcast message from root@tks5031301 (/dev/pts/0) at 15:14 The system is going down for reboot NOW!		
22	Server Console:	login: root		
	Log into the server as the " root " user	Password: <root_password></root_password>		
23.	Server Console: Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>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:/usr /TKLC/awptransportmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00</pre>		
24.	Server Console: Verify that XMI and IMI IP addresses entered in <i>Step 30</i> have been applied NOTE: Full path is required to execute this command as the "admusr" user.	<pre>\$ /sbin/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 Cast:192.168.182.31 bond1.3 Link encap:Ethernet HWaddr 00:1E:67:00:90:DA inet addr:192.168.182.37 Cast: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:Ethernet HWaddr 00:1E:67:00:90:DA</pre>		

Proce	dure 6.2: Exporting	the Server Configuration file		
25	Server Console:	<pre>\$ ping -c 5 <xmi_gateway_ip_address></xmi_gateway_ip_address></pre>		
	Ping the XMI Gateway IP address to ensure network connectivity.	Example output: PING 192.168.182.1 (192.168.182.1) 56(84) bytes of data. 54 bytes from 192.168.182.1: icmp_seq=1 ttl=64 time=0.056 ms 54 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 54 bytes from 192.168.182.1: icmp_seq=3 ttl=64 time=0.018 ms 54 bytes from 192.168.182.1: icmp_seq=1 ttl=64 time=0.056 ms 54 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 54 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 54 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 55 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 54 bytes from 192.168.182.1 ping statistics 55 packets transmitted, 3 received, 0% packet loss, time 2573ms		
26.	Server Console:	\$ ntpq -np		
	Verify that the server has	remote refid st t when poll reach delay		
	connectivity to the assigned Primary and Secondary NTP server(s).	*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		
27.	Server Console:	<pre>\$ sudo alarmMgralarmStatus</pre>		
	Verify alarm status of this server	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.		
28.	Server Console:	\$ sudo syscheck		
	Verify the current health of this server.	Running modules in class disk OK		
	NOTE: <i>If any errors</i> <i>are reported on the</i>	Running modules in class hardware OK		
	and contact Oracle's Tekelec Customer Care	Running modules in class net OK		
	Center for the assistance.	Running modules in class proc OK		
		Running modules in class system OK		
		LOG LOCATION: /var/TKLC/log/syscheck/fail_log		
29.	Server Console:	\$ exit		
	Exit the console session.			
		PROCEDURE 6.2 HAS BEEN COMPLETED		

Proce	Procedure 6.3: Configuring Additional Servers			
Step	Procedure	Result		
30.	Configure the Primary NOAM-B	• Repeat Steps 2 - 29 of this procedure to configure the DR NOAM-B Server.		
	server.	DR NOAM-B		
31.	Configure the Query Server (if equipped).	• Repeat Steps 2 - 29 of this procedure to configure the DR Query Server (<i>if equipped</i>).		
		DR Query Server		
		THIS PROCEDURE HAS BEEN COMPLETED		

5.6 OAM Pairing for DR NOAM / SOAM Sites (*DR NOAM / SOAM Sites Only*)

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

This procedure creates a Server Group which will establish an Active/Standby relationship for the OAM server pair (A & B). This procedure will also integrate the Query Server (if equipped) into the DR NOAM Server Group.

Step	Procedure	Result
1.	Primary NOAM GUI (VIP): Connect to the Primary NOAM VIP GUI (XMI VIP) via web browser.	Oracle System Login × ← ▲ https://10.240.40.6
2.	Primary NOAM GUI (VIP): If a security certificate error is received, click on the following link: "Continue to this website (not recommended)."	 There is a problem with this website's security certificate. The security certificate presented by this website was not issued by a trusted certificate as the security certificate presented by this website was issued for a different website's address security certificate problems may indicate an attempt to feel you or intercept any data yo server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage. Continue to this webpage. More information
3.	Primary NOAM GUI (VIP): The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Coracle System Login Login Enter your username and password to log in Username Password Compapeeward Compare to the Oracle System Login

Procedure 7.1: Configuring the OAM Server Group

Procedure 7.1:	Configuring	the OAM	Server	Group
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Step	Procedure	Result
4.	Primary NOAM GUI (VIP): The user should be presented with the HLRR Main Menu as shown on the right.	Connected using VIP to exhrNO-mrsvnc-b (ACTIVE NETWORK OAM&P) Main Menu Administration Administration Administration Alarms & Events Security Log Status & Manage Alarms & Events Security Log Alarms & Events EAGLE XG Database Tekelec HLR Router Help Logout
5.	Primary NOAM GUI (VIP): Select <u>Main Menu</u> → Configuration → Server Groups as shown on the right.	Connected using VIP to exhrNO-mrsvnc-b (ACTIVE NETWORK OAM&P) Main Menu Administration Administration Network Elements Services Server Group Name Level Pa Server Groups NO_mrsvnc_grp A N
6.	 Primary NOAM GUI (VIP): 1) The user will be presented with the "Server Groups" configuration screen as shown on the right. 2) Select the "Insert" dialogue button 	Main Menu: Configuration -> Server Groups Filter Image: Server Group Name Level Parent Function Connection Count No_mrsvnc_grp A NONE EAGLE XG HLR Router 1 Insert Edit Delete Report

Procedure 7.1:	Configuring the OAM Server Group
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Step	Procedure		Result	
7.	Primary NOAM GUI (VIP): The configuration screen "Server	Main Menu: Configurati	ion -> Server Group	os [Insert]
		Field	Value	Description
	appear	Server Group Name	*	Unique identifier used to label a Se are alphanumeric and underscore.
		Level	- Select Level - 💌 *	Select one of the Levels supported groups are optional and contain S
		Parent	- Select Parent - 💌 *	Select an existing Server Group or
		Function	- Select Function - 🔹	Select one of the Functions suppor
		WAN Replication Connection Count	1	Specify the number of TCP connec with this Server Group. [Default = 1
				Ok Apply Cancel

Procedure 7.1: Configuring the OAM Server Group

Step	Procedure		Result		
8.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Server Groups [Insert]			
	1) Input the Server	Info 🔻			
	Group Name.	Field	Value	Description	
	2) Select the "Level"	Server Group Name	NO_rlghnc_grp *	Unique identifier used to label a S are alphanumeric and underscore	
	menu:	Level	A •	Select one of the Levels supported groups are optional and contain S	
	For DR NOAM Server Group, select " A ".	Parent	NO_mrsvnc_grp 👻 *	Select an existing Server Group or	
	For SOAM Server	Function	EAGLE XG HLR Router 💌	Select one of the Functions suppo	
	Group, select " B ".	WAN Replication Connection Count	1	Specify the number of TCP connect with this Server Group. [Default = 1	
	 Select a Parent from the pull-down menu: 			Ok Apply Cancel	
	For the DR NOAM Server Group, select "NONE".				
	For a SOAM Server Group, select the Primary NOAM Server Group.				
	4) Select "EAGLE XG HLR Router" on the "Function" pull-down menu.				
	5) Leave the value for "WAN Replication Connection Count" field defaulted to "1".				

Procedure 7.1:	Configuring ⁻	the OAM	Server	Group
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Step	Procedure	Result	
9.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Server Groups [Insert]	
	The user should be presented with a banner information message stating " Pre- Validation passed ".	Info Oescription Info Oescription Unique identifier used to label are alphanumeric and unders Level A ✓ * Parent NO_mrsvnc_grp ▼ * Select one of the Levels support groups are optional and conta Function EAGLE XG HLR Router ▼ * Select one of the Functions su WAN Replication Connection Count 1 Specify the number of TCP conwith this Server Group. [Defaultowich component is server Group.]	I a Se core. orted ain SC up or I upport nnect lt = 1. cel
10.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Server Groups [Insert]	
	Click " Apply " button to submit The user should be presented with a banner information message stating " Data committed ".	Info Value Description Image: Info NO_rlghnc_grp Unique identifier used to labe are alphanumeric and unders Level A * Select one of the Levels supp groups are optional and conta Parent NO_mrsvnc_grp * Select an existing Server Group Function EAGLE XG HLR Router * Select one of the Functions su with this Server Group. [Defaultion of the server Group.[Defaultion of the ser	I a S score orted ain S up or uppo ult = 1 cel
		PROCEDURE 7.1 HAS BEEN COMPLETED	cei

Step	Procedure		Result						
11.	Primary NOAM GUI (VIP): Select <u>Main Menu</u> → Configuration → Server Groups as shown on the right.	Conn Conn	ected using VIP to e Main Menu Administration Configuration Network Eleme Services Resource Dom Servers Servers Places	D-mrsvnc-b (/ Main M Filter Se	ACTIVE NETWO Ienu: Confr erver Group Nam D_mrsvnc_grp	iguratio	י) ח ף		
12.	Primary NOAM GUI (VIP):	Main	Menu: Configu	ratio	n -> Serve	r Groups		_	
	entry should be shown on the "Server Groups" configuration		Server Group Name	Level	Parent	Function	Connection Count	n	
	screen as shown on the right.		NO_mrsvnc_grp	A	NONE	EAGLE XG HLR Router	1		
			NO_rlghnc_grp	A	NONE	EAGLE XG HLR Router	1		
		Inser	t Edit Delete	Repo	rt				

Procedure 7.2: Adding the OAM server to the OAM Server Group								
Step	Procedure			Result				
13.	Primary NOAM GUI	Main Menu: Configuration -> Server Groups						
		Filter -						
	 Select the Server Group entry created in Step 5 through Step The line entry will be 	Server Group Name	Level	Parent	Fu	nction	Connection Count	
	highlighted in GREEN. 2) Click "Edit" dialogue button	NO_mrsvnc_grp	A	NONE	EA HL	GLE XG .R Router	1	
		NO_rlghnc_grp	A	NONE	EA HL	GLE XG .R Router	1	
		Insert Edit Delete	Repo	ort				
14.	Primary NOAM GUI (VIP):	Main Menu: Configura	tion	-> Server Gro	oup	s [Edit]		
	Adding a Server to							
	Group (DR NOAM or	Field Server Group Name		Value		Description		
	SOAM)			_rlghnc_grp	*	Unique idei are alphani	ntifier used to la umeric and und	bel a Se erscore
	The configuration	Level	A	*		Select one	of the Levels su	pported
	screen "Server Groups [Edit]" will	Parent	NO	NE 👻 *		Select an e	xisting Server G	roup or
	appear	Function	EAG	GLE XG HLR Router	*	Select one	of the Functions	suppor
	WAN	WAN Replication Connection Cou	nt 1			Specify the with this Se	number of TCP erver Group. [De	connec fault = 1
		NO_RLGHNC	6 C I+			Desferred	IA Data	
		server	SGI	ICIUSION		Preferred H	d Spare	
		exhrNO-righnc-h		clude in SG		Preferre	d Spare	
		as-rlahnc		Include in SG		Preferred Spare		
		VIP Assignment						
		VIP Address				Add		
		Ok Apply Cano						ancel

Procedure 7.2: Adding the OAM server to the OAM Server Group						
Step	Procedure		Result			
15.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Server Groups [Edit]				
	 CHECK the "Include in SG" checkbox for both OAM Servers (A & B) and the Query Server (if equipped). If desired, the user may set one of the two OAM servers as a "Preferred Spare" (optional). NOTE: If "Preferred Spare" is checked for an OAM server, then that OAM server will default to "Standby" mode whenever possible. It is recommended that the "Preferred Spare" option be left unchecked to allow for both servers to be automatically system managed. The user should be presented with a 	Info Info Pre-Validation passed Level Parent Function WAN Replication Connection Count NO_RLGHNC Server exhrNO-rlghnc-a exhrNO-rlghnc-b qs-rlghnc VIP Assignment VIP Address	A A I - Data NOT committed A A EAGLE XG HLR Router A EAGLE XG HLR Router A SG Inclusion Include in SG Include in SG Include in SG Include in SG	Description Unique identifier used to label a Ser are alphanumeric and underscore. Select one of the Levels supported I Select an existing Server Group or N Select one of the Functions support Specify the number of TCP connecti with this Server Group. [Default = 1. Preferred HA Role Preferred Spare Preferred Spare Preferred Spare Add Add Add Add		
	Validation passed". 4) Click "Apply" to submit.					
16.	Primary NOAM GUI (VIP): The user should be presented with a banner information message stating "Data committed".	Main Menu: Configur	Image: Server G Image: Server G	Description * Unique identifare alphanum Select one off * Select an exis * Select one off		
		PROCEDURE 7.2 HAS BE	EN COMPLETED			

Step	Procedure	Result				
17.	 Primary NOAM-A GUI (XMI): 1) To add a Virtual IP address (VIP), click on "Add" dialogue button in the VIP Assignment section. 2) Enter the Virtual IP 	VIP Assignment VIP Address 192.168.182.88 Ok Ar		Add Remove Apply Cancel		
	address in the VIP Address field.					
18.	 Primary NOAM-A GUI (XMI): 1) The user should be presented with a banner information message stating "Pre-Validation passed". 2) Click on "Apply" button. 	Main Menu: Configuration	ion -> Server Grou	ps [Edit] Description Unique identifier used to label a Set are alphanumeric and underscore. Select one of the Levels supported Select an existing Server Group or N Select one of the Functions support Specify the number of TCP connecti with this Server Group. [Default = 1.] Preferred HA Role Preferred Spare Preferred Spare Preferred Spare OK Apply Cancel		

Procedure 7.3: Adding the VIP to the OAM Server Group

Step	Procedure		Result			
19.	Primary NOAM GUI (VIP):	Main Menu: Configuratio	on -> Server Group	os [Edit]		
	The user should be presented with a banner information message stating " Data committed ".	Info Vi Data committed!	falue NO_rlghnc_grp *	Description Unique identif are alphanum Select one of f		
		Parent	NONE 👻 *	Select an exis		
		Function	EAGLE XG HLR Router 👻 *	Select one of t		
		PROCEDURE 7.3 HAS BEE				

Procedure 7.3: Adding the VIP to the OAM Server Group

Proce	Procedure 7.4: Restarting the Appplication SW on the OAM server						
Step	Procedure	Result					
20.	Primary NOAM GUI (VIP): Select Main Menu → Alarms & Events → View Active as shown on the right.	Connected using VIP to sds-rlghnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Configuration Alarms & Events View Active View Active View Trap Log Security Log					
21.	Primary NOAM GUI (VIP): Verify that Event ID 10200 (<i>Remote</i> Database re- initialization in progress) alarms are present with the server hostnames in the "Instance" field. NOTE: Event ID(s) such as 10009, 10073 & 31000 may also Fire/Clear during this time. Multiple instances of Event ID 10075 are expected and will remain after Event ID 10200 clears.	Main Menu: Alarms & Events -> View Active Filter Tasks Graph NO_righnc_grp Product Process NE Alarm Text Additional Info Mo_RLG 350 10200 2015-08-12 15:40:57.436 UTC MINOR OAM apwSoapS NO_RLG 350 Remote Database re-initialization in progress Remote Database re-initialization in progress Remote Database re-initialization in progress					
22.	• Mo pr • Do EV Qu	ONITOR THE EVENT ID <mark>10200 (<i>Remote Database re-initialization in</i> ogress)</mark> ALARMS. O NOT PROCEED TO THE NEXT STEP UNTIL THE ALARM CLEAR FOR /ENT ID 10200 IS RECEIVED FOR BOTH OAM SERVERS AND THE JERY SERVER (DR NOAM Server Group, if equipped).					

