

Oracle® Communications
EAGLE LNP Application Processor
Incremental Upgrade/Installation Guide
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ORACLE®

Oracle Communications EAGLE LNP Application Processor Incremental Upgrade/Installation Guide, Release 10.2

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Before beginning this procedure, contact My Oracle Support and inform them of your upgrade plans. Refer to Appendix E for instructions on accessing My Oracle Support.

What's New in this Guide

This section introduces the documentation updates for Release 10.2 in Oracle Communications EAGLE LNP Application Processor Incremental Upgrade/Installation Guide.

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- Added steps 19 and 20 in [Procedure 9](#)
- Updated step 26 in [Procedure 9](#)

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1 INTRODUCTION

1.1 Purpose and Scope

This document describes methods utilized and procedures executed to perform the following tasks:

- a. An initial installation of the ELAP10.2.x application software if it is not currently installed on an in-service E5-APP-B-01/02 system running a release of TPD 7.8 (64-bit).
- b. A software incremental upgrade on an in-service E5-APP-B-01/02 system running a release equal to TPD 7.8(64-bit) and ELAP Release 10.2.x.

Please note that for ELAP 10.2.x use TPD 7.8 for IPM. Also, please note that the ELAP 10.2.x cannot be upgraded from any ELAP release older than 10.2.x. Full upgrade has to be performed for such cases.

The audience for this internal document consists of Oracle customers and the following groups: Software System, Product Verification, Documentation, and Customer Service including Software Operations and NPI. This document provides step-by-step instructions to execute any MPS incremental upgrade or installation using an ISO image.

This document does not address requirements relating to the interaction, if any, between EAGLE and MPS incremental upgrades. This document does not address feature activation.

1.2 References

1.2.1 External

None

1.2.1.1 Internal (Oracle)

The following are references internal to Oracle. They are provided here to capture the source material used to create this document. Internal references are only available to Oracle personnel.

- [1] *TEKELEC Acronym Guide*, MS005077, Current Version, Tekelec.
- [2] *Software Incremental upgrade Procedure Template*, TM005124, Current Version, Tekelec
- [3] *Tekelec Initial Product Manufacture User's Guide*, 909-2229-001, Latest revision, Tekelec
- [4] *ELAP on E5-APP-B Network Interconnect Technical Reference*
- [5] *TPD support for E5-APP-B Application Server Feature Description (FD)*, FD007447, Current Version, Tekelec.

1.3 Software Release Numbering

Refer to Engineering Release Notes or other appropriate document with the most recent build numbers in order to identify the proper components (software loads, GPLs, etc.) that comprise the product's software release.

1.4 Acronyms

An alphabetized list of acronyms used in the document that are not included in [1]:

Table 1. Acronyms

E5-APP-B	E5 Based Application Card
ELAP	EAGLE LNP Application Processor
GPL	Generic Program Load
IPM	Initial Product Manufacture
LAG	Link Aggregation Group
LSMS	Local Service Management System
MPS	Multi-Purpose Server
NPI	New Product Introduction
NTP	Network Time Protocol

RTDB	RealTime DataBase
SCP	Secure Copy
SFTP	Secure File Transfer Protocol
SM	Service Module
TPD	Tekelec Platform Distribution
UTC	Universal Time Coordinated

1.5 Terminology

Multiple servers may be involved with the procedures in this manual. Therefore, most steps in the written procedures begin with the name or type of server to which the step applies. For example:

Each step has a checkbox for every command within the step that the technician should check to keep track of the progress of the procedure.

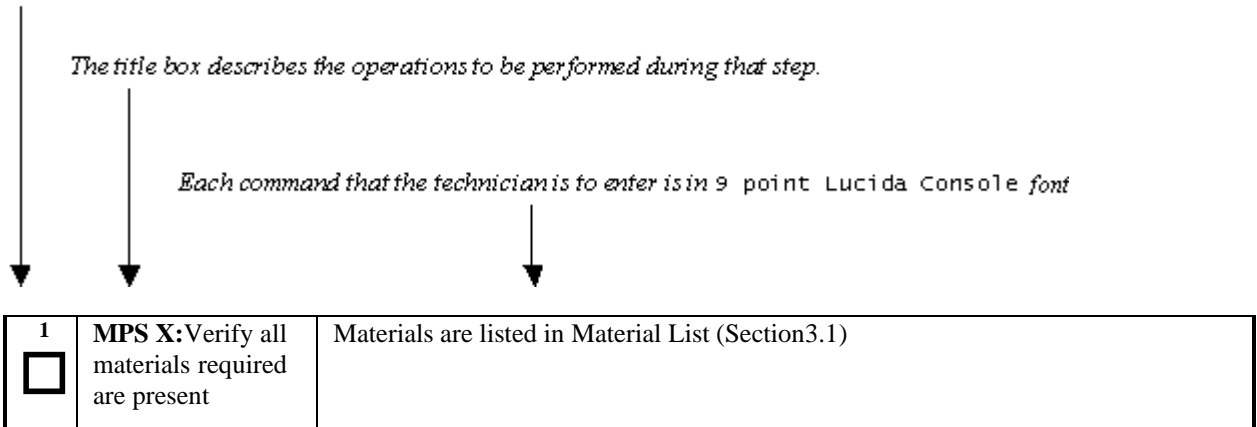


Figure 1: Example of a step that indicates the Server on which it needs to be executed

Other terminology follows.

Table 2. Terminology

Accept major upgrade	The procedure performed after an incremental upgrade with SPLIT mirror that re-mirrors disk partitions. This procedure must be run after an upgrade (before the next upgrade) and once it is completed, it will prevent backout to the source release.
Backout	The process to take a system back to a Source Release prior to completion of incremental upgrade to Target release. Includes preservation of databases and system configuration.
Incremental upgrade	An incremental upgrade that takes a target system from any given release to another release but not necessarily from the shipping baseline to the target release.
Incremental upgrade with SPLIT mirror	An incremental upgrade with SPLIT mirror takes a target system from any given release to another release that is not from the same baseline. The SPLIT mirror employs a methodology that splits the mirrored system disks, one disk has the target release and the second one the source release.
Rollback	The process to take a system from a Target Release back to a Source Release including preservation of databases and system configuration.
Source release	Software release to upgrade from.
Target release	Software release to upgrade to.
Upgrade media	USB media or ISO image for the hardware platform E5-APP-B.

1.6 Recommendations

This procedure should be followed thoroughly utilizing the steps as written. **When planning to incremental upgrade the server, contact My Oracle Support at least 48 hours before the incremental upgrade process has been planned to be initiated.** In the event any unexpected results are returned while executing steps in this procedure halt the activity and contact My Oracle Support - Appendix E for assistance.

Please read the following notes on procedures:

1. Any procedure completion times are estimates. Times may vary due to differences in database size, user experience, and user preparation.
2. The shaded area within response steps must be verified in order to successfully complete that step.
3. Output displayed in the procedures' response steps is presented. Actual output varies depending on system. Output is presented for reference only.
4. Where possible, command response outputs are shown as accurately as possible. However, exceptions may include the following:
 - a. Information such as *time* and *date*.
 - b. ANY information marked with "XXXX." Where appropriate, instructions are provided to determine what output should be expected in place of "XXXX."
5. After completing each step and **at each point where data is recorded from the screen, the technician performing the incremental upgrade must check each step.** A checkbox has been provided beneath each step number for this purpose.
6. Captured data is required for future support reference if My Oracle Support is not present during the incremental upgrade.
7. In procedures that require a command to be executed on a specific MPS, the command is prefaced with MPS A: or MPS B:
8. User Interface menu items displayed in this document were correct at the time the document was published but may appear differently at time that this procedure is executed.

1.7 Requirements

- Screen logging is required throughout the procedure. These logs should be made available to My Oracle Support in the event their assistance is needed.
- Target-release USB media or ISO image
- The capability to log into a server, such as a PC with null modem cable for connection to serial port.
- The capability to log into the web GUI, such as a PC with Internet Explorer.

2 GENERAL DESCRIPTION

This document defines the step-by-step actions performed to execute a software incremental upgrade of an in-service MPS running the ELAP application from the source release to the target release. This document also defines the steps to execute the initial installation of the ELAP application on the new E5-APP-B card.

The ELAP application can be installed and incremental upgraded based on the table below.

Table 3. Install paths

TPD Release for IPM	ELAP Initial Installation Release
7.8.0.0.0_89.5.0	10.2.X

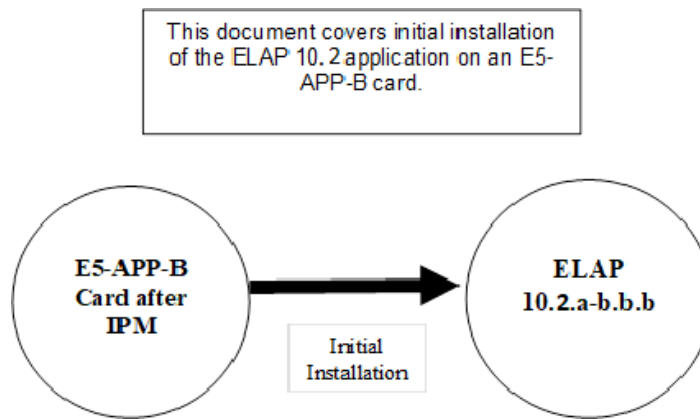


Figure 2: Initial Application Installation Path

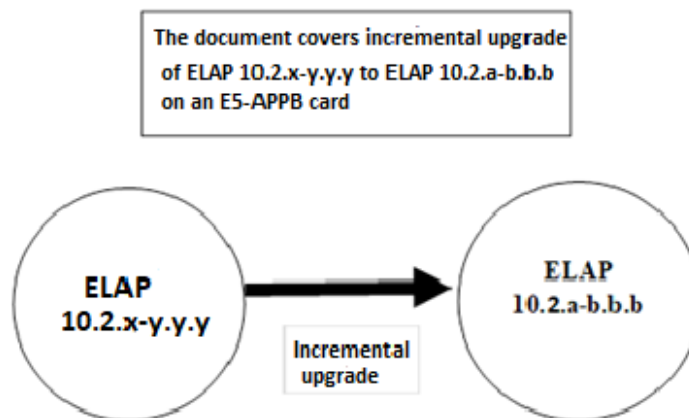


Figure 3: Incremental upgrade Path

Table 4. Upgrade paths

		TARGET RELEASE
		10.2.y.0.0 (TPD 7.8)
SOURCE RELEASE	10.1.x. (TPD 7.x)	Full Upgrade
	10.2.x.0.0 (TPD 7.8)	Incremental upgrade

The ELAP incremental upgrade paths are shown in the table above. The general timeline for all processes to perform a software incremental upgrade, from pre-incremental upgrade backups to a final system health check, is also included below.

3 INSTALL/INCREMENTAL UPGRADE OVERVIEW

3.1 Required Materials

- 1 A target-release TPD ISO (In case IPM is required) and ELAP ISO (for ELAP install/incremental upgrade).
- 2 Optical media – USB flash drive.
- 3 A terminal and null modem cable to establish a serial connection.
- 4 Since **RTDB backups of ELAP 10.1 release are not compatible with ELAP 10.2.X release**, therefore in case of fresh installation, SERVDI backup file from LSMS 13.5 is required to initialize the RTDB. Copy the backup file to some remote machine.
- 5 Eagle STP login IP, user, and password
- 6 Write down the system configuration information.

Description	Information
Provisioning IPs and their netmasks	
VIP	
NTP1 IP	
NTP2 IP	
NTP3 IP	
Provisionable Gateway	
Time Zone	
Other IPs required and their netmasks	

Table 5: System Configuration Information

- 7 Passwords for users on the local system:

ELAP USERS		
login	MPS A password	MPS B password
elapconfig		
elapdev		
root		
elapall (needed for GUI access)		
MySQL (EuiDB) root user		
admusr		

Table 6. User Password Table

3.2 Installation Phases

The general installation strategy is to IPM the E5-APP-B server and then install the application.

The following table illustrates the progression of the installation process by procedure with estimated times. The estimated times and the phases that must be completed may vary due to differences in typing ability and system configuration. The phases outlined in Table 7 are to be executed in the order they are listed.

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Connectivity setup	15	15	Set up connectivity to the MPS Servers.	Procedure 1
Verify install	5	20	Verify this should be an install.	Procedure 2
Requirements check	15	35	Verify requirements for install are met.	Procedure 3
IPM both servers	90	125	IPM both ELAP servers with TPD 7.8	Procedure 5
Pre-install health check	5	130	Run the syscheck utility to verify that all servers are operationally sound.	Procedure 4
Configure both servers	10	140	Set hostname, designation, function, time zone and time on both servers	Procedure 6
Install Servers	30	170	Install software on sides 1A and 1B	Procedure 7
Configure Switches	30	200	Configure the Switches	Procedure 8
Post-install application processing	30	230	Perform first time configuration.	Procedure 9
Post-incremental upgrade health check	5	235	Run the syscheck utility to verify all servers are operationally sound.	Procedure 4
LSMS SSH Key Exchange	10	245	Perform SSH key exchange with the LSMS.	Procedure 10
Accept the upgrade after successful installation	10	255	Accept the upgrade on both MPS-A and MPS-B	Procedure 11
Post-incremental upgrade health check	10	265	Run the syscheck utility to verify all servers are operationally sound.	Procedure 4

Table 7. Installation Phases

3.3 Incremental upgrade Phases

The following table illustrates the progression of the incremental upgrade process by procedure with estimated times and may vary due to differences in typing ability and system configuration. Incremental upgrades should be done on ELAP B first and then on ELAP A. The phases outlined in Table 8 are to be executed in the order they are listed.

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify incremental upgrade	5	20	Verify this should be an incremental upgrade.	Procedure 2
Requirements check	15	35	Verify requirements for incremental upgrade are met.	Procedure 3
Assess readiness for incremental upgrade	15	50	Assess the server’s readiness for incremental upgrade.	Procedure 12
Pre-incremental upgrade health check	5	55	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Pre-incremental upgrade system time check	5	60	Pre-incremental upgrade system time check.	Procedure 13
Pre-incremental upgrade Backups	15	75	Backup application databases and other pertinent information.	Procedure 14, Procedure 15
Perform Incremental upgrade	60	135	Execute the incremental upgrade procedure on MPS A and B.	Procedure 16
Post-incremental upgrade health check	5	140	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Accept the upgrade after successful soak period. Note: User will not be able to perform backout procedure in case of any problem once the upgrade is accepted.	10	This is done in a separate MTC	Accept the upgrade on both MPS-A and MPS-B after sufficient soak period of around 1-7 days (depending upon customer provisioning volume) to see that everything works fine after the upgrade.	Procedure 11
Post-incremental upgrade health check	10	20	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4

Table 8. Incremental upgrade Phases

3.4 Backout Phases

The following table illustrates the progression of the backout process by procedure with estimated times and may vary due to differences in typing ability and system configuration. The phases outlined in Table 9 are to be executed in the order they are listed.

Phase	Elapsed Time (Hours or Minutes)		Activity	Impact	Procedure
	This Step	Cum.			
Determine state of system	15-30	15-30	Investigate and determine the state of the MPS system. This may take anywhere from 15 to 30 minutes.	Cannot proceed with backout until failure analysis is complete. Some hand-fixes may be required before proceeding with backout.	Contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.
Backout MPS A and MPS B	60	75-90	Backout MPS A and then MPS B.	N/A	Procedure 17
Post-backout health check	10	85-100	Run the syscheck utility to verify the MPS server is operationally sound.	Verify that the backout was successful.	Procedure 4

Table 9. Backout Procedure Overview

3.5 Log Files

All commands executed during an incremental upgrade or installation, are logged in the “/var/TKLC/log/upgrade/upgrade.log” file. This log file is automatically initiated when incremental upgrade software is invoked. This log file is rolled every time an incremental upgrade is initiated. A total of up to five incremental upgrade log files are stored on the server.

The incremental upgrade wrapper script, ugwrap, logs its actions also to the “/var/TKLC/log/upgrade/ugwrap.log” file. This log file is rolled every time ugwrap is initiated. A total of up to five ugwrap log files are stored on the server.

The technician running the procedures is responsible for enabling screen logging within the chosen connectivity application.

4 INSTALL/INCREMENTAL UPGRADE PREPARATION

Procedure 1. Setting up the upgrade environment

Procedure 1: Setting up the serial connection with E5-APP-B

S T E P #	<p>This procedure sets up the incremental upgrade environment. Windows are opened for both MPS servers.</p> <p>NOTE: Call My Oracle Support for assistance if modem access is the method use for incremental upgrade.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
1. <input type="checkbox"/>	Establish a connection to MPS X.	<p>If access to the MPS servers is not available through an IP network, connect to the E5-APP-B card via the serial port.</p> <p>For connecting the E5-APP-B A card, disconnect the console cable from the serial port on the E5-APP-B B card’s adapter. The cable should be disconnected at the point where it connects to the serial port labeled ‘S1’ on the E5-APP-B B cards’ adapter and use it for serial access. Cable part numbers - 830-1220-xx</p> <p>For connecting the E5-APP-B B card, disconnect the console cable from the serial port on the E5-APP-B A card’s adapter. The cable should be disconnected at the point where it connects to the serial port labeled ‘S1’ on the E5-APP-B A cards’ adapter and use it for serial access. Cable part numbers - 830-1220-xx</p>
2. <input type="checkbox"/>	Create a terminal window for MPS X.	Open a terminal window and establish a serial connection to the E5APPB MPS console port ttyS0 with the properties - 115200,N,8,1
3. <input type="checkbox"/>	Start capture file.	Enable the data capture and verify that the data capture file is created at the path specified.
4. <input type="checkbox"/>	Access mate MPS via serial console	# minicom mate
5. <input type="checkbox"/>	Log into MPS X.	console login:root password:<password>
6. <input type="checkbox"/>	Procedure Complete.	This procedure is complete.

Procedure 2. Determine if upgrade or installation is required

Procedure 2: Determine if incremental upgrade or installation is required

S T E P #	<p>This procedure executes the steps required to determine if an incremental upgrade of the system is required or an initial application installation is required.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
1. <input type="checkbox"/>	MPS A: Log in to MPS A.	<p>If not already logged-in, login at MPS A as ‘admusr’.</p> <pre><hostname> console login: admusr password: <password></pre>

Procedure 2: Determine if incremental upgrade or installation is required

		If 'admusr' is not available, then login as 'root' user.
2.	MPS B: Log in to MPS B.	If not already logged-in, login at MPS B as 'admusr'. <pre><hostname> console login: admusr password: <password></pre> <p>If 'admusr' is not available, then login as 'root' user.</p>
3. <input type="checkbox"/>	MPS X: Verify the TPD release.	Execute the following command to verify the TPD release on the MPS. <pre># getPlatRev</pre> <p>If no output is displayed, then contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E, to know whether to perform Procedure 5 to install the operating system on the MPS. After installing the operating system, proceed with this procedure.</p> <p>Otherwise, if the following output is displayed, then the MPS has been installed with the correct operating system. Proceed with this procedure.</p> <pre># getPlatRev 7.8.0.0.0_89.5.0</pre>
4. <input type="checkbox"/>	MPS X: Determine if the application is currently installed on the servers. (MPS B will be used to determine the current state of the servers. We will assume that the state of the A server is the same.)	Execute an rpm query command and examine the output: <pre>\$ rpm -qi TKLCelap</pre>
5. <input type="checkbox"/>	MPS X: Observe the output from the rpm query.	The following is an example of what the output may look like: <pre>\$rpm -qi TKLCelap [elapdev@crete-A ~]\$ rpm -qi TKLCelap Name : TKLCelap Relocations: (not relocatable) Version : 5.0.44 Vendor: Tekelec Release : 10.2.0.0.0_102.1.0 Build Date: Thu 21 Jan 2021 02:17 PM EST Build Host: coach-4.tekelec.com Group : Development/Build Source RPM: TKLCelap- 5.0.44-10.2.0_102.1.0.src.rpm Size : 149012560 License: © TEKELEC 2018 Signature : (none) Packager : <@tekelec.com> URL : http://www.tekelec.com/ Summary : Oracle Communications ELAP Package Description :</pre>

Procedure 2: Determine if incremental upgrade or installation is required

		<p>This is the Oracle Communications EAGLE LNP Application Processor(ELAP) package. The package installs ELAP software. Eagle LNP Application Processor (ELAP) provides REALLY INCREDIBLE Database (RIDB). ELAP provides the LNP feature.</p> <p style="text-align: center;">NOTE: Output is dependent on source release.</p> <p>If the output similar to the above example is displayed, then skip to step 7. Otherwise, proceed to the next step.</p>
6. <input type="checkbox"/>	<p>MPS X: Installation is required if the application is not present on the server, else incremental upgrade is required.</p>	<p>Run the following command:</p> <pre>\$ rpm -qi TKLCELAP package TKLCELAP is not installed</pre> <p>If the application is not currently installed, output similar to the above will be returned from the rpm -qi command in the previous step. If this is the case, then an application installation is required. Refer to section 5 to perform ELAP installation, otherwise, skip to the next step.</p>
7. <input type="checkbox"/>	<p>MPS X: Confirm that the incremental upgrade from the existing version is compatible with the desired destination version.</p>	<p>Document the current and destination release level:</p> <p>Source Release: _____</p> <p>Target Release: _____</p> <p>If the release number on the MPS is less than the release number on the incremental upgrade media, then an incremental upgrade is required.</p>
8. <input type="checkbox"/>	<p>Determine if it is an incremental upgrade or incremental upgrade with split mirror.</p>	<p>If the current release is 10.2.x and target release is 10.2.y (less than the number on the upgrade media), it is an INCREMENTAL upgrade.</p>
9. <input type="checkbox"/>	<p>MPS X: Procedure Complete.</p>	<p>This procedure is complete.</p>

Procedure 3. Verifying and capturing requirements

Procedure 3: Verifying and capturing requirements

S T E P #	<p>This procedure verifies that all pre-upgrade requirements have been met.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR <u>UPGRADE ASSISTANCE</u>.</p>	
	1. <input type="checkbox"/>	<p>Verify all required materials are present.</p>
2.	<p>Procedure Complete.</p>	<p>This procedure is complete.</p>

Procedure 3: Verifying and capturing requirements

<input type="checkbox"/>		
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Procedure 4. System Health Check

Procedure 4: System Health Check

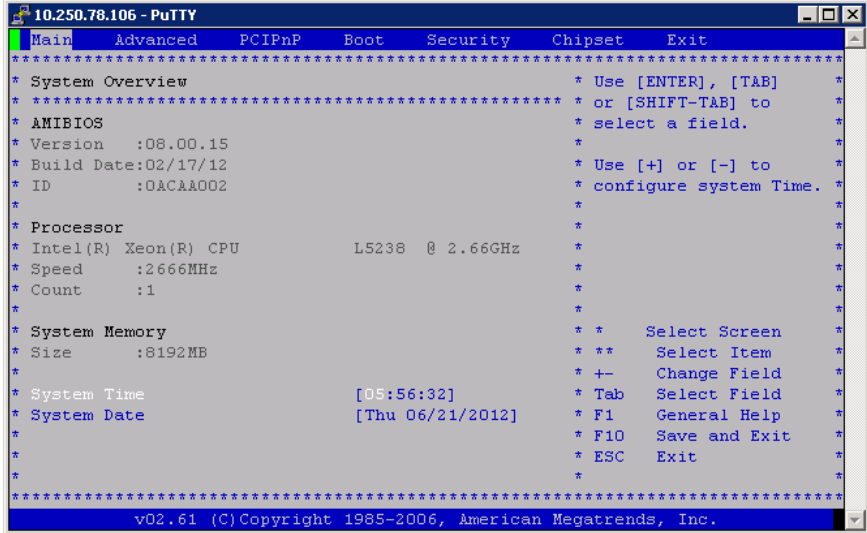
S T E P #	This procedure determines the health of the MPS System before beginning an incremental upgrade. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.	
1. <input type="checkbox"/>	MPS A: Verify health of MPS A.	Execute Procedure 18 on MPS A to verify the health of MPS A.
2. <input type="checkbox"/>	MPS B: Verify health of MPS B.	Execute Procedure 18 on MPS B to verify the health of MPS B.
3. <input type="checkbox"/>	Procedure Complete.	This procedure is complete.

5 SOFTWARE INSTALLATION PROCEDURES

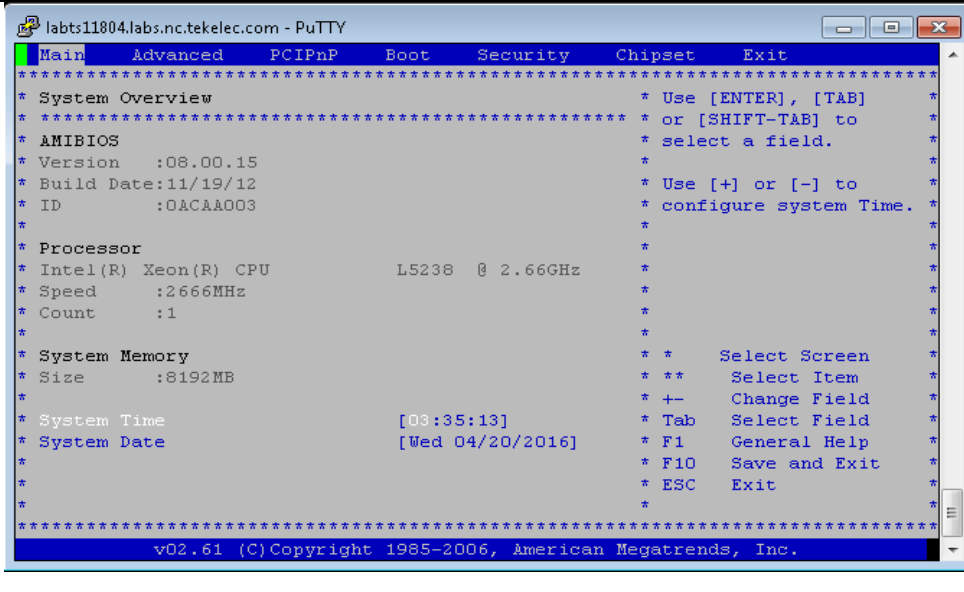

Note: The installation of Operating System (Procedure 5), Pre install configuration (Procedure 6) and initial installation of ELAP (Procedure 7) can be done simultaneously on both the servers.