Proce	Procedure 7.4: Restarting the Appplication SW on the OAM server						
Step	Procedure	Result					
23.	Primary NOAM GUI (VIP): Select <u>Main Menu</u>	Connected using VIP to exhrNO-mrsvnc-b (ACTIVE NETWORK OAM&P)					
	→ Status & Manage → Serveras shown on the right.	Security Log Network Element Server Hostname Status & Manage NO_MRSVNC exhrNO-mrsvnc-b Server NO_MRSVNC exhrNO-mrsvnc-a HA NO_MRSVNC qs-mrsvnc					
24.	Primary NOAM GUI (VIP):	Main Menu: Status & Manage -> Server					
	 The "A" and "B" OAM servers and Query Server (DR NOAM Server Group, if equipped) should now appear in the right panel. Verify that "DB" status shows "Norm" and the "Proc" status shows "Man" for each of the servers before proceeding to the next Step. 	Filter Image: Server Hostname Appl State Alm DB Reporting Status Proc NO_RLGHNC qs-rlghnc Disabled Warn Norm Man NO_RLGHNC exhrNO-rlghnc-a Disabled Warn Norm Man NO_RLGHNC exhrNO-rlghnc-b Disabled Warn Norm Man NO_RLGHNC exhrNO-rlghnc-b Disabled Warn Norm Man					
	NOTE: If the desired status values are not present, STOP and contact "My Oracle Support" (MOS) for assistance before attempting to continue. Refer to Appendix K - Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service.						

Procedure 7.4: Restarting the Appplication SW on the OAM server								
Step	Procedure			Re	sult			
25.	Primary NOAM GUI (VIP):	Main Menu: Status & Manage -> Server						
		Filter -						
	 Using the mouse, select OAM-A server. The line entry will be 	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc
	highlighted in GREEN.	NO_MRSVNC	exhrNO-mrsvnc-b	Enabled	Norm	Norm	Norm	Norm
		NO_MRSVNC	exhrNO-mrsvnc-a	Enabled	Norm	Norm	Norm	Norm
	2) Select the	NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm	Norm	Norm
	"Restart" dialogue	NO_RLGHNC	qs-rlghnc	Disabled	i Warn	Norm	Norm	Man
	bullon	NO_RLGHNC	exhrNO-rlghnc-a	Disabled	i Warn	Norm	Norm	Man
	3) Click the " OK "	NO_RLGHNC	exhrNO-rlghnc-b	Disabled	i Warn	Norm	Norm	Man
	button on the confirmation dialogue box.	Stop Restart	Reboot NTP	Sync Report		7		
	4) The user should be presented with a confirmation message (in the banner area) for OAM-A server stating: "Successfully restarted application".	Are you sure you wish to restart application software on the following server(s)? exhrNO-rlghnc-a OK Cancel						
	NOTE: The user may need to use the vertical scroll-bar in order to make the "Restart" dialogue button visible.	Filter Network Eler	Info Info	exhrNO-rlghnc	≻a: Successfu	ully restarte	ed applicati	on.
	Primary NOAM GUI	Main Monue	Statuc 9 Mana					
26.	(VIP):	Main Menu: 3		ge -> Serve	er			
		Filter -						
	State" now shows "Fnabled" and the	Network Element	Server Hostname	Appl State	Alm	DB F	Reporting Status	Ргос
	"Proc" status column	NO_MRSVNC	exhrNO-mrsvnc-b	Enabled	Norm	Norm 1	Norm N	Norm
	show "Norm" for the	NO_MRSVNC	exhrNO-mrsvnc-a	Enabled	Norm	Norm 1	Norm N	Norm
	OAM-A server before	NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm 1	Norm N	Norm
	proceeding to the next	NO_RLGHNC	qs-rlghnc	Disabled	Warn	Norm 1	Norm	Man
	otop.	NO_RLGHNC	exhrNO-rlghnc-a	Enabled	Norm	Norm 1	Norm	Norm
		NO_RLGHNC	exhrNO-rlghnc-b	uisabled	Warn	Norm 1	Norm	Man
1								

Proce	Procedure 7.4: Restarting the Appplication SW on the OAM server						
Step	Procedure	Result					
27.	Primary NOAM GUI (VIP): Restart the Application on the OAM-B server and verify the "Appl State" and the "Proc" status post restart.	 Repeat Steps 25 - 26 of this procedure for the OAM-B server. 					
28.	Primary NOAM GUI (VIP): Restart the Application on the Query Server (if equipped) and verify the "Appl State" and the "Proc" status post restart.	Repeat Steps 25 - 26 of this procedure for the DR Query Server (<i>if equipped</i>).					
29.	Primary NOAM GUI (VIP): Select <u>Main Menu</u> → Alarms & Events → View Active as shown on the right.	Connected using VIP to exhrNo-mrsvnc-b (ACTIVE NETWORK OAM&P) Main Menu Administration Configuration Alarms & Events View Active View History View Trap Log Security Log					
30.	Primary NOAM GUI (VIP): Verify that no alarms other than Event ID 14101 ("No remote provisioning clients are connected") are present on the HLRR system.	Seq # Event ID Timestamp Product Process Alarm Text Additional Info 199 14101 2014-04-11 12:35:30.975 EDT MAJOR EXHR pdba No Remote Connections GN_DOWN/WRN No remote prov					
31.	Primary NOAM GUI (VIP): Click the "Logout" link on the GUI.	Welcome guiadmin [Logout] Welcome guiadmin [Log					

5.7 Configuring the SOAM Site

NOTE: This procedure assumes that the XML file for configuring the SOAM Network Element has been previously prepared, as described in **Appendix A**.

Procedure 8.1:	Configuring the	SOAM Site /	Servers
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Step	Procedure	Result
1.	Primary NOAM GUI (VIP): Access the Primary NOAM GUI (via the VIP) and configure the SOAM Network Element.	Connect to the Primary NOAM GUI (<i>via the VIP</i>) and configure the SOAM Network Element as described in Appendix H (<i>Configuring the Network Element from XML file</i>).
2.	Primary NOAM GUI (VIP): 1) Select <u>Main Menu</u> → Configuration → Servers 2) The configuration screen "Servers" will appear. 3) Click on "Insert" dialogue button.	Connected using VIP to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Administration Network Elements Services Resource Domains Servers Servers Places Places Places Place Associations Places Network Alarms & Events Security Log Status & Manage Measurements Measurements EAGLE XG Database Tekelec HLR Router
3.	Primary NOAM GUI (VIP): The configuration screen "Adding a new server" will appear.	Adding a new server Attribute Value Hostname * Role - Select Role - • • • System ID • Hardware Profile TekServer T1200 • Network Element Name - Unassigned - • • Location Ok Apply Cancel

Step	Procedure		Result	
4.	Primary NOAM GUI (VIP):	Main Menu: Con	figuration -> Servers [Insert]	
	NOTE: If executing this procedurte for	Info 🔻		
	the 1st time, use values associated with the SOAM-A server	Adding a new se	erver	
		Attribute	Value	
	1) Enter the assigned Hostname.	Hostname	exhrSO-carync-a1 *	
	2) Select the Role.	Role	SYSTEM OAM 👻 *	
	For a SOAM server, select " SYSTEM OAM"	System ID		
	3) Enter the System	Hardware Profile	TekServer T1200 🔻	
	ID if known (optional)	Network Element Name	SO_CARYNC •	
	otherwise, leave it blank.	Location	Frame 503.13	
	3) Select "TekServer 1200" as Hardware Profile.			
	4) From the pull- down, select the SOAM NE name as the Network Element Name.			
	5) Enter the site Location (optional)			

Procedure 8.1: Configuring the SOAM Site / Servers

Procedure 8.1:	Configuring th	ne SOAM Site /	Servers
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Step	Procedure			Result		
5. Primary NOAM GUI (VIP): NOTE: If executing this procedurte for the 1st time, use values associated with the SOAM-A	Primary NOAM GUI (VIP):	Interfaces: Network		P Address	Interfac	e
	this procedurte for the 1st time, use values associated with the SOAM-A	INTERNALXMI (10. INTERNALIMI (10.2 MANAGEMENT (16	240.40.64/28) 240.40.80/28) 39.254.1.0/24)	10.240.40.68 10.240.40.84 169.254.1.11	bond1 bond1 bond1	 VLAN (2) VLAN (3) VLAN (1)
	1) Enter the INTERNALXMI and INTERNALIMI IP addresses of the	HLR Router (Primary NOAM)	Network	IP Address	Interface	VLAN Checkbox
	server.	SOAM-A	MANAGEMENT	169.254.1.11	bond1	
2) Enter the MANAGEM address bas the chart sh the right.	2) Enter the MANAGEMENT IP address based on the chart shown to the right.	SOAM-B	MANAGEMENT	169.254.1.12	bond1 ed (in the previou	us step), the
	 Set all "Interface" values to "bond1". 	" Interfaces " fields v	vill be displayed.			
	4) Make sure that both the INTERNALXMI and INTERNALIMI VLAN checkboxes are CHECKED.					
	5) Check the MANAGEMENT VLAN checkbox according to the chart shown to the right.					

Step	Procedure	Result
6.	Primary NOAM GUI (VIP):	NTP Servers:
	1) Click " Add" button and assign	NTP Server IP Address Prefer Add
	IP address for the 1st NTP Server	10.250.78.247 Remove
	2) Click the "Add" button to assign an	10.250.32.10 Remove
	IP address for the 2nd NTP Server (required).	10.250.32.51 Remove
	3) Click the " Add " button to assign an IP address for the 3rd NTP Server (<i>required</i>).	
	4) Click the "Add" button to assign an IP address any desired additional NTP Servers (optional).	
	5) Check the "Prefer" checkbox to select any preferred NTP Servers <i>(optional)</i> .	
7.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Servers [Insert]
	1) If the values provided by the user matches the network ranges assigned to the SOAM NE, the user will receive a banner information message stating "Pre-Validation passed".	Info Info Pre-Validation passed - Data NOT committed Hostname PexhrSO-carync-a *
	2) Click the "Apply" dialogue button.	Of Apply Gancel

Procedure 8.1: Configuring the SOAM Site / Servers

Step	Procedure	Result
8.	Primary NOAM GUI (VIP): The user will receive a banner information message showing that the data has been committed to the DB.	Main Menu: Configuration -> Servers [Insert]
		Hostname exhrSO-carync-a *
	·	PROCEDURE 8.1 HAS BEEN COMPLETED

Procedure 8.1: Configuring the SOAM Site / Servers

Proce	Procedure 8.2: Applying the Server Configuration file to the SOAM				
Step	Procedure		Result		
9.	Primary NOAM GUI (VIP):	Connected using VIP to exhrNO-r	nrsvnc-a (ACTIVE NETWORK	OAM&P)	
	1) Select	 Main Menu Administration 	Main Menu: Config	uration -> Se	rvers
	<u>Main Menu</u>	🚊 🚖 Configuration			
	→ Configuration	🔤 📔 Network Elements	T mer		
	→ Servers	🔤 📑 Services	Hostname	Role	System I
	 The configuration screen "Servers" will appear. 	 Servers Server Groups Places Place Associations 	exhrNO-mrsvnc-a	Network OAM&P	
		🖬 🧕 DSCP			

Proce	edure 8.2: Applying	the Server Configurati	on file to the SOAI	N		
Step	Procedure		R	esult		
10. F	Primary NOAM GUI (VIP):	Main Menu: Conf	iguration -> Se	rvers		
	1) Use the cursor to	Filter 🔻				
	select the Server configured in Steps 2 - 8 of this procedure.	Hostname	Role	System ID	Server Group	
	The selected row will be highlighted in GREEN	exhrNO-righnc-b	Network OAM&P		NO_rlghnc_grp	
	2) Select the "Export" dialogue	qs-rlghnc	Query Server		NO_rlghnc_grp	
	button	exhrSO-carync-a	System OAM		SO_carync_grp	
		Insert Edit Dele	te Export Repo	rt		
11.	Primary NOAM GUI (VIP):	Filter - Info D				
	1) A banner information message will show	Hostname	Exported server data in TKL	.CConfigData.exhr	S	
	a download link for the Server	exhrNO-mrsvnc-a	Network OAM&P		NO_mrsvnc_gr	p NO_MRSVNC
	configuration file. 2) Click on the word "downloaded" to download and save the configuration file.	Note : The configurationt The configuration file will	file will be created and have a file name like	d stored in the ∕ TKLCConfigDa	ivar/TKLC/db/filemgi ta.< hostname >.sh.	nt directory.

Proce	edure 8.2: Applying	the Server Configuration file to the SOAM
Step	Procedure	Result
Proce Step 12.	Adure 8.2: Applying Procedure Primary NOAM GUI (VIP): 1) Click the "download" link. 2) When prompted to open or save the file, save the Server configuration file to a USB flash drive.	the Server Configuration file to the SOAM Result Main Menu: Configuration -> Servers Image: Server Solution
13.	Server Console: Access server console.	Image: Computer Image: Computer

Proce	dure 8.2: Applying	the Server Configuration file to the SOAM
Step	Procedure	Result
14.	Server Console: Login to the server as the "admusr" user.	login: admusr Password: <admusr_password></admusr_password>
15.	Server Console: Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>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:/usr/ TKLC/awptransportmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@hostname1396462623 ~]\$</pre>
16.	Insert the USB flash drive containing the server configuration file into the USB port on the front panel.	Figure 4 - T1200 Front Panel: USB Port
17.	Server Console: Output similar to that shown to the right will appear on the console. Press the <enter></enter> key to return to the command prompt	<pre>\$ sde: assuming drive cache: write through sde: assuming drive cache: write through <enter> \$</enter></pre>
18.	Server Console: Verify that the USB flash drive has been mounted by the OS.	<pre>\$ df grep usb /dev/sde1 1018088 603372 414716 60% /var/tmp/usb_flash</pre>
19.	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.	<pre>Example: TKLCConfigData.<server_hostname>.sh → will translate to →TKLCConfigData.sh \$ cp -p /var/tmp/usb_flash/TKLCConfigData.tks5031301.sh /var/tmp/TKLCConfigData.sh</server_hostname></pre> NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.

Proce	Procedure 8.2: Applying the Server Configuration file to the SOAM			
Step	Procedure	Result		
20.	Server Console:	*** NO OUTPUT FOR \approx 320 MINUTES ***		
	After the script	Broadcast message from root@tks5031301 (Thu Apr 10 15:13:15 2014):		
	broadcast message will appear	Server configuration completed successfully!		
	Press the <enter></enter> key to return to the command prompt.	Please remove the USB flash drive if connected and reboot the server.		
21.	Server Console:	<pre>\$ sudo init 6</pre>		
	Initiate a reboot of this server. Wait until the reboot completes	Broadcast message from root@tks5031301 (/dev/pts/0) at 15:14 The system is going down for reboot NOW!		
22	Server Console:	login: root		
	Log into the server as the " root " user	Password: <root_password></root_password>		
23.	Server Console: Output similar to that shown on the right will appear as the server accesses the command prompt.	<pre>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:/usr /TKLC/awptransportmgr:/usr/TKLC/appworks:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@exhrSO-carync-a ~]\$</pre>		
24.	Server Console: Verify that XMI and IMI IP addresses entered in <i>Step 30</i> have been applied NOTE: Full path is required to execute this command as the "admusr" user.	<pre>\$ /sbin/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 inet addr:127.0.0.1 Mask:255.0.0.0</pre>		

Proce	dure 8.2: Applying	the Server Configuration file to the SOAM		
Step	Procedure	Result		
25.	Server Console: Ping the XMI Gateway IP address to ensure network connectivity.	<pre>\$ ping -c 5 <xmi_gateway_ip_address> Example output: PING 192.168.182.1 (192.168.182.1) 56(84) bytes of data. 64 bytes from 192.168.182.1: icmp_seq=1 ttl=64 time=0.056 ms 64 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 64 bytes from 192.168.182.1: icmp_seq=3 ttl=64 time=0.018 ms</xmi_gateway_ip_address></pre>		
		64 bytes from 192.168.182.1: icmp_seq=1 ttl=64 time=0.056 ms 64 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 192.168.182.1 ping statistics 3 packets transmitted, 3 received, 0% packet loss, time 2573ms		
26.	Server Console:	s ntpq -np		
	Verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).	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		
27.	Server Console: Verify alarm status of this server	\$ sudo alarmMgralarmStatus 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.		
	Server Console:	\$ sudo syscheck		
28.	Verify the current health of this server	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		
		NOTE : If any errors are reported on the output, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.		
29.	Server Console:	\$ exit		
	Exit the console session.	logout		

Procedure 8.2: Applying the Server Configuration file to the SOAM			
Step	Procedure	Result	
30.	Configure the SOAM-B server.	 Repeat Steps 2 - 29 of this procedure to configure the SOAM-B Server. SOAM-B 	
31.	Create the SOAM Server Group and pair the SOAM-A and SOAM-B servers.	 Create the SOAM Server Group and place the SOAM-A and SOAM-B servers in it in accordance with the following procedure: Procedure 7 - OAM Pairing for DR NOAM / SOAM Sites (DR NOAM / SOAM Sites Only) 	
		THIS PROCEDURE HAS BEEN COMPLETED	

5.8 Configuring the MP Server (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 the each MP server and its associated MP Server Group.

Step	Procedure	Result		
1.	Primary NOAM GUI (VIP):	Oracle System Login × +		
	Connect to the Primary NOAM VIP GUI (XMI VIP) via web browser.	← ▲ https://10.240.40.6		
2 .	If a security certificate error is received, click on the following link:	There is a problem with this website's security certificate.		
	"Continue to this website (not recommended)."	The security certificate presented by this website was not issued by a trusted certificate au The security certificate presented by this website was issued for a different website's addre Security certificate problems may indicate an attempt to fool you or intercept any data yo server.		
		We recommend that you close this webpage and do not continue to this website.		
		Continue to this website (not recommended).		
		More information		
3.	Primary NOAM GUI (VIP):	ORACLE		
	The user should be presented the login screen shown on the right.	Oracle System Login Wel Apr 9 1708-09 2014 101		
	Login to the GUI using the default user and password.	Log In Enter your username and password to log in Username Password Change password Log In		
		Welcome to the Oracle System Login. Unauthoused eccess is prohibited. This Cracte system requires the use of Nacional Internet Lopioner 7.0, 0.0, or 8.0 with support for JeweScopt and conference. Oracle and Jong are recolleged to JeweScopt and Conjugation Copyright #0.0007 Oracle Copyright Report.		

Procedure 9.1: Configuring the MP Server (All SOAM Sites)

Procedure 9.1:	Configuring	the MP	Server	(All SOAM	Sites)
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Step	Procedure	Result			
4.	Primary NOAM GUI (VIP): The user should be presented the Main Menu as shown on the right.	Connected using VIP to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Connected using VIP to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Administration Configuration Alarms & Events Security Log Status & Manage Measurements EAGLE XG Database Tekelec HLR Router Help Logout			
5.	 Primary NOAM GUI (VIP): 1) Select Main Menu → Configuration → Servers 2) The configuration screen "Servers" will appear. 3) Click on "Insert" dialogue button. 	Connected using VIP to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Configuration Network Elements Services Resource Domains Servers Servers Places Places Places Places Places Security Log Status & Manage Measurements Measurements EAGLE XG Database Tekelec HLR Router			
6.	Primary NOAM GUI (VIP): The configuration screen "Adding a new server" will appear.	Adding a new server Attribute Value Hostname * Role - Select Role - * System ID * Hardware Profile TekServer T1200 * Network Element Name Unassigned - * Location Ok Apply Cancel			

Step	Procedure	Result				
7.	Primary NOAM GUI (VIP):	Main Menu: Con	figuration -> Servers [Insert]			
	NOTE: If executing this procedurte for the 1st time, use values associated with the MP-1 server.	Adding a new set	erver			
	1) Enter the assigned Attribute Value					
	2) Select the Role .	Hostname	mp1-carync. *			
	select " MP ".	Role	MP •			
	3) Enter the System ID if known <i>(optional)</i> , otherwise, leave it blank.	System ID				
		Hardware Profile	TekServer T1200 🔻			
	3) Select " TekServer 1200" as Hardware Profile.	Network Element Name	SO_CARYNC 🔻 *			
		Location	Frame 611.09			
	4) From the pull-down, select the SOAM NE name as the Network Element Name.					
	5) Enter the site Location (optional)					

Procedure 9.1: Configuring the MP Server (All SOAM Sites)

Procedure 9.1:	Configuring the MP	Server (All SOAM Sites)
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Step	Procedure	Result			
8.	Primary NOAM GUI (VIP):	Interfaces: Network	IP Address	Interface	
	NOTE: If executing this procedure for the	INTERNALXMI (10.240.40.64/28)		bond1 👻 🗌 VLAN (2)	
	1st time, use values associated with the MP-1 server	INTERNALIMI (10.240.40.80/28) MANAGEMENT (169.254.1.0/24)	10.240.40.84	bond1 - VLAN (3)	
	 Enter the INTERNALIMI IP addresses of the server. Set INTERNALIMI "Interface" value to "bond1". Make sure that the INTERNALIMI VLAN box is CHECKED. NOTE: T1200 MP servers are assigned INTERNALIMI IP addresses only. The INTERNALXMI and MANAGEMENT fields are purposely 	NOTE: After the "Network Elemen "Interfaces" fields will be displaye	ht Name" field is populated d.	(in the previous step), the	

Step	Procedure	Result			
9.	Primary NOAM GUI (VIP):	NTP Servers:			
	 Click "Add" button and assign IP address 	NTP Server IP Address Prefer Add			
	for the 1st NTP Server (required).	10.250.78.247 Remove			
	2) Click the "Add" button to assign an IP	10.250.32.10 Remove			
	address for the 2nd NTP Server (required).	10.250.32.51 Remove			
	3) Click the "Add" button to assign an IP address for the 3rd NTP Server (required).				
	4) Click the "Add" button to assign an IP address any desired additional NTP Servers (optional).				
	5) Check the " Prefer " checkbox to select any preferred NTP Servers (optional).				
10.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Servers [Insert]			
	1) If the values provided by the user matches the network ranges assigned to the SOAM NE, the user will receive a banner information message stating "Pre- Validation passed".	Info Info Pre-Validation passed - Data NOT committed Hostname mp1-carync *			
	2) Click the "Apply" dialogue button.	O Apply Cancel			

Procedure 9.1: Configuring the MP Server (All SOAM Sites)

Procedure 9.1:	Configuring the MP	Server (All SOAM Sites)
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Step	Procedure	Result		
11.	Primary NOAM GUI (VIP): The user will receive a banner information message showing that the data has been committed to the DB.	Main Menu: Configur	ation -> Servers [Insert]	
PROCEDURE 9.1 HAS BEEN COMPLETED				

Procedure 9.2: Applying the Server Configuration file to the MP							
Step	Procedure		Result				
12.	Primary NOAM GUI (VIP):	Connected using VIP to exhrNO-n	nrsvnc-a (ACTIVE NETW	/ORK OAM&P)			
	Applying the Server Configuration File	 Administration Configuration 	Main Menu: Configuration -> Servers				
	1) Select… <u>Main Menu</u>	 Network Elements Services Resource Domains 	Hostname	Role System			
	 → Configuration → Servers 	uration Servers ers Server Groups	exhrNO-mrsvnc-a	Network OAM&P			
	 I ne configuration screen "Servers" will appear. 	 Place Associations DSCP Network Alarms & Events 	exhrNO-mrsvnc-b	Network OAM&P			

Proce	edure 9.2: Applying th	e Server Configurat	ion file to the MP				
Step	Procedure		Result				
13.	Primary NOAM GUI (VIP):	Main Menu:	Configuratio	n -> Serv	ers		
	1) Use the cursor to select the Server	Filter 🔻					
	configured in Steps 5 - 11 of this procedure.	Hostname	Role	System ID	Server Group		
	The selected row will be highlighted in GREEN.	exhrSO-carync-a	System OAM		SO_carync_grp		
	2) Select the "Export" dialogue button.	exhrSO-carync-b	System OAM		SO_carync_grp		
		mp1-carync	MP		mp1_carync_grp		
		Insert Edit	Delete Expor	t Report	000		
14.	Primary NOAM GUI (VIP):	Main Menu: Cont	figuration -> Ser	vers			
	1) A banner information message will show a download link for the Server configuration file.	Filter Info Hostname Info Image: exhrNO-mrsvnc-a Network OAM&P NO_mrsvnc_grp NO_MRSVNC Note: The configurationt file will be created and stored in the /var/TKLC/db/filemgmt directory. The configuration file will have a file name like TKLCConfigData. Hostname					
	2) Click on the word "downloaded" to download and save the configuration file.						
Proce	Procedure 9.2: Applying the Server Configuration file to the MP						
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Step	Procedure	Result					
Step 15.	Procedure Primary NOAM GUI (VIP): 1) Click the "download" link. 2) When prompted to open or save the file, save the Server configuration file to a USB flash drive.	Result Main Menu: Configuration -> Servers Ifil Opening TKLCConfigData.mp1-carync.sh Work have chosen to open: IXLCConfigData.mp1-carync.sh Which is: sh File from: https://10.240.40.6 What should Firefox do with this file? Open with Browse © Save File Do this gutomatically for files like this from now on. Mrsvnc_grp NO_MRSV OK Cancel					
		Enter name of file to save to • Computer • USB DRIVE (G:) • Organize • Documents • Dopbox • Dopbox • Desktop • Libraries • Mitchell, Chris • Computer • Diventer • Diventer • Diventer • Mitchell, Chris • Diventer • Diventer					
16.	Server Console: Access server console.	Connect to the Server Console using one of the access methods described in Section 0					

Proce	Procedure 9.2: Applying the Server Configuration file to the MP				
Step	Procedure	Result			
17.	Server Console: Login to the server as the "admusr" user.	login: admusr Password: <admusr_password></admusr_password>			
18.	Server Console: Output similar to that shown on the right will appear as the server accesses the command prompt.	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:/usr/ TKLC/awptransportmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr PRODPATH=/opt/comcol/prod RUNID=00 [admusr@hostname1396462623 ~]\$ Figure 4 - T1200 Front Panel: USB Port			
19.	Insert the USB flash drive containing the server configuration file into the USB port on the front panel .				
20.	Server Console: Output similar to that shown to the right will appear on the console. Press the <enter></enter> key to return to the command promot	<pre>\$ sde: assuming drive cache: write through sde: assuming drive cache: write through <enter></enter> \$</pre>			
21.	Server Console: Verify that the USB flash drive has been mounted by the OS.	<pre>\$ df grep usb /dev/sde1</pre>			
22.	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.	<pre>Example: TKLCConfigData.<server_hostname>.sh → will translate to →TKLCConfigData.sh \$ cp -p /var/tmp/usb_flash/TKLCConfigData.tks5031301.sh /var/tmp/TKLCConfigData.sh</server_hostname></pre> NOTE: The server will poll the /var/tmp directory for the presence of the configuration file and automatically execute it when found.			