Procedure 5. IPM MPS server

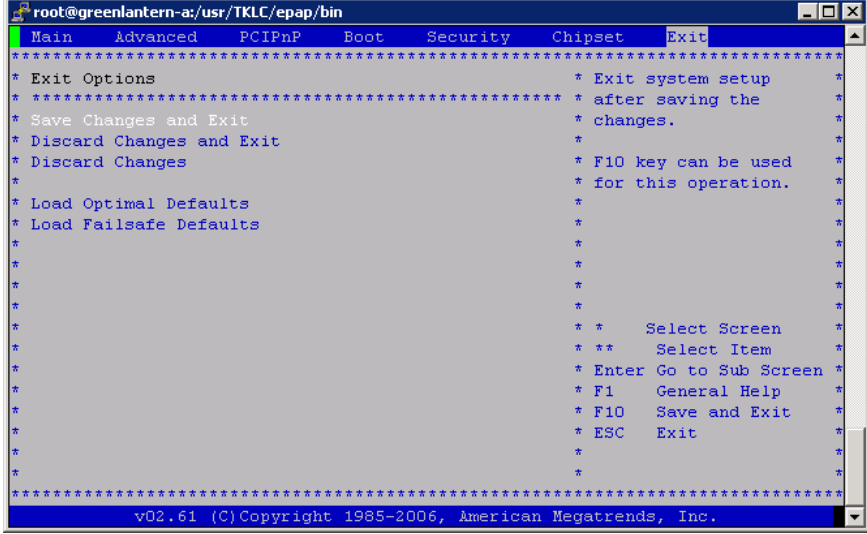
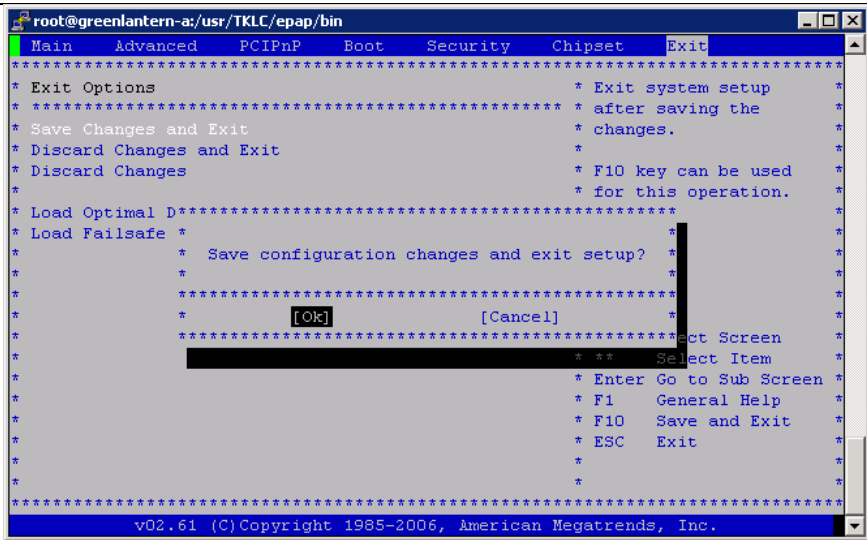
Procedure 5: IPM MPS Server with TPD 7.8.x

S T E P #	<p>This procedure will install TPD.</p> <p>Check off (√)each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
1. <input type="checkbox"/>	Connect to the Server.	<p>If not already connected, connect to the E5-APP-B card via the serial port.</p> <p>For connecting the E5-APP-B A card, disconnect the console cable from the serial port on the E5-APP-B B card’s adapter. The cable should be disconnected at the point where it connects to the serial port labeled ‘S1’ on the E5-APP-B B card’s adapter and use it for serial access. Cable part numbers - 830-1220-xx</p>
2. <input type="checkbox"/>	Log in as “root” user.	<p>If not already logged in to the MPS server, then login as user “root”.</p> <pre>console login: root password: password</pre>
3. <input type="checkbox"/>	MPS X: Get media	Insert TPD 7.8.x USB media into the USB port of E5-AP P-B card.
4. <input type="checkbox"/>	MPS X: Reboot server	# reboot
5. <input type="checkbox"/>	MPS X: Press ‘del’ key to enter the BIOS (F4 on remote keyboard)	

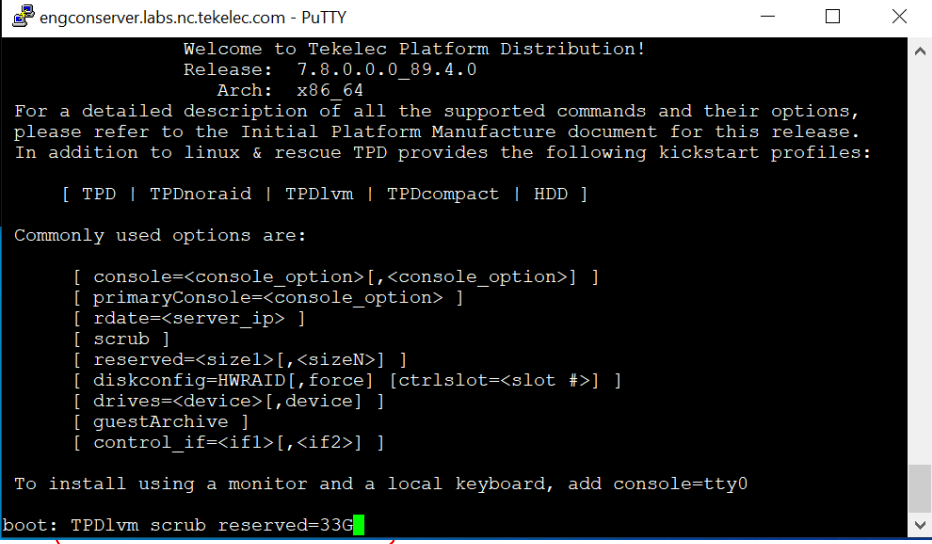
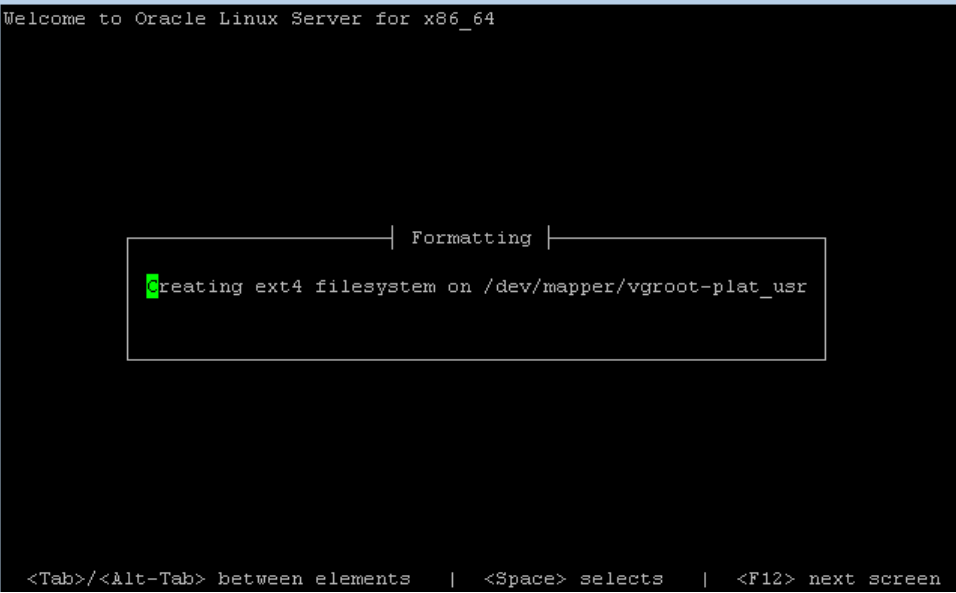
Procedure 5: IPM MPS Server with TPD 7.8.x

<p>6. <input type="checkbox"/></p> <p>MPS X: Set the System Time and Date to UTC time.</p> <p>Press 'Enter' key to select the various fields (hh/mm/ss) of system time and system date (mm/dd/yyyy).</p> <p>Use UP or DOWN arrow keys to select between System Time and System Date.</p>	 <p>The screenshot shows the BIOS Main menu with the following visible information:</p> <ul style="list-style-type: none"> Menu: Main, Advanced, PCIPnP, Boot, Security, Chipset, Exit System Overview: Version :08.00.15, Build Date:11/19/12, ID :0ACAA003 Processor: Intel(R) Xeon(R) CPU L5238 @ 2.66GHz, Speed :2666MHz, Count :1 System Memory: Size :8192MB System Time: [03:35:13] System Date: [Wed 04/20/2016] Navigation instructions: Use [ENTER], [TAB] or [SHIFT-TAB] to select a field; Use [+] or [-] to configure system Time; Select Screen, Select Item, Change Field, Select Field, General Help, Save and Exit, Exit. Footer: v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.
<p>7. <input type="checkbox"/></p> <p>MPS X: Select <i>Boot</i> → <i>Hard Disk Drives</i> option</p>	 <p>The screenshot shows the BIOS Boot Settings Configuration menu with the following visible information:</p> <ul style="list-style-type: none"> Menu: Main, Advanced, PCIPnP, Boot, Security, Chipset, Exit Boot Settings Configuration: Priority sequence from available, Hard Drives. Navigation instructions: Specifies the Boot Device; Select Screen, Select Item, Enter Go to Sub Screen, General Help, Save and Exit, Exit. Footer: v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.


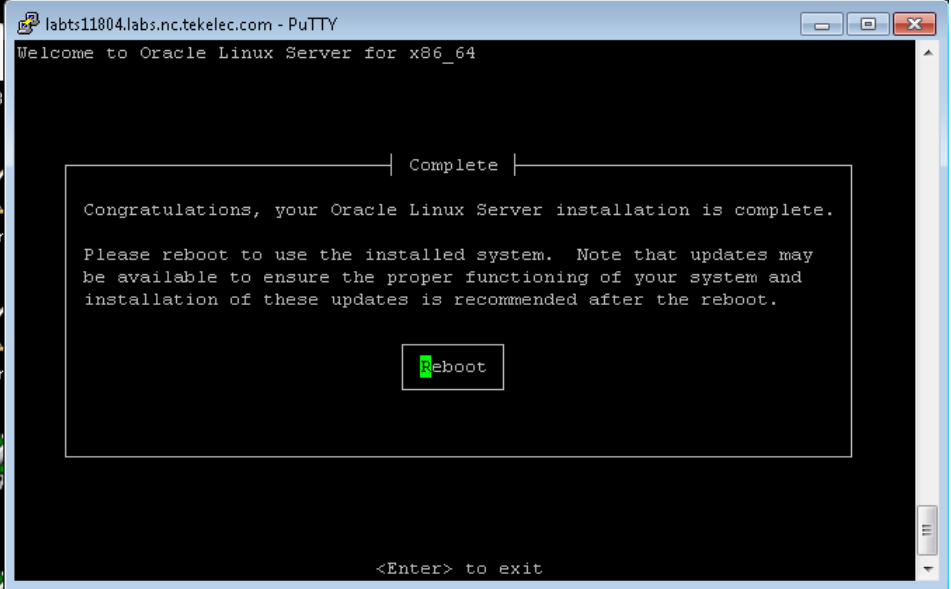
Procedure 5: IPM MPS Server with TPD 7.8.x

<p>11. <input type="checkbox"/></p>	<p>MPS X: Press ‘Esc’ key and select <i>Exit</i> → <i>Save Changes and Exit</i> option</p>	
<p>12. <input type="checkbox"/></p>	<p>MPS X: Select [OK] to save the configuration changes.</p> <p>The server will reboot and TPD boot prompt will appear.</p>	
<p>13. <input type="checkbox"/></p>	<p>MPS X: Start the IPM process by entering the TPDlvm scrub reserved=33G command at the boot prompt, as in the screenshot at right.</p>	<p>boot: TPDlvm scrub reserved=33G</p>

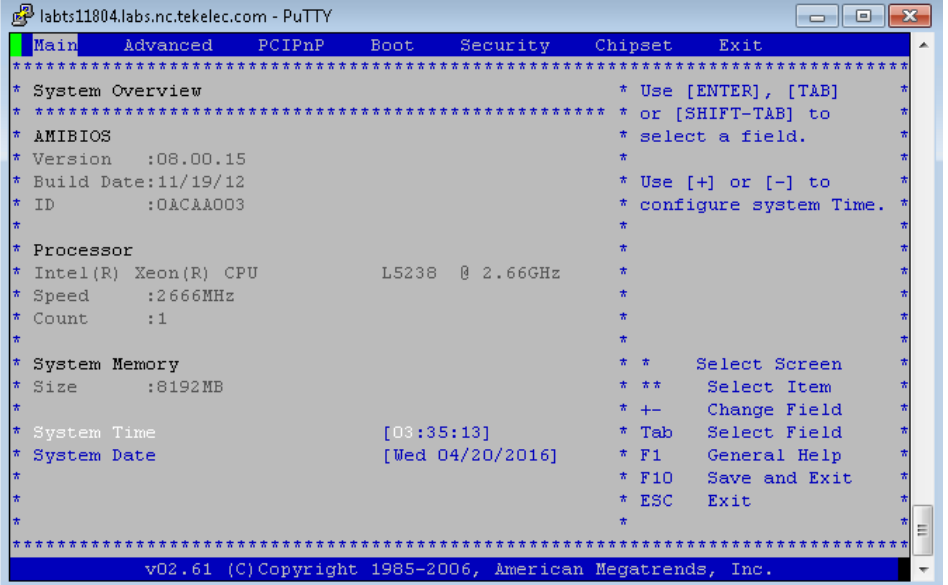
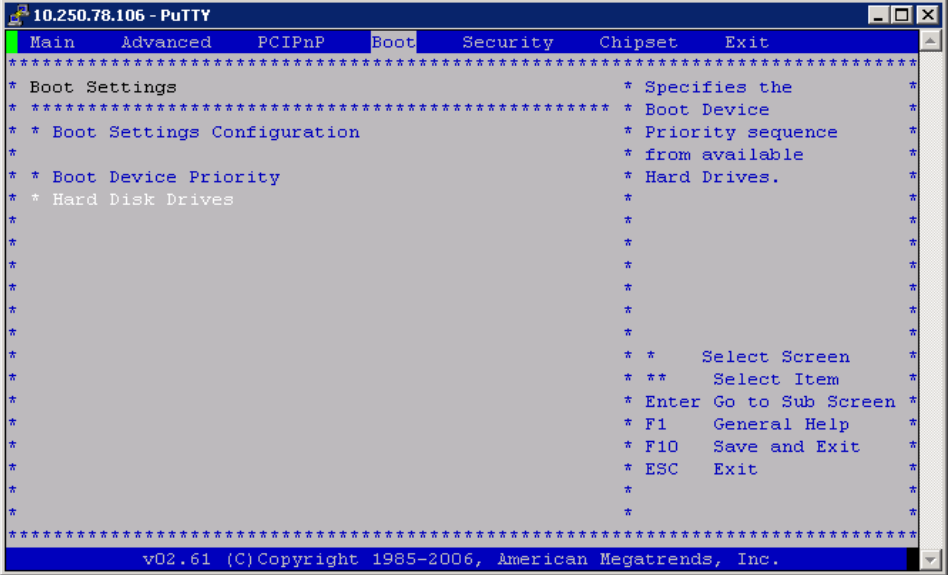
Procedure 5: IPM MPS Server with TPD 7.8.x

		 <p>WARNING: You must add the “reserved=33G” parameter at the TPD boot prompt. Failure to TPD using this parameter will require this procedure to be repeated!!!</p>
<p>14. <input type="checkbox"/></p>	<p>MPS X: After a few seconds, additional messages will begin scrolling by on the screen as the Linux kernel boots, and then the drive formatting and file system creation steps will begin.</p>	

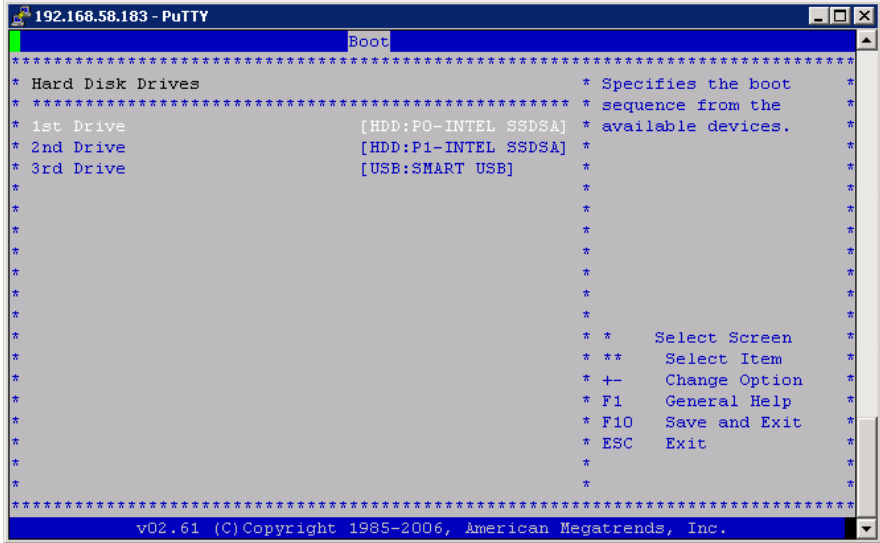
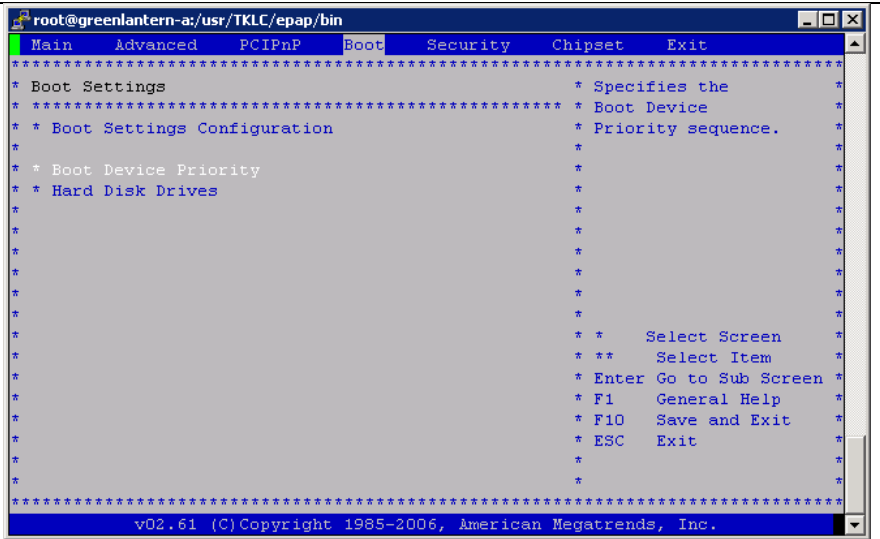
Procedure 5: IPM MPS Server with TPD 7.8.x

<p>15. <input type="checkbox"/> MPS X: After a few minutes, you will see a screen similar to that at right, showing the status of the package installation step. For each package, there will be a status bar at the top indicating how much of the package has been installed, with a cumulative status bar at the bottom indicating how many packages remain. In the middle, you will see text statistics indicating the total number of packages, the number of packages installed, the number remaining, and current and projected time estimates.</p>	
<p>16. <input type="checkbox"/> MPS X: Once all the packages have been successfully installed, the screen at right will appear letting you know the installation process is complete.</p> <p>Remove the USB media and press <ENTER> to reboot the system and continue with the next step.</p>	

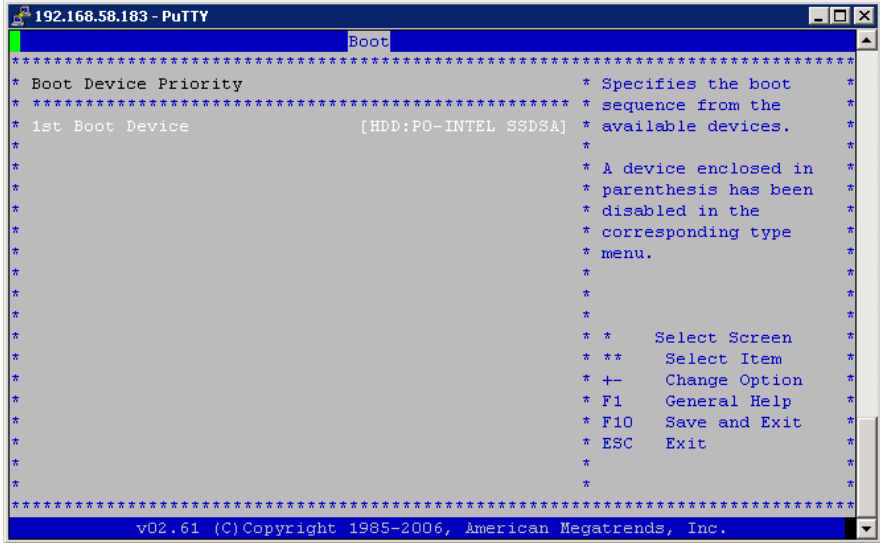
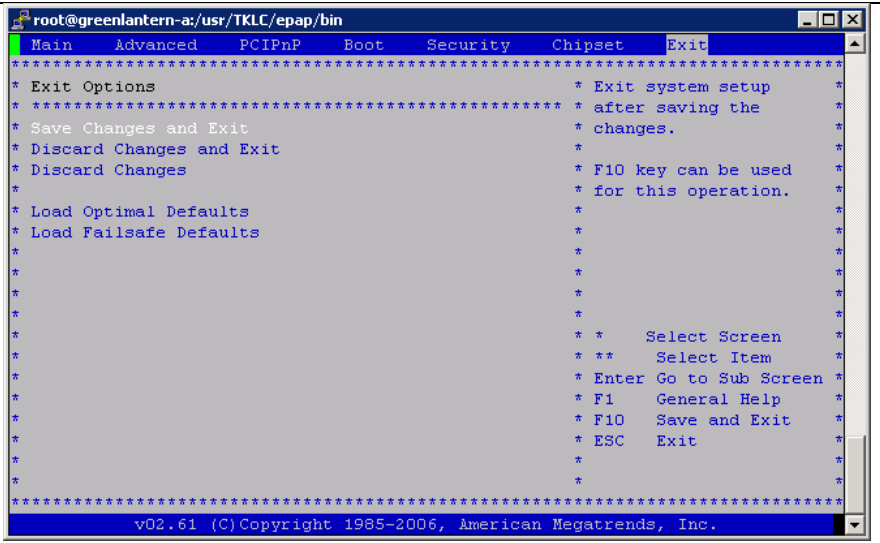
Procedure 5: IPM MPS Server with TPD 7.8.x

<p>17. <input type="checkbox"/></p>	<p>MPS X: Press 'del' key to enter the BIOS (F4 on remote keyboard)</p>	 <p>The screenshot shows the BIOS Main menu in a PuTTY window. The menu options are: Main, Advanced, PCIPnP, Boot, Security, Chipset, and Exit. The 'Main' menu is expanded, showing system overview information: AMIBIOS (Version: 08.00.15, Build Date: 11/19/12, ID: 0ACAA003), Processor (Intel(R) Xeon(R) CPU L5238 @ 2.66GHz), System Memory (Size: 8192MB), System Time ([03:35:13]), and System Date ([Wed 04/20/2016]). Navigation instructions are provided on the right side of the screen.</p>
<p>18. <input type="checkbox"/></p>	<p>MPS X: Select <i>Boot</i> → <i>Hard Disk Drives</i> option</p>	 <p>The screenshot shows the BIOS Boot menu in a PuTTY window. The menu options are: Main, Advanced, PCIPnP, Boot, Security, Chipset, and Exit. The 'Boot' menu is expanded, showing 'Boot Settings Configuration' and 'Boot Device Priority'. Under 'Boot Device Priority', 'Hard Disk Drives' is selected. Navigation instructions are provided on the right side of the screen.</p>

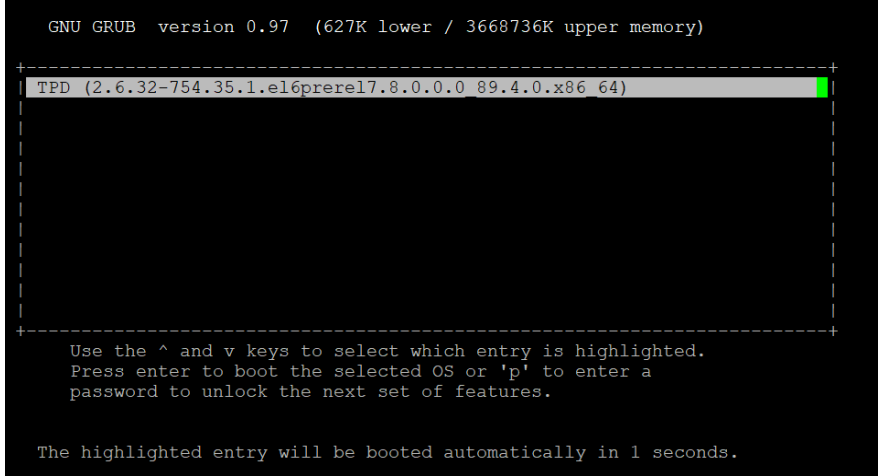
Procedure 5: IPM MPS Server with TPD 7.8.x

<p>19. <input type="checkbox"/></p>	<p>MPS X: Press 'Enter' key and select HDD:P0 as the 1st Drive</p>	
<p>20. <input type="checkbox"/></p>	<p>MPS X: Press 'Esc' key and select Boot Device Priority</p>	

Procedure 5: IPM MPS Server with TPD 7.8.x

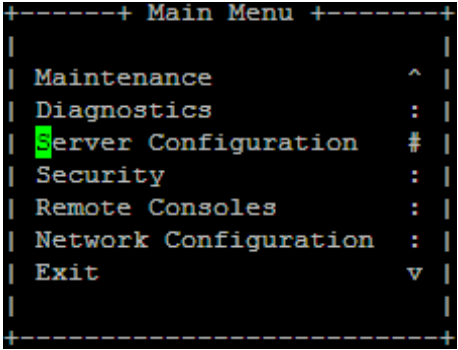
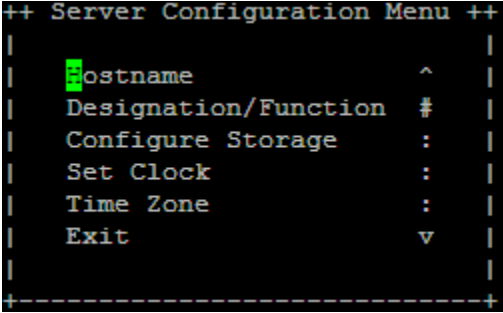
<p>21. <input type="checkbox"/></p>	<p>MPS X: Verify that the 1st Boot Device is set to HDD:P0.</p>	 <p>The screenshot shows the BIOS Boot menu. The title bar reads '192.168.58.183 - PuTTY'. The menu title is 'Boot'. The main content shows '1st Boot Device' set to '[HDD:P0-INTEL SSDSA]'. A detailed help text explains that this option specifies the boot sequence from available devices, and that a device enclosed in parentheses is disabled in the menu. Navigation instructions include: Select Screen (**), Select Item (*+), Change Option (*-), F1 General Help, F10 Save and Exit, and ESC Exit. The footer indicates 'v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.'</p>
<p>22. <input type="checkbox"/></p>	<p>MPS X: Press 'Esc' key and select <i>Exit</i> → <i>Save Changes and Exit</i> option</p>	 <p>The screenshot shows the BIOS Exit menu. The title bar reads 'root@greenlantern-a:/usr/TKLC/epap/bin'. The menu title is 'Exit'. The main content lists 'Exit Options' with 'Save Changes and Exit' selected. Other options include 'Discard Changes and Exit' and 'Discard Changes'. A detailed help text explains that this option exits system setup after saving changes, and that the F10 key can be used for this operation. Navigation instructions include: Select Screen (**), Select Item (*+), Enter Go to Sub Screen (*), F1 General Help, F10 Save and Exit, and ESC Exit. The footer indicates 'v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.'</p>