Proce	Procedure 9.2: Applying the Server Configuration file to the MP						
Step	Procedure	Result					
23.	Server Console:	*** NO OUTPUT FOR \approx 320 MINUTES ***					
	After the script completes, a	Broadcast message from root@tks5031301 (Thu Apr 10 15:13:15 2014):					
	broadcast message will appear	Server configuration completed successfully!					
	Press the <enter></enter> key to return to the	See /var/TKLC/appw/logs/Process/install.log for details.					
	command prompt.	Please remove the USB flash drive if connected and reboot the server. <pre><ple>ENTER></ple></pre>					
24.	Server Console:	<pre>\$ sudo init 6</pre>					
	Initiate a reboot of this server.	Broadcast message from root@tks5031301 (/dev/pts/0) at 15:14					
	completes	The system is going down for reboot NOW!					
25.	Server Console:	login: root					
	Log into the server as the " root " user	Password: <root_password></root_password>					
26.	Server Console:	PRODPATH=/opt/comcol/prod					
	Output similar to that	RUNID=00 VPATH=/opt/TKLCcomcol/runcm6.2:/opt/TKLCcomcol/cm6.2					
	appear as the server	PRODPATH= RELEASE=6.2					
	command prompt.	RUNID=00					
		VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr /TKLC/awptransportmgr:/usr/TKLC/awpss7:/usr/TKLC/exhr					
		PRODPATH=/opt/comcol/prod					
		RUNID=00 [admusr@mp1-carync ~]\$					
27.	Server Console:	<pre>\$ /sbin/ifconfig grep in grep -v inet6</pre>					
	bond0 Link encap:Ethernet HWaddr 00:00:00:00:00:00 bond1 Link encap:Ethernet HWaddr 00:1E:67:00:90:DA bond1.3 Link encap:Ethernet HWaddr 00:1E:67:00:90:DA inet addr:192.168.182.37 Bcast:192.168.182.47 Link encap:Ethernet HWaddr 00:1E:67:00:90:DA						
	NOTE: Full path is	eth03 Link encap:Ethernet HWaddr 00:1E:67:00:90:DA					
	required to execute this command as the "admusr" user.	inet addr:127.0.0.1 Mask:255.0.0.0					

Proce	Procedure 9.2: Applying the Server Configuration file to the MP						
Step	Procedure	Result					
28.	Server Console:	<pre>\$ ping -c 5 <imi_gateway_ip_address></imi_gateway_ip_address></pre>					
	Ping the IMI Gateway IP address to ensure network connectivity.	<pre>Example output: PING 192.168.182.1 (192.168.182.1) 56(84) bytes of data. 64 bytes from 192.168.182.1: icmp_seq=1 ttl=64 time=0.056 ms 64 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 64 bytes from 192.168.182.1: icmp_seq=3 ttl=64 time=0.018 ms 64 bytes from 192.168.182.1: icmp_seq=1 ttl=64 time=0.056 ms 64 bytes from 192.168.182.1: icmp_seq=2 ttl=64 time=0.046 ms 192.168.182.1 ping statistics 3 packets transmitted, 3 received, 0% packet loss, time 2573ms</pre>					
29.	Server Console:	\$ ntpq -np					
	Verify that the server has connectivity to the assigned Primary and Secondary NTP server(s).	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					
30.	Server Console:	<pre>\$ sudo alarmMgralarmStatus</pre>					
	Verify alarm status of this server	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.					
31.	Server Console:	\$ sudo syscheck					
	Verify the current health of this server	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					
		NOTE : If any errors are reported on the output, please stop and contact Oracle's Tekelec Customer Care Center for the assistance.					
32.	Server Console:	<pre>\$ exit</pre>					
	Exit the console session.	logout					

Proce	Procedure 9.2: Applying the Server Configuration file to the MP					
Step	Procedure	Result				
33.	Configure each additional MP server(s) to be installed at the SOAM site.	Repeat Steps 5 - 32 of this procedure for each additional MP Server to be installed at the SOAM site. MP-2 MP-3 MP-4 MP-5 MP-6				
	PROCEDURE 9.2 HAS BEEN COMPLETED					

Procedure 9.3: Configuring the MP Server Group

Step	Procedure	Result					
34.	Primary NOAM GUI (VIP): Select Main Menu → Configuration → Server Groups as shown on the right.	Connected using INTERNALXMI to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Main Menu: Configuration -> Server Groups Configuration Network Elements Services Services Resource Domains Server Group Name Servers Server Groups Places NO_mrsvnc_grp	er				
35.	Primary NOAM GUI (VIP): 1) The user will be presented with the "Server Groups"	Main Menu: Configuration -> Server Groups					
	configuration screen as shown on the right. 2) Click on "Insert" dialogue button	Server Group Name Level Parent Function Connection NO_mrsvnc_grp A NONE EAGLE XG HLR Router 1					
	NOTE: The user may need to use the vertical scroll-bar in order to make the " Insert " dialogue button visible.	Insert Edit Delete Report					

Procedure 9.3:	Configuring the	MP Server Group
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Step	Procedure	Result			
36.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Server Groups [Insert]			
	The configuration				
	screen "Server	Field	Value	Description	
	appear.	Server Group Name	*	Unique identifier used to are alphanumeric and u) label a Se nderscore.
	NOTE: The user	Level	- Select Level - 🔻	Select one of the Levels groups are optional and	supported contain SC
	should be aware that	Parent	- Select Parent - 🔻	Select an existing Serve	r Group or
	between each MP and	Function	- Select Function -	 Select one of the Function 	ons suppor
	its Server Group is	WAN Replication Connection Count	1	Specify the number of T(with this Server Group, []	CP connec Default = 1
	requires its own dedicated Server Group).			Ok Apply	Cancel
37.	(VIP): 1) Input the Server Group Name.	Main Menu: Conf	iguration -> S	Gerver Group	os [Insert]
	2) For an MP Server	Field	Value		Description
	 2) For all MP Server Group, select "C" on the "Level" pull-down menu. 3) Select the site local SOAM Server Group from the "Parent" pull- 	Server Group Name	mp1_cary	/nc_grp *	Unique identifier are alphanumeri
		Level	С	*	Select one of the groups are optio
		Parent SO_cary		nc_grp 🔻 \star	Select an existing
	down menu.	Function	EAGLE X	G HLR Router 👻 *	Select one of the
	4) Select "EAGLE XG HLR Router" on the "Function" pull-down	WAN Replication Connect	tion Count 1		Specify the numb with this Server C
	5) Leave the value for "WAN Replication Connection Count" field defaulted to "1".				

Step	Procedure	Result				
38.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Server Groups [Insert]				
	1) The user should be presented with a banner information message stating " Pre- Validation passed ".	Info Info Pre-Validation passe	Ø - Data NOT committed	Description Unique identifier are alphanumerio		
	dialogue button.	Level	C • *	Select one of the groups are optior		
		Parent	SO_carync_grp 👻 *	Select an existing		
		Function	EAGLE XG HLR Router 💌 *	Select one of the		
		WAN Replication Connection Count	1	Specify the numb with this Server G		
			Ok Apply Cano	cel		
39.	Primary NOAM GUI (VIP): The user should be presented with a banner information message stating "Data committed".	Main Menu: Configurat	ion -> Server Grou	ps [Insert]		
		Info 🔽 🙁	Value	Description		
		• Data committed!	mp1_carync_grp *	Unique identifier are alphanumer		
		Level	C • *	Select one of the groups are optio		
	PROCEDURE 9.3 HAS BEEN COMPLETED					

Procedure 9.3: Configuring the MP Server Group

Proce	Procedure 9.4: Adding the MP to the MP Server Group							
Step	Procedure		Result					
40.	Primary NOAM GUI (VIP):	Connec	ted using INTERNALXMI	to exh	o exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P)			
	Select		Administration	М	ain Menu: Con	figuratio	n -> Server	Groups
	Main Menu		Configuration		Filter 🔻			
	→ Configuration		Services Resource Domains		Server Group Na	me Level	Parent	Function
	as shown on the right.		 Servers Server Groups Places 		NO_mrsvnc_grp	A	NONE	EAGLE XG HLR Router
41.	Primary NOAM GUI (VIP):	Main	Menu: Configu	ratio	on -> Server	Groups	5	
	1) Select the MP Server Group created	Filte	r •					
	in Steps 35 - 39 of this procedure.		Server Group Name	Level	Parent	Function		
	The selected row will be highlighted in GREEN.		NO_mrsvnc_grp	A	NONE	EAGLE XG HLR Rout	9 er	
	2) Select the "Edit" dialogue button from the bottom left corner of the screen.		NO_rlghnc_grp	A	NONE	EAGLE XG HLR Rout	er	
			SO_carync_grp	в	NO_mrsvnc_grp	EAGLE XG HLR Rout	er	
			mp1_carync_grp	с	SO_carync_grp	EAGLE XO HLR Rout	er	
		Inser	t Edit Delete	Repo	ort			

Procedure 9.4: Adding the MP to the MP Server Group					
Step	Procedure		Result		
42.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Server Groups [Edit]			
	The user will be presented with the	Info 🔻			
	"Configuration →	Field	Value	Description	
	Server Groups [Edit]" screen as shown on the right	Server Group Name	mp1_carync_grp *	Unique iden are alphanu	
		Level	C ~ *	Select one o	
		Parent	SO_carync_grp 👻	Select an ex	
		Function	EAGLE XG HLR Router 👻 *	Select one o	
		WAN Replication Connection Count	1	Specify the n with this Ser	
		SO_CARYNC			
		Server	SG Inclusion	Preferred H/	
		mp1-carync	Include in SG	Preferred	
		VIP Assignment			
		VIP Address	Add		
			Ok Apply	Cancel	

Procedure 9.4: Adding the MP to the MP Server Group					
Step	Procedure	Result			
43.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Server Groups [Edit]			
	1) To place the MP server into the MP Server Group, add a checkmark to the "SG Inclusion" checkbox to the right of the MP.	Info Info Pre-Validation passed - Data NOT committed Description Unique ident are alphanur			
	2) DO NOT check the checkbox for "Preferred HA Role".	Level C * Select one of Parent SO_carync_grp * Select an exist			
	 3) The user should be presented with a banner information message stating "Pre-Validation passed". 4) Select the "Apply" dialogue button 	Function EAGLE XG HLR Router * Select one of WAN Replication Connection Count 1 Specify the new with this Server SO_CARYNC Server SG Inclusion Preferred HA			
		mp1-carync Include in SG Preferred			
		VIP Address Add Oc Apply Cancel			
44.	Main Menu: Configuration -> Server Groups [Edit]				
	The user should be presented with a banner information message stating "Data committed".	Info Value Description Impl_carync_grp * Unique ider are alphanu Level C * Select one or			
PROCEDURE 9.4 HAS BEEN COMPLETED					



Procedure 9.5: Restarting the Application SW on the MP

• DO NOT PROCEED TO THE NEXT STEP UNTIL THE ALARM CLEAR IS RECEIVED FOR THE EVENT ID 10200 ASSOCIATED WITH THE MP SERVER.

Step	Procedure	Result							
47.	Primary NOAM GUI (VIP):	Connected using	Connected using VIP to exhrNO-mrsvnc-b (ACTIVE NETWORK OAM&P)						
	Select	 Main Menu Administr Configura Alarms & Security I 	 Main Menu Administration Configuration Alarms & Events 				anage ->	Server	
	→ Status & Manage → Server	🗖 🚍 Status &	Manage ork Elements	No MRSVNC	ent		Serv	ver Hostname	
	as shown on the	Serve	r	NO_MRSVNC			exhri	exhrNO-mrsvnc-a	
	right.			NO_MRSVNC qs-mrsvnc					
48.	Primary NOAM GUI (VIP):	Main Menu: S	Status & Mana	ge -> Serv	ver				
	Verify that the "DB & Reporting Status" columns all show "Norm" for the MP at	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	
	this point.	NO_MRSVNC	exhrNO-mrsvnc-b	Enabled	Norm	Norm	Norm	Norm	
	The "Appl State"	NO_MRSVNC	exhrNO-mrsvnc-a	Enabled	Norm	Norm	Norm	Norm	
	column should show	NO_MRSVNC	qs-mrsvnc	Enabled	Norm	Norm	Norm	Norm	
	"Disabled".	NO_RLGHNC	qs-righnc	Enabled	Norm	Norm	Norm	Norm	
	The " Proc " column	NO_REGHNC	exhrNO-righnc-a	Enabled	Norm	Norm	Norm	Norm	
	should show " Man".	SO CARYNC	exhrSO-carync-b	Enabled	Norm	Norm	Norm	Norm	
		SO_CARYNC	exhrSO-carync-a	Enabled	Norm	Norm	Norm	Norm	
		SO_CARYNC	mp1-carync	Disabled	Warn	Norm	Norm	Man	

Procedure 9.5: Restarting the Application SW on the MP

Step	Procedure	Result								
49.	Primary NOAM GUI (VIP):	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc		
	1) Using the cursor, select the row containing the MP	SO_CARYNC SO_CARYNC	exhrSO-carync-b exhrSO-carync-a	Enabled Enabled	Norm Norm	Norm Norm	Norm Norm	Norm Norm		
	hostname. The line entry should now be highlighted in GREEN.	SO_CARYNC Stor Restart	mp1-carync Reboot NTP Sy	Disabled ync Report	Warn	Norm	Norm	Man Jpdates		
	2) Select the "Restart" dialogue button	Are you sure you on the following s mp1-carync	Are you sure you wish to restart application software on the following server(s)? mp1-carvnc							
3) Click the "OK" button on the confirmation dialogue box.										
	4) The user should be presented with a confirmation message (in the banner area) for the "MP" stating: "Successfully restarted application".	ge for Filter Info Network Elerr info NO_MRSVNC mp1-carync: Successfully restarted application. ay								
	NOTE: The user may need to use the vertical scroll-bar in order to make the " Restart " dialogue button visible.									
50 .	Primary NOAM GUI (VIP):	Connected using V	/IP to exhrNO-mrsv	/nc-b (ACTIV	E NETWOR	K OAM&I	P)			
	Refresh the GUI by re- selecting	Administrat	Main Menu Main Menu: Status & Manage -> Serv Genfiguration Filter							
	Main Menu → Status & Manage	Alarms & E Alarms & E Security Lo Status & M	vents og anage	Network Eleme	nt		Serve	r Hostname		
	as shown on the right.	- 🏹 Network - 🛒 <mark>Server</mark> - 🏹 HA	k Elements	NO_MRSVNC NO_MRSVNC NO_MRSVNC			exhrN exhrN qs-mr	O-mrsvnc-b O-mrsvnc-a svnc		

Procedure 9.5: Restarting the Application SW on the MP

Step	Procedure		Result						
51.	Active NOAMP VIP: Verify that the "Appl State" now shows "Enabled".	Network Element	Server Hostname	Appl State	Alm	DB	Reporting Status	Proc	
		SO_CARYNC	exhrSO-carync-a	Enabled	Norm	Norm	Norm	Norm	
	Verify that the "Alm, DB, Reporting Status & Proc" status columns all show "Norm" for the MP server.	SU_CARYNC	mp1-carync	Enabled	Norm	Norm	Norm	Norm	
52 .	Place each additional MP server(s) installed at the SOAM site in its own MP Server Group .	Repeat Step configured a MP-2	bs 34 - 51 of this p t the SOAM site.	procedure fo	r each ac 4	dditional M	P Server to	o be P-6	
	THIS PROCEDURE HAS BEEN COMPLETED								

Procedure 9.5: Restarting the Application SW on the MP

5.9 Configure XSI Signaling Networks (All SOAM Sites)

This procedure allows for the future configuration of **MP** Signaling interfaces by adding **XSI1** and **XSI2** Signaling Networks to the SOAM Network Element.