Procedure 5: IPM MPS Server with TPD 7.8.x

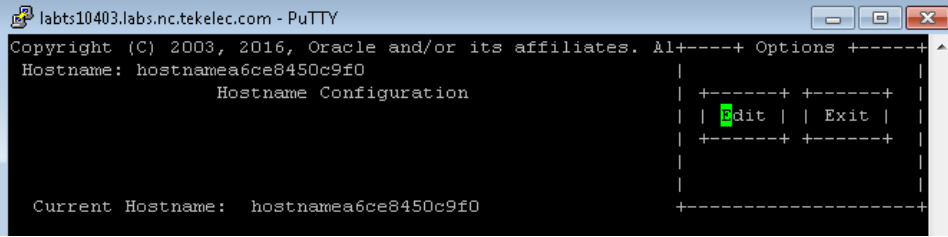
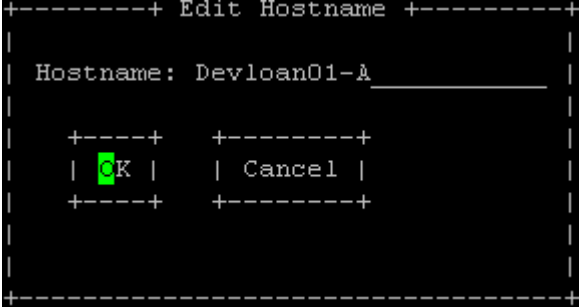
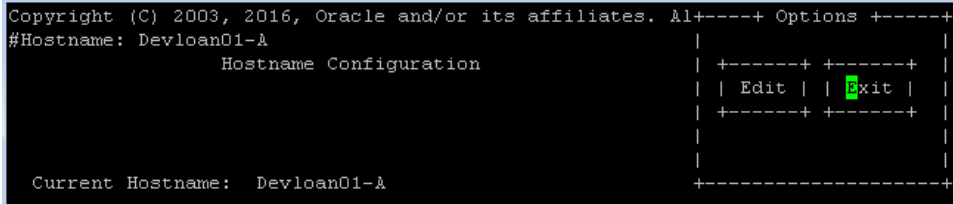
<p>23. <input type="checkbox"/></p>	<p>MPS X: Select [OK] to save the configuration changes. The server will reboot.</p>	 <p>The screenshot shows a BIOS configuration window titled 'root@greenlantern-a:/usr/TKLC/epap/bin'. The 'Exit' menu is open, displaying options: 'Exit Options', 'Save Changes and Exit', 'Discard Changes and Exit', and 'Discard Changes'. A confirmation dialog is shown: 'Save configuration changes and exit setup?' with '[OK]' and '[Cancel]' buttons. The bottom of the window shows 'v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.'</p>
<p>24. <input type="checkbox"/></p>	<p>MPS X: After a few minutes, the BIOS screen will appear, followed by several messages about each of the Ethernet ports in the system, and then by the following message printed by the boot loader, indicating that it is booting the new IPM load.</p>	 <p>The screenshot shows the GNU GRUB boot loader interface. At the top, it says 'GNU GRUB version 0.97 (627K lower / 3668736K upper memory)'. A menu entry is highlighted: 'TPD (2.6.32-754.35.1.el6prere17.8.0.0.0 89.4.0.x86 64)'. Below the menu, instructions are provided: 'Use the ^ and v keys to select which entry is highlighted. Press enter to boot the selected OS or 'p' to enter a password to unlock the next set of features. The highlighted entry will be booted automatically in 1 seconds.'</p>
<p>25. <input type="checkbox"/></p>	<p>MPS X:Log in to the server as the user "root"</p>	<p>console login: root password: <root_password></p>
<p>26. <input type="checkbox"/></p>	<p>MPS X: Verify that the platform revision is same as the TPD ISO used.</p>	<pre># getPlatRev 7.8.0.0.0_89.5.0</pre>
<p>27. <input type="checkbox"/></p>	<p>Procedure complete.</p>	<p>This procedure is complete.</p>

Procedure 6. Pre Installation Configuration

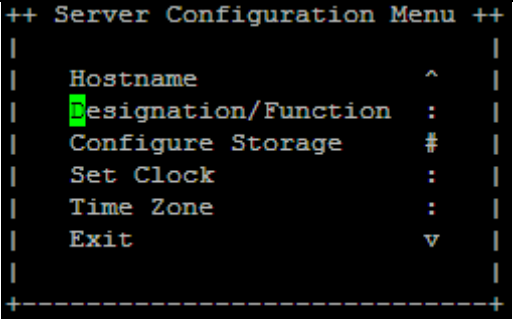
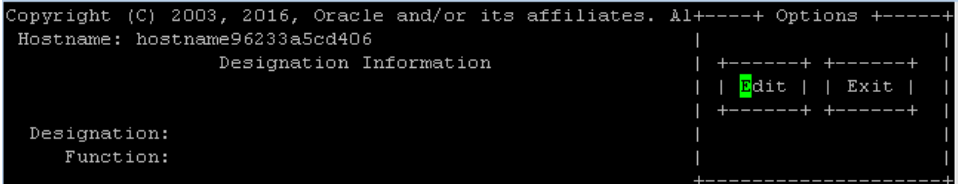
Procedure 6: Set up hostname, Server Designation and Time

<p>S T E P #</p>	<p>This procedure provides instructions to perform pre configuration for an initial install of the application.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT THE TEKELEC CUSTOMER CARE CENTER AND ASK FOR ASSISTANCE.</p>	
<p>1. <input type="checkbox"/></p>	<p>Connect to the Server.</p>	<p>If not already connected, connect to the E5-APP-B card via the serial port.</p> <p>For connecting the E5-APP-B A card, disconnect the console cable from the serial port on the E5-APP-B B card’s adapter. The cable should be disconnected at the point where it connects to the serial port labeled ‘S1’ on the E5-APP-B B card’s adapter and use it for serial access. Cable part numbers - 830-1220-xx</p>
<p>2. <input type="checkbox"/></p>	<p>MPS X: Log in as “admusr” user.</p>	<p>If not already logged in, then login as “admusr”:</p> <pre>[hostname] consolelogin: admusr password: password</pre>
<p>3. <input type="checkbox"/></p>	<p>MPS X: Start platcfg utility.</p>	<pre>\$ sudo su - platcfg</pre>
<p>4. <input type="checkbox"/></p>	<p>MPS X: Navigate to the Server Configuration screen.</p>	<p>Select Server Configuration and press[ENTER]</p>  <pre>+-----+ Main Menu +-----+ Maintenance ^ Diagnostics : Server Configuration # Security : Remote Consoles : Network Configuration : Exit v +-----+</pre>
<p>5. <input type="checkbox"/></p>	<p>MPS X: Navigate to the Hostname screen.</p>	<p>Select Hostname and press[ENTER]</p>  <pre>++ Server Configuration Menu ++ Hostname ^ Designation/Function # Configure Storage : Set Clock : Time Zone : Exit v +-----+</pre>
<p>6. <input type="checkbox"/></p>	<p>MPS X: Select Edit to edit the hostname.</p>	<p>Select Edit and press[ENTER]</p>

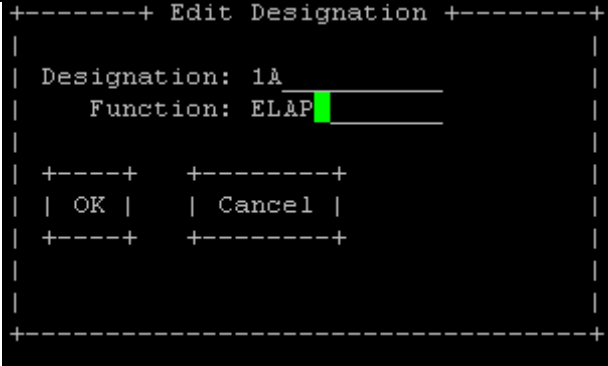

Procedure 6: Set up hostname, Server Designation and Time

		
<p>7. <input type="checkbox"/></p>	<p>MPS X: Enter the hostname and press ok.</p>	<p>Delete the default entry and enter the Hostname. Press OK when done.</p>  <p>While connected to the serial console, some console output might come when the user is using the serial console to configure the ELAP. Those serial output are harmless and can be ignored.</p>
<p>8. <input type="checkbox"/></p>	<p>MPS X: Exit Back to the Server Configuration Menu.</p>	<p>Select EXIT to exit back to the Server Configuration Menu. Verify that the hostname has been properly set.</p> 
<p>9. <input type="checkbox"/></p>	<p>MPS X: Navigate to the Designation/Function menu option.</p>	<p>Select Designation/Function and press[ENTER]</p>

Procedure 6: Set up hostname, Server Designation and Time

		
<p>10. <input type="checkbox"/></p>	<p>MPS X: Select “Edit” from the options dialogue box.</p> <p>Set the Designation as “1A” on Server A and as “1B” on Server B, Function as “ELAP” and press “OK”.</p> <p>NOTE: Designation and Function should be entered in UPPERCASE.</p>	<p>The screen will show the current designation and function setting. On initial install, these fields are blank.</p>  <p>If not blank the values should be as follows.</p> <ol style="list-style-type: none"> 1. The Designation is: <ol style="list-style-type: none"> a. “1A” for the A server b. “1B” for the B server 2. The Function field should be set to ELAP. <p>If either value is not correct, then select Edit and press [ENTER]. If both values are correct, select Exit, press [ENTER] and skip the next step.</p>
<p>11. <input type="checkbox"/></p>	<p>MPS X: Verify that the Designation and Function information is correct then select and press “Exit”.</p>	<p>Skip to Step 12, if Exit was selected in the previous step, otherwise if Edit was selected, delete the current designation and function if already set, and type in the desired values. Enter the appropriate designation in the Designation field (Note: The designation must be capitalized). Select OK and press [ENTER].</p>

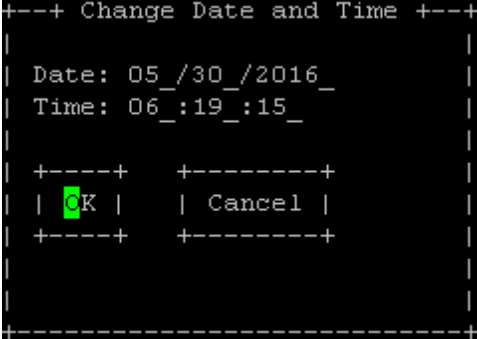

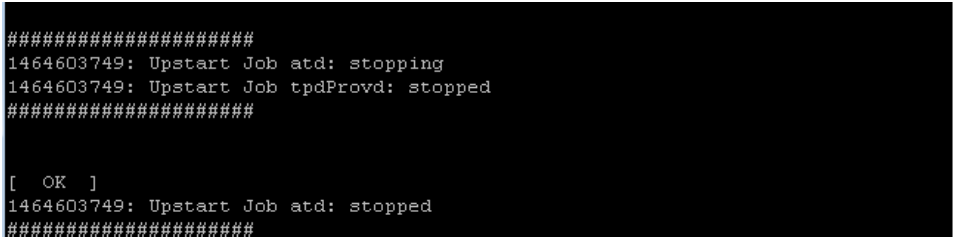
Procedure 6: Set up hostname, Server Designation and Time

		 <pre> +-----+ Edit Designation +-----+ Designation: 1A _____ Function: ELAP █ _____ +----+ +-----+ OK Cancel +----+ +-----+ +-----+ </pre>
<p>12. <input type="checkbox"/> MPS X: Using the arrow keys navigate to the “Time Zone” menu and press Enter.</p> <p>Select the “Edit” button and press Enter.</p>		 <pre> ++ Server Configuration Menu ++ Hostname ^ Configure Storage : Designation/Function : Set Clock # █ Time Zone : Exit v +-----+ Copyright (C) 2003, 2016, Oracle and/or its affiliates. All rights reserved. Hostname: devloan-01 Time Zone Configuration +-----+ +-----+ Edit Exit +-----+ +-----+ Time Zone: America/New_York Hardware Clock Set to GMT: yes </pre>

Procedure 6: Set up hostname, Server Designation and Time

<p>13. <input type="checkbox"/></p>	<p>MPS X: Using the arrow keys navigate to the appropriate “Time Zone” selection. Ensure that it is highlighted.</p> <p>Ensure the “System clock uses UTC” is set. If it is not set, use the “Tab” key to highlight it and press the “Space Bar”.</p> <p>Once the appropriate time zone is highlighted press the “Tab” key to highlight the “OK” button and press Enter.</p> <p>Using the “Tab” or arrow keys highlight the “Exit” button and press Enter.</p>	<pre> +-----+ Select Time Zone Menu +-----+ America/Matamoros ^ America/Mazatlan : America/Mendoza : America/Menominee : America/Merida : America/Metlakatla # America/Mexico_City : America/Miquelon : America/Moncton : America/Monterrey : America/Montevideo : America/Montreal : America/Montserrat : America/Nassau : America/New_York : America/Nipigon : America/Nome v +-----+ +-----+ Time Zone +-----+ Set hardware clock to GMT? +-----+ +-----+ Yes No +-----+ +-----+ +-----+ </pre>
<p>14. <input type="checkbox"/></p>	<p>MPS X: Using the arrow keys navigate to the appropriate “Set Clock” menu and press Enter.</p> <p>Using the “Tab” key highlight the “Edit” button and press Enter.</p>	<pre> ++ Server Configuration Menu ++ Hostname ^ Configure Storage : Designation/Function : Set Clock # Time Zone : Exit v +-----+ Copyright (C) 2003, 2016, Oracle and/or its affiliates. All+-----+ Options +-----+ Hostname: devloan-01 Time Configuration +-----+ +-----+ Edit Exit +-----+ +-----+ +-----+ Current Date: 05/30/2016 Current Time: 06:18:40 </pre>
<p>15. <input type="checkbox"/></p>	<p>MPS X: Using the “Tab” key to cycle</p>	

Procedure 6: Set up hostname, Server Designation and Time

	<p>between the fields, set the Date and Time to the current date and time.</p> <p>Using the “Tab” key navigate to the “OK” button and press Enter.</p> <p>NOTE: All systems default to Eastern time post IPM. It is important to set the time for the time zone specified in step 13, at this time.</p>	
<p>16. <input type="checkbox"/></p>	<p>MPS X: Exit from platcfg menu.</p>	 <p>Select EXIT until the platcfg menu is closed and the command line is displayed.</p>
<p>17. <input type="checkbox"/></p>	<p>MPS X: Reboot the Server.</p>	<pre># sudo reboot</pre> 
<p>18. <input type="checkbox"/></p>	<p>MPS B: Perform configuration</p>	<p>Repeat steps 1 to 17 on ELAP B.</p>
<p>19. <input type="checkbox"/></p>	<p>Procedure complete.</p>	<p>This procedure is complete.</p>

Procedure 7. ELAP Installation

Procedure 7: Install Application on server A

S T E P #	<p>This procedure installs the application on the server.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT THE TEKELEC CUSTOMER CARE CENTER AND ASK FOR ASSISTANCE.</p>	
1. <input type="checkbox"/>	<p>MPS A: Log in as “admusr” user.</p>	<p>If not already logged in, then login as “admusr”:</p> <pre>consolelogin: admusr password: password</pre>
2. <input type="checkbox"/>	<p>MPS A: Put ISO image on ELAP server.</p>	<p>Use any of the following methods to put ELAP 10.2 ISO image on the ELAP server.</p> <ol style="list-style-type: none"> a. Perform ISO image generation from USB media using Procedure 20. b. Copy ISO to /var/TKLC/upgrade directory. Note: To execute this step, the provisional IP of the ELAP server must be set via platcfg menu.
3. <input type="checkbox"/>	<p>MPS A: Start platcfg utility.</p>	<pre>\$sudo su - platcfg</pre>
4. <input type="checkbox"/>	<p>MPS A: Select the Maintenance submenu.</p>	<p>The platcfg Main Menu appears.</p> <p>On the Main Menu, select Maintenance and press [ENTER].</p> <pre>+-----+ Main Menu +-----+ Maintenance ^ Diagnostics # Server Configuration : Network Configuration : Security : Remote Consoles : Exit v +-----+</pre> <p>Select the Upgrade menu and press [ENTER].</p> <pre>+----+ Maintenance Menu +----+ Upgrade ^ Halt Server # Backup and Restore : View Mail Queues : Restart Server : Eject CDROM : Save Platform Debug Logs : Exit v +-----+</pre> <p>Select the Validate media menu and press [ENTER].</p>

Procedure 7: Install Application on server A

```

+-----+ Upgrade Menu +-----+
|
| Validate Media                ^
| Early Upgrade Checks         :
| Initiate Upgrade              #
| Copy USB Upgrade Image        :
| Non Tekelec RPM Management    :
| Exit                          v
|
+-----+

```

Early upgrade checks should be passed before upgrade is started.

```

Starting Early Upgrade Checks at 1461120777
Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::TPDEarlyChecks upgrade po
lICY...
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!
User has requested just to run early checks.
No upgrade will be performed...
Early Upgrade Checks finished at 1461120782

PRESS ANY KEY TO RETURN TO THE PLATCFG MENU.

```

If the Early Upgrade Checks fail due to the ongoing syncing of raid mirrors, then wait until the resync is completed and run the “Early Upgrade Checks” again.

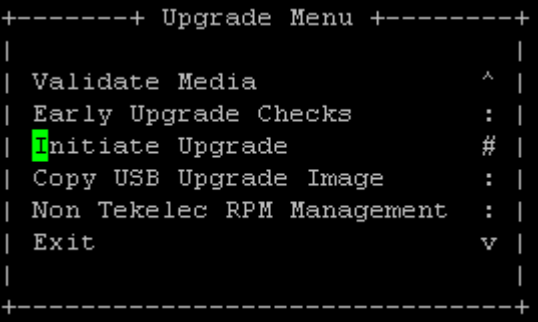
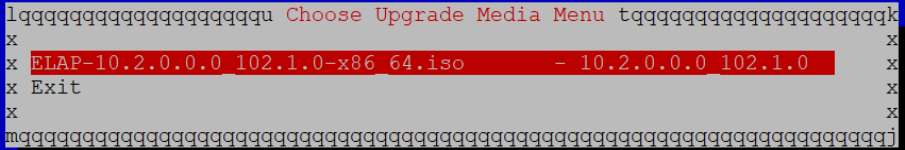
```

Early Checks failed for the next upgrade
Look at earlyChecks.log for more info
Starting Early Upgrade Checks at 1464335149
Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::TPDEarlyChecks upgrade po
lICY...
Verified server is not pending accept of previous upgrade
ERROR: Raid mirrors are syncing!
ERROR: md3 is syncing!
ERROR: earlyUpgradeChecks() code failed for Upgrade::EarlyPolicy::TPDEarlyChecks
ERROR: Failed running earlyUpgradeChecks() code
Hardware architectures match
Install products match.
No Application installed yet.. Skip alarm check!
ERROR: Early Upgrade Checks Failed!
User has requested just to run early checks.
No upgrade will be performed...
Early Upgrade Checks finished at 1464335150

PRESS ANY KEY TO RETURN TO THE PLATCFG MENU

```

Procedure 7: Install Application on server A

		<pre>[root@Devloan01-A ~]# cat /proc/mdstat Personalities : [raid1] md2 : active raid1 sda2[0] sdb2[1] 26198016 blocks super 1.1 [2/2] [UU] bitmap: 0/1 pages [0KB], 65536KB chunk md1 : active raid1 sda3[0] sdb3[1] 262080 blocks super 1.0 [2/2] [UU] md3 : active raid1 sdb1[1] sda1[0] 442224640 blocks super 1.1 [2/2] [UU] [=====>.....] resync = 79.8% (352930432/442224640) finish=20.3m in speed=73226K/sec bitmap: 3/4 pages [12KB], 65536KB chunk</pre> <p>Contact My Oracle Support by following the instructions on the front page or the instructions in the Appendix E if the early Upgrade checks fail due to any other reason.</p> <p>Select the Initiate Upgrade menu and press [ENTER].</p> 
<p>5. <input type="checkbox"/></p>	<p>MPS A: Select the Incremental upgrade Media.</p>	<p>The screen displays a message that it is searching for upgrade media. When the upgrade media is found, an Upgrade Media selection menu appears similar to the example below. Select the desired upgrade media and press [ENTER].</p>  <p>NOTE: Output is dependent on target release.</p> <p>Here first one is the TPD iso. Second iso is for ELAP application.</p> <p>The screen displays the output like following, indicating that the incremental upgrade software is first running the upgrade checks, and then proceeding with the upgrade.</p> <pre>No Application installed yet.. Skip alarm check! Verified all raid mirrors are synced. Early Upgrade Checks Have Passed! Early Upgrade Checks finished at 1447429031 Initializing upgrade information...</pre>

Procedure 7: Install Application on server A

<p>6. <input type="checkbox"/></p>	<p>MPS A: Press [ENTER] to start installation.</p> <p>Many informational messages will come across the terminal screen as the installation proceeds.</p> <p>Finally, after successful completion of ELAP install, the server should reboot and login prompt should appear</p>	<p>After the final reboot, the screen displays the login prompt as in the example below.</p> <pre> ***** (Logger.C:197) 2002-01-01 19:31:42 [139685129893856] INFO - Unable to read log configuration v alues from database: 1005:DbSession.C:162:The thread is not attached to a sessio n. (Logger.C:200) 2002-01-01 19:31:42 [139685129893856] INFO - Error loading log configuration fr om database: 1005:DbSession.C:162:The thread is not attached to a session. (Logger.C:283) 2002-01-01 19:31:42 [139685129893856] WARN - 1001:DbSession.C:128:Database Erro r: Can't connect to local MySQL server through socket '/var/lib/mysql/mysql.sock ' (2) (exqueue.C:352) ExQueue started. Starting TKLCe5appb: [OK] Checking network config files: [OK] Daemon is not running... AlarmMgr daemon is not running, delaying by 1 minute Starting smartd: [OK] TKLChwmgmtcli stop/pre-start, process 8677 s 8688 TPDhpDiskStatus stop/pre-start, proces Authorized uses only. All activity may be monitored and reported. Natal-A login: █ </pre>
<p>7. <input type="checkbox"/></p>	<p>MPS A: Log in as “elapdev” user.</p>	<p>If not already logged in, then login as “elapdev”:</p> <pre> consolelogin: elapdev password: password </pre>
<p>8. <input type="checkbox"/></p>	<p>MPS A: Verify that installation is complete and no error occurred during installation.</p>	<pre> \$ grep "Upgrade returned success" /var/TKLC/log/upgrade/upgrade.log 1461121282:::Upgrade returned success! \$ grep -i error /var/TKLC/log/upgrade/upgrade.log </pre> <p>Check the output of the upgrade log, contact the My Oracle Support by following the instructions in the Appendix E, if the output contains any errors beside the following:</p> <p>Variable and RPMs that might contain the word error in them</p> <p>Example:</p> <pre> 1461121117:: U> perl-Class-ErrorHandler-0.04-10.1.0.0.0_101.4.0.noarch 1461121127::perl-Class-ErrorHandler 1467008173::myisamchk: error: File '/var/TKLC/appl/drbd/mysql/data/*/*.MYI' doesn't exist 1467008173::myisamchk: error: File '/var/TKLC/appl/drbd/mysql/data/*/*.MYI' doesn't exist 1467008173::myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/appl/db/appconfig/mysql/columns_priv.MYI' 1467008173::myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/appl/db/appconfig/mysql/db.MYI' 1467008173::myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/appl/db/appconfig/mysql/event.MYI' 1467008174::FATAL ERROR: Tried to start mysqld under group [mysqld1], 1467008174::/bin/chown: cannot access `/usr/TKLC/elap/logs/ebdad_error.log': No such file or directory 1467008174::/bin/chown: cannot access </pre>

Procedure 7: Install Application on server A

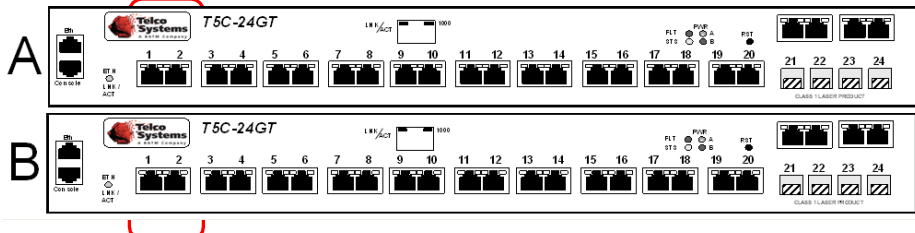
		<pre> `/usr/TKLC/elap/logs/hsopd_error.log': No such file or directory Incremental Upgrade/Installation Guide ELAP 10.2 Revision 2.0 41 of 116 November 2021 Procedure 7: Install Application on server A 1467008174::/bin/chown: cannot access `/usr/TKLC/elap/logs/maint_error.log': No such file or directory 1467008174::/bin/chown: cannot access `/usr/TKLC/elap/logs/prov_error.log': No such file or directory 1467008174::/bin/chown: cannot access `/usr/TKLC/elap/logs/trpd_error.log': No such file or directory ##### Similar to the above mentioned errors of myisamchk, several other errors are also observed which needs to be ignored. All those messages are expected, and therefore aren't considered errors. \$grep -i error /var/TKLC/log/upgrade/ugwrap.log Check the output of the ugwrap log. If the output contains any errors, contact the My Oracle Support by following the instructions in the Appendix E. NOTE: After ELAP is installation is complete, the below mentioned logging is observed on ELAP CLI. These errors can be ignored and they will not be observed, once the key exchange is performed successfully. # drbd drbd0/0 drbd0: ambiguous node id: meta-data: 0, config: 1 WARN: stdin/stdout is not a TTY; using /dev/console..... ***** DRBD's startup script waits for the peer node(s) to appear. - If this node was already a degraded cluster before the reboot, the timeout is 5 seconds. [degr-wfc-timeout] - If the peer was available before the reboot, the timeout is 10 seconds. [wfc-timeout] (These values are for resource 'drbd0'; 0 sec -> wait forever) To abort waiting enter 'yes' [10]: # drbd drbd0: State change failed: Can not disconnect a StandAlone device # drbd drbd0: State change failed: Can not disconnect a StandAlone device # drbd drbd0: State change failed: Can not disconnect a StandAlone device 'drbd drbd0 tcp:unknown-b: Closing unexpected connection from 192.168.61.104' & 'drbd drbd0 tcp:unknown-b: Closing unexpected connection from 192.168.61.105' NOTE: After ELAP is installation is complete, gsConnect.pl core is observed on the server which can be ignored and deleted from the server. \$ls -lrt /var/TKLC/core -rw----- 1 root root 49807360 Jul 26 01:52 core.gsConnect.pl.7030 -rw-r----- 1 root root 2248 Jul 26 01:53 core.gsConnect.pl.7030.bt Delete core file using below command: \$ rm /var/TKLC/core/ core.gsConnect* </pre>
<p>9. <input type="checkbox"/></p>	<p>MPS A: Verify ELAP release.</p>	<pre>\$ rpm -qi TKLCelap</pre>

Procedure 7: Install Application on server A

		<p>Name : TKLCelap Relocations: (not relocatable) Version : 5.0.55 Vendor: Tekelec Release : 10.2.1.0.0_102.13.0 Build Date: Thu 08 Jul 2021 02:01:35 PM EDT Install Date: Mon 12 Jul 2021 03:00:40 AM EDT Build Host: coach-12.tekelec.com Group : Development/Build Source RPM: TKLCelap-5.0.55-10.2.1.0.0_102.13.0.src.rpm Size : 131038205 License: © TEKELEC 2018 Signature : (none) Packager : <@tekelec.com> URL : http://www.tekelec.com/ Summary : Oracle Communications ELAP Package Description :</p> <p>This is the Oracle Communications EAGLE LNP Application Processor(ELAP) packa The package installs ELAP software. Eagle LNP Application Processor (ELAP) provides REALLY INCREDIBLE Database (RIDB). ELAP provides the LNP feature.</p>
<p>10. <input type="checkbox"/></p>	<p>MPS B: Install ELAP on server B.</p>	<p>Repeat steps 1 to 9, on MPS B.</p>
<p>11. <input type="checkbox"/></p>	<p>MPS A and MPS B: Procedure complete.</p>	<p>This procedure is complete.</p>

Procedure 8. Switch Configuration

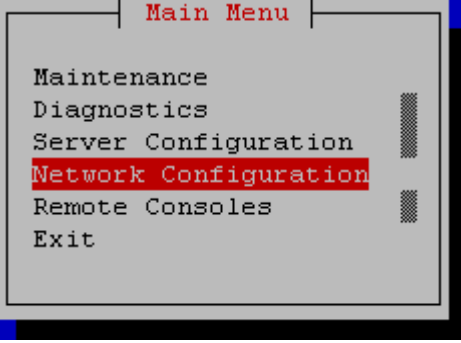
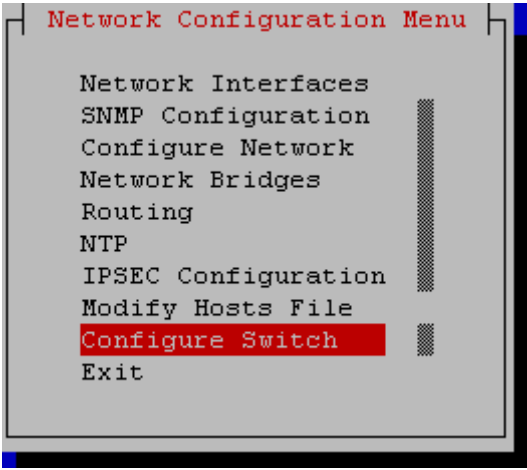
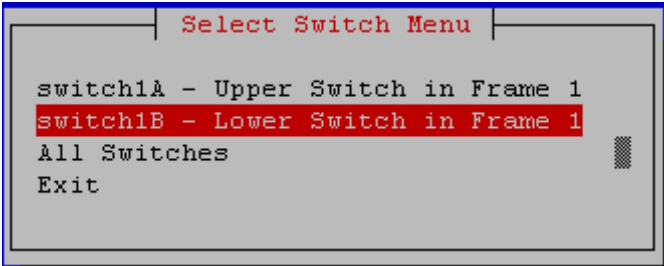
Procedure 8: Switch Configuration

<p>S T E P #</p>	<p>This procedure Configures the Switches of a newly installed ELAP Server Pair. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF THIS PROCEDURE FAILS, CONTACT THE TEKELEC CUSTOMER CARE CENTER AND ASK FOR ASSISTANCE.</p>	
<p>1. <input type="checkbox"/></p>	<p>Make the cross-over cable connections.</p>	<p style="text-align: center;">NOTE: THIS IS IMPORTANT</p> <p>CONNECT the LAG cable from Port 1 of Switch1A to Port 1 of Switch1B.</p> <p>DISCONNECT the LAG cable from Port 2 of Switch1A to Port 2 of Switch1B.</p>  <p>Please make a note that the switch configuration should only be attempted by a skilled technician.</p>

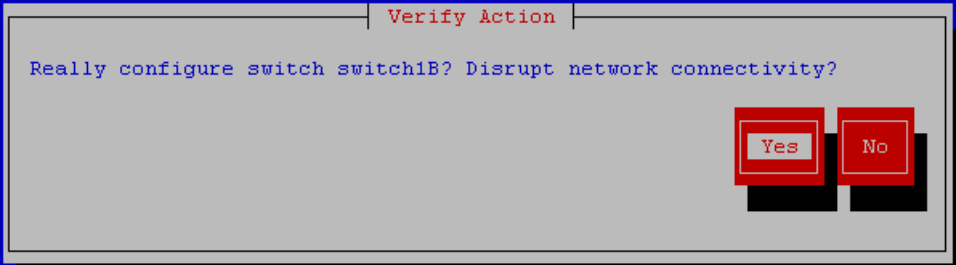
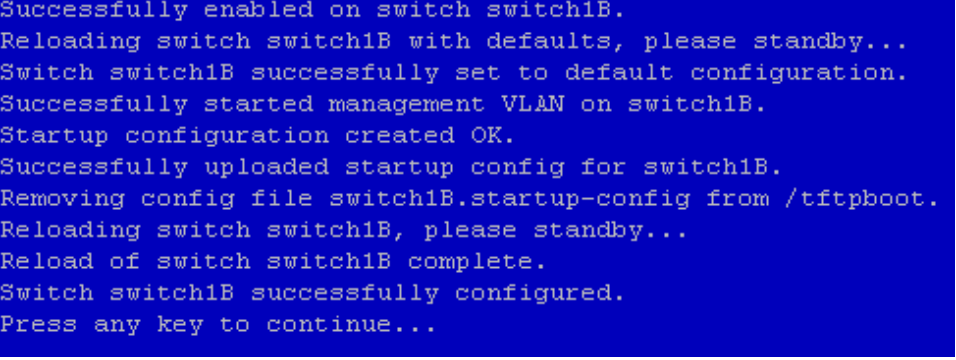
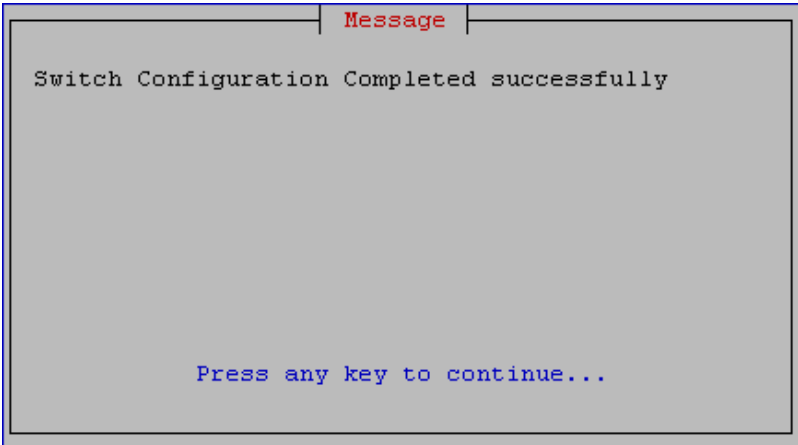
Procedure 8: Switch Configuration

		<p>All uplinks should be removed while switch configuration.</p> <p>There should not be any loop in the switches during their configuration.</p>
2. <input type="checkbox"/>	MPS A: Console login.	<p>Login using serial console.</p> <pre>consolelogin: root password: password</pre>
3. <input type="checkbox"/>	MPS A: Start services for switch configuration	<p>Change the startup information for tftp:</p> <pre># chkconfig tftp on</pre> <p>Change the startup information for xinetd:</p> <pre># chkconfig xinetd on</pre> <p>Start xinetd</p> <pre># service xinetd start</pre>
4. <input type="checkbox"/>	MPS A: Verify the bond0 configuration.	<p>Verify that the eth03 is the default primary port of the bond0.</p> <pre># cat /proc/net/bonding/bond0 grep "Currently Active Slave" Currently Active Slave: eth03</pre>
5. <input type="checkbox"/>	MPS A: Set the permissions for BiNOS-T5CL3_24G-G_v8.6.R6.2.bin	<p>Change the permissions of BinOS file to 644</p> <pre># chmod 644 /var/TKLC/switchconfig/BiNOS-T5CL3_24G-G_v8.6.R6.2.binbin</pre> <p>Verify the permission of the file</p> <pre># ls -l /var/TKLC/switchconfig total 4432 -rw-r--r-- 1 root root 4537660 Nov 10 07:26 BiNOS-T5CL3_24G-G_v8.6.R6.2.bin</pre>
6. <input type="checkbox"/>	MPS A: Start platcfg utility.	<pre># su - platcfg</pre>
7. <input type="checkbox"/>	MPS A: Navigate to the Network Configuration Menu.	<p>On the platcfg Main Menu, select Network Configuration and press [ENTER].</p>

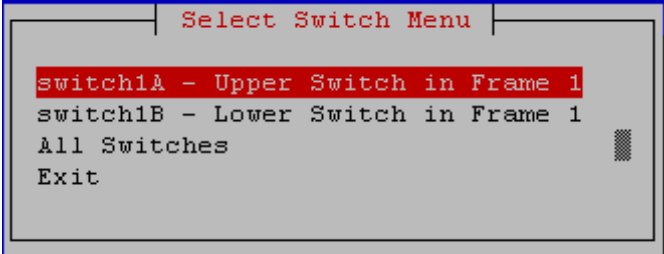
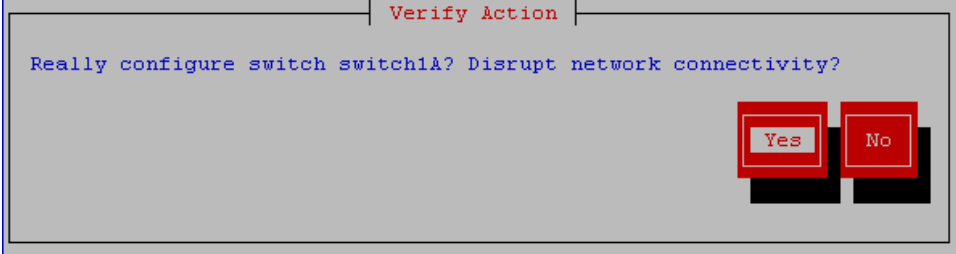

Procedure 8: Switch Configuration

		 <p>The screenshot shows a terminal window titled "Main Menu" with the following options: Maintenance, Diagnostics, Server Configuration, Network Configuration (highlighted in red), Remote Consoles, and Exit.</p>
<p>8. <input type="checkbox"/></p>	<p>MPS A: Navigate to the Configure Switch Menu.</p>	<p>On the Network Configuration menu, select Configure Switch and press [ENTER].</p>  <p>The screenshot shows a terminal window titled "Network Configuration Menu" with the following options: Network Interfaces, SNMP Configuration, Configure Network, Network Bridges, Routing, NTP, IPSEC Configuration, Modify Hosts File, Configure Switch (highlighted in red), and Exit.</p>
<p>9. <input type="checkbox"/></p>	<p>MPS A: Select to configure "switch1B – Lower Switch in Frame 1" and press Enter.</p>	<p>On the Select Switch Menu, select "switch1B – Lower Switch in Frame 1" and press [ENTER].</p>  <p>The screenshot shows a terminal window titled "Select Switch Menu" with the following options: switch1A - Upper Switch in Frame 1, switch1B - Lower Switch in Frame 1 (highlighted in red), All Switches, and Exit.</p>
<p>10. <input type="checkbox"/></p>	<p>MPS A: Confirm Switch Configuration.</p>	<p>Select Yes and press [ENTER] to configure Switch 1B.</p>

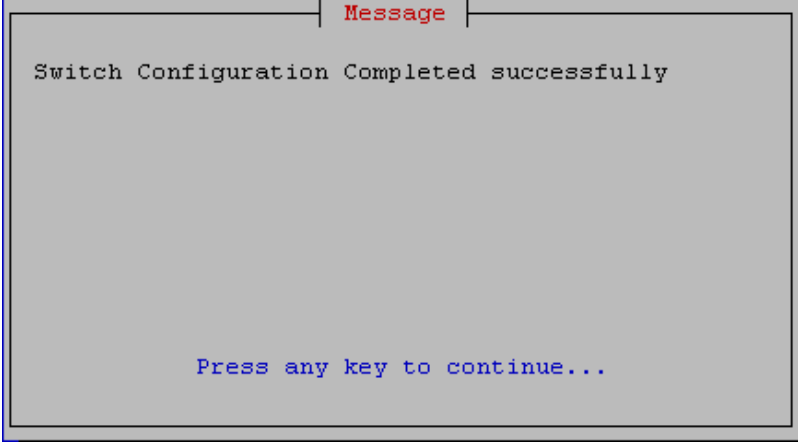
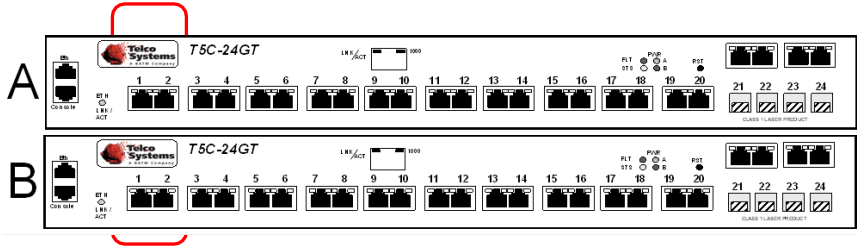
Procedure 8: Switch Configuration

		
<p>11. <input type="checkbox"/></p>	<p>MPS A: Switch Configuration Screen.</p>	<p>Configuring the switch takes about 10 minutes, once complete press [ENTER] to continue.</p> 
<p>12. <input type="checkbox"/></p>	<p>MPS A: Switch Configuration completion screen.</p>	<p>The switch configuration completion screen is displayed. Press [ENTER] to continue.</p> 
<p>13. <input type="checkbox"/></p>	<p>MPS A: Select to configure “switch1A – Upper Switch in Frame 1” and press Enter.</p>	<p>On the Select Switch Menu, select “switch1A – Upper Switch in Frame 1” and press [ENTER].</p>

Procedure 8: Switch Configuration

		
<p>14. <input type="checkbox"/></p>	<p>MPS A: Confirm Switch Configuration.</p>	<p>Select Yes and press [ENTER] to configure Switch 1A.</p> 
<p>15. <input type="checkbox"/></p>	<p>MPS A: Switch Configuration Screen.</p>	<p>Configuring the switch takes about 10 minutes, once complete press [ENTER] to continue.</p> 
<p>16. <input type="checkbox"/></p>	<p>MPS A: Switch Configuration completion screen.</p>	<p>The switch configuration completion screen is displayed. Press [ENTER] to continue.</p>

Procedure 8: Switch Configuration

		
<p>17. <input type="checkbox"/></p>	<p>MPS A: Exit out of platcfg.</p>	<p>Select Exit and press [ENTER] to return to the Network Configuration Menu. Select Exit and press [ENTER] to return to the Main Menu. Select Exit and press [ENTER] to exit out of platcfg.</p>
<p>18. <input type="checkbox"/></p>	<p>MPS A: Connect the cross-over cable from Port 2 of Switch1A to Port 2 of Switch1B at this time.</p>	<p>Make sure that the LAG cable is connected from Port 1 of Switch1A to Port 1 of Switch1B.</p> <p>CONNECT the LAG cable from Port 2 of Switch1A to Port 2 of Switch1B.</p> 
<p>19. <input type="checkbox"/></p>	<p>MPS A: Stop services after switch configuration.</p>	<p>Change the startup information for tftp: <code># chkconfig tftp off</code></p> <p>Change the startup information for xinetd: <code># chkconfig xinetd off</code></p> <p>Stop xinetd <code># service xinetd stop</code></p>
<p>20. <input type="checkbox"/></p>	<p>Procedure complete.</p>	<p>This procedure is complete.</p>

Procedure 9. Configuring the Application

Procedure 9: Configuring the Application

S T E P #	<p>This procedure Configures the application on the server.</p> <p>Check off (✓)each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT THE TEKELEC CUSTOMER CARE CENTER AND ASK FOR ASSISTANCE.</p>	
1. <input type="checkbox"/>	MPS A: Serial Console login.	<p>Login using serial console.</p> <p>login: elapdev password: password</p>
2. <input type="checkbox"/>	MPS A: Switch user to elapconfig.	<code>\$sudo su - elapconfig</code>

Procedure 9: Configuring the Application

<p>3.</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p>MPS A: A note of caution appears. Evaluate the conditions listed. When all the conditions are satisfied, press Return to continue.</p> <p>Enter elapdev and root password when prompted.</p>	<p>Caution: This is the first login of the text user interface. Please review the following checklist before continuing. Failure to enter complete and accurate information at this time will have unpredictable results.</p> <ol style="list-style-type: none"> 1. The mate MPS servers (MPS A and MPS B) must be powered on. 2. "Initial Platform Manufacture" for the mate MPS servers must be complete. 3. The sync network between the mate MPS servers must be operational. 4. You must have the correct password for the elapdev user on the mate MPS server. <p>Press return to continue...</p> <p>Password of elapdev: Could not get authorized keys file from remote (mate). Maybe it does not exist. Continuing... ssh is working correctly.</p> <p>Password of root: Could not get authorized keys file from remote (mate). Maybe it does not exist. Continuing... ssh is working correctly.</p> <p>Password of admusr: Could not get authorized keys file from remote (mate). Maybe it does not exist. Continuing... ssh is working correctly.</p> <p>Password of root: ssh is working correctly.</p> <p>Performing DRBD configuration. Creating the DB Data directory. Moving DB files to the DRBD Volume. Changing ownership to mysql. Updating my.cnf. Restarting mysqld. Building the initial database on side A. Checking if EuiDB database exists: No preexisting EuiDB database was detected. Creating EuiDB database. Creating Alarms database. Creating Ulog database. Creating EuiDB, Alarms and Ulog tables. FIPS integrity verification test failed. FIPS integrity verification test failed. /bin/chmod: cannot access `/var/TKLC/elap/drbd/mysql/data/EuiDB': No such file or directory</p>
<p>4.</p>	<p>MPS A: The ELAP Configuration Menu is displayed. Select choice 7, Configure NTP Server Menu.</p>	<pre> /-----ELAP Configuration Menu ----- \ ----- 1 Display Configuration ----- 2 Configure Network Interfaces Menu ----- 3 Set Time Zone ----- </pre>

Procedure 9: Configuring the Application

		<pre> 4 Exchange Secure Shell Keys 5 Change Password 6 Platform Menu 7 Configure NTP Server 8 Mate Disaster Recovery e Exit -----/ Enter Choice: 7 </pre>
<p>5.</p>	<p>MPS A: The Configure NTP Server Menu is displayed. Select choice 2, Add External NTP Server.</p>	<pre> /-----ELAP Configure NTP Server Menu-\ /-----\ 1 Display External NTP Server 2 Add External NTP Server 3 Remove External NTP Server e Exit -----/ Enter Choice: 2 Are you sure you wish to add new NTP Server? [N]: Y Enter the ELAP NTP Server IP Address: <NTP_server_IP_Addr> External NTP Server [<NTP_server_IP_Addr>] has been added. Press return to continue... </pre>
<p>6.</p>	<p>MPS A: The ELAP Configure NTP Server Menu is displayed. Enter choice 1, Display External NTP Server.</p>	<pre> /-----ELAP Configure NTP Server Menu-\ /-----\ 1 Display External NTP Server 2 Add External NTP Server 3 Remove External NTP Server e Exit -----/ Enter Choice: 1 ntpserver1 <ntp server 1 IP> Press return to continue... </pre>
<p>7. <input type="checkbox"/></p>	<p>MPS A: The ELAP Configure NTP Server Menu is displayed. Select choice, Exit. Otherwise, if more NTP servers are to be added, then repeat steps 5 to 7.</p>	<pre> /-----ELAP Configure NTP Server Menu-\ /-----\ 1 Display External NTP Server 2 Add External NTP Server 3 Remove External NTP Server e Exit -----/ EnterChoice: e </pre>

Procedure 9: Configuring the Application

<p>8.</p>	<p>MPS A: Run the following command on a separate window.</p>	<pre>ntpq -p remote refid st t when poll reach delay offset jitter ===== ntpserver1 .INIT. 16 - - 512 0 0.000 0.000 0.000</pre> <p>Make sure that delay and offset is zero. If delay and offset is not zero, follow step 9. Otherwise skip step 10.</p>
<p>9.</p>	<p>MPS A: Run the following command.</p>	<pre>Switch to admusr: \$su - admusr password:<enter admusr password> \$sudo service ntpd stop Shutting down ntpd: [OK] \$sudo /usr/sbin/ntpdate ntpserver1 20 Apr 01:56:45 ntpdate[23597]: no servers can be used, exiting \$ sudo service ntpd start Starting ntpd: [OK] Exit as admusr: \$exit</pre>
<p>10.</p>	<p>MPS A: The ELAP Configuration Menu is displayed. Select choice 2, Configure Network Interfaces Menu.</p>	<pre>/-----ELAP Configuration Menu ----- \ / 1 Display Configuration 2 Configure Network Interfaces Menu 3 Set Time Zone 4 Exchange Secure Shell keys 5 Change Password 6 Platform Menu 7 Configure NTP Server 8 Mate Disaster Recovery e Exit \-----/ Enter Choice: 2</pre>
<p>11.</p>	<p>MPS A: Configure Network Interfaces Menu is displayed. Select choice 1, Configure Provisioning Network Menu.</p>	<pre>/-----Configure Network Interfaces Menu----- \ / 1 Configure Provisioning Network 2 Configure DSM Network 3 Configure Forwarded Ports 4 Configure Static NAT Addresses e Exit \-----/ Enter Choice: 1</pre>

Procedure 9: Configuring the Application

<p>12. <input type="checkbox"/></p>	<p>MPS A: Enter the IP addresses, subnet mask, default gateway and Virtual IP address when prompted.</p>	<pre>Verifying connectivity with mate... ELAP A provisioning network IP Address [192.168.61.104]: 192.168.59.9 ELAP B provisioning network IP Address [192.168.61.105]: 192.168.59.10 ELAP provisioning network netmask [255.255.255.0]: 255.255.255.0 ELAP provisioning network default router [192.168.61.250]: 192.168.59.250 ELAP local provisioning Virtual IP Address [192.168.61.106]: 192.168.59.22 Please Wait, this may take a while... Note: The Configure Provisioning Network lets you accept the default IP address values presented by the configuration software (by pressing Return) for ELAP A and ELAP B provisioning network and network netmask, or to enter specific IP values previously received from the customer for the MPS.</pre>
<p>13. <input type="checkbox"/></p>	<p>MPS A: The Configure Network Interfaces menu is displayed. Select choice e, Exit.</p>	<pre>/-----Configure Network Interfaces Menu ---- \ /-----\ 1 Configure Provisioning Network ----- ----- 2 Configure Sync Network ----- ----- 3 Configure DSM Network ----- ----- 4 Configure Backup Provisioning Network ----- ----- 5 Configure Forwarded Ports ----- ----- 6 Configure Static NAT Addresses ----- ----- 7 Configure Provisioning VIP Addresses ----- ----- e Exit \-----/ EnterChoice:e</pre>

Procedure 9: Configuring the Application

<p>14. <input type="checkbox"/></p>	<p>MPS A: The ELAP Configuration Menu is displayed. Enter choice 1 to display the configuration.</p>	<pre> /-----ELAP Configuration Menu ----- \ /-----\ 1 Display Configuration ----- 2 Configure Network Interfaces Menu ----- 3 Set Time Zone ----- 4 Exchange Secure Shell Keys ----- 5 Change Password ----- 6 Platform Menu ----- 7 Configure NTP Server ----- 8 Mate Disaster Recovery ----- e Exit \-----/ Enter Choice: 1 </pre>
<p>15. <input type="checkbox"/></p>	<p>MPS A: The configuration information is displayed. Verify that the configuration data displayed is correct.</p> <p>Output truncated for brevity.</p> <p>Be sure to verify all relevant data configurations.</p>	<pre> ELAP A Provisioning Network IP Address = 192.168.59.9 ELAP B Provisioning Network IP Address = 192.168.59.10 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.59.250 Provisioning VIP = 192.168.59.22 ELAP A Sync Network Address = 169.254.1.100 ELAP B Sync Network Address = 169.254.1.200 ELAP A Main DSM Network Address = 192.168.120.100 ELAP B Main DSM Network Address = 192.168.120.200 ELAP A Backup DSM Network Address = 192.168.121.100 ELAP B Backup DSM Network Address = 192.168.121.200 ELAP A HTTP Port = 80 ELAP B HTTP Port = 80 ELAP A HTTPS Port = 443 ELAP B HTTPS Port = 443 ELAP A Banner Connection Port = 8473 ELAP B Banner Connection Port = 8473 ELAP A Static NAT Address = Not configured ELAP B Static NAT Address = Not configured ELAP A LSMS Connection Port = 7483 ELAP B LSMS Connection Port = 7483 ELAP A EBDA Connection Port = 1030 ELAP B EBDA Connection Port = 1030 Time Zone = America/New_York Press return to continue... </pre>
<p>16. <input type="checkbox"/></p>	<p>MPS A: Exit from the elapconfig menu</p>	<pre> /-----ELAP Configuration Menu ----- \ /-----\ 1 Display Configuration ----- 2 Configure Network Interfaces Menu ----- 3 Set Time Zone ----- 4 Exchange Secure Shell Keys ----- 5 Change Password ----- </pre>

Procedure 9: Configuring the Application

		<pre> 6 Platform Menu ----- 7 Configure NTP Server ----- 8 Mate Disaster Recovery ----- e Exit \-----/ Enter Choice: e Note: If this menu is not exited properly, then the SSH login with root shall remain enabled. </pre>
<p>17. <input type="checkbox"/></p>	<p>MPS A: Copy RTDB backup from remote machine to MPS A.</p>	<p>Copy RTDB database file from the remote machine to /var/TKLC/elap/free/backup directory. Refer to section 3.1, point 4 for the RTDB backup file details.</p> <pre> \$ cd /var/TKLC/elap/free/backup \$sftp <IP address of remote computer> sftp> cd <target directory> sftp> get <file_name> downloading <file_name> sftp> bye </pre>
<p>18. <input type="checkbox"/></p>	<p>MPS A: Restore the RTDB.</p>	<p>Refer to Procedure 21 to restore the RTDB database on ELAP.</p>
<p>19. <input type="checkbox"/></p>	<p>MPS A and MPS B: Reboot both servers</p>	<p>Perform the following command to reboot the MPS A and MPS B:</p> <pre> \$ sudo init 6 </pre>
<p>20. <input type="checkbox"/></p>	<p>MPS B: Perform HA failover to make MPS B standby</p>	<p>After reboot, check HASTATUS On MPS A, hastatus should be active.</p> <pre> \$ hastatus ACTIVE </pre> <p>On MPS B, hastatus should be standby.</p> <p>If hastatus on MPS B is “UNINITIALIZED INHIBITED”, then perform HA failover on MPS B to make it standby</p> <pre> \$ hastatus UNINITIALIZED "INHIBITED" \$sudo /usr/TKLC/plat/sbin/hafailover --noinhibit \$hastatus STANDBY </pre>
<p>21. <input type="checkbox"/></p>	<p>MPS A: Start the ELAP Application. Note: ELAP will not start again if it the processes are already started.</p>	<pre> \$ /etc/init.d/Elap start ~~ /etc/init.d/Elap start ~~ ELAP application started Successfully. </pre>

Procedure 9: Configuring the Application

22. <input type="checkbox"/>	MPS A and MPS B: Obtain the status of the system.	<pre>\$ hastatus; ssh mate hastatus ACTIVE FIPS integrity verification test failed. STANDBY</pre> <p>If status is not Active/Standby, contact the My Oracle Support by following the instructions in the Appendix E.</p>
23. <input type="checkbox"/>	MPS A: Inspect the banner for any messages.	<pre>\$ manageBannerInfo -l</pre> <p>There are currently no BannerInfo messages for this side in the database.</p> <p>If unexpected output is returned then, contact the My Oracle Support by following the instructions in the Appendix E.</p>
24. <input type="checkbox"/>	MPS A and B: Update ssh_config to disable MD5 and MAC algorithm for security	<p>Perform following steps to disable unsecure algorithm for ssh:</p> <pre>\$ grep "MACs hmac-md5,hmac-md5-96," /etc/ssh/ssh_config</pre> <p>If no output is displayed for above command skip this step and go to step 23 of this procedure else continue to next command.</p>

Procedure 9: Configuring the Application

		<pre>\$ sudo rcstool co /etc/ssh/ssh_config \$ sudo sed -i '/MACs hmac-md5,hmac-md5-96,hmac-sha1-96/d' /etc/ssh/ssh_config \$ sudo rcstool ci /etc/ssh/ssh_config</pre>
25.	<p>MPS A and B: Update sshd_config to disable MD5 and MAC algorithm for security</p>	<p>Perform the following steps to disable unsecure algorithm for ssh:</p> <pre>\$ grep "MACs hmac-sha2-256,hmac-sha2-512" /etc/ssh/sshd_config</pre> <p>If no output is displayed for above command continue to next command else skip this step and go to step 24 of this procedure.</p> <pre>\$ sudo rcstool co /etc/ssh/sshd_config \$ sed -i -e '\$ a MACs hmac-sha2-256,hmac-sha2-512' /etc/ssh/sshd_config \$ sudo rcstool ci /etc/ssh/sshd_config \$ sudo service sshd restart</pre>
26.	<p><input type="checkbox"/> MPS A: Verify DRBD status. Check the CS value as 'Connected'.</p> <p>Note: If CS value is other than 'Connected', then periodically run DRBD status until both ELAPs get synced.</p>	<p>Run the following command to display the DRBD status as root user.</p> <pre>\$ su - Password: \$ drbdadm status all</pre> <pre>drbd0 role:Primary disk:UpToDate natal-B role:Secondary peer-disk:UpToDate</pre> <p>Expected status: ST: Primary/Secondary DS: UpToDate/UpToDate</p> <p>If any status is not as expected, then contact My Oracle Support by following the instructions on the front page or the instructions in Appendix E.</p>
27.	<p><input type="checkbox"/> Procedure complete.</p>	<p>This procedure is complete.</p>