Step	Procedure	Result
1.	Primary NOAM GUI (VIP): Connect to the Primary NOAM VIP GUI (XMI VIP) via web browser.	Oracle System Login × ← ▲ https://10.240.40.6
2.	Primary NOAM GUI (VIP): If a security certificate error is received, click on the following link: "Continue to this website (not recommended)."	 There is a problem with this website's security certificate. The security certificate presented by this website was not issued by a trusted certificate as the security certificate presented by this website was issued for a different website's address Security certificate problems may indicate on attempt to fool you or intercept any date yo server. We recommend that you close this webpage and do not continue to this website. © Chick here to chose this webpage. © Chick here to this website (not recommended). © More information
3.	Primary NOAM GUI (VIP): The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Corace System Login Ved Apr 9 17:06:39 2014 EDT Ved Apr 9 17:06:39 2015 EDT Ved Apr 9 17:06:39 2016 EDT Ved Apr 9 17:06:39 2017 EDT Ved Apr 9 17:06:39 2017 EDT Ved Apr 9 17:06:39 2016 EDT Ved Apr 9 17:06:39 2017 EDT Ved Apr 9 17:06 2017 EDT

Procedure 10: Configure XSI Signaling Networks (All SOAM Sites)

Step	Procedure		Result					
4 .	ProcedurePrimary NOAM GUI (VIP):The user should be presented the Main Menu as shown on the right.	Connected using VIP to exhrNo-m Main Menu Administration Administration Alarms & Events Security Log Status & Manage Measurements EAGLE XG Database Tekelec HLR Router	elec HLR Router -40.15.0 nrsvnc-a (ACTIVE NETWORK 0/ Main Menu: [Main]	AM&P)				
5.	Primary NOAM GUI (VIP): Select Main Menu → Configuration → Network as shown on the right.	 Help Logout Connected using VIP to exhrNO-r Main Menu Administration Configuration Configuration Network Elements Services Resource Domains Servers Servers Server Groups Places Place Associations DSCP Network Alarms & Events 	mrsvnc-a (ACTIVE NETWORK O Main Menu: Configur Network Name INTERNALXMI INTERNALIMI EXTERNALXMI MANAGEMENT INTERNALXMI INTERNALIMI EXTERNALXMI	AM&P) ation -> vLAN 2 3 574 1 2 3 576	Network I0.240.40.0/28 10.240.40.0/28 10.250.44.32/29 169.254.1.0/24 10.240.40.64/28 10.240.40.80/28 10.250.44.32/29			

Procedure 10: Configure XSI Signaling Networks (All SOAM Sites)

Step	Procedure	Result				
6.	Primary NOAM GUI (VIP):	Main Menu:	Configuration	-> Network		
	The Configuration "Network [Insert]"					
	screen will appear.	Network Nan	ne VLAN	Network		
	Click on " Insert "	INTERNALX	MI 2	10.240.40.0/28		
	dialogue button.	INTERNALIN	11 3	10.240.40.16/28		
		EXTERNALX	MI 574	10.250.44.32/29		
		MANAGEMEI	VT 1	169.254.1.0/24		
		INTERNALX	MI 2	10.240.40.64/28		
		INTERNALIN	11 3	10.240.40.80/28		
		EXTERNALX	'MI 576	10.250.44.48/29		
		MANAGEMEI	NT 1	169.254.1.0/24		
		INTERNALX	MI 2	10.240.40.32/28		
		INTERNALIN	11 3	10.240.40.48/28		
		EXTERNALX	'MI 575	10.250.44.40/29		
		MANAGEMEI	NT 1	169.254.1.0/24		
		Insert	Delete Report			
7.	Primary NOAM GUI (VIP):	Main Menu:	Configurati	on -> Network	[Insert]	
	Using XSI1 for the Network Name,	Info 🔻				
	enter all the network values for the XSI1 Signaling network (VLAN ID, Network	Insert Netv	vork			
	Netmask) and press	Field	Value	Descriptio	on	
	the "Apply" button.	Network Name	XSI1	* The name	e of this VLAN.	
		VLAN ID	5	* The VLAN	ID to use for t	
		Network Address	192.168.69.0	* The netw colon hex	ork address of : (IPv6) format.]	
		Netmask	255.255.255.0	* Subnettin IPv6) or d	g to apply to se otted decimal (

Procedure 10: Configure XSI Signaling Networks (All SOAM Sites)

Step	Procedure	Result					
8.	 Primary NOAM GUI (VIP): 1) If the values provided by the user matches the network ranges assigned to the NOAMP NE, the user will receive a banner information message stating "Pre-Validation passed". 2) Click the "Apply" dialogue button. 	Main Menu: Configuration -> Network [Insert] Info Info Info Network Name XSII * The name of this VLAN. [VLAN ID 5 * The VLAN ID to use for th Network Address 192.168.69.0 * Subnetting to apply to se IPv6) or dotted decimal (I IPv6) or dotted decimal (I					
9. 10.	Primary NOAM GUI (VIP): The user will receive a banner information message showing that the data has been committed to the DB. Primary NOAM GUI (VIP): Enter all values for	Main Menu: Configuration -> Network [Insert] Info Info <					
	the XSI2 Signaling Network. Signaling Network. THIS PROCEDURE HAS BEEN COMPLETED						

Procedure 10: Configure XSI Signaling Networks (All SOAM Sites)

5.10 Configuring the MP Signaling Interfaces (All SOAM Sites)

This procedure configures **XSI1** and **XSI2** Signaling interfaces and adds associated XSI Signaling network **Routes** for all **MP** Servers within the SOAM Network Element.



Step	Procedure	Result
1.	Primary NOAM GUI (VIP):	Oracle System Login × +
	Connect to the Primary NOAM VIP GUI (XMI VIP) via web browser.	♦ https://10.240.40.6
2.	Primary NOAM GUI (VIP): If a security certificate error is received, click on the following link: "Continue to this website (not recommended)."	 There is a problem with this website's security certificate. The security certificate presented by this website was not issued by a trusted certificate at The security certificate presented by this website was issued for a different website's addres Security certificate problems may indicate an attempt to fool you or intercept any data yo server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage. Continue to this website (not recommended). More information
3.	Primary NOAM GUI (VIP): The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Coracle System Login Marcine System Logine System Logine Logine Contexts



Procedure 11: Configure MP Signaling Interfaces (All SOAM Sites)

Step	Procedure	Result					
6.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Network -> Devices					
	Click on the desired MP server						
	lab.	exhrNO-mrsvnc-b q	s-mrsvnc exhrNO-righnc-a	exhrNO-rlghnc-p mp1-carync			
	The user should be	Device Name	Device Type	Device Options			
	presented with the list of network Devices (interfaces) associated with the selected MP as shown on the right.	bond1	Bonding	bondInterfaces = eth01,eth03 bondOpts = mode=active-backup arp_ir arp_validate=0 bootProto = none onboot = yes persistent_dhclient = no			
		eth01	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no			
		eth04	Ethernet	onboot = no			
		eth03	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no			
		eth02	Ethernet	onboot = no			
		bond0	Bonding	bondOpts = mode=active-backup miimo onboot = yes persistent_dhclient = no			
		bond1.3	Vlan	bootProto = none onboot = yes			

Step	Procedure	Result						
7.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Network -> Devices						
	Take Ownership of the eth02 device							
	for the desired MP .	exhrNO-mrsvnc-b qs-mrsvnc exhrNO-rlghnc-a	exhrNO-rlghnc-b qs-rlgh					
	1) Select the	Device Name Device Type	Device Options					
	eth02 device 2) Click on the Take Ownership	eth03 Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no					
	button.	eth02 Ethernet	onboot = no					
	3) The user should be presented with status message	bond0 Bonding	bondOpts = mode=active-back onboot = yes persistent_dhclient = no					
	import pending"	bond1.3 Vlan	bootProto = none onboot = yes					
Insert Edit Delete Report		Insert Edit Delete Report Report Al	ake Ownership					
		Main Menu: Configuration -> Network	c -> Devices					
		Status 👻						
		Status 8 hrNO-righnc-a	exhrNO-rlghnc-b					
		Device import pending	Device Options					
			bondInterfaces = eth0					

Procedure 11: Configure MP Signaling Interfaces (All SOAM Sites)

Procedure 11:	Configure MP	Signaling Interfaces	(All SOAM Sites)
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Step	Procedure		Result					
8.	Primary NOAM	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration S		
	The Configuration → Network → Devices]" screen will auto-refresh as the "Device	bond1	Bonding	bondInterfaces = eth01,eth0 bondOpts = mode=active-ba arp_validate=0 bootProto = none onboot = yes persistent_dhclient = no	fe80::21e:67ff.fe00:5f70 (/	34) Discovered		
	import" progresses (this process may take several seconds to	eth01	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered		
	complete).	eth04	Ethernet	onboot = no		Discovered		
	Monitor the "Configuration Status" of the eth02 device and	eth03	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered		
	verify that it changes from	eth02	Ethernet	onboot = no	(Deployed		
	"Discovered" to "Deployed".	bond0	Bonding	bondOpts = mode=active-ba onboot = yes persistent_dhclient = no		Discovered		
	NOTE: The device Configuration	bond1.3	Vlan	bootProto = none onboot = yes	10.240.40.54 (INTERNAL fe80::21e:67ff:fe00:5f70 (/	MI) 54) Deployed		
	Status Will actually transition through 3 states:	L						
	"Discovered" → "Configured" → "Deployed".							
9.	Primary NOAM GUI (VIP):	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration Status		
	Edit the eth02 device for the desired MP.	eth03	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered		
	1) Select the	eth02	Ethernet	onboot = no		Deployed		
	eth02 device	bond0	Bonding	bondOpts = mode=active-b onboot = yes persistent_dhclient = no		Discovered		
	"Edit" button.	bond1.3	Vlan	bootProto = none onboot = yes	10.240.40.54 (INTERN/ fe80::21e:67ff:fe00:5f70	Deployed		
		Insert	t Delete	Report All Ta	ake Ownership			

Step	Procedure	Result
10.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Network -> Devices [Edit]
	The Configuration → Network → Devices [Edit]" screen will appear	Edit Ethernet device eth02 on mp1-carync
	 On the General Options tab, select "Ethernet" for the Device Type field. Add a Checkmark to the "Enable" checkbox. Click on "IP Interfaces" tab. 	General Options Mll Monitoring Options ARP Monitoring Options IP Interfaces Field Value Bonding Van Alias Device Type Van Alias Device Monitoring Monitoring Type Choose a monitoring style to use with a bonding Start On Boot Enable Start the device, and also start on boot. [Default = Boot Protocol None Select the boot protocol. [Default = None, Range bond1 bond1 bond1 bond1 bond1 eth01 eth03 eth04 Concel Concel
11.	 Primary NOAM GUI (VIP): Add the XSI1 IP address for the selected MP to the eth02 device. 1) Click the "Add Row" dialogue button 2) Seleck the XSI1 network for the Network Name. 3) Enter the XSI1 IP address for the selected MP. 4) Click on the Ok button. 	Ok Apply Cancel Main Menu: Configuration -> Network -> Devices [Edit] Edit Ethernet device eth02 on mp1-carync General Options MII Monitoring Options ARP Monitoring Options IP Interfaces IP Address List Add Row ID.250.44.58 XSII (10.250.44.56/29) Remove Ok Apply Cancel

	J	5	,	(**************************************		
Step	Procedure			Result		
12.	Primary NOAM	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration S
	1) Select… <u>Main Menu</u> → Configuration	bond1	Bonding	bondInterfaces = eth01,eth0 bondOpts = mode=active-ba arp_validate=0 bootProto = none onboot = yes persistent dhclient = no	fe80::21e:67ff.fe00:5f70 (/64)	Discovered
	→ Network → Devices	eth01	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered
	2) Click on the desired MP server	eth04	Ethernet	onboot = no		Discovered
	3) Verify that eth02 now shows	eth03	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered
	under Device Options and is	eth02	Ethernet	onboot = yes persistent_dhclient = no	10.250.44.58 (XSI1) fe80::21e:67ff:fe00:5f71 (/64)	Deployed
	configured with the XSI1 IP address added in the	bond0	Bonding	bondOpts = mode=active-ba onboot = yes persistent_dhclient = no		Discovered
	previous step.	bond1.3	Vlan	bootProto = none onboot = yes	10.240.40.54 (INTERNALIMI) fe80::21e:67ff:fe00:5f70 (/64)	Deployed

Procedure 11: Configure MP Signaling Interfaces (All SOAM Sites)

Step	Procedure		Result					
13.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Network -> Devices						
	Take Ownership of the eth04 device							
	for the desired MP .	exhrNO-mrsvnc-b qs-mr	svnc exhrNO-rlghnc-a	exhrNO-rlghnc-b qs-rl				
	1) Select the	Device Name D	evice Type	Device Options				
	2) Click on the Take Ownership button.	bond1 B	onding	bondInterfaces = eth01,eth0 bondOpts = mode=active-b arp_validate=0 bootProto = none onboot = yes persistent_dhclient = no				
	3) The user should be presented with status message stating "Device	eth01 E	thernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no				
1	import pending"	eth04 E	thernet	onboot = no				
		eth03 E	thernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no				
		eth02 E	thernet	onboot = yes persistent_dhclient = no				
		bond0 B	onding	bondOpts = mode=active-b onboot = yes persistent_dhclient = no				
		bond1.3 V	lan	bootProto = none onboot = yes				
		Insert Edit Delete I	Report Report All	Take Ownership				
		Main Menu: Configu	ration -> Netwo	ork -> Devices				
		Status 👻						
		Status	🙁 hrNO-righno	c-a exhrNO-rlghnc-b				
		Device import p	ending	Device Options				
				bondInterfaces = eth0				