Procedure 10. SSH Key Exchange between the ELAP and LSMS

Procedure 10: SSH Key Exchange between the ELAP and LSMS

<p>S T E</p>	<p>This procedure performs a SSH Key Exchange between the ELAP servers and the LSMS servers which is required for the LSMS SERVDI feature.</p>
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Procedure 10: SSH Key Exchange between the ELAP and LSMS

<p>P #</p>	<p>Note: The IP addresses for the lsmspri and lsmsec host names from the LSMS /etc/hosts files and the LSMS “lsmadm” user password will be required to complete this procedure.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAIL, CONTACT TEKELEC CUSTOMER CARE CENTER REPRESENTATIVE AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
<p>1</p> <p><input type="checkbox"/></p>	<p>ELAP A: Login as ‘elapconfig’ user to start the ELAP Configuration utility.</p> <p>Select “4” and press Enter.</p>	<pre> mps-e5appb-a login: elapconfig Password: ***** /-----ELAP Configuration Menu ----- \ /-----\ 1 Display Configuration ----- 2 Configure Network Interfaces Menu ----- 3 Set Time Zone ----- 4 Exchange Secure Shell Keys ----- 5 Change Password ----- 6 Platform Menu ----- 7 Configure NTP Server ----- 8 Mate Disaster Recovery ----- e Exit \-----/ Enter Choice:4 </pre>
<p>2</p> <p><input type="checkbox"/></p>	<p>ELAP A: Enter the “Exchange Keys with LSMS” Menu.</p> <p>Select “4” and press Enter.</p>	<pre> Verifying connectivity with mate... /-----Exchange Secure Shell Keys Menu ---- \ /-----\ 1 Exchange Keys with Mate ----- 2 Exchange Keys with Remote ----- 3 Exchange Keys with Mate as Root User ----- 4 Exchange Keys with LSMS ----- e Exit \-----/ Enter Choice:4 </pre>
<p>3</p> <p><input type="checkbox"/></p>	<p>ELAP A: Exchange SSH keys with the LSMS A (host lsmspri) server.</p> <p>Enter “Y” and press Enter.</p>	<p>Note: SSH keys will first be exchanged between the MPS A and LSMS A servers. The user will be prompted for the password again and SSH keys will be exchanged between the MPS B and LSMS A servers.</p> <p>Are you sure you wish to exchange keys with LSMS? [N]:Y</p>

Procedure 10: SSH Key Exchange between the ELAP and LSMS

	<p>Enter the LSMS A (host lsmspri) IP address and press Enter.</p> <p>Enter the LSMS “lsmsadm” user password and press Enter.</p> <p>Verify that keys were exchanged successfully for MPS A and LSMS A.</p> <p>Enter the LSMS “lsmsadm” user password and press Enter.</p> <p>Verify that keys were exchanged successfully for MPS B and LSMS A.</p>	<p>LSMS IP Address: 192.168.60.70</p> <p>The server does not know of 192.168.60.70. Will just exchange host keys for the name given! Password of lsmsadm:*****</p> <p>Could not get authorized keys file from remote (192.168.60.70). Maybe it does not exist. Continuing... The server does not know of 192.168.60.70. Will just exchange host keys for the name given! ssh is working correctly.</p> <p>The server does not know of 192.168.60.70. Will just exchange host keys for the name given! Password of lsmsadm: *****</p> <p>The server does not know of 192.168.60.70. Will just exchange host keys for the name given! ssh is working correctly.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p>ELAP A: Enter the “Exchange Keys with LSMS” Menu.</p> <p>Select “4” and press Enter.</p>	<pre> /-----Exchange Secure Shell Keys Menu ----- \ /-----\ 1 Exchange Keys with Mate ----- ----- 2 Exchange Keys with Remote ----- ----- 3 Exchange Keys with Mate as Root User ----- ----- 4 Exchange Keys with LSMS ----- ----- e Exit \-----/ </pre> <p>Enter Choice: 4</p>
<p>5</p> <p><input type="checkbox"/></p>	<p>ELAP A: Exchange SSH keys with the LSMS B (host lsmssec) server.</p> <p>Enter “Y” and press Enter.</p>	<p>Note: SSH keys will first be exchanged between the MPS A and LSMS B servers. The user will be prompted for the password again and SSH keys will be exchanged between the MPS B and LSMS B servers.</p> <p>Are you sure you wish to exchange keys with LSMS? [N]: Y</p>

Procedure 10: SSH Key Exchange between the ELAP and LSMS

	<p>Enter the LSMS B (host lsmssec) IP address and press Enter.</p> <p>Enter the LSMS “lsmsadm” user password and press Enter.</p> <p>Verify that keys were exchanged successfully for MPS A and LSMS B.</p> <p>Enter the LSMS “lsmsadm” user password and press Enter.</p> <p>Verify that keys were exchanged successfully for MPS B and LSMS B.</p>	<p>LSMS IP Address: 192.168.60.71</p> <p>The server does not know of 192.168.60.71. Will just exchange host keys for the name given! Password of lsmsadm:*****</p> <p>Could not get authorized keys file from remote (192.168.60.71). Maybe it does not exist. Continuing... The server does not know of 192.168.60.71. Will just exchange host keys for the name given! ssh is working correctly.</p> <p>The server does not know of 192.168.60.71. Will just exchange host keys for the name given! Password of lsmsadm: *****</p> <p>The server does not know of 192.168.60.71. Will just exchange host keys for the name given! ssh is working correctly.</p>
<p>6</p> <p><input type="checkbox"/></p>	<p>ELAP A: Exit the “Exchange Secure Shell Keys” Menu.</p> <p>Select “e” and press Enter.</p>	<pre> /-----Exchange Secure Shell Keys Menu----- \ /-----\ 1 Exchange Keys with Mate ----- ----- 2 Exchange Keys with Remote ----- ----- 3 Exchange Keys with Mate as Root User ----- ----- 4 Exchange Keys with LSMS ----- ----- e Exit \-----/ </pre> <p>Enter Choice: e</p>
<p>7</p> <p><input type="checkbox"/></p>	<p>ELAP A: Exit the “ELAP Configuration” Menu.</p>	<pre> /-----ELAP Configuration Menu----- \ /-----\ 1 Display Configuration ----- ----- 2 Configure Network Interfaces Menu ----- ----- 3 Set Time Zone ----- ----- 4 Exchange Secure Shell Keys </pre>

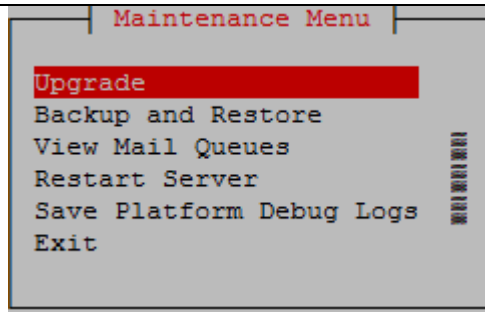
Procedure 10: SSH Key Exchange between the ELAP and LSMS

		<pre> ----- 5 Change Password ----- 6 Platform Menu ----- 7 Configure NTP Server ----- 8 Mate Disaster Recovery ----- e Exit ----- </pre> <p>Enter Choice: e</p> <p>Note: If this menu is not exited properly, then the SSH login with root shall remain enabled.</p>
8	<input type="checkbox"/> <p>ELAP A: Procedure complete.</p>	<p>This procedure is complete.</p>

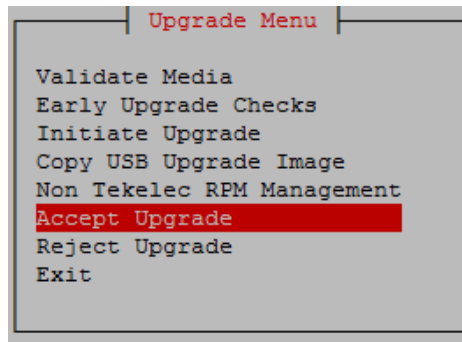
Procedure 11. Accept the Upgrade

Procedure 11: Accept the upgrade

STEP #	A	B	This procedure will accept the upgrade. Estimated time: 5 minutes Note: Customer should accept the upgrade after a soak period (at least for 24 hours) after making sure that system is working normally after the upgrade
1.	<input type="checkbox"/>	<input type="checkbox"/>	<p>MPS X: Log in to the server as the user “admusr”.</p> <p>Login as admusr if not already logged in. login: admusr Password: <admusr_password></p>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<p>MPS X:Start platcfg utility.</p> <p><code>\$sudo su - platcfg</code></p>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<p>MPS X:Accept Upgrade</p> <p>On the “Main Menu”, select Maintenance and press [ENTER].</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> Main Menu ----- Maintenance Diagnostics Server Configuration Network Configuration Remote Consoles Exit </pre> </div> <p>Select the “Upgrade” menu and press [ENTER].</p>

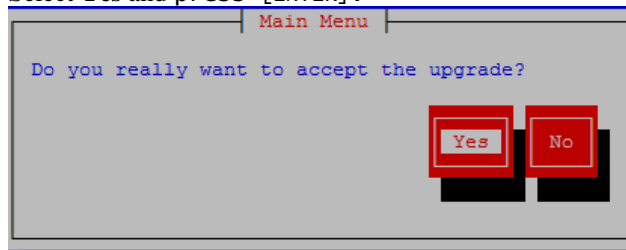


Select the “Accept Upgrade” menu and press [ENTER].



Note: The “Reject Upgrade” menu is also available after the ELAP installation. However, this option should not be used after the first installation of application. It should be used in subsequent upgrades to return to a previous application release.


Select Yes and press [ENTER].



```

Called with options: --accept
Loading Backout::BackoutType::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.
Removing SWAP /dev/mapper/vgroot-plat_swap from fstab.
Removed 1 swap entries from fstab
    
```

Note: Press “q” here to go to below screen.

			
<p>4.</p>	<input type="checkbox"/> <input type="checkbox"/>	<p>MPS X: Check for the split being merged.</p> <p>Note: This step should be performed if the upgrade is incremental upgrade with split mirrors.</p>	<p>After accepting upgrade, check for split being merged with the below command. Split should be merged.</p> <p>\$ cat /proc/mdstat</p> <pre>Personalities : [raid1] md2 : active raid1 sda2[0] sdb2[1] 26198016 blocks super 1.1 [2/2] [UU] bitmap: 1/1 pages [4KB], 65536KB chunk md1 : active raid1 sda3[0] sdb3[1] 262080 blocks super 1.0 [2/2] [UU] md3 : active raid1 sdb1[1] sda1[0] 442224640 blocks super 1.1 [2/2] [UU] bitmap: 3/4 pages [12KB], 65536KB chunk</pre> <p>NOTE: If Accept upgrade is successful, then skip the next step in this procedure. If accept upgrade fails, then go to the next step of this procedure.</p>
<p>5.</p>	<input type="checkbox"/> <input type="checkbox"/>	<p>MPS X: If accept upgrade fails but disk redundancy is restored, follow these steps to remove the false alarm of upgrade pending accept.</p>	<p>Following error is observed when accepting the upgrade fails:</p> <pre>Called with options: --accept Loading Backout::BackoutType::SPLIT_MIRROR Accepting Upgrade Re-joining raid mirrors. Adding /dev/sdb3 to /dev/md1 mdadm: added /dev/sdb3 Adding /dev/sdb2 to /dev/md2 mdadm: re-added /dev/sdb2 md1 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... md2 is syncing... Adding /dev/sdb1 to /dev/md3 ERROR: Command Failed! ERROR: Child process has exited with: CMD: '/sbin/mdadm --add /dev/md3 /dev/sdb1' RC: 1 SIGNAL: 0 CORE: no</pre>

```
<<< CMD OUTPUT >>>
mdadm: Cannot open /dev/sdb1: Device or resource busy

<<< END OF CMD OUTPUT >>>
ERROR: Failed to accept upgrade.
mdadm: Cannot open /dev/sdb1: Device or resource busy
=== window terminated (Thu Jan 16 13:17:39 2020) ===
```

Check disk redundancy by below command.

```
# cat /proc/mdstat
```

NOTE: If you observe the output as given below then follow the [APPENDIX A.7](#) remove the false alarm. Here [UU] implies both the mirror disks are synchronized

```
# cat /proc/mdstat
```

```
Personalities : [raid1]
md1 : active raid1 sdb3[2] sda3[0]
      262080 blocks super 1.0 [2/2] [UU]

md2 : active raid1 sdb2[1] sda2[0]
      26198016 blocks super 1.1 [2/2] [UU]
      bitmap: 1/1 pages [4KB], 65536KB chunk

md3 : active raid1 sdb1[1] sda1[0]
      442224640 blocks super 1.1 [2/2] [UU]
      bitmap: 3/4 pages [12KB], 65536KB chunk
```

This procedure is complete!

THIS COMPLETES THE INSTALLATION

6 SOFTWARE INCREMENTAL UPGRADE PREPARATIONS

Procedure 12. Readiness assessment

Procedure 12: Assess the MPS Server’s Readiness for Incremental upgrade

S T E P #	<p>This procedure executes the steps required to assess the readiness of a system to be incremental upgraded.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
1. <input type="checkbox"/>	<p>MPS A: Log in as the user “elapdev” user.</p>	<p>If not already logged-in, then log in.</p> <pre><hostname> console login: elapdev password: <password></pre>
2. <input type="checkbox"/>	<p>MPS A: Verify High Availability status.</p>	<p>Execute the following command to display the high availability status of the ELAP pair.</p> <pre>\$ hastatus ACTIVE</pre> <p>Note: HA status could be Active or Standby. If HA status is not Active/Standby, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>
3. <input type="checkbox"/>	<p>MPS A: Verify DRBD status. Check the CS value as ‘Connected’.</p> <p>Note: If CS value is other than ‘Connected’, periodically run drbd status until both ELAPs get synced.</p>	<p>Execute the following command to display the DRBD status.</p> <pre>\$ sudo drbdadm status all drbd0 role:Primary disk:UpToDate nata1-B role:Secondary peer-disk:UpToDate</pre> <p>Expected status: ST: Primary/Secondary DS: UpToDate/UpToDate</p> <p>If any status is not as expected then contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>
4. <input type="checkbox"/>	<p>MPS A: For logging purposes cat the hosts file.</p> <p>Note: The hostname in this file will be as per the configuration.</p>	<pre>\$ cat /etc/hosts # # Do not modify this file by hand. Refer to Tekelec Configuration # documentation. # # The order of the aliases in this file is significant # to the installation process. #</pre>

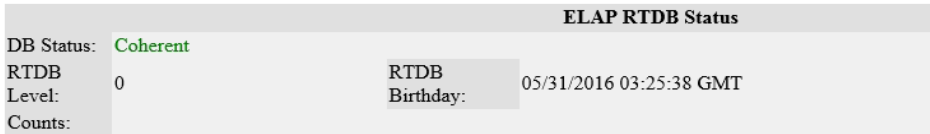
Procedure 12: Assess the MPS Server’s Readiness for Incremental upgrade

		<pre> 127.0.0.1 localhost loghost devloan-01-prova-bkup mate-provb-bkup 192.168.120.100 dsmm-a 192.168.121.100 dsmb-a 192.168.120.200 dsmm-b 192.168.121.200 dsmb-b 169.254.1.200 mate sync-b hasync-1a 169.254.1.100 sync-a hasync-1b 192.168.123.100 dsmvip-a 192.168.123.200 dsmvip-b 169.254.1.201 mate-ipdptp0 server_ppp0 169.254.1.202 mate-ppp client_ppp0 169.254.1.101 devloan-01-ipdptp0 server_ppp1 169.254.1.102 devloan-01-ppp client_ppp1 169.254.1.1 switch1A 169.254.1.2 switch1B 10.250.32.10 ntpserver1 192.168.59.9 devloan-01 prova-ip 192.168.59.10 mate-prov provb-ip devloan-02 192.168.59.22 prov-vip </pre>
<p>5.</p> <p><input type="checkbox"/></p>	<p>MPS A: Check the static routes.</p>	<p>Execute the following command to display the static routes.</p> <pre> \$netstat -r -n Kernel IP routing table Destination Gateway Genmask Flags MSS Window irtt Iface 192.168.122.1 192.168.121.1 255.255.255.255 UGH 0 0 0 bond0.3 10.248.10.0 0.0.0.0 255.255.255.0 U 0 0 0 eth01 169.254.1.0 0.0.0.0 255.255.255.0 U 0 0 0 bond0.1 192.168.120.0 0.0.0.0 255.255.255.0 U 0 0 0 eth02 192.168.121.0 0.0.0.0 255.255.255.0 U 0 0 0 bond0.3 169.254.0.0 0.0.0.0 255.255.0.0 U 0 0 0 bond0.3 0.0.0.0 10.248.10.1 0.0.0.0 UG 0 0 0 eth01 </pre>
<p>6.</p> <p><input type="checkbox"/></p>	<p>MPS A: Delete unwanted ISO images.</p>	<p>Execute the following command to display the presence of ELAP software ISO images. Below is an example of the output of the ‘ls -la’ command:</p> <pre> \$ ls -la /var/TKLC/upgrade total 877220 drwxrwxr-x. 2 root admgrp 4096 May 30 06:09 . dr-xr-xr-x. 22 root root 4096 May 30 22:24 .. -r----- 1 admusr admgrp 898260992 May 30 06:09 ELAP-10.2.0.0.0_101.2.0-x86_64.iso </pre> <p>Remove any ISO images that are not the target software ISO image using the following command:</p> <pre> \$ rm -f /var/TKLC/upgrade/<filename> </pre>
<p>7.</p> <p><input type="checkbox"/></p>	<p>MPS A: Determine when last reboot occurred.</p>	<pre> \$ uptime </pre>

Procedure 12: Assess the MPS Server’s Readiness for Incremental upgrade

	<p>For any server up longer than 180 days would be a candidate for reboot during a maintenance window.</p>	<p>23:41:53 up 1:16, 3 users, load average: 0.16, 0.15, 0.17</p>
<p>8. <input type="checkbox"/></p>	<p>MPS A: Executing self test on the disk.</p>	<p>Execute the following command: <code>\$sudo smartctl -t short /dev/sda</code></p> <pre>smartctl 5.43 2012-06-30 r3573 [x86_64-linux-2.6.32-573.18.1.el6prere17.0.3.0.0_86.44.0.x86_64] (local build) Copyright (C) 2002-12 by Bruce Allen, http://smartmontools.sourceforge.net === START OF OFFLINE IMMEDIATE AND SELF-TEST SECTION === Sending command: "Execute SMART Short self-test routine immediately in off-line mode". Drive command "Execute SMART Short self-test routine immediately in off-line mode" successful. Testing has begun. Please wait 1 minutes for test to complete. Test will complete after Mon May 30 23:46:59 2016 Use smartctl -X to abort test.</pre> <p>Note: Please wait for 5 minutes for the test to complete.</p>
<p>9. <input type="checkbox"/></p>	<p>MPS A: Examine the results of self test on the disk.</p> <p>In case of any error/failure, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>	<p>Execute the following command: <code>\$ smartctl -l selftest /dev/sda</code></p> <pre>smartctl 5.43 2012-06-30 r3573 [x86_64-linux-2.6.32-573.18.1.el6prere17.0.3.0.0_86.44.0.x86_64] (local build) Copyright (C) 2002-12 by Bruce Allen, http://smartmontools.sourceforge.net =====> INVALID ARGUMENT TO -l: selftest/dev/sda =====> VALID ARGUMENTS ARE: error, selftest, selective, directory[,g s], xerror[,N][,error], xselftest[,N][,selftest], background, sasphy[,reset], sataphy[,reset], scttemp[sts,hist], scttempint,N[,p], scterc[,N,M], devstat[,N], ssd, gplog,N[,RANGE], smartlog,N[,RANGE] <=====></pre> <p>Use smartctl -h to get a usage summary</p>
<p>10. <input type="checkbox"/></p>	<p>MPS A: Disk Integrity step</p>	<p>Execute the following command: <code>\$sudo smartctl -a /dev/sda grep -i LBA</code></p> <p>The output would be like:</p> <pre>241 Total_LBAs_Written 0x0032 100 100 000 Old_age Always - 350550 242 Total_LBAs_Read 0x0032 100 100 000 Old_age Always - 1695220 Num Test_Description Status Remaining LifeTime(hours) LBA_of_first_error SPAN MIN_LBA MAX_LBA CURRENT_TEST_STATUS</pre>

Procedure 12: Assess the MPS Server’s Readiness for Incremental upgrade

		If any output shows “Completed: read failure” or “Error: UNC xxx sectors”, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.
11. <input type="checkbox"/>	MPS A: Disk Integrity Test.	Repeat steps 8 to 10, for the ‘/dev/sdb’ disk drive on the E5-APP-B card:
12. <input type="checkbox"/>	MPS A: Inspect the banner for any messages.	Execute the following command to display the banner messages. \$ manageBannerInfo -l There are currently no BannerInfo messages for this side in the database. If unexpected output is returned, then contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.
13. <input type="checkbox"/>	MPS B: Repeat checks on Server B.	Repeat steps 1 to 12, on MPS B.
14. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Active MPS: Verify RTDB status Login to ELAP GUI using VIP. Expand the “RTDB” Folder. Select the “View RTDB Status”. Ensure that the DB Status is Coherent.	ELAP_A_NAME <hr/> <hr/>  If the RTDB status is other than Coherent, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.
15. <input type="checkbox"/>	Procedure Complete.	This procedure is complete.

Procedure 13. Pre-Upgrade System Date/Time Check

Procedure 13: Pre-upgrade system time check

S T E P #	This procedure performs the pre-upgrade system time check. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR <u>INCREMENTAL UPGRADE ASSISTANCE</u>.	
<p>The MPS servers make use of NTP to keep time synchronized between servers. Under some circumstances, either at initial installation in the customer’s network or due to power interruption and battery failure, it is possible for an MPS server to have a system date/time value too large for NTP to correct. If the system time is 20 minutes or more off from the real time, NTP cannot correct it.</p> <p>Check the date/time on <i>both</i> MPS-A and MPS-B servers, and correct the system time on any server off by more than 30 seconds from the real time.</p>		
1. <input type="checkbox"/>	MPS A: Login as the user “admusr”.	If not already logged-in, then login at MPS A: login: admusr password: <password>
2. <input type="checkbox"/>	MPS A: Verify Network Time Protocol daemon is running.	Use the service command to check the status of NTPD. \$ service ntpd status If the ntpd service is running, then continue with the next step, otherwise if the ntpd service is not running, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.
3. <input type="checkbox"/>	MPS A: Execute the “date” command.	Execute the “date” command and examine the result. \$ date Mon May 01 23:50:35 EDT 20xx
4. <input type="checkbox"/>	MPS A: Compare result to the real time.	Compare the result from the “date” command in the previous step to the real time. If the difference is 30seconds or less, then continue with the next step, otherwise if the difference exceeds 30 seconds, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.
5. <input type="checkbox"/>	MPS A: Stop Network Time Protocol daemon.	Use the service command to stop the NTPD. \$sudo service ntpd stop An example output of this command is as follows: Shutting down ntpd [OK]
6. <input type="checkbox"/>	MPS A: Verify Network Time Protocol daemon is stopped.	To verify the status of ntpd, use the following command \$ service ntpd status Ensure the output is as follows:

Procedure 13: Pre-upgrade system time check

		<p>ntpd is stopped</p> <p>Note: Force a NTP sync with the NTP server by this command</p> <p>\$ ntpd -gq</p>
7. <input type="checkbox"/>	MPS A: Start Network Time Protocol daemon.	<p>Use the service command to start NTPD.</p> <p>\$sudo service ntpd start</p> <p>An example output of this command is as follows:</p> <p>Starting ntpd: [OK]</p>
8. <input type="checkbox"/>	MPS A: Execute the “date” command.	<p>Execute the “date” command and examine the result.</p> <p>\$ date</p> <p>Mon May 01 23:52:35 EDT 20xx</p> <p>Expected result is that the time difference is corrected.</p>
9. <input type="checkbox"/>	MPS B: System time check on MPS B.	<p>Repeat this procedure on the MPS B.</p> <p>If these steps have been performed on both MPS servers, continue with next step.</p>
10. <input type="checkbox"/>	MPS X: Procedure Complete.	This procedure is complete

Procedure 14. Backup EuiDB

Procedure 14: Backup EuiDB

S T E P #	<p>This procedure performs the EuiDB backup.</p> <p>Check off (✓)each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT ORACLE SUPPORT AND ASK FOR UPGRADE ASSISTANCE.</p>	
1. <input type="checkbox"/>	Active ELAP: Log in as ‘root’ user.	<p>If not already logged-in, then login at MPS A:</p> <p>login: root password: <password></p>
2. <input type="checkbox"/>	Active ELAP: Log in as “elapconfig” to start the ELAP Configuration utility and enter choice 6 to go to the platform menu.	<pre> /-----ELAP Configuration Menu -----\ /-----\ 1 Display Configuration ----- 2 Configure Network Interfaces Menu ----- 3 Set Time Zone ----- 4 Exchange Secure Shell Keys ----- 5 Change Password ----- </pre>

Procedure 14: Backup EuiDB


		<pre> 6 Platform Menu ----- ----- 7 Configure NTP Server ----- ----- 8 Mate Disaster Recovery ----- ----- e Exit \-----/ Enter Choice: 6</pre>
<p>3. <input type="checkbox"/></p>	<p>Active ELAP: Select “3” to start the MySQL Backup.</p>	<pre>/-----ELAP Platform Menu-\ /-----\ 1 Initiate Upgrade ----- ----- 2 Reboot MPS ----- ----- 3 MySQL Backup ----- ----- 4 RTDB Backup ----- ----- e Exit \-----/ Enter Choice: 3 Are you sure you want to back up the MySQL database on MPS A? [N]: Y Backing up the NPDB... NPDB Backed up Successfully to /var/TKLC/appl/free/npdbBackup_Natal- A_20210128092433.sql.gz</pre>
<p>4. <input type="checkbox"/></p>	<p>Active ELAP: Select “e” to exit the Platform Menu.</p>	<pre>/-----ELAP Platform Menu-\ /-----\ 1 Initiate Upgrade ----- ----- 3 Reboot MPS ----- ----- 5 MySQL Backup ----- ----- 6 RTDB Backup ----- ----- e Exit \-----/ Enter Choice: e</pre>
<p>5. <input type="checkbox"/></p>	<p>Active ELAP: Transfer file to the remote machine.</p>	<p>Using SFTP (secure-FTP), transfer the Backup EuiDB to a remote, customer-provided computer. Enter “yes” when prompted if you want to continue to connect.</p> <pre># cd /var/TKLC/elap/free # sftp<IP address of remote computer> Connecting to <IP address of remote computer>... The authenticity of host '<IP address of remote computer>' can't be established. DSA key fingerprint is 58:a5:7e:1b:ca:fd:1d:fa:99:f2:01:16:79:d8:b4:24.</pre>

Procedure 14: Backup EuiDB

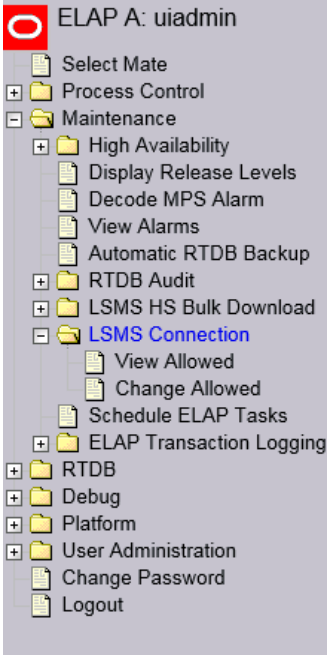
		<p>Are you sure you want to continue connecting (yes/no)? yes Warning: Permanently added <IP address of remote computer>' (DSA) to the list of known hosts. root@<IP address of remote computer>'s password: sftp> cd <target directory> sftp> put npdbBackup_<hostname>_<timestamp>.tar Uploading npdbBackup_<hostname>_<timestamp>.sql.gz to npdbBackup_<hostname>_<timestamp>.sql.gz sftp> bye</p> <p>If no customer provided remote computer for backups exist, transfer the backup file to the mate using the following command:</p> <pre># scp /var/TKLC/elap/free/npdbBackup_<hostname>_<timestamp>.sql.gz elapdev@mate:/var/TKLC/ELAP/free/</pre>
<p>6. <input type="checkbox"/></p>	<p>Active ELAP: Procedure Complete.</p>	<p>This procedure is complete.</p>

Procedure 15. Backup RTDB

Procedure 15: Backup RTDB

<p>S T E P #</p>	<p>This procedure performs the RTDB backup.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT ORACLE SUPPORT AND ASK FOR UPGRADE ASSISTANCE.</p>	
<p>1. <input type="checkbox"/></p>	<p>Active ELAP GUI:</p> <p>Using the new Virtual IP address login to Active ELAP.</p>	

Procedure 15: Backup RTDB

<p>2. <input type="checkbox"/> Active ELAP GUI: Disable the LSMS Connection.</p> <p>Expand the “Maintenance” Folder.</p> <p>Expand the “LSMS Connection” Folder.</p> <p>Select the “Change Allowed” link.</p> <p>Click on the “Disable LSMS Connection” button.</p> <p>Confirmation that the connection is disabled will appear.</p>	 <p>ELAP A: uiadmin</p> <ul style="list-style-type: none"> Select Mate Process Control Maintenance <ul style="list-style-type: none"> High Availability <ul style="list-style-type: none"> Display Release Levels Decode MPS Alarm View Alarms Automatic RTDB Backup RTDB Audit LSMS HS Bulk Download LSMS Connection <ul style="list-style-type: none"> View Allowed Change Allowed Schedule ELAP Tasks ELAP Transaction Logging RTDB Debug Platform User Administration <ul style="list-style-type: none"> Change Password Logout <p>i INFO: The LSMS Connection is currently Enabled.</p> <p>! CAUTION: This action will Disable the LSMS Connection.</p> <p>Disable LSMS Connection</p> <p>✓ SUCCESS: The LSMS Connection is now Disabled.</p>										
<p>3. <input type="checkbox"/> Active ELAP: Verify RTDB status</p> <p>Login to ELAP GUI using VIP.</p> <p>Expand the “RTDB” Folder.</p> <p>Select the “View RTDB Status”.</p> <p>Ensure that the DB Status is Coherent.</p>	<p>Santos-A</p> <hr/> <table border="1"> <thead> <tr> <th colspan="2">ELAP RTDB Status</th> </tr> </thead> <tbody> <tr> <td>DB Status:</td> <td>Coherent</td> </tr> <tr> <td>RTDB Level:</td> <td>0</td> </tr> <tr> <td>RTDB Birthday:</td> <td>05/20/2016 06:53:57 GMT</td> </tr> <tr> <td>Counts:</td> <td>TNs=1 LRNMRs=1 LRNs=1 MRs=1 TN-NPANXXs=1</td> </tr> </tbody> </table> <p>If the RTDB status is other than Coherent, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>	ELAP RTDB Status		DB Status:	Coherent	RTDB Level:	0	RTDB Birthday:	05/20/2016 06:53:57 GMT	Counts:	TNs=1 LRNMRs=1 LRNs=1 MRs=1 TN-NPANXXs=1
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Counts:	TNs=1 LRNMRs=1 LRNs=1 MRs=1 TN-NPANXXs=1										
<p>4. <input type="checkbox"/> Active ELAP: Log in as ‘root’ user.</p>	<p>If not already logged-in, then login at MPS A:</p> <pre>login: root</pre>										

Procedure 15: Backup RTDB

		password: <password>
<p>5. <input type="checkbox"/></p>	<p>Active ELAP: Log in as “elapconfig” to start the ELAP Configuration utility and enter choice 6 to go to the platform menu.</p>	<pre> /-----ELAP Configuration Menu -----\ /-----\ 1 Display Configuration ----- ----- 2 Configure Network Interfaces Menu ----- ----- 3 Set Time Zone ----- ----- 4 Exchange Secure Shell Keys ----- ----- 5 Change Password ----- ----- 6 Platform Menu ----- ----- 7 Configure NTP Server ----- ----- 8 Mate Disaster Recovery ----- ----- e Exit \-----/ Enter Choice: 6 </pre>
<p>6. <input type="checkbox"/></p>	<p>Active ELAP: Select “6” to start the RTDB Backup.</p>	<pre> /-----ELAP Platform Menu-\ /-----\ 1 Initiate Upgrade ----- ----- 2 Reboot MPS ----- ----- 3 MySQL Backup ----- ----- 4 RTDB Backup ----- ----- e Exit \-----/ Enter Choice: 4 Are you sure you want to back up the RTDB database on MPS B to "/var/TKLC/appl/free/backup/rtddbBackup_mps-e5appb- b_20020117201248.gz"? [N]: Y RTDB database Backup successfully started. </pre>
<p>7. <input type="checkbox"/></p>	<p>Active ELAP: Select “e” to exit the Platform Menu.</p>	<pre> /-----ELAP Platform Menu-\ /-----\ 1 Initiate Upgrade ----- ----- 3 Reboot MPS ----- ----- 5 MySQL Backup ----- ----- 6 RTDB Backup ----- ----- e Exit \-----/ </pre>

Procedure 15: Backup RTDB


		<p>Enter Choice: e</p>
<p>8. <input type="checkbox"/></p>	<p>Active ELAP: Exit the Main Menu.</p>	<pre> /-----ELAP Configuration Menu -----\ /-----\ 1 Display Configuration ----- ----- 2 Configure Network Interfaces Menu ----- ----- 3 Set Time Zone ----- ----- 4 Exchange Secure Shell Keys ----- ----- 5 Change Password ----- ----- 6 Platform Menu ----- ----- 7 Configure NTP Server ----- ----- 8 Mate Disaster Recovery ----- ----- e Exit \-----/ Enter Choice:e </pre>
<p>9. <input type="checkbox"/></p>	<p>Active ELAP: Verify the backup is completed.</p> <p>Periodically run the “manageBannerInfo -l” command until the message “RTDB backup completed successfully” appears.</p> <p>Verify the /usr/TKLC/elap/logs/cgi.dbg log file for the status of RTDB backup.</p>	<pre> # manageBannerInfo -l ID: BACKUP_RTDB_STATUS SIDE: A MSG: RTDB backup started SetTime: 2013-11-07 02:47:31 ClearTime: 0000-00-00 00:00:00 # manageBannerInfo -l ID: BACKUP_RTDB_STATUS SIDE: A MSG: RTDB backup completed successfully SetTime: 2013-11-07 02:45:05 ClearTime: 2013-11-07 02:46:34 Also, verify that the following logs appear in the “/usr/TKLC/elap/logs/cgi.dbg” log file. 11/07/13-02:49:05:<elapdev>::9300: backupOutfile = /var/TKLC/elap/free/backup/ rtdbBackup_mps-e5appb- b_20020117201248 11/07/13-02:49:05:<elapdev>::9300: Backup of RTDB finished successfully. 11/07/13-02:49:33:<elapdev>::7193: Compression of RTDB backup file finished successfully. </pre>
<p>10. <input type="checkbox"/></p>	<p>Active ELAP: Transfer file to the remote machine.</p>	<p>Using SFTP (secure-FTP), transfer the RTDB Backup to a remote, customer-provided computer. Enter “yes” when prompted if you want to continue to connect.</p> <pre> # cd /var/TKLC/elap/free/backup # sftp<IP address of remote computer> Connecting to <IP address of remote computer>... The authenticity of host '<IP address of remote computer>' can't be established. </pre>

Procedure 15: Backup RTDB

		<p>DSA key fingerprint is 58:a5:7e:1b:ca:fd:1d:fa:99:f2:01:16:79:d8:b4:24. Are you sure you want to continue connecting (yes/no)? yes Warning: Permanently added <IP address of remote computer>' (DSA) to the list of known hosts. root@<IP address of remote computer>'s password: sftp> cd <target directory> sftp> put rtdbBackup_<hostname>_<timestamp>.gz Uploading rtdbBackup_<hostname>_<timestamp>.gz to rtdbBackup_<hostname>_<timestamp>.gz sftp> bye</p> <p>If no customer provided remote computer for backups exist, transfer the backup file to the mate using the following command:</p> <pre># scp /var/TKLC/elap/free/backup/ rtdbBackup_<hostname>_<timestamp>.gz elapdev@mate:/var/TKLC/elap/free/backup</pre>
<p>11. <input type="checkbox"/></p>	<p>Active ELAP: Procedure Complete.</p>	<p>This procedure is complete.</p>

Procedure 16. Incremental upgrade

Procedure 16: Incremental upgrade MPS

<p>S T E P #</p>	<p>This procedure performs the incremental upgrade.</p> <p><i>Warning: Incremental upgrade should be done first on ELAP B, then on ELAP A.</i></p> <p>NOTE: Upgrade is supported only from 10.2.X to 10.2.Y release. For all other releases, install procedure shall be followed.</p> <p>Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
<p>1. <input type="checkbox"/></p>	<p>Active ELAP GUI:</p> <p>Using the new Virtual IP address login to Active ELAP.</p>	

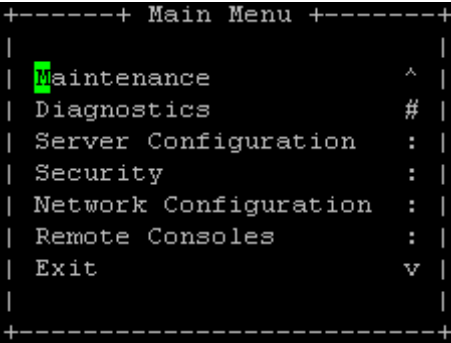
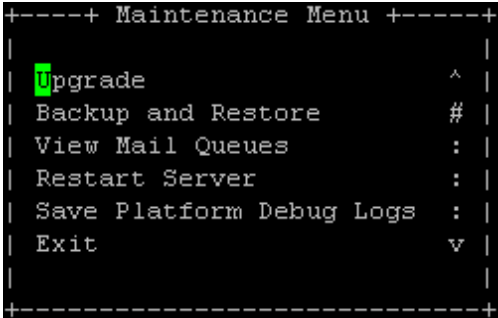
Procedure 16: Incremental upgrade MPS

<p>2.</p>	<p>Active ELAP: Verify RTDB status</p> <p>Login to ELAP GUI using VIP.</p> <p>Expand the “RTDB” Folder.</p> <p>Select the “View RTDB Status”.</p> <p>Ensure that the DB Status is Coherent.</p>	<div style="border: 1px solid black; padding: 5px;"> <h2 style="text-align: center;">Santos-A</h2> <hr/> <div style="text-align: right;">ELAP RTDB Status</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">DB Status: Coherent</td> </tr> <tr> <td>RTDB Level: 0</td> <td>RTDB Birthday: 05/20/2016 06:53:57 GMT</td> </tr> <tr> <td colspan="2">Counts: TNs=1 LRNMRs=1 LRNs=1 MRs=1 TN-NPANXXs=1</td> </tr> </table> <p>If the RTDB status is other than Coherent, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p> </div>	DB Status: Coherent		RTDB Level: 0	RTDB Birthday: 05/20/2016 06:53:57 GMT	Counts: TNs=1 LRNMRs=1 LRNs=1 MRs=1 TN-NPANXXs=1										
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Counts: TNs=1 LRNMRs=1 LRNs=1 MRs=1 TN-NPANXXs=1																	
<p>3.</p> <p><input type="checkbox"/></p>	<p>MPS B: View HA status.</p> <p>Expand the “Maintenance” Folder.</p> <p>Expand the “High Availability” Folder.</p> <p>Select the “View Status” link.</p>	<div style="border: 1px solid black; padding: 5px;"> <h2 style="text-align: center;">ELAP_B_NAME</h2> <div style="text-align: right;">View High Availability Status</div> <hr/> <table style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>HA State</th> <th>DRBD Resource</th> <th>Connection State</th> <th>Node State</th> <th>Disk State</th> </tr> </thead> <tbody> <tr> <td>Local STANDBY</td> <td>drbd0</td> <td>Connected</td> <td>Secondary</td> <td>UpToDate</td> </tr> <tr> <td>Remote ACTIVE</td> <td></td> <td></td> <td>Primary</td> <td>UpToDate</td> </tr> </tbody> </table> <p style="font-size: small; color: blue;">Fri January 04 2041 18:57:09 EST</p> <p style="font-size: x-small; text-align: center;">2013 © Tekelec, Inc., All Rights Reserved.</p> <p>The HA Status of Local and Remote machine should be STANDBY and ACTIVE respectively.</p> <p>Note: If HA Status of Local and Remote machine is ACTIVE and STANDBY, then proceed to the next step, otherwise skip to step 5.</p> </div>	HA State	DRBD Resource	Connection State	Node State	Disk State	Local STANDBY	drbd0	Connected	Secondary	UpToDate	Remote ACTIVE			Primary	UpToDate
HA State	DRBD Resource	Connection State	Node State	Disk State													
Local STANDBY	drbd0	Connected	Secondary	UpToDate													
Remote ACTIVE			Primary	UpToDate													
<p>4.</p> <p><input type="checkbox"/></p>	<p>MPS B: Failover to ELAP-A.</p> <p>Expand the “Maintenance” Folder.</p> <p>Expand the “High Availability” Folder.</p> <p>Select the “Change Settings” link.</p> <p>Select option “Standby” for Local machine.</p> <p>Click on the “Update” button.</p> <p>Confirmation that an attempt has made to transition local HA status to STANDBY will appear.</p>	<div style="border: 1px solid black; padding: 5px;"> <h2 style="text-align: center;">ELAP_B_NAME</h2> <div style="text-align: right;">Change High Availability Setting</div> <hr/> <p>The Local server is ACTIVE. The Mate server is STANDBY.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> Local <input checked="" type="radio"/> Active <input type="radio"/> Standby <input type="radio"/> Inhibited </td> <td style="width: 50%; vertical-align: top;"> Mate <input type="radio"/> Active <input checked="" type="radio"/> Standby <input type="radio"/> Inhibited </td> </tr> </table> <p style="text-align: center; margin-top: 5px;"><input type="button" value="Update"/></p> <p style="font-size: small; color: blue;">Fri January 04 2041 19:04:05 EST</p> <p style="font-size: x-small; text-align: center;">2013 © Tekelec, Inc., All Rights Reserved.</p> <hr/> <h2 style="text-align: center;">ELAP_B_NAME</h2> <div style="text-align: right;">Change High Availability Setting</div> <hr/> <p>The Local server is ACTIVE. The Mate server is STANDBY.</p> <p style="color: blue; font-weight: bold;">Attempted to transition local HA status to STANDBY</p> <p style="font-size: small; color: blue;">Fri January 04 2041 19:04:44 EST</p> <p style="font-size: x-small; text-align: center;">2013 © Tekelec, Inc., All Rights Reserved.</p> </div>	Local <input checked="" type="radio"/> Active <input type="radio"/> Standby <input type="radio"/> Inhibited	Mate <input type="radio"/> Active <input checked="" type="radio"/> Standby <input type="radio"/> Inhibited													
Local <input checked="" type="radio"/> Active <input type="radio"/> Standby <input type="radio"/> Inhibited	Mate <input type="radio"/> Active <input checked="" type="radio"/> Standby <input type="radio"/> Inhibited																

Procedure 16: Incremental upgrade MPS

	<p>Note: Lynx text GUI has been deprecated.</p>	<p>Repeat step 3, to verify the HA status after failover.</p>
<p>5. <input type="checkbox"/></p>	<p>MPS B: Enable SPLIT MIRROR on server</p> <p>Note: This step to be only performed while performing INCREMENTAL UPGRADE with SPLIT MIRROR. Otherwise, skip to Step 7.</p> <p>Refer Procedure 2 to check if split mirror upgrade is required or not</p>	<p>Login to ELAP B as admusr user and execute the following command to enable Split Mirror:</p> <pre><hostname> console login: admusr password: <password></pre> <p>Check if the /usr/TKLC/plat/etc/upgrade/upgrade.conf file exists or not. If no such file exists, then create the file.</p> <pre># ls -lrt /usr/TKLC/plat/etc/upgrade/upgrade.conf ls: cannot access /usr/TKLC/plat/etc/upgrade/upgrade.conf: No such file or directory # sudo touch /usr/TKLC/plat/etc/upgrade/upgrade.conf</pre> <p>Enable split mirror by below commands:</p> <pre># sudo echo "BACKOUT_TYPE=SPLIT_MIRROR" >/usr/TKLC/plat/etc/upgrade/upgrade.conf</pre> <p>Check whether the SPLIT MIRROR is enabled using following command:</p> <pre># cat /usr/TKLC/plat/etc/upgrade/upgrade.conf</pre> <p>Expected output:</p> <pre>BACKOUT_TYPE=SPLIT_MIRROR</pre>
<p>6. <input type="checkbox"/></p>	<p>Access mate MPS via serial console : Create a terminal window and establish a connection by logging into MPS X.</p> <p>Note:</p> <p>1. If upgrade is attempted on MPS B, first login to MPS A in a new CLI session. Then login to MPS B through serial console as mentioned in the next step.</p> <p>2. If upgrade is attempted on MPS A, first login to MPS B in a new CLI session. Then login to MPS A through serial</p>	<p>1. If upgrade is attempted on MPS B follow this step:</p> <p>Currently we are at MPS B, so ssh to MPS A from B.</p> <p>Create a new window and labeled “MPS B – from MPS A”, connect directly into MPS A.</p> <pre># ssh admusr@<MPS_A> Password: <admusr_password></pre> <p>2. If upgrade is attempted on MPS A follow this step:</p> <p>Currently we are at MPS A, so ssh to MPS B from A.</p> <p>Create a new window labeled “MPS A – from MPS B”, connect directly into MPS B.</p> <pre># ssh admusr@<MPS_B> Password: <admusr_password></pre>

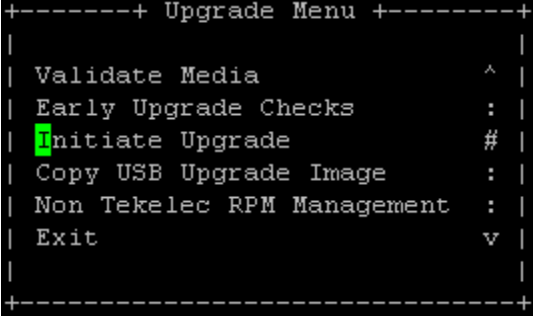
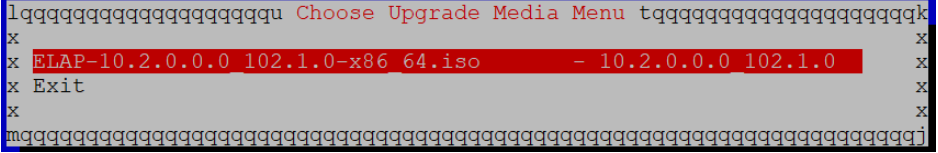
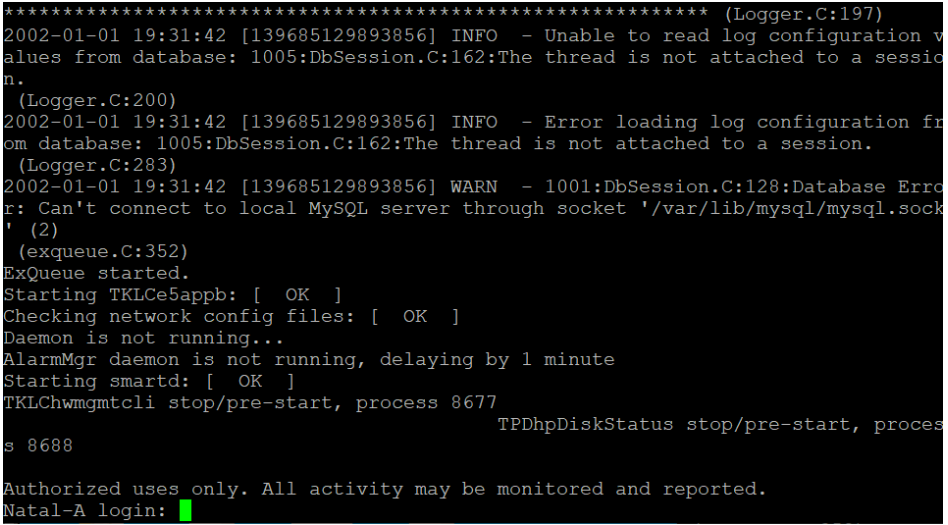
Procedure 16: Incremental upgrade MPS

	<p>console as mentioned in the next step.</p>	
<p>7. <input type="checkbox"/></p>	<p>Access mate MPS via serial console: Start screen session. Connect to the console of MPS to be upgraded.</p>	<p>Execute the following commands to start screen and establish a console session to the MPS to be upgraded. \$ sudo screen -L Execute the following command on E5-APP-B: \$ minicom mate</p>
<p>8. <input type="checkbox"/></p>	<p>MPS B: Put ISO image on ELAP server.</p>	<p>Use any of the following methods to put ELAP 10.2 ISO image on the ELAP server.</p> <ol style="list-style-type: none"> a. Perform ISO image generation from USB media using Procedure 20 b. Copy ISO to /var/TKLC/upgrade directory.
<p>9. <input type="checkbox"/></p>	<p>MPS B: Execute the platcfg menu.</p>	<p>\$sudo su - platcfg</p>
<p>10. <input type="checkbox"/></p>	<p>MPS B: Select the Maintenance submenu.</p>	<p>The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER].</p>  <p>Select the Upgrade menu and press [ENTER].</p>  <p>Select the Validate media menu and press [ENTER].</p>

Procedure 16: Incremental upgrade MPS

		<p>Ideally, there shall be no alarms on the system at the time of incremental upgrade. But, if there are some non-impacting alarms, user can ignore them.</p> <pre> Early Checks failed for the next upgrade Look at earlyChecks.log for more info Starting Early Upgrade Checks at 1467106554 Running earlyUpgradeChecks() for Upgrade::EarlyPd Verified server is not pending accept of previous Hardware architectures match Install products match. ERROR: There are alarms on the system! ERROR: <<< OUTPUT >>> ERROR: SEQ: 3 UPTIME: 118 BIRTH: 1466753330 TYPE ns Subsystem Failure SNMPv2-MIB::sysName:1.3.6.1. ERROR: SEQ: 2 UPTIME: 118 BIRTH: 1466753330 TYPE ns Subsystem Failure SNMPv2-MIB::sysName:1.3.6.1. ERROR: SEQ: 7 UPTIME: 266686 BIRTH: 1467019898 T Software Program Error HOST-RESOURCES-MIB::hrSWRu ERROR: SEQ: 6 UPTIME: 266686 BIRTH: 1467019898 T Software Program Error HOST-RESOURCES-MIB::hrSWRu ERROR: SEQ: 9 UPTIME: 266686 BIRTH: 1467019898 T Software Program Error HOST-RESOURCES-MIB::hrSWRu ERROR: SEQ: 8 UPTIME: 266686 BIRTH: 1467019898 T Software Program Error HOST-RESOURCES-MIB::hrSWRu ERROR: SEQ: 10 UPTIME: 266686 BIRTH: 1467019898 Software Program Error HOST-RESOURCES-MIB::hrSWRu ERROR: <<< END OUTPUT >>> ERROR: earlyUpgradeChecks() code failed for Upgrd ERROR: Failed running earlyUpgradeChecks() code Whitelisted alarms: ERROR: Early Upgrade Checks Failed! User has requested just to run early checks. Ea No upgrade will be performed... Early Upgrade Checks finished at 1467106556 PRESS ANY KEY TO RETURN TO THE PLATCFG MENU. </pre> <p>To ignore alarms before incremental upgrade, exit platcfg utility first. Create upgrade.conf file at path /usr/TKLC/plat/etc/upgrade and whitelist the alarm id.</p> <pre> # sudo vim /usr/TKLC/plat/etc/upgrade/upgrade.conf EARLY_CHECK_ALARM_WHITELIST=<ALARM_ID>, <ALARM_ID> </pre> <p>Select the Initiate Upgrade menu and press [ENTER].</p>
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Procedure 16: Incremental upgrade MPS

		
<p>11. <input type="checkbox"/></p>	<p>MPS B: Select the Upgrade Media.</p>	<p>The screen displays a message that it is searching for upgrade media. When the upgrade media is found, an Upgrade Media selection menu appears similar to the example below. Select the desired upgrade media and press [ENTER].</p> 
<p>12. <input type="checkbox"/></p>	<p>MPS B: Incremental upgrade proceeds.</p>	<p>Many informational messages appear on the terminal screen as the incremental upgrade proceeds. The messages are not shown here for clarity sake.</p> <p>When incremental upgrade is complete, the server reboots.</p>
<p>13. <input type="checkbox"/></p>	<p>MPS B: Incremental upgrade completed.</p>	<p>The below screenshot is an example screenshot. After the final reboot, the screen displays the login prompt as in the example below.</p> 
<p>14. <input type="checkbox"/></p>	<p>MPS B: Verify that incremental upgrade is complete and no error occurred during incremental upgrade.</p>	<pre>\$ sudo grep "upgrade returned success" /var/TKLC/log/upgrade/upgrade.log 1463147805::Upgrade returned success! # \$ sudo grep -i error /var/TKLC/log/upgrade/upgrade.log</pre>

Procedure 16: Incremental upgrade MPS

	<p>Check the output of the upgrade log, contact the My Oracle Support by following the instructions in the Appendix E, if the output contains any errors beside the following:</p> <p>Variable and RPMs that might contain the word error in them</p> <p>Example:</p> <pre>1461121117:: U> perl-Class-ErrorHandler-0.04-10.1.0.0.0_101.4.0.noarch 1461121127::perl-Class-ErrorHandler 1467008173::myisamchk: error: File '/var/TKLC/appl/drbd/mysql/data/*/*.MYI' doesn't exist 1467008173::myisamchk: error: File '/var/TKLC/appl/drbd/mysql/data/*/*.MYI' doesn't exist 1467008173::myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/appl/db/appconfig/mysql/columns_priv.MYI' 1467008173::myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/appl/db/appconfig/mysql/db.MYI' 1467008173::myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/appl/db/appconfig/mysql/event.MYI' 1467008174: :FATAL ERROR: Tried to start mysqld under group [mysqld1], 1467008174: :/bin/chown: cannot access `/usr/TKLC/elap/logs/ebdad_error.log': No such file or directory 1467008174: :/bin/chown: cannot access `/usr/TKLC/elap/logs/hsopd_error.log': No such file or directory 1467008174: :/bin/chown: cannot access `/usr/TKLC/elap/logs/maint_error.log': No such file or directory 1467008174: :/bin/chown: cannot access `/usr/TKLC/elap/logs/prov_error.log': No such file or directory 1467008174: :/bin/chown: cannot access `/usr/TKLC/elap/logs/trpd_error.log': No such file or directory #####</pre> <p>Similar to the above mentioned errors of myisamchk, several other errors are also observed which needs to be ignored.</p> <p>All those messages are expected, and therefore aren't considered errors. Refer to section 3.5 to know more about logging.</p> <p>.</p> <pre>\$ grep -i error /var/TKLC/log/upgrade/ugwrap.log</pre> <p>Check the output of the ugwrap log. If the output contains any errors, contact the My Oracle Support by following the instructions in the Appendix E.</p> <p>NOTE: After ELAP is upgrade is complete, gsConnect.pl core is observed on the server which can be ignored and deleted from the server.</p> <pre>\$ls -lrt /var/TKLC/core -rw -----1 root root 49807360 Jul 26 01:52 core.gsConnect.pl.7030 -rw-r----- 1 root root 2248 Jul 26 01:53 core.gsConnect.pl.7030.bt</pre> <p>Delete core file using below command:</p> <pre>\$ rm /var/TKLC/core/ core.gsConnect*</pre>
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Procedure 16: Incremental upgrade MPS