Procedure 11:	Configure MP	Signaling Interfaces	(All SOAM Sites)
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Step	Procedure		Result							
14.	Primary NOAM	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration S				
	The Configuration → Network → Devices]" screen will auto-refresh as the "Device	bond1	Bonding	bondInterfaces = eth01,eth0 bondOpts = mode=active-ba arp_validate=0 bootProto = none onboot = yes persistent_dhclient = no	fe80::21e:67ff.fe00:5f70 (/64)	Discovered				
	import " progresses (this process may take several seconds to	eth01	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered				
	complete).	eth04	Ethernet	onboot = no	(Deployed				
	Monitor the "Configuration Status" of the eth04 device and	eth03	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered				
	verify that it changes from " <i>Discovered</i> " to " <i>Deployed</i> ".	eth02	Ethernet	onboot = yes persistent_dhclient = no	10.250.44.58 (XSI1) fe80::21e:67ff:fe00:5f71 (/64)	Deployed				
		bond0	Bonding	bondOpts = mode=active-ba onboot = yes persistent_dhclient = no		Discovered				
	NOTE: The device Configuration	bond1.3	Vlan	bootProto = none onboot = yes	10.240.40.54 (INTERNALIMI) fe80::21e:67ff:fe00:5f70 (/64)	Deployed				
	status Will actually transition through 3 states:									
	<pre>"Discovered" → "Configured" → "Deployed".</pre>									
15.	Primary NOAM GUI (VIP):	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration				
	Edit the eth04 device for the desired MP.	eth01	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered				
	1) Coloct the	eth04	Ethernet	onboot = no		Deployed				
	eth04 device 2) Click on the	eth03	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered				
	"Edit" button.	Insert	t Delete	Report Report All	ake Ownership					

Step	Procedure	Result						
16.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Network -> Devices [Edit]						
	The Configuration → Network → Devices [Edit]" screen will appear	Edit Ethernet device eth04 on mp1-carync						
	1) On the General	General Options MII Monitoring Options ARP Monitoring Option IP Interfaces						
	"Ethernet" for the Device Type field.	Field Value Image: Device Type Image: Device Type I						
	Checkmark to the "Enable"	Device Monitoring Monitoring Type Choose a monitoring style to use with a bonding						
	checkbox.	Start On Boot Start the device, and also start on boot. [Default						
	3) Click on "IP	Boot Protocol None Select the boot protocol. [Default = None, Range						
	interfaces (ab).	bond0 bond1.3 bond1.3 eth01 eth02 eth03 eth04						
		OK Appiy Cancel						
17.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Network -> Devices [Edit]						
	Add the XSI2 IP address for the selected MP to the eth04 device.	Edit Ethernet device eth04 on mp1-carync						
	1) Click the "Add Row" dialogue button	General Options MII Monitoring Options ARP Monitoring Options IP Interfaces IP Address List: Add Row						
	2) Seleck the XSI2 network for the Network Name.	10.250.44.66 XSI2 (10.250.44.64/29) ▼ Remove Ok Apply Cancel						
	3) Enter the XSI2 IP address for the selected MP.							
	4) Click on the Ok button.							

Procedure 11:	Configure MF	Signaling Interfaces	(All SOAM Sites)
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Step	Procedure			Result		
18.	Primary NOAM	Device Name	Device Type	Device Options	IP Interface (Network)	Configuration S
	1) Select <u>Main Menu</u> → Configuration → Network → Devices	bond1	Bonding	bondInterfaces = eth01,eth0 bondOpts = mode=active-ba arp_validate=0 bootProto = none onboot = yes persistent_dhclient = no	fe80::21e:67ff.fe00:5f70 (/64)	Discovered
		eth01	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhelient = no		Discovered
	desired MP server tab.	eth04	Ethernet	onboot = yes persistent_dhclient = no	10.250.44.66 (XSI2) fe80::21e:67ff:fe00:5f75 (/64)	Deployed
	3) Verify that eth04 now shows "onboot = yes" under Device Options and is configured with the XSI2 IP address added in the	eth03	Ethernet	bootProto = none master = bond1 onboot = yes persistent_dhclient = no		Discovered
		eth02	Ethernet	onboot = yes persistent_dhclient = no	10.250.44.58 (XSI1) fe80::21e:67ff:fe00:5f71 (/64)	Deployed
		bond0	Bonding	bondOpts = mode=active-ba onboot = yes persistent_dhclient = no		Discovered
	previous step.	bond1.3	Vlan	bootProto = none onboot = yes	10.240.40.54 (INTERNALIMI) fe80::21e:67ff.fe00:5f70 (/64)	Deployed
19.	Primary NOAM GUI (VIP): Select → Configuration → Network → Routes as shown on the right.	Connected usin Main Menu Configu Configu Configu Netw Serv Serv Serv Serv Plac Plac Plac Serv	ng VIP to exhr stration uration work Elements vices purce Domains vers ver Groups es e Associations p work pevices coutes & Events	NO-mrsvnc-a (ACTIVE NETWO Main Menu: Cont Entire Network N exhrNO-mrsvnc Route Type default net net net	DRK OAM&P) figuration -> Networl NO_mrsvnc_grp NO_rlghnc_gr a exhrNO-mrsvnc-b qs-mr Destin 0.0.0240 10.240 10.240	k -> Routes

Step	Procedure			Res	sult		
20.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Network -> Routes					
	 Insert a new route for the MP. 1) Click on the MP Server Group tab. 2) Click the MP hostname shown in the banner. 	Entire Netw Entire Serve Route Type	ork NO_mrsvnc er Group mp1-ca Destination	grp NO_righno rync Netmask	_grp SO_ca	rync_grp mp Device Name	1_carync_grp mp2_ Configuration Status
21.	Primary NOAM GUI (VIP):	Main Menu	ı: Configurat	ion -> Netw	ork -> Ro	utes	
	The " <i>default"</i> route for the MP						
	should now be	Entire Netw	ork NO_mrsvnc	_grp NO_rlghnd	c_grp SO_ca	irync_grp mj	p1_carync_grp mp2_
	screen.	Entire Serve	er Group <u>mp1-ca</u>	<u>rync</u>			
	O H 1 H	Route Type	Destination	Netmask	Gateway	Device Name	Configuration Status
	Click on the " Insert " dialogue button.	default Insert Ed	0.0.0.0 it Delete Re	port Report All	10.240.40.49	bona1.3	Discovered

Procedure		F	Resi	ult			
Primary NOAM GUI (VIP):	Main Mer	nu: Configuration -	>	Network -> Routes [Insert]			
Insert XSI1 Signaling network Route for eth02 .							
1) Set Route Type	Insert Route on mp1-carync						
to " Net ".	Field	Value		Description			
2) Set Device to "eth02".	Route Type			Select a route type. [Default = N/A. Options = N			
3) Enter the Destination	Device	eth02 •		Select the network device name through whic			
Network value.	Destination	10.240.255.152		The destination network address. [Default = N			
4) Enter the	Netmask	255.255.255.248		A valid netmask for the network route destinat			
Netmask for the Destination	Gateway IP	10.250.44.57	*	The IP address of the gateway for this route. [I			
Network.				Ok Apply Cancel			
Gateway IP required to access the Destination Network.							
Primary NOAM GUI (VIP):	Main Mer	nu: Configuration	->	Network -> Routes [Edit]			
1) If the values	Info dia						
user pass basic	Info			8			
subnet rules, the user will receive a banner information		Pre-Validation passed - Da	ita N	IOT committed			
message stating "Pre-Validation	hora			Doonpaon			
passed".	Route Type	●Net ODefault OHost *		Select a route type. [Default = N/A. Options			
" Apply " dialogue	Device	eth02 ×		Select the network device name through w			
	Destination	10.240.255.152		The destination network address. [Default			
	Netmask	255.255.255.248		A valid netmask for the network route desti			
	Gateway IP	10.250.44.57	*	The IP address of the gateway for this rout			
				Ok Apply Cancel			
	ProcedurePrimary NOAM GUI (VIP):Insert XSI1 Signaling network Route for eth02.1) Set Route Type to "Net".2) Set Device to "eth02".3) Enter the Destination Network value.4) Enter the Netmask for the Destination Network.5) Enter the Gateway IP required to access the Destination Network.Primary NOAM GUI (VIP):1) If the values provided by the user pass basic subnet rules, the user will receive a banner information message stating "Pre-Validation passed".2) Click the "Apply" dialogue button.	ProcedurePrimary NOAM GUI (VIP):Main MerInsert XSI1 Signaling network Route for eth02.Insert R1) Set Route Type to "Net".Insert R2) Set Device to "eth02".Field3) Enter the Destination Network value.Device4) Enter the Netmask for the Destination Network.Device5) Enter the Gateway IP required to access the Destination Network.Main Mer5) Enter the Gateway IP required to access the Destination Network.Main Mer1) If the values provided by the user will receive a banner information message stating "Pre-Validation passed".Main Mer2) Click the "Apply" dialogue button.Device2) Click the "Apply" dialogue button.Device0<	Procedure Primary NOAM GUI (VIP): Main Menu: Configuration Insert XSI1 Signaling network Route for eth02. Insert Route on mp1-cary Field 1) Set Route Type to "Net". Insert Route on mp1-cary Field 2) Set Device to "eth02". Net 3) Enter the Destination Network value. Device eth02 • * 4) Enter the Netmask for the Destination Network. Device eth02 • * 5) Enter the Gateway IP required to access the Destination Network. Primary NOAM GUI (VIP): 1) If the values provided by the user pass basic subnet rules, the user will receive a banner information message stating "Pre-Validation passed". Main Menu: Configuration Info 2) Click the "Apply" dialogue button. Info Info 2) Click the "Apply" dialogue button. Info Info Device eth02 * Device eth02	Procedure Rest Primary NOAM GUI (VIP): Main Menu: Configuration -> Insert XSI1 Signaling network Route for eth02. Insert Route on mp1-caryno 1) Set Route Type to "Net". Insert Route on mp1-caryno 2) Set Device to "eth02". Net 3) Enter the Destination Network value. Device 4) Enter the Destination Network. Device 5) Enter the Gateway IP required to access the Destination Network. Netmask 7) If the values provided by the user pass basic subner rules, the user will receive a banner information message stating "Pre-Validation passed". Main Menu: Configuration -> 2) Click the "Apply" dialogue button. Info_thot Device Net Pre-Validation passed - Data N Prevalidation passed". 2) Click the "Apply" dialogue button. Info_thot Device Net Posta			

Step	Procedure	Result
24.	Primary NOAM GUI (VIP): The user will receive a banner information message showing that the data has been committed to the DB.	Main Menu: Configuration -> Network -> Routes [Edit]
25.	Primary NOAM GUI (VIP): Select → Configuration → Network → Routes as shown on the right.	Connected using VIP to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Configuration Network Elements Services Resource Domains Servers Servers Server Groups Places Places Places Network DSCP Network Network Devices Routes Alarms & Events
26.	 Primary NOAM GUI (VIP): Insert a new route for the MP. 1) Click on the MP Server Group tab. 2) Click the MP hostname shown in the banner. 	Main Menu: Configuration -> Network -> Routes Entire Network NO_mrsvnc_grp NO_rlghnc_grp SO_carync_grp mp1_carync_grp mp2_ Entire Server Group mp1-carync Route Type Destination Netmask Gateway Device Name Configuration Status Insert Edit Delete Report Report All

Step	Procedure			Res	sult			
27.	Primary NOAM GUI (VIP):	Main Menu	ı: Configurat	ion -> Netw	ork -> Ro	utes		
	The " <i>default"</i> route (<i>Discovered</i>) and the "net" route for the eth02	Entire Netw Entire Serve	Entire Network NO_mrsvnc_grp NO_rlghnc_grp SO_carync_grp mp1_carync_grp mp2_ Entire Senser Crown mp1_carync_grp mp2_					
	interface (Deployed) should	Route Type	Destination	Netmask	Gateway	Device Name	Configuration S	status
	now be displayed	default	0.0.0.0		10.240.40.49	bond1.3	Discovered	
	on the screen.	net	10.240.255.152	255.255.255.248	10.250.44.57	eth02	Deployed	
	Click on the " Insert " dialogue button.							
	NOTE: The device Configuration Status will actually transition from "Configured" → "Deployed".	Insert Ed	it Delete Re	eport Report All				
28.	28. Primary NOAM GUI (VIP): Insert XSI2 Signaling network Route for eth04.					c -> Rout	tes [Inse	rt]
	1) Set Route Type	Insert		ipi caryne	,			
	to "Net". 2) Set Device to "eth04".	Field Route Type	●Net ●Default ○Host *		Description Select a rout	te type. [Defaul	lt = N/A. Option:	s = Ne
	3) Enter the	Device	eth04	*	Select the ne	etwork device r	name through v	which
	Destination Network value.	Destination	10.240.255.17	76	The destinat	tion network a	ddress. [Defaul	lt = N//
	4) Enter the	Netmask	255.255.255.2	248	A valid netm	ask for the net	work route des	tinatio
	Netmask for the Destination	Gateway IP	10.250.44.65	*	The IP addre	ess of the gate	way for this rou	ite. [De
	Network.				Ok Appl	y Cancel		
	5) Enter the Gateway IP required to access the Destination Network.							

Step	Procedure	Result
29.	Primary NOAM GUI (VIP):	Main Menu: Configuration -> Network -> Routes [Edit]
	 If the values provided by the user pass basic subnet rules, the user will receive a banner information message stating "Pre-Validation passed". Click the "Apply" dialogue button. 	Info Image: Select a route type. [Default = N/A. Options] Net Select a route type. [Default = N/A. Options] Previce eth04 * Select the network device name through w Destination 10.240.255.176 The destination network address. [Default Netmask 255.255.258 Gateway IP 10.250.44.65 * The IP address of the gateway for this rout Image: The image of the gateway for the is rout Image: The image of the gateway for the is rout
30.	Primary NOAM GUI (VIP): The user will receive a banner information message showing that the data has been committed to the DB.	Main Menu: Configuration -> Network -> Routes [Edit]
31.	Primary NOAM GUI (VIP): Select → Configuration → Network → Routes as shown on the right.	Connected using VIP to exhrNO-mrsvnc-a (ACTIVE NETWORK OAM&P) Main Menu Administration Network Elements Services Resource Domains Servers Servers Servers Servers Servers Servers Servers Servers Servers Server Groups Places Place Associations DSCP Network Network Devices Route Type Devices Network Network Alarms & Events

Step	Procedure	Result		
32.	 Primary NOAM GUI (VIP): Insert a new route for the MP. 1) Click on the MP Server Group tab. 2) Click the MP hostname shown in the banner. 	Main Menu: Configuration -> Network -> Routes Entire Network NO_rlghnc_grp SO_carync_tp mp1_carync_grp Entire Server Group mp1-carync Route Type Destination Netmask Gateway Device Name Configuration Status		
33.	Primary NOAM GUI (VIP): The "default" route (Discovered) and the "net" routes for both the eth02 and eth04 interfaces (Deployed) should now be displayed on the screen. NOTE: The device Configuration Status will actually transition from "Configured" → "Deployed".	Main Menu: Configuration -> Network -> Routes Entire Network NO_mrsvnc_grp NO_rlghnc_grp SO_carync_grp mp1_carync_grp mp2_ Entire Server Group mp1-carync Route Type Destination Netmask Gateway Device Name Configuration Status default 0.0.0 10.240.40.49 bond1.3 Discovered net 10.240.255.152 255.255.255.248 10.250.44.57 eth02 Deployed net 10.240.255.176 255.255.255.248 10.250.44.65 eth04 Deployed		
34.	Configure XSI Signaling interfaces and associated network Routes for each additional MP server(s) installed at the SOAM site.	 Repeat Steps 5 - 33 of this procedure for each additional MP Server configured at the SOAM site. MP-2 MP-3 MP-4 MP-5 MP-6 		
35.	Primary NOAM GUI (VIP): Click the "Logout" link on the HLRR server GUI.	Welcome guiadnin [Logout] Welcome guiadnin [Logout] Welcome guiadnin [Logout] Help Tue Jan 12 11:40:30 2016 EST THIS DROCEDURE HAS REEN COMPLETED		
THIS PROCEDURE HAS BEEN COMPLETED				

Procedure 11: Configure MP Signaling Interfaces (All SOAM Sites)

Appendix A. CREATING NETWORK ELEMENT XML FILES FOR HLRR SITE INSTALLATION

NOTE: Network subnet information from the completed HLR Router Network Implementation Guide (WI006024) [4], is required as a prerequisite for the creation of an HLRR Network Element XML file.

1. NOAM Network Element XML file template: Only values highlighted in **RED** require site specific updates. All other values are considered to be static.

```
<?xml version="1.0"?>
<networkelement>
    <name>NO MRSVNC</name>
    <networks>
        <network>
            <name>INTERNALXMI</name>
            <vlanId>2</vlanId>
            <ip>10.240.40.0</ip>
            <mask>255.255.255.240</mask>
            <gateway>10.240.40.1
            <isDefault>true</isDefault>
        </network>
        <network>
            <name>INTERNALIMI</name>
            <vlanId>3</vlanId>
            <ip>10.240.40.16</ip>
            <mask>255.255.255.240</mask>
            <qateway>10.240.40.17
            <isDefault><mark>false</mark></isDefault>
        </network>
        <network>
            <name>MANAGEMENT</name>
            <vlanId>1</vlanId>
            <ip>169.254.1.0</ip>
            <mask>255.255.255.0</mask>
            <gateway></gateway>
            <isDefault>false</isDefault>
            <nonRoutable>true</nonRoutable>
        </network>
    </networks>
</networkelement>
```
SOAM Network Element XML file template: Only values highlighted in <u>RED</u> require site specific updates. All other values are considered to be static.

NOTE: The following assumes that the IMI network is routable, If the IMI network is not routable, then set IMI default gateway to "true".

```
<?xml version="1.0"?>
<networkelement>
   <name>SO CARYNC</name>
   <networks>
       <network>
           <name>INTERNALXMI</name>
           <vlanId>2</vlanId>
           <ip>10.240.40.32</ip>
           <mask>255.255.255.240</mask>
           <gateway>10.240.40.33
           <isDefault>false</isDefault>
       </network>
        <network>
           <name>INTERNALIMI</name>
           <vlanId>3</vlanId>
           <ip>10.240.40.48</ip>
           <mask>255.255.255.240</mask>
           <gateway>10.240.40.49
           <isDefault>true</isDefault>
       </network>
       <network>
           <name>MANAGEMENT</name>
           <vlanId>1</vlanId>
           <ip>169.254.1.0</ip>
           <mask>255.255.255.0</mask>
           <gateway></gateway>
           <isDefault>false</isDefault>
           <nonRoutable>true</nonRoutable>
       </network>
   </networks>
</networkelement>
```

Appendix B. ACCESSING THE RMM VGA REDIRECTION WINDOW

Step	Procedure	Result	
1.	Launch Internet Explorer and connect to the RMM interface NOTE 1: <i>Always use</i> <i>https for GUI access.</i> NOTE 2: <i>If needed, see</i> <i>Appendix C or Appendix</i> <i>D to determine MFG</i> <i>default IP assignments.</i> NOTE 3: <i>If needed, see</i> <i>Appendix E to determine</i> <i>preconfigured IP settings.</i>	 ✓ Home - Windows Internet Explorer ✓ ✓ ✓ Intps://10.240.240.91 File Edit View Favorites Tools Help ✓ ✓ ✓ ✓ Home 	
2.	Internet Explorer will display a warning message regarding the Security Certificate. Click on the link "Continue to the website (not recommended)"	 Continue to this website in a second of the s	
3.	Login to the RMM console as "admin" user	Intel® Remote Management Module 2 Authenticate with Login and Password! Username admin Password Login	

Appendix B: Accessing the RMM VGA Redirection Window

4.	The admin GUI is displayed.	Image: Constant Image: Constant
5.	Select the "Console" button in the upper left corner of the GUI	Home Console Remote Control
6 .	The RMM Console window is displayed. NOTE: The console window resembles an MS- DOS window but DOES NOT have a scroll-back buffer.	Consule(SE) Descriptions /20x400
	TH	S PROCEDURE HAS BEEN COMPLETED

Appendix B: Accessing the RMM VGA Redirection Window

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	RMM IP
(U number)	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

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.

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 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.

Step	Procedure	Result	
1.	Connect to the T1200 server using "ssh" (configured server) or the VGA access method chosen in Section 0. NOTE: The illustration of the T1200 rear panel (shown right) displays the location of the VGA / PS2 Ports and the RMM Port (Ethernet).	Ethernet Port 3 Serial Port VGA / PS2 Ports Construction Alarms Port USB 1 Port (top) Ethernet Port 1 PCI Card Slot (Open) DC Power Inputs (not shown) Ethernet Port 4 USB 0 Port (bottom)	
2.	Viewing the RMM IP Address: Perform this step to view	<pre># kiratool -u admin -p password ip IP address: 10.0.0.65</pre>	
3.	RMM's IP address. Setting the RMM IP Address:	<pre># kiratool -u admin -p password ip set 192.168.100.18 Successfully set IP address to 192.168.100.18</pre>	
	Perform this step to set RMM's IP address.	4	
4.	Viewing the RMM IP Source:	<pre># kiratool -u admin -p password ipsrc IP source: Static Address</pre>	
	Perform this step to verify RMM's IP source.		
5.	Setting the RMM IP Source:	<pre># kiratool -u admin -p password ipsrc set static Successfully set IP source to Static address</pre>	
	Perform this step to set RMM's IP source to static.		
6.	Viewing the RMM Netmask:	<pre># kiratool -u admin -p password netmask Subnet mask: 255.255.0</pre>	
	Perform this step to verify RMM's subnet mask.		
7.	Setting the RMM Netmask: Perform this step to set	<pre># kiratool -u admin -p password netmask set 255.255.255.0 Successfully set Subnet mask to 255.255.255.0</pre>	
	KIVIN'S SUBNET MASK.	# kirstool -u admin -n nassword gw	
8.	Verify RMM's default gateway.	# kiratool -u admin -p password gw Default gateway: 0.0.0.0	
٩	Setting the RMM GW:	<pre># kiratool -u admin -p password gw set 192.168.100.1</pre>	
9.	Perform this step to set RMM's default gateway.	Successfully set Default gateway to 192.168.100.1	

Appendix E: Basic Kiratool Commands for RMM Setup

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

Appendix E: Basic Kiratool Commands for RMM Setup

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.

Appendix G. ESTABLISHIING A LOCAL ETHERNET CONNECTION TO ACCESS THE HLRR GUI

This procedure contains steps to connect a laptop to the NOAM-A server via a directly cabled Ethernet connection and setting the IP address of the laptop. This procedure enables the user to use the laptop for accessing the SDS GUI prior to configuring the first SDS server.

Step	In this procedure you will configure a temporary external IP Address for NOAM-A server at the 1st HLRR site (Primary NOAM). The user will use this IP Address in a web browser to access the GUI to configure all NOAM/Query Servers at the Primary NOAM site.		
1.	Access the NOAM- A server's console.	Connect to the NOAM-A server's console using one of the access methods described in Section 0.	
2.	1) Access the command prompt.	CentOS release 5.6 (Final) Kernel 2.6.18-238.19.1.el5prerel5.0.0_72.22.0 on an x86_64	
	2) Log into the NOAM-A server as the "root" user.	hostname1260476221 login: root Password: <root_password></root_password>	
3.	Configure static IP 192.168.100.11 on the eth04 port of the NOAM-A server.	<pre># netAdm setdevice=eth04address=192.168.100.11 netmask=255.255.255.0onboot=yes</pre>	
4.	 Execute this step for T1200 (TekServer 3): 1) Plug in one end of the Ethernet cable (straight-thru) into the back of NOAM-A server ETH04 (bottom left ethernet port). 2) Plug the other end of the Ethernet cable into the laptop's Ethernet jack. 	PS/2 Mouse RJ45 Serial NIC 3 NIC 2 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 NIC 2 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 NIC 2 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 NIC 2 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 NIC 2 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 NIC 3 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Mouse RJ45 Serial NIC 3 PCI Card Slot Power Supply 1 Power Supply 2 PS/2 Keyboard USB 1 NIC 4 RMM NIC	

5.	Access the laptop Network Interface Card's TCP/IP "Properties" screen. NOTE: For this step you may need modify the instruction specific to the laptop's OS (XP, Win 7, MAC, etc.).	 Windows 7 So to "Control Panel". Click on "Network and Sharing Center". Click on "Change adapter settings" (left menu) Right-click the hardwire Ethernet Interface icon (this will be "Local Area Connection" in most cases) and select "Properties". Select "Internet Protocol Version 4 (TCP/IPv4)".
6.	 Set the static IP address and netmask of the laptop's network interface card to an IP address within the same network subnet as the statically assigned IP address used in Step 3 of this procedure (192.168.100.100 is suggested) and click "OK". Click "Close" from the network interface card's main "Properties" screen. 	Internet Protocol (16.2010) Properties Consul You can pet IP starge segred advectically from index is appoint Decempendor IP starge segred advectically from index is appoint Of the following IP starge segred advectically from index is appoint Of the following IP starge segred advectory Of the following IP starge segred advectory Of the following IP starge segred advectory IP starge segred advectory Of the following IP starge segred advectory IP starge

7.	Launch an approved web browswer on the laptop and connect to the statically assigned IP address used in Step 3 of this procedure.	Oracle System Login × +
8.	If a security certificate error is received, click on the following link: "Continue to this website (not recommended)."	 There is a problem with this website's security certificate. The security certificate presented by this website was not based by a trusted certificate at the security certificate presented by this website was issued for a different website's edder. Security certificate problems may indicate an attempt to feel you or intercept any date yo server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage. Continue to this webpage. More information
9.	Primary NOAM-A GUI (XMI): The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Cracle System Login Log In Lisemanne and password to log in Lisemanne and password to log in Description Description



Appendix H. CONFIGURING THE NETWORK ELEMENT FROM XML FILE

The following procedure is used to configure an HLRR Network Element (NE) by uploading a pre-configured XML configuration file. This same procedure may be used for NOAM, DR NOAM and SOAM Nes.

Step	Procedure	Result
1.	Primary NOAM GUI (VIP): Connect to the Primary NOAM VIP GUI (XMI VIP) via web browser (<i>if</i> <i>available</i>). - or - If local, connect to the statically assigned IP address configured during the execution of Appendix G (Establishiing a local Ethernet connection to access the HLRR CLU	Cracle System Login × +
2.	If a security certificate error is received, click on the following link: "Continue to this website (not recommended)."	 There is a problem with this website's security certificate. The security certificate presented by this website was not issued by a trusted certificate as the security certificate presented by this website was issued for a different website's addressecurity certificate problems may indicate an attempt to feel you or intercept any data yo server. We recommend that you close this webpage and do not continue to this website. Chick here to close this webpage. Continue to this webpage. More information

Step	Procedure	Result
3.	Primary NOAM-A GUI (XMI): The user should be presented the login screen shown on the right. Login to the GUI using the default user and password.	Oracle System Login Well Apr 9 17:00:09 2014 100 Log in Log in Username and password to log in Username Password Log in Welcome to the Oracle System Login. Welcome to the Oracle System Login. Unactionary decreases or period left. Decrease or period left. This Oracle system requires the use of Maccool I Informat Lightner (10, 10, or 8 0 with support an UserScool Informat Lightner (10, 10, or 8 0 with support an UserScool Informat Lightner (10, 10, or 8 0 with support and contains on Oracle Corporation
4.	Primary NOAM GUI (VIP): The user should be presented with the HLRR Main Menu as shown on the right.	CRACLE Tekelec HLR Router 4.0.0-40.14.0 Main Menu Administration Administration Administration Alarms & Events Security Log Alarms & Events Security Log Adarus & Manage Adarus & Manage Excles XG Database Tekelec HLR Router Help Logout This is the user-defined welcome message. It can be modified using the 'General Options' item under the 'Administration' menu.

Step	Procedure	Result
5.	Primary NOAM GUI (VIP): Configuring Network Element	ORACLE Tekelec HLR Router 0 0 0 0 We
	 Select <u>Main Menu</u> → Configuration → Network Elements 2) The configuration screen "Network Elements" will appear. 	Administration Administration Configuration Network Elements Services Servers Servers Servers Places Places DSCP Main Menu: Configuration -> Network Elements Wed A Filter ▼ Network Element
6.	Primary NOAM GUI (VIP): Configuring Network Element	Main Menu: Configuration -> Network Elements Help Wed Apr 09 21:51:07 2014 EDT Filter • Network Element
	 Scroll to bottom of screen Select the "Browse" dialogue button 	To create a new Network Element, upload a valid configuration file: Pause updates Browse Upload File
		Insert Delete Edit NE Networks Delete NE Network Export Report
7.	Primary NOAM GUI (VIP): Configuring Network Element	Choose File to Upload
	 Select the location containing XML configuration file for the Network Element being configured (NOAM, DR NOAM or SOAM). Select this XML file and click the "Open" dialogue button. 	<pre>NOAMP_NE_HLRR_4_0</pre>

Step	Procedure	Result	
8.	Primary NOAM GUI (VIP): Configuring Network Element Select the "Upload File" dialogue button (bottom left corner of screen).	Main Menu: Configuration -> Network Elements Help Wed Apr 09 21:51:07 2014 EDT Filter Network Element Network Element Pause updates H:\ETS_2_xml\NOAMP_N_BrowseUpload File Pause updates Insert Delete Edit NE Networks	
9.	Primary NOAM GUI (VIP): Configuring Network Element If the values in XML file for Network Element pass the validation, then a banner message will appear informing that NE insert was successful.	Main Menu: Configuration -> Network Elements Image: Wed Apr 09 22:48:41 2014 E Filter Info Network Element insert successful from /tmp/NOAMP_NE_HLRR_4_0.xm To create a new Network Element, upload a valid configuration file: Pause updates Browse Upload File Insert Delete Edit NE Networks	
THIS PROCEDURE HAS BEEN COMPLETED			

Appendix I. CREATING A VLAN.CONF FILE FOR TELCO SWITCH CONFIGURATION

Configuration of the Telco Switch requires a configured **vlan.conf** file for use by the Platform **switchconfig** utility. The user should refer to the completed site network configuration document [4] when configuring the **vlan.conf**.