<p>15. <input type="checkbox"/></p>	<p>MPS B: Verify ELAP release.</p>	<pre> \$rpm -qi TKLCellap Name : TKLCellap Relocations: (not relocatable) Version : 5.0.44 Vendor: Tekelec Release : 10.2.0.0.0_102.1.0 Build Date: Thu 21 Jan 2021 02:17 PM EST Install Date: Fri 22 Jan 2021 10:49:00 AM EST Build Host: coach-4.tekelec om Group : Development/Build Source RPM: TKLCellap-5.0.44-10.2.0_102.1.0.src.rpm Size : 149012560 License: © TEKELEC 2018 Signature : (none) Packager : <@tekelec.com> URL : http://www.tekelec.com/ Summary : Oracle Communications ELAP Package Description : This is the Oracle Communications EAGLE LNP Application Processor(ELAP) packa The package installs ELAP software. Eagle LNP Application Processor (ELAP) provides REALLY INCREDIBLE Database (RIDB). ELAP provides the LNP feature. </pre>
<p>16. <input type="checkbox"/></p>	<p>MPS B: verify the MPS server is operationally sound</p>	<p>Execute the following command to display the high availability status of the ELAP pair.</p> <pre> \$ hastatus STANDBY </pre> <p>Note: HA status could be Active or Standby. If HA status is not Active/Standby, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>
<p>17. <input type="checkbox"/></p>	<p>MPS B: Inspect the banner for any messages.</p>	<pre> \$ manageBannerInfo -l There are currently no BannerInfo messages for this side in the database. If unexpected output is returned, then contact the My Oracle Support by following the instructions in the Appendix E. </pre>
<p>18. <input type="checkbox"/></p>	<p>MPS B: Run syscheck to make sure there is no error.</p>	<p>Execute the following command:</p> <pre> \$ sudo syscheck The output should look like: Running modules in class disk... * meta: FAILURE:: MAJOR::300000000000000002 -- Server Internal Disk Error * meta: FAILURE:: md status check failed. * meta: FAILURE:: MAJOR::300000000000000002 -- Server Internal Disk Error * meta: FAILURE:: md configuration check failed. Active md config doesn't match /etc/raidtab. </pre>


Procedure 16: Incremental upgrade MPS

		<pre> One or more module in class "disk" FAILED Running modules in class hardware... OK Running modules in class net... OK Running modules in class proc... OK Running modules in class system... OK Running modules in class upgrade... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log If unexpected output is returned, then contact the My Oracle Support by following the instructions in the Appendix E. </pre>													
<p>19. <input type="checkbox"/></p>	<p>MPS A: Failover to ELAP-B.</p> <p>Expand the “Maintenance” Folder.</p> <p>Expand the “High Availability” Folder.</p> <p>Select the “Change Settings” link.</p> <p>Select option “Standby” for Local machine.</p> <p>Click on the “Update” button.</p> <p>Confirmation that an attempt has made to transition local HA status to STANDBY will appear.</p> <p>Note: If lynx text GUI is used, then use the command line option to perform HA failover.</p>	<div style="border: 1px solid black; padding: 5px;"> <p>ELAP_A_NAME View High Availability Status</p> <hr/> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>HA State</th> <th>DRBD Resource</th> <th>Connection State</th> <th>Node State</th> <th>Disk State</th> </tr> </thead> <tbody> <tr> <td>Local ACTIVE</td> <td rowspan="2">drbd0</td> <td rowspan="2">Connected</td> <td>Primary</td> <td>UpToDate</td> </tr> <tr> <td>Remote STANDBY</td> <td>Secondary</td> <td>UpToDate</td> </tr> </tbody> </table> <p style="font-size: small;">Fri January 04 2041 19:51:55 EST 2013 © Tekelec, Inc., All Rights Reserved.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>ELAP_A_NAME Change High Availability Setting</p> <hr/> <p>The Local server is ACTIVE. The Mate server is STANDBY.</p> <p>Local Mate</p> <p><input checked="" type="radio"/> Active <input type="radio"/> Active</p> <p><input type="radio"/> Standby <input type="radio"/> Standby</p> <p><input type="radio"/> Inhibited <input type="radio"/> Inhibited</p> <p style="text-align: center;"><input type="button" value="Update"/></p> <p style="font-size: small;">Fri January 04 2041 19:52:37 EST 2013 © Tekelec, Inc., All Rights Reserved.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>ELAP_A_NAME Change High Availability Setting</p> <hr/> <p>The Local server is ACTIVE. The Mate server is STANDBY.</p> <p>Attempted to transition local HA status to STANDBY</p> <p style="font-size: small;">Fri January 04 2041 19:52:53 EST 2013 © Tekelec, Inc., All Rights Reserved.</p> </div> <p>Login to ELAP A as root user and execute the following command to perform the failover:</p> <pre>\$ sudo /usr/TKLC/plat/sbin/hafailover --gostandby</pre>	HA State	DRBD Resource	Connection State	Node State	Disk State	Local ACTIVE	drbd0	Connected	Primary	UpToDate	Remote STANDBY	Secondary	UpToDate
HA State	DRBD Resource	Connection State	Node State	Disk State											
Local ACTIVE	drbd0	Connected	Primary	UpToDate											
Remote STANDBY			Secondary	UpToDate											
<p>20. <input type="checkbox"/></p>	<p>MPS A: Perform incremental upgrade</p>	<p>Repeat steps 5 to 17, to run incremental upgrade ELAP A.</p>													


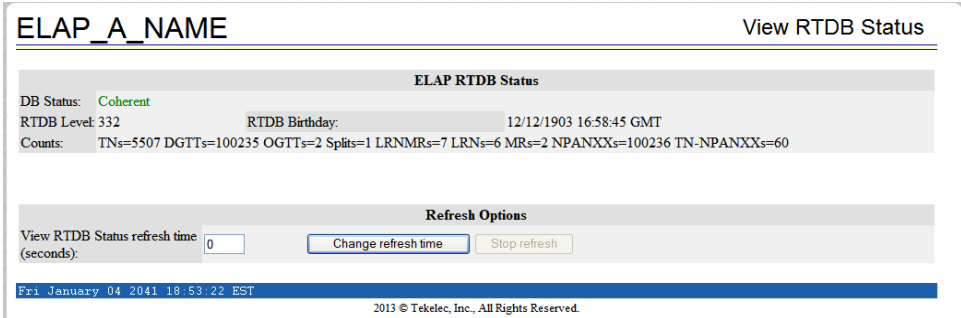
Procedure 16: Incremental upgrade MPS

<p>21. <input type="checkbox"/></p>	<p>MPS A and B: Obtain the uptime of the system for logging purposes.</p>	<pre>\$ uptime 06:06:43 up 9 min, 1 user, load average: 0.10, 0.15, 0.09</pre>																																
<p>22. <input type="checkbox"/></p> <p>Expand the “Maintenance” Folder.</p> <p>Expand the “High Availability” Folder.</p> <p>Select the “View status” link.</p> <p>NOTE: If ELAP-B is observed as ACTIVE in the status then proceed forward in this step to make ELAP-A ACTIVE. If ELAP-A is observed as ACTIVE in the status then skip to next step in this procedure.</p> <p>Select the “Change Settings” link.</p> <p>Select option “Standby” for Local machine.</p> <p>Click on the “Update” button.</p> <p>Confirmation that an attempt has been made to transition local HA status to STANDBY will appear.</p> <p>Note: If lynx text GUI is used, then use the command line option to</p>	<p>MPS A: Login to ELAP GUI using VIP.</p>	<p>ELAP_B_NAME View High Availability Status</p> <table border="1"> <thead> <tr> <th></th> <th>HA State</th> <th>DRBD Resource</th> <th>Connection State</th> <th>Node State</th> <th>Disk State</th> </tr> </thead> <tbody> <tr> <td>Local</td> <td>ACTIVE</td> <td rowspan="2">drbd0</td> <td rowspan="2">Connected</td> <td>Primary</td> <td>UpToDate</td> </tr> <tr> <td>Remote</td> <td>STANDBY</td> <td>Secondary</td> <td>UpToDate</td> </tr> </tbody> </table> <p>ELAP-B is shown ACTIVE here in the above snapshot. So updating ELAP-B to STANDBY.</p> <p>ELAP_B_NAME Change High Availability Setting</p> <p>The Local server is ACTIVE. The Mate server is STANDBY.</p> <p> <input checked="" type="radio"/> Local Active <input type="radio"/> Mate Active <input type="radio"/> Standby <input type="radio"/> Standby <input type="radio"/> Inhibited <input type="radio"/> Inhibited </p> <p><input type="button" value="Update"/></p> <p>ELAP_B_NAME Change High Availability Setting</p> <p>The Local server is ACTIVE. The Mate server is STANDBY.</p> <p>Attempted to transition local HA status to STANDBY</p> <p>Now when “view status” is done again ELAP-A will be observed as ACTIVE</p> <p>ELAP_A_NAME View High Availability Status</p> <table border="1"> <thead> <tr> <th></th> <th>HA State</th> <th>DRBD Resource</th> <th>Connection State</th> <th>Node State</th> <th>Disk State</th> </tr> </thead> <tbody> <tr> <td>Local</td> <td>ACTIVE</td> <td rowspan="2">drbd0</td> <td rowspan="2">Connected</td> <td>Primary</td> <td>UpToDate</td> </tr> <tr> <td>Remote</td> <td>STANDBY</td> <td>Secondary</td> <td>UpToDate</td> </tr> </tbody> </table> <p>Or</p> <p>Run the below command manually to do hafaifover.</p> <p>Login to ELAP B as admusr user and execute the following command to perform the failover:</p> <pre>\$ sudo /usr/TKLC/plat/sbin/hafaifover --gostandby</pre>		HA State	DRBD Resource	Connection State	Node State	Disk State	Local	ACTIVE	drbd0	Connected	Primary	UpToDate	Remote	STANDBY	Secondary	UpToDate		HA State	DRBD Resource	Connection State	Node State	Disk State	Local	ACTIVE	drbd0	Connected	Primary	UpToDate	Remote	STANDBY	Secondary	UpToDate
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Local	ACTIVE	drbd0	Connected	Primary	UpToDate																													
Remote	STANDBY			Secondary	UpToDate																													

Procedure 16: Incremental upgrade MPS

	<p>perform HA failover.</p>	
<p>23. <input type="checkbox"/></p>	<p>MPS A:Start the ELAP Application. Note: ELAP will not start again if it is already running.</p>	<pre>\$ sudo /etc/init.d/Elap start ~~ /etc/init.d/Elap start ~~ ELAP application started Successfully.</pre>
<p>24. <input type="checkbox"/></p>	<p>MPS A and B: Obtain the status of the system.</p>	<pre>\$ hastatus ACTIVE \$ hastatus STANDBY</pre> <p>If status is not Active/Standby, contact the My Oracle Support by following the instructions in the Appendix E.</p>
<p>25. <input type="checkbox"/></p>	<p>MPS A and B: Inspect the banner for any messages.</p>	<pre>\$ manageBannerInfo -l</pre> <p>There are currently no BannerInfo messages for this side in the database.</p> <p>If unexpected output is returned, then contact the My Oracle Support by following the instructions in the Appendix E.</p>
<p>26. <input type="checkbox"/></p>	<p>MPS A: Verify DRBD status. Check the CS value as 'Connected'. Note: If CS value is other than 'Connected', periodically run drbd status until both ELAPs get synced.</p>	<p>Execute the following command to display the DRBD status.</p> <pre>\$ sudo drbdadm status all</pre> <pre>drbd0 role:Primary disk:UpToDate natal-B role:Secondary peer-disk:UpToDate</pre> <p>Expected status: ST: Primary/Secondary DS: UpToDate/UpToDate</p> <p>If any status is not as expected, then contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>
<p>27. <input type="checkbox"/></p>	<p>MPS A GUI: Enable the LSMS Connection. Expand the "Maintenance" Folder. Expand the "LSMS Connection" Folder.</p>	

Procedure 16: Incremental upgrade MPS

	<p>Select the “Change Allowed” link.</p> <p>Click on the “Enable LSMS Connection” button.</p> <p>Confirmation that the connection is enabled will appear.</p>	
<p>28.</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p>MPS A: Verify RTDB status</p> <p>Login to ELAP GUI using VIP.</p> <p>Expand the “RTDB” Folder.</p> <p>Select the “View RTDB Status”.</p> <p>Ensure that the DB Status is Coherent.</p>	 <p>If the RTDB status is other than Coherent, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>
<p>29.</p> <p><input type="checkbox"/></p>	<p>MPS A and B: Update sshd_config to disable MD5 and MAC algorithm for security</p>	<pre>Perform following steps to disable unsecure algorithm for ssh: \$ grep "MACs hmac-sha2-256,hmac-sha2-512" /etc/ssh/sshd_config If no output is displayed for above command continue to next command else skip this step \$ sudo rcstool co /etc/ssh/sshd_config \$ sed -i -e '\$ a MACs hmac-sha2-256,hmac-sha2-512' /etc/ssh/sshd_config \$ sudo rcstool ci /etc/ssh/sshd_config \$ sudo service sshd restart</pre>
<p>30.</p> <p><input type="checkbox"/></p>	<p>Reboot Eagle cards.</p>	<p>If the DB levels on ELAP and Eagle matches and there is no alarm on Eagle related to “RTDB reload is required”, skip this step to go to the next step.</p> <p>Otherwise, execute Procedure 22 on the Eagle STP connected to the ELAP servers to reload SM cards.</p>
<p>31.</p> <p><input type="checkbox"/></p>	<p>Procedure complete.</p>	<p>This procedure is complete.</p>

THIS COMPLETES THE INCREMENTAL UPGRADE

7 BACKOUT PROCEDURES

Execute this section only if there is a problem and it is desired to revert back to the pre-incremental upgrade version of the software.

Warning: Do not attempt to perform these backout procedures without first contacting the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E for further instructions.

Note: These recovery procedures are provided for the backout of an Incremental upgrade and split mirror upgrade (i.e., from a failed 10.2.y release to the previously installed 10.2.x release). Backout of an initial installation is not supported.

7.1 Backout Setup

The reason to execute a backout has a direct impact on any backout preparation that must be done. Since the reason cannot be known ahead of time, no definitive procedure can be written.

Tekelec Customer Support personnel will have to have login access to the affected MPS server, probe the server for the root cause of the problem, and execute whatever setup or cleanup is necessary in order to prepare the MPS server for backout.

No matter the initial cause of the incremental upgrade problem, once all necessary corrective steps have been taken to prepare for the backout, then the following procedure can be executed to perform a backout. On a backout of an incremental upgrade, the server will remain in runlevel 3 (no applications running) and no disk mirroring will occur. The user will be required to manually reboot the server to bring it back into service and a syscheck can be performed.

Procedure 17. Perform Backout

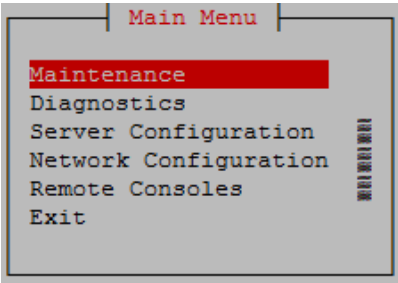
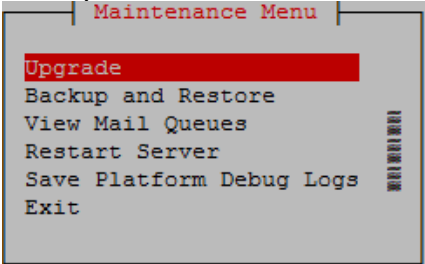
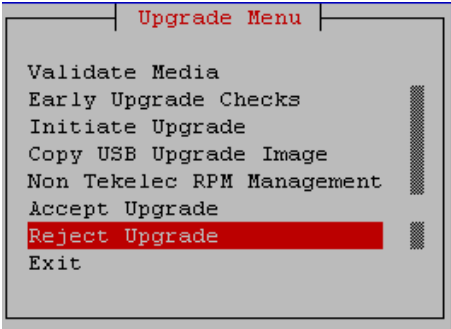
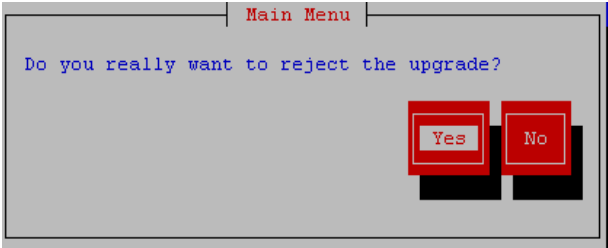
Procedure 17: Both MPS A and B Backout Procedure

<p>S T E P #</p>	<p>This procedure provides instructions to perform backout on both MPS A and MPS B servers.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>Note: Execute this procedure only if both MPS A and MPS B have been incremental upgraded or partially incremental upgraded and you wish to backout both servers to the previous version. If only one MPS needs a backout, perform backout on that server. If both need a backout, then backout MPS A first, and then MPS B.</p>	
<p>1. <input type="checkbox"/></p>	<p>Access mate MPS via serial console: Create a terminal window and establish a connection by logging into MPS X.</p> <p>Note: 1. If backout is attempted on MPS A, first login to MPS B in a new CLI session. Then login to MPS A through serial</p>	<p>1. If backout is attempted on MPS A follow this step: Currently we are at MPS A, so ssh to MPS B from A.</p> <p>Create a new window and labeled “MPS A – from MPS B”, connect directly into MPS B.</p> <pre># ssh admusr@<MPS_B> Password: <admusr_password></pre> <p>3. If backout is attempted on MPS B follow this step: Currently we are at MPS B, so ssh to MPS A from B.</p>

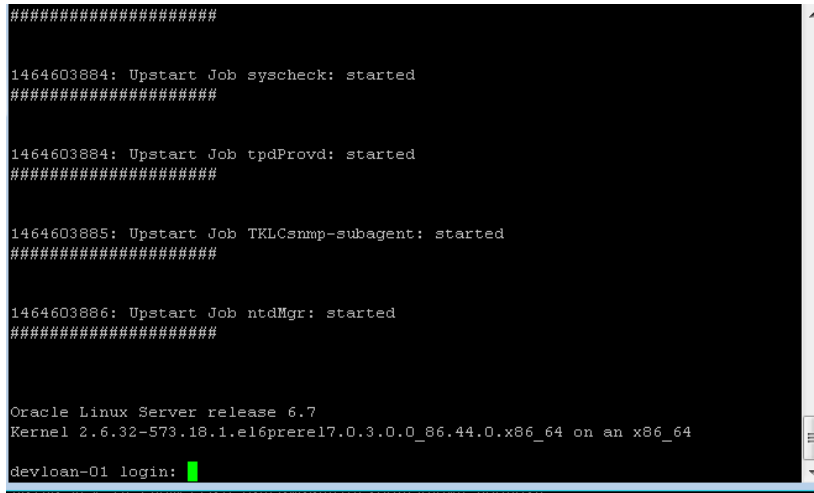
Procedure 17: Both MPS A and B Backout Procedure

	console as mentioned in the next step. 2. If backout is attempted on MPS B, first login to MPS A in a new CLI session. Then login to MPS B through serial console as mentioned in the next step.	Create a new window labeled “MPS B – from MPS A”, connect directly into MPS A. # ssh admusr@<MPS_A> Password: <admusr_password>
2. <input type="checkbox"/>	Access mate MPS via serial console: Start screen session. Connect to the console of MPS to backout.	Execute the following commands to start screen and establish a console session to MPS to backout. \$ sudo screen -L Execute the following command on E5-APP-B: \$ minicom mate
3. <input type="checkbox"/>	MPS A: Log in as “elapdev” user.	consolelogin: elapdev password: password Note: Hit enter if no login prompt is displayed.
4. <input type="checkbox"/>	MPS A: Verify DRBD status. Check the CS value as ‘Connected’. Note: If CS value is other than ‘Connected’, periodically run drbd status until both ELAPs get synced.	Execute the following command to display the DRBD status. \$ sudo drbdadm status all drbd0 role:Primary disk:UpToDate nata1-B role:Secondary peer-disk:UpToDate Expected status: ST: Primary/Secondary DS: UpToDate/UpToDate If any status is not as expected, then contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.
5. <input type="checkbox"/>	MPS A: Verify hastatus	Check the hastatus of MPS A by executing the following command: \$ hastatus STANDBY If the hastatus is not standby, failover the MPS by executing the following command: Log in to the server as user “root” and execute following command. \$ /usr/TKLC/plat/sbin/hafailover --gostandby \$ hastatus STANDBY
6. <input type="checkbox"/>	MPS A: Execute the platcfg menu.	\$sudo su - platcfg

Procedure 17: Both MPS A and B Backout Procedure

<p>7. <input type="checkbox"/></p>	<p>MPS A: Select the Maintenance submenu.</p>	<p>The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER].</p> 
<p>8. <input type="checkbox"/></p>	<p>MPS A: Select the Upgrade submenu.</p>	<p>Select the Upgrade menu and press [ENTER].</p> 
<p>9. <input type="checkbox"/></p>	<p>MPS A: Reject Upgrade</p>	<p>Select the “Reject Upgrade” menu and press [ENTER].</p>  
<p>10. <input type="checkbox"/></p>	<p>MPS A: Backout proceeds.</p>	<p>Many informational messages will come across the terminal screen as the backout proceeds.</p> <p>Finally, after backout is complete, a message will be displayed stating that a reboot is required.</p> <p>The server will be at runlevel 3 and no applications are running. Proceed to the next step to verify the backout and manually reboot the server.</p>

Procedure 17: Both MPS A and B Backout Procedure

<p>11. <input type="checkbox"/></p>	<p>MPS A: Verify the Backout.</p>	<p>Examine the upgrade logs in the directory“/var/TKLC/log/upgrade” and verify that no errors were reported.</p> <pre># grep -i error /var/TKLC/log/upgrade/upgrade.log # grep -i error /var/TKLC/log/upgrade/ugwrap.log</pre> <p>Examine the output of the above commands to determine if any errors were reported.</p> <p>Refer to section 3.5to know more about logging.</p>
<p>12. <input type="checkbox"/></p>	<p>MPS A: Verify the Backout.</p>	<p>If the backout was <i>not</i> successful and errors were recorded in the logs, then contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E for further instructions.</p> <p>If the backout <i>was</i> successful, then enter continue with the following steps:</p>
<p>13. <input type="checkbox"/></p>	<p>MPS A: Reboot the MPS.</p>	<p>Perform the following commands to reboot the MPS:</p> <pre># sudo init 6</pre>
<p>14. <input type="checkbox"/></p>	<p>MPS A: Backout completed.</p>	<p>After the reboot, the screen will display the login prompt, as shown in the example below.</p>  <p>The screenshot shows a terminal window with the following text:</p> <pre>##### 1464603884: Upstart Job syscheck: started ##### 1464603884: Upstart Job tpdProv: started ##### 1464603885: Upstart Job TKLCsnmp-subagent: started ##### 1464603886: Upstart Job ntdMgr: started ##### Oracle Linux Server release 6.7 Kernel 2.6.32-573.18.1.el6prere17.0.3.0.0_86.44.0.x86_64 on an x86_64 devloan-01 login: █</pre>
<p>15. <input type="checkbox"/></p>	<p>MPS A: Verify Health of MPS A.</p>	<p>Execute Procedure 18 on MPS A to verify the health of MPS A.</p>
<p>16. <input type="checkbox"/></p>	<p>MPS A: Create a terminal window and establish a connection by logging into MPS A. Log in to MPS A.</p>	<p>In a newly created terminal window labeled “MPS B – from MPS A”, connect directly into MPS A.</p> <pre># ssh admusr@<MPS_A> Password: <admusr_password></pre>
<p>17. <input type="checkbox"/></p>	<p>MPS A: Start screen session.</p> <p>MPS B: Connect to the console of MPS B.</p>	<p>Execute the following commands to start screen and establish a console session to MPS B.</p> <pre>\$ sudo screen -L</pre> <p>Execute the following command on E5-APP-B:</p> <pre>\$ minicom mate</pre>

Procedure 17: Both MPS A and B Backout Procedure

18. <input type="checkbox"/>	MPS B: Log in to the server as user “elapdev”.	<hostname> console login: elapdev Password: <password>
19. <input type="checkbox"/>	MPS B: Perform backout	Repeat steps 4to15, to perform backout on MPS B.
20. <input type="checkbox"/>	MPS A and MPS B: Verify ELAP release after backout	Execute the following command to verify the ELAP release. \$ rpm -qi TKLCelap The following is an example of what the output may look like: Name : TKLCelap Relocations: (not relocatable) Version : 5.0.44 Vendor: Tekelec Release : 10.2.0.0.0_102.1.0 Build Date: Thu 21 Jan 2021 02:17 PM EST Install Date: Fri 22 Jan 2021 10:49:00 AM EST Build Host: coach-4.tekelec.com Group : Development/Build Source RPM: TKLCelap-5.0.44-10.2.0_102.1.0.src.rpm Size : 149012560 License: © TEKELEC 2018 Signature : (none) Packager : <@tekelec.com> URL : http://www.tekelec.com/ Summary : Oracle Communications ELAP Package Description : This is the Oracle Communications EAGLE LNP Application Processor(ELAP) packa The package installs ELAP software. Eagle LNP Application Processor (ELAP) provides REALLY INCREDIBLE Database (RIDB). ELAP provides the LNP feature.
21. <input type="checkbox"/>	Reboot Eagle Cards.	If the DB levels on ELAP and Eagle match and there is no alarm on Eagle related to “RTDB reload is required”, go to next step. Otherwise, execute Procedure 22 on the Eagle STP connected to the ELAP servers to reload SM cards.
22. <input type="checkbox"/>	MPS A: Start the ELAP Application. Note: ELAP will not start again if it is already started.	\$ /etc/init.d/Elap start ~~ /etc/init.d/Elap start ~~ ELAP application started Successfully.
23. <input type="checkbox"/>	MPS A and MPS B: Obtain the status of the system.	\$ hastatus ACTIVE \$ hastatus STANDBY If status is not Active/Standby, contact the My Oracle Support by following the instructions in the Appendix E.
24. <input type="checkbox"/>	MPS A: Inspect the banner for any messages.	\$ manageBannerInfo -l There are currently no BannerInfo messages for this side in the database.