An example template file is also located on the HLR Router server in the following location:

/usr/TKLC/exhr/install/switch/telco_switch_template_vlan.conf.

NOTE: In the example documented below, passwords have been redacted and the values which should be customized for each individual Network Element site have been highlighted to facilitate ease of understanding.

CAUTION: If an existing vlan.conf file was backed up from the "lusr/TKLC/plat/etc/" directory for a previous installation of a given site, then it may be reused for that site only. The user should be aware that the vlan.conf file must be customized with "site specific" network subnet information for each Network Element site.

cat /usr/TKLC/exhr/install/switch/telco_switch_template_vlan.conf

```
Version 1.1
# Switches
switch \
  --sysloghosts=169.254.1.254 \
  --name=switch1A \
  --accessmethod=serial \
  --accessport=/dev/ttyUSB1 \
  --accesshost=localhost \
  --iosimage=/var/TKLC/switchconfig/BiNOS-T5CL3 24G-G v8.6.R6.2.bin \
  --enablepassword=REDACTED
  --consolepassword= REDACTED \
  --accessportopts=baudrate=9600,databits=8,stopbits=1,parity=none \
  --comment="Upper Switch in Frame" \
  --rawoptions="protocol", "rapid-spanning-tree disable" \
  --switchtype=T5CL3-24GT \
  --version=1.1
switch \
  --sysloghosts=169.254.1.254 \
  --name=switch1B \
  --accessmethod=serial \
  --accessport=/dev/ttyUSB1 \
  --accesshost=localhost \setminus
  --iosimage=/var/TKLC/switchconfig/BiNOS-T5CL3 24G-G v8.6.R6.2.bin \
  --enablepassword= REDACTED \
  --consolepassword= REDACTED \
  --accessportopts=baudrate=9600,databits=8,stopbits=1,parity=none \
  --comment="Lower Switch in Frame" \
  --rawoptions="protocol", "rapid-spanning-tree disable" \
  --switchtype=T5CL3-24GT \
  --version=1.1
```

snmp \ --switchname=switch1A \ --trapsink=169.254.1.11 \ ___ traps=unauthorizedAccessViaCLI, taskSuspended, ramFreeSpaceExceeded, powerSupplyStatusChange, por tsRuntsExceeded,portsOverSizeExceeded,portsCRCErrExceeded,linkUp,linkDown,imageCrcCheckFailed , fanStatusChange, cpuUtilizationExceeded, configurationLoadFailed, cliConfigurationChange, coldSt art,warmStart,authenticationFailure \ --auth=tklcUser snmp \ --switchname=switch1B \ --trapsink=169.254.1.12 \ ___ traps=unauthorizedAccessViaCLI, taskSuspended, ramFreeSpaceExceeded, powerSupplyStatusChange, por tsRuntsExceeded,portsOverSizeExceeded,portsCRCErrExceeded,linkUp,linkDown,imageCrcCheckFailed , fanStatusChange, cpuUtilizationExceeded, configurationLoadFailed, cliConfigurationChange, coldSt art,warmStart,authenticationFailure \ --auth=tklcUser ntp \ --switchname=switch1A \ --ntphost=169.254.1.11 \ --ntptz=+0 ntp \ --switchname=switch1B \ --ntphost=169.254.1.12 \ --ntptz=+0 vrrp \ --switchname=switch1A \ --permiticmp vrrp \ --switchname=switch1B \ --permiticmp # Vlans vlan ∖ --name=default \ $--id=1 \setminus$ --ip=169.254.1.0 \ --netmask=255.255.255.0 \ --device=bond1.1 \ --switchname=switch1A \ --host=switch1A \ --manager \ --private \

```
--comment="Internal VLAN for Network Management"
```

vlan \

```
--name=xmi-int \
  --id=<mark>2</mark> ∖
  --ip=<mark>10.240.40.0</mark> \
  --netmask=255.255.255.240 \
  --device=bond1.2 \
  --switchname=switch1A \
  --manager \setminus
  --private \setminus
  --comment="XMI internal VLAN for uplink access to XMI-Cust"
vlan \
  --name=imi-int \
  --id=<mark>3</mark> \
  --ip=10.240.40.16 \
  --netmask=255.255.255.240 \
  --device=bond1.3 \
  --switchname=switch1A \
  --private \setminus
  --comment="IMI internal VLAN for uplink access to IMI-Cust"
vlan ∖
  --name=xmi-cust \
  --id=<mark>574</mark> ∖
  --ip=10.250.44.32 \
  --netmask=255.255.255.248 \
  --device=bond1.2 \setminus
  --switchname=switch1A \
  --private \
  --comment="XMI Customer facing VLAN for uplink access to Customer XMI LAN"
vlan \
  --name=default \
  --id=1 \setminus
  --ip=169.254.1.0 \
  --netmask=255.255.255.0 \
  --device=bond1.1 \
  --switchname=switch1B \
  --host=switch1B \
  --manager \
  --private \
  --comment="Internal VLAN for Network Management"
```

vlan \

```
--name=xmi-int \
  --id=<mark>2</mark> ∖
  --ip=10.240.40.0 \
  --netmask=255.255.255.240 \
  --device=bond1.2 \setminus
  --switchname=switch1B \
  --private \
  --comment="XMI internal VLAN for uplink access to XMI-Cust"
vlan ∖
  --name=imi-int \
  --id=<mark>3</mark> \
  --ip=10.240.40.16 \
  --netmask=255.255.255.240 \
  --device=bond1.3 \
  --switchname=switch1B \
  --private \setminus
  --comment="IMI internal VLAN for uplink access to IMI-Cust"
vlan \setminus
  --name=xmi-cust \
  --id=<mark>574</mark> ∖
  --ip=10.250.44.32 \
  --netmask=255.255.255.248 \
  --device=bond1.2 \
  --switchname=switch1B \
  --private \setminus
  --comment="XMI Customer facing VLAN for uplink access to Customer XMI LAN"
portrange \
  --range=1 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name ISL-1" \
  --channelgroup=1
portrange \setminus
  --range=2 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name ISL-2" \
  --channelgroup=1
portrange \
  --range=3 \
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvA.eth01"
```

```
portrange \
  --range=4 \
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvB.eth01"
portrange \
  --range=5 \
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvC.eth01"
portrange \
  --range=7 \
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvD.eth01"
portrange \
  --range=8 \
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvG.eth01"
portrange \
  --range=10 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvH.eth01"
portrange \
  --range=11 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvK.eth01"
portrange \setminus
  --range=13 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvL.eth01"
portrange \
  --range=14 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srv0.eth01"
```

```
portrange \
  --range=16 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1A \
  --rawoptions="name srvP.eth01"
portrange \setminus
  --range=23 \
  --porttype=gigabitEthernet \
  --vlanname=xmi-cust \
  --switchname=switch1A \
  --rawoptions="name CustXMI"
portrange \
  --range=6,9,12,15,17,18,19,20,21,22,24 \
  --porttype=gigabitEthernet \
  --vlanname=default \setminus
  --switchname=switch1A \
  --rawoptions="shutdown,name Unused"
portrange \setminus
  --range=1 \
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name ISL-1" \
  --channelgroup=1
portrange \
  --range=2 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name ISL-2" \
  --channelgroup=1
portrange \
  --range=3 \
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvA.eth03"
portrange \
  --range=4 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvB.eth03"
```

```
portrange \
  --range=5 \
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvC.eth03"
portrange \
  --range=6 \
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvD.eth03"
portrange \
  --range=8 \
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvG.eth03"
portrange \
  --range=9 \
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvH.eth03"
portrange \
  --range=11 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvK.eth03"
portrange \
  --range=12 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvL.eth03"
portrange \
  --range=14 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srv0.eth03"
portrange \
  --range=15 \setminus
  --porttype=gigabitEthernet \
  --switchname=switch1B \
  --rawoptions="name srvP.eth03"
```

```
portrange \
  --range=23 \
  --porttype=gigabitEthernet \
  --vlanname=xmi-cust \
  --switchname=switch1B \
  --rawoptions="name CustXMI"
portrange \
  --range=7,10,13,16,17,18,19,20,21,22,24 \
  --porttype=gigabitEthernet \
  --vlanname=default \setminus
  --switchname=switch1B \
  --rawoptions="shutdown,name Unused"
# Routing Interfaces
interface --ifname=sw10 \
    --vlanname=xmi-cust \
     --switchname=switch1A \
     --ip=10.250.44.35 \
     --netmask=255.255.255.248 \
     --vrrpgroup=10 \
     --vip=10.250.44.34 \
     --priority=100 \
     --dfltrouter=10.250.44.33
interface --ifname=sw2 \
     --vlanname=xmi-int \
     --switchname=switch1A \
     --ip=10.240.40.2 \
     --netmask=255.255.255.240 \
     --vrrpgroup=2 \
     --vip=10.240.40.1 \
     --uplink=sw10 \
     --priority=100 \setminus
interface --ifname=sw3 \
     --vlanname=imi-int \
     --switchname=switch1A \
     --ip=10.240.40.18 \
     --netmask=255.255.255.240 \
     --vrrpgroup=3 \
     --vip=10.240.40.17 \
     --uplink=sw10 \
     --priority=100 \
```

```
interface --ifname=sw10 \
     --vlanname=xmi-cust \
     --switchname=switch1B \
     --ip=10.250.44.36 \
     --netmask=255.255.255.248 \
     --vrrpgroup=10 \
     --vip=10.250.44.34 \
     --priority=95 \
     --dfltrouter=10.250.44.33
interface --ifname=sw2 \
     --vlanname=xmi-int \
     --switchname=switch1B \
     --ip=10.240.40.3 \
     --netmask=255.255.255.240 \
     --vrrpgroup=2 \
     --vip=10.240.40.1 \
     --uplink=sw10 \
     --priority=95 \setminus
interface --ifname=sw3 \
    --vlanname=imi-int \
     --switchname=switch1B \
     --ip=10.240.40.19 \
     --netmask=255.255.255.240 \
     --vrrpgroup=3 \
     --vip=10.240.40.17 \
     --uplink=sw10 \
     --priority=95 \setminus
```

#

Appendix J. QUAD-SERIAL CARD CONFIGURATION FOR NOAM / SOAM SERVERS

NE Type	Port #	Quad-dongle Port #	Logical Port Device Name	Entries to be added to NOAM-A (server1A)	Entries to be added to NOAM-B (server1B)
NOAM	1	S1	/dev/ ttyS4	noam-b	noam-a
NOAM	2	S2	/dev/ ttyS5	qserver	
NE Type	Port #	Quad-dongle Port #	Logical Port	Entries to be added to SOAM-A (server1A)	Entries to be added to SOAM-B (server1B)
	1	S1	/dev/ ttyS4	soam-b	soam-a
SOAM	2	S2	/dev/ttyS5	mp1	mp4
UUAII	3	S3	/dev/ ttyS6	mp2	mp5
	4	S4	/dev/ttyS7	mp3	mp6

J.1 remoteConsole Mappings for use with "minicom"

Table 7 - remoteConsole Mappings for use with "Mincom"

Configuring remoteConsole settings on NOAM / SOAM Servers

Step	Procedure	Result		
1.	Add the remoteConsole entry for Port 1 (S1/ttyS4) of the Quad-Serial Card.	Referencing Table 7 above, use the following commands to establish the remoteConsole entry associated with Port 1 (S1) of the Quad-Serial Card. remoteConsoleaddname= <remoteconsole_name>port=ttyS4 bps=115200</remoteconsole_name>		
		Example:		
		<pre># remoteConsoleaddname=noam-bport=ttyS4bps=115200</pre>		
2.	Verify the remoteConsole entry for Port 1 (S1/ttyS4) of the Quad-Serial Card.	Using the "name" entered in the previous step, verify the remoteConsole entry associated with Port 1 (S1) of the Quad-Serial Card with the following command:. remoteConsolequeryname= <remoteconsole_name> head -2</remoteconsole_name>		
		Example:		
		<pre>[root@hostname1254529380 ~]# remoteConsolequeryname=noam-b head -2</pre>		
		pr port /dev/ttyS4		
		pu baudrate 115200		
3.	Repeat Steps 1 - 2 of this procedure for Quad card Port 2 (S2/ttyS5).	 Referencing Table 7 above, add and verify the remoteConsole entry for Quad card Port 2 		
4.	Repeat Steps 1 - 2 of this procedure for Quad card Port 3 (S3/ttyS6).	• Referencing Table 7 above, add and verify the remoteConsole entry for Quad card Port 3 (<i>if required</i>).		
5.	Repeat Steps 1 - 2 of this procedure for Quad card Port 4 (S4/ttyS7).	• Referencing Table 7 above, add and verify the remoteConsole entry for Quad card Port 4 (<i>if required</i>).		
	THIS PROCEDURE HAS BEEN COMPLETED			

J.2 Quad-Serial Interconnect



Appendix K. ACCESSING MY ORACLE SUPPORT (MOS)

My Oracle Support

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

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

- 1. For the first set of menu options, select 2, "New Service Request". You will hear another set of menu options.
- 2. In this set of menu options, select 3, "Hardware, Networking and Solaris Operating System Support". A third set of menu options begins.
- 3. In the third set of options, select 2, "Non-technical issue". Then you will be connected to a live agent who can assist you with MOS registration and provide Support Identifiers. Simply mention you are a Tekelec Customer new to MOS.

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

Emergency Response

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

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

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

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

Locate Product Documentation on the Oracle Help Center Site

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

- 1. Access the OHC site <u>at http://docs.oracle.com</u>.
- 2. Click Industries.
- 3. Under the Oracle Communications subheading, click the **Oracle Communications documentation** link. The Communications Documentation page appears. Most products covered by these documentation sets will appear

under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."

- 4. Click the Product and then the Release Number. A list of the entire documentation set for the selected product and release appears.
- 5. To download a file to your location, right-click the PDF link, select **Save target as** (or similar command based on your browser), and save to a local folder.