Procedure 17: Both MPS A and B Backout Procedure

		If unexpected output is returned then, contact the My Oracle Support by following the instructions in the Appendix E.
25. <input type="checkbox"/>	<p>MPS A: Verify DRBD status. Check the CS value as 'Connected'.</p> <p>Note: If CS value is other than 'Connected', periodically run drbd status until both ELAPs get synced.</p>	<p>Execute the following command to display the DRBD status.</p> <pre>\$ sudo drbdadm status all</pre> <pre>drbd0 role:Primary disk:UpToDate natal-B role:Secondary peer-disk:UpToDate</pre> <p>Expected status: ST: Primary/Secondary DS: UpToDate/UpToDate</p> <p>If any status is not as expected, then contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>
26. <input type="checkbox"/>	<p>MPS A and MPS B: Check for the split being merged.</p> <p>Note: This step should be performed only if the Backout was from incremental upgrade with split mirrors.</p>	<p>After backout, check for split being merged with the below command. Split should be merged.</p> <pre>\$ cat /proc/mdstat</pre> <pre>Personalities : [raid1] md2 : active raid1 sda2[0] sdb2[1] 26198016 blocks super 1.1 [2/2] [UU] bitmap: 1/1 pages [4KB], 65536KB chunk md1 : active raid1 sda3[0] sdb3[1] 262080 blocks super 1.0 [2/2] [UU] md3 : active raid1 sdb1[1] sda1[0] 442224640 blocks super 1.1 [2/2] [UU] bitmap: 3/4 pages [12KB], 65536KB chunk</pre>
27. <input type="checkbox"/>	Procedure is complete.	This procedure is complete.

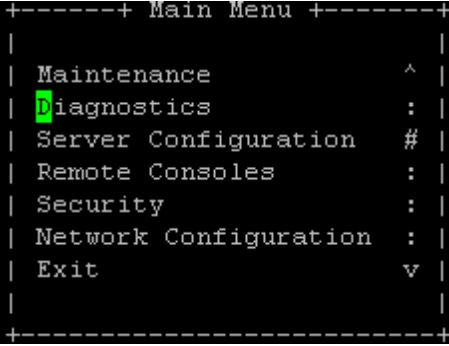
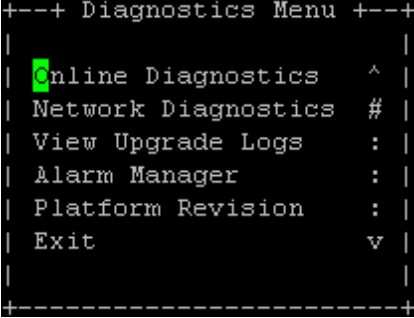
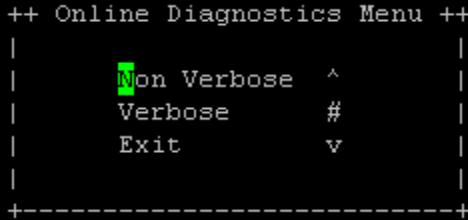
The application should now be running at the original software release level

THIS COMPLETES THE BACKOUT

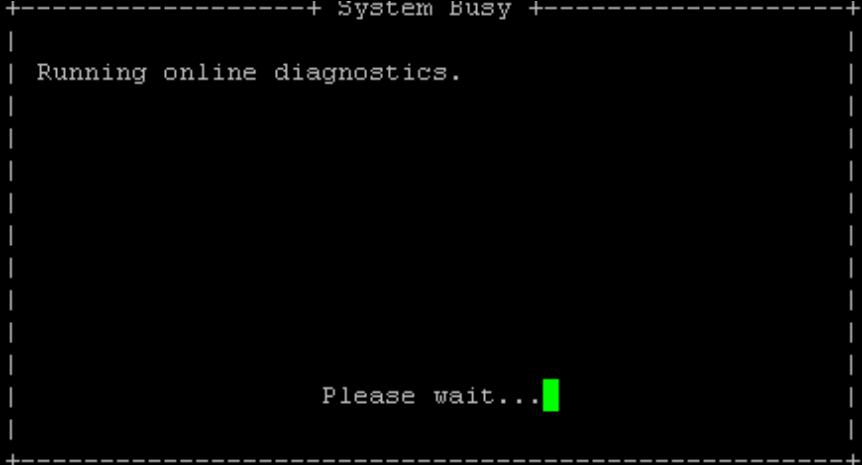
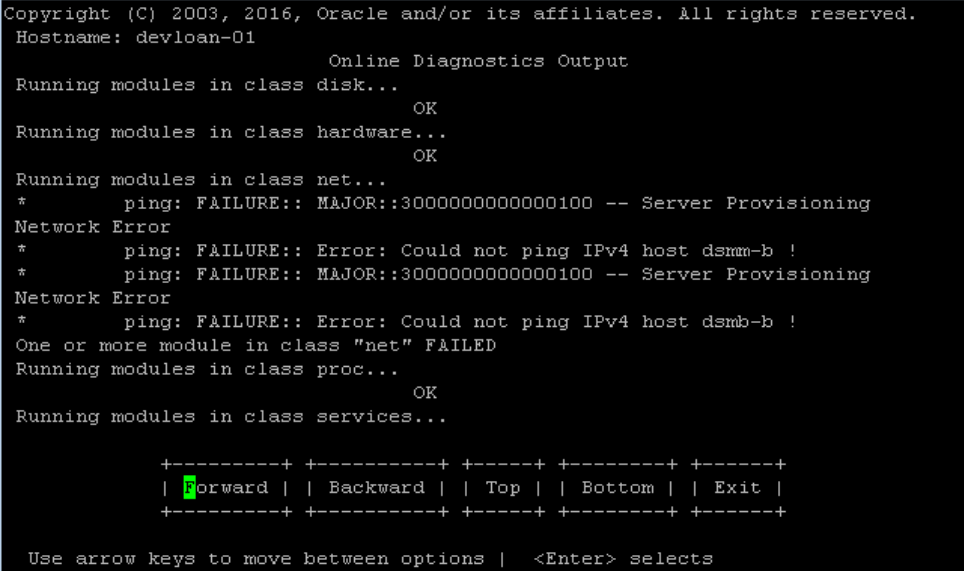
APPENDIX A GENERIC UPGRADE PROCEDURES

A.1 Perform System Health Check

Procedure 18: Perform System Health Check

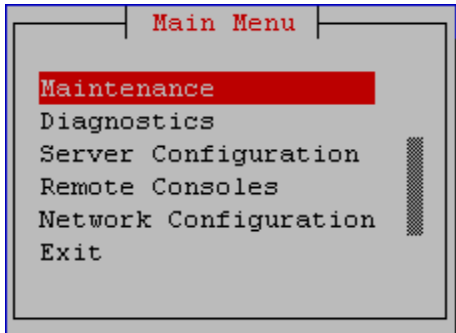
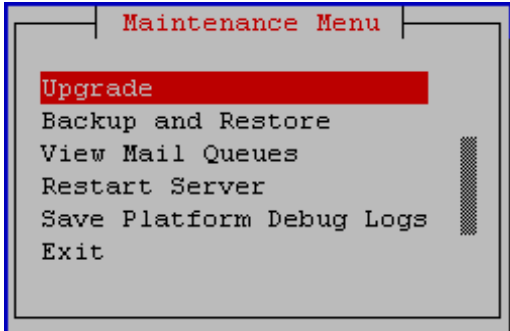
S T E P #	<p>This procedure performs a system health check on any MPS server.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
1. <input type="checkbox"/>	Determine the server on which to execute the Health Check.	Determine which server on which you want to execute the Health Check. Execute this procedure in the window for the determined server.
2. <input type="checkbox"/>	Execute the platcfg menu.	# su - platcfg
3. <input type="checkbox"/>	Select the Diagnostics submenu.	<p>The platcfg Main Menu appears. On the Main Menu, select Diagnostics and press [ENTER].</p>  <pre> +-----+ Main Menu +-----+ Maintenance ^ Diagnostics : Server Configuration # Remote Consoles : Security : Network Configuration : Exit v +-----+ </pre>
4. <input type="checkbox"/>	Select the Online Diagnostics submenu.	<p>Select the Online Diagnostics submenu and press [ENTER].</p>  <pre> +---+ Diagnostics Menu +---+ Online Diagnostics ^ Network Diagnostics # View Upgrade Logs : Alarm Manager : Platform Revision : Exit v +---+ </pre>
5. <input type="checkbox"/>	Select the Non-Verbose option.	<p>Select the Non-Verbose option and press [ENTER].</p>  <pre> ++ Online Diagnostics Menu ++ Non Verbose ^ Verbose # Exit v +-----+ </pre>

Procedure 18: Perform System Health Check

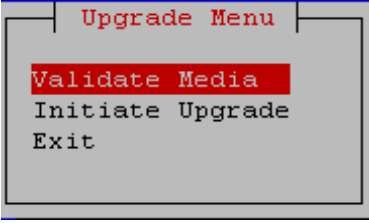
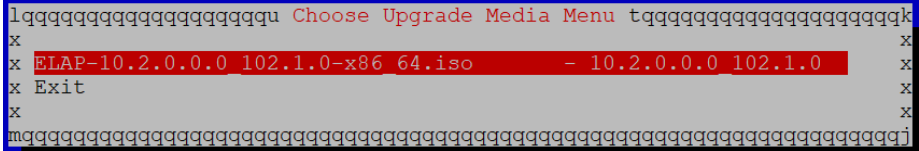
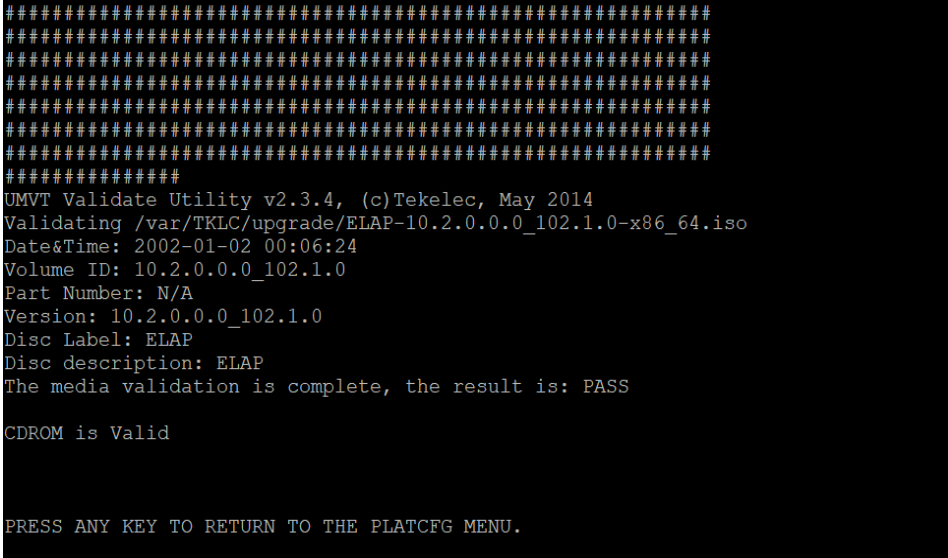
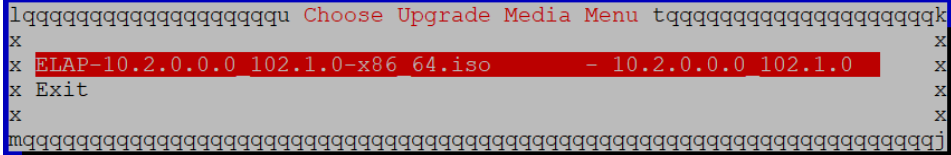
		
<p>6. <input type="checkbox"/></p>	<p>Examine the output of the Online Diagnostics.</p>	<p>Example output shown below. Examine the actual output of the Online Diagnostics.</p>  <p>Note: The actual results from this example.</p>
<p>7. <input type="checkbox"/></p>	<p>System Check Successful.</p> <p>System Check Failure.</p>	<p>Exit from the above menu.</p> <p>If the System Check was successful, return to the procedure that you came here from.</p> <p>If any other failures were detected by System Check, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p>
<p>8. <input type="checkbox"/></p>	<p>Procedure complete.</p>	<p>This procedure is complete.</p>

A.2 Validate Upgrade Media

Procedure 19: Validate the Upgrade Media on MPS

<p>S T E P #</p>	<p>This procedure provides instructions to perform a validation of the upgrade media on the MPS X server.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
<p>1. <input type="checkbox"/></p>	<p>MPS X: If necessary, log in to the server as the user “elapdev”.</p>	<pre>console login: admusr password: <password></pre>
<p>2. <input type="checkbox"/></p>	<p>MPS X: Execute the platcfg menu.</p>	<pre># sudo su - platcfg</pre>
<p>3. <input type="checkbox"/></p>	<p>MPS X: Select the Maintenance submenu.</p>	<p>The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER].</p>  <p>The screenshot shows a terminal window titled "Main Menu" with a list of options: Maintenance (highlighted in red), Diagnostics, Server Configuration, Remote Consoles, Network Configuration, and Exit.</p>
<p>4. <input type="checkbox"/></p>	<p>MPS X: Select the Incremental upgrade submenu.</p>	<p>Select the Incremental upgrade menu and press [ENTER].</p>  <p>The screenshot shows a terminal window titled "Maintenance Menu" with a list of options: Upgrade (highlighted in red), Backup and Restore, View Mail Queues, Restart Server, Save Platform Debug Logs, and Exit.</p>
<p>5. <input type="checkbox"/></p>	<p>MPS X: Select the Validate Media selection.</p>	<p>Select the Validate Media menu and press [ENTER].</p>

Procedure 19: Validate the Upgrade Media on MPS

		
<p>6. <input type="checkbox"/></p>	<p>MPS X: Output from the Validate Media selection.</p>	<p>The screen will display a message that it is searching for incremental upgrade media. Once the upgrade media is found, an Upgrade Media selection menu will be displayed similar to the example shown below.</p> <p>Select the upgrade media or ISO image. There should only be one selection available, as shown in the example below. If there is more than one selection available, contact the My Oracle Support by following the instructions on the front page or the instructions in the Appendix E.</p> 
<p>7. <input type="checkbox"/></p>	<p>MPS X: View the Validation results.</p>	<p>The results of the validation will be displayed, similar to the example below. Press the “enter” key to continue.</p> 
<p>8. <input type="checkbox"/></p>	<p>MPS X: Select the Exit option.</p>	<p>Select the Exit option, and keep selecting the Exit option, until you exit the platcfg menu.</p> 

Procedure 19: Validate the Upgrade Media on MPS

9. <input type="checkbox"/>	MPS X: Procedure complete.	This procedure is complete.
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A.3 ISO Image copy from USB Media

Assumption: The USB media contains the desired ELAP ISO.

Procedure 20: ISO Image copy from USB media

S T E P #	<p>This procedure provides instructions to copy an ISO image from an USB media.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT ORACLE TECHNICAL SERVICES AND ASK FOR UPGRADE ASSISTANCE.</p>	
1. <input type="checkbox"/>	MPS X: Insert USB.	Insert media in USB drive
2. <input type="checkbox"/>	MPS X: Log in to the server as the “root” user.	<pre>[hostname] consolelogin: admusr password: <admusr_password></pre>
3. <input type="checkbox"/>	MPS X: Run syscheck to make sure there is no error.	<p>Execute the following command:</p> <pre>\$sudo syscheck</pre> <p>The output should look like:</p> <pre>[admusr@Santos-B ~]\$ sudo 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 services... OK Running modules in class system... OK Running modules in class upgrade... OK</pre> <p>LOG LOCATION: /var/TKLC/log/syscheck/fail_log</p>
4. <input type="checkbox"/>	MPS X: Verify ISO image doesn't already exist.	<p>Execute the following command to perform directory listing:</p> <pre>\$ ls -al /var/TKLC/upgrade</pre> <p>The output should look like:</p> <pre>[admusr@hostname ~]\$ ls -al /var/TKLC/upgrade total 16 dr-xr-xr-x 2 root root 4096 Oct 22 16:31 . dr-xr-xr-x 21 root root 4096 Oct 18 13:40 ..</pre> <p>If an ISO image exists, remove it by executing the following command:</p> <pre>\$ rm -f /var/TKLC/upgrade/<ISO image></pre>

Procedure 20: ISO Image copy from USB media

<p>5.</p> <p><input type="checkbox"/></p>	<p>MPS X: Delete unwanted ISOs from USB media.</p>	<p>Execute the following command to create a directory to mount the USB media:</p> <pre>\$ sudo mkdir -p /mnt/usb</pre> <p>Execute the following command to get the USB drive name:</p> <pre>\$ sudo fdisk -l grep FAT</pre> <p>The output should look like:</p> <pre>/dev/sdc1 * 1 133 1072480+ b W95 FAT32</pre> <p>Execute the following command to mount the USB media using the USB drive name from the output above:</p> <pre>\$ sudo mount /dev/sdc1 /mnt/usb</pre> <p>Execute the following command to perform directory listing and verify the file name format is as expected:</p> <pre>\$ ls -al /mnt/usb</pre> <p>The output should look like:</p> <pre>[admusr@hostname ~]\$ ls -al /mnt/usb total 761136 drwxr-xr-x 5 root root 4096 Dec 31 1969 . drwxr-xr-x 5 root root 4096 Jun 01 08:09 .. drwxr-xr-x 3 root root 4096 Mar 18 02:40 images -r-xr-xr-x 1 root root 33280 Mar 18 02:40 ldlinux.sys drwxr-xr-x 2 root root 4096 Mar 18 02:40 syslinux -rwxr-xr-x 1 root root 779307008 Mar 18 02:40 TPD.install-7.0.3.0.0_86.44.0-OracleLinux6.7-x86_64.iso -rwxr-xr-x 1 root root 33296 Mar 18 02:40 TPD.ks drwxr-xr-x 4 root root 4096 Mar 18 02:40 umvt</pre> <p>Only one ISO file should be listed, if additional files are listed, execute the following command to remove unwanted ELAP ISOs:</p> <pre>\$sudo rm -f /mnt/usb/<ISO_NAME>.iso</pre> <p>For e.g.,</p> <pre>\$ sudo rm -f /mnt/usb/ELAP-10.2.0.0.0_102.1.0-x86_64.iso</pre> <p>Execute the following command to unmount the USB media:</p> <pre>\$ sudo umount /mnt/usb</pre>
<p>6.</p> <p><input type="checkbox"/></p>	<p>MPS X: Verify space exists for ISO.</p>	<p>Execute the following command to verify the available disk space:</p> <pre>\$ df -h /var/TKLC</pre> <p>The output should look like:</p> <pre>[admusr@hostname ~]\$ df -h /var/TKLC Filesystem Size Used Avail Use% Mounted on /dev/mapper/vgroot-plat_var_tklc 3.9G 657M 3.0G 18% /var/TKLC</pre> <p>Verify that there is at least 620M in the Avail column. If not, clean up files until there is space available.</p> <p>CAUTION: Make sure you know what files you can remove safely before cleaning up. It is recommended that you only clean up files in the /var/TKLC/upgrade directory as this is a platform owned directory that should only contain ISO images. This directory should not be expected to contain</p>


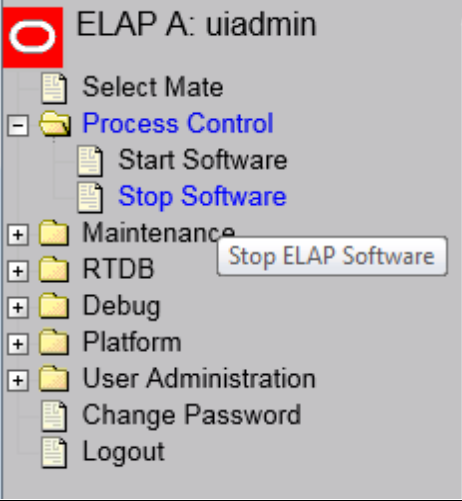
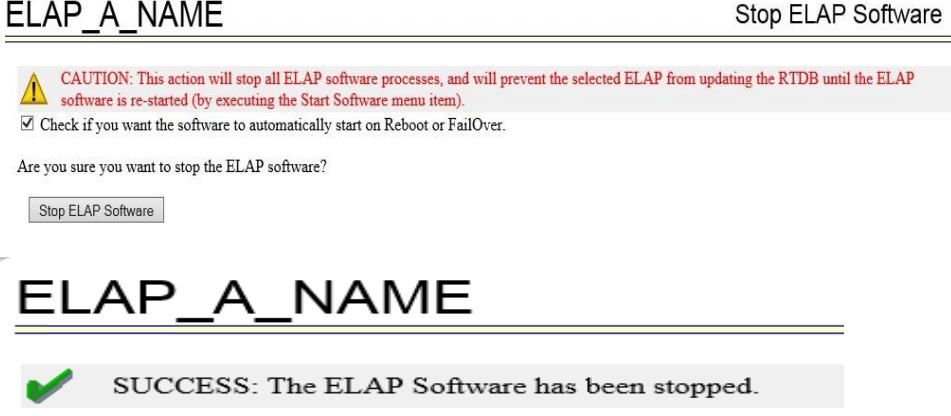
Procedure 20: ISO Image copy from USB media

		images for any length of time as they can get purged. Contact Technical Services beforehand if removing files other than the /var/TKLC/upgrade directory as removing files is dangerous.
7. <input type="checkbox"/>	MPS X: Copy iso from mounted path to the destination path	Execute the following command to copy ISO: \$ cp /mnt/usb/<xyz.iso> /var/TKLC/upgrade/ Execute the following command to unmount the USB media: \$sudo umount /mnt/usb
8. <input type="checkbox"/>	MPS X: Verify ISO image exists.	Execute the following command to perform directory listing: # ls -al /var/TKLC/upgrade The output should look like: [admusr@hostname ~]\$ ls -al /var/TKLC/upgrade total 878276 drwxrwxr-x. 2 root admgrp 4096 Jun 10 13:31 . dr-xr-xr-x. 22 root root 4096 Jun 10 13:03 .. -r----- 1 admusr admgrp 899342336 Jun 10 13:32 ELAP-10.2.0.0.0_102.1.0-x86_64.iso Repeat this procedure from step 5, if ELAP ISO file is not as expected.
9. <input type="checkbox"/>	MPS X: Logout from server.	Logout from the server by executing the following command: \$ logout
10. <input type="checkbox"/>	MPS X: Remove USB media.	Remove media from USB drive.

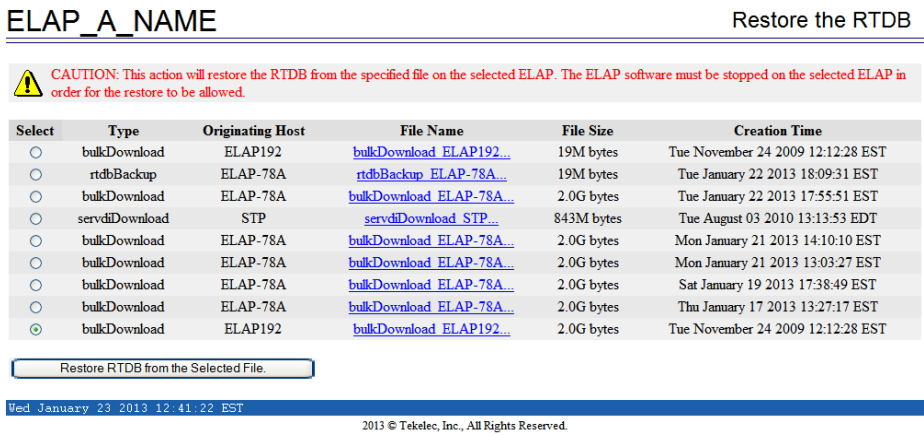
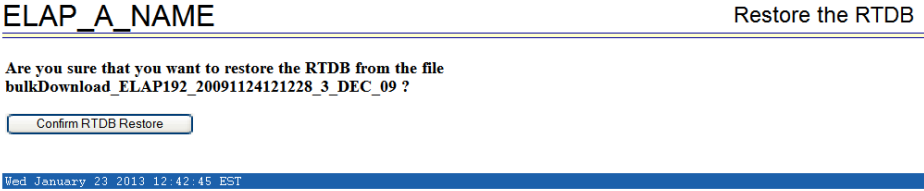

This procedure is complete!

A.4 Restore RTDB Database

Procedure 21: Restore RTDB Database

<p>S T E P #</p>	<p>This procedure performs a RTDB Restore from backup database</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
<p>1. <input type="checkbox"/></p>	<p>Active ELAP: Login to GUI as 'uiadmin'.</p>	
<p>2. <input type="checkbox"/></p>	<p>Expand "Process Control" folder.</p> <p>Click Stop Software option.</p>	
<p>3. <input type="checkbox"/></p>	<p>Confirm to stop ELAP software.</p> <p>Success message will be shown on GUI.</p>	

Procedure 21: Restore RTDB Database

<p>4. <input type="checkbox"/></p>	<p>Active ELAP: Restore RTDB Database Menu.</p> <p>Expand the “RTDB” Folder.</p> <p>Expand the “Maintenance” Folder.</p> <p>Click on “Restore RTDB”.</p> <p>Select the database file.</p> <p>Click on “Restore RTDB from the Selected File”.</p>	 <p>ELAP_A_NAME Restore the RTDB</p> <p>CAUTION: This action will restore the RTDB from the specified file on the selected ELAP. The ELAP software must be stopped on the selected ELAP in order for the restore to be allowed.</p> <table border="1"> <thead> <tr> <th>Select</th> <th>Type</th> <th>Originating Host</th> <th>File Name</th> <th>File Size</th> <th>Creation Time</th> </tr> </thead> <tbody> <tr> <td><input type="radio"/></td> <td>bulkDownload</td> <td>ELAP192</td> <td>bulkDownload_ELAP192...</td> <td>19M bytes</td> <td>Tue November 24 2009 12:12:28 EST</td> </tr> <tr> <td><input type="radio"/></td> <td>rtdbBackup</td> <td>ELAP-78A</td> <td>rtdbBackup_ELAP-78A...</td> <td>19M bytes</td> <td>Tue January 22 2013 18:09:31 EST</td> </tr> <tr> <td><input type="radio"/></td> <td>bulkDownload</td> <td>ELAP-78A</td> <td>bulkDownload_ELAP-78A...</td> <td>2.0G bytes</td> <td>Tue January 22 2013 17:55:51 EST</td> </tr> <tr> <td><input type="radio"/></td> <td>servdiDownload</td> <td>STP</td> <td>servdiDownload_STP...</td> <td>843M bytes</td> <td>Tue August 03 2010 13:13:53 EDT</td> </tr> <tr> <td><input type="radio"/></td> <td>bulkDownload</td> <td>ELAP-78A</td> <td>bulkDownload_ELAP-78A...</td> <td>2.0G bytes</td> <td>Mon January 21 2013 14:10:10 EST</td> </tr> <tr> <td><input type="radio"/></td> <td>bulkDownload</td> <td>ELAP-78A</td> <td>bulkDownload_ELAP-78A...</td> <td>2.0G bytes</td> <td>Mon January 21 2013 13:03:27 EST</td> </tr> <tr> <td><input type="radio"/></td> <td>bulkDownload</td> <td>ELAP-78A</td> <td>bulkDownload_ELAP-78A...</td> <td>2.0G bytes</td> <td>Sat January 19 2013 17:38:49 EST</td> </tr> <tr> <td><input type="radio"/></td> <td>bulkDownload</td> <td>ELAP-78A</td> <td>bulkDownload_ELAP-78A...</td> <td>2.0G bytes</td> <td>Thu January 17 2013 13:27:17 EST</td> </tr> <tr> <td><input checked="" type="radio"/></td> <td>bulkDownload</td> <td>ELAP192</td> <td>bulkDownload_ELAP192...</td> <td>2.0G bytes</td> <td>Tue November 24 2009 12:12:28 EST</td> </tr> </tbody> </table> <p>Restore RTDB from the Selected File.</p> <p>Wed January 23 2013 12:41:22 EST 2013 © Tekelec, Inc., All Rights Reserved.</p>	Select	Type	Originating Host	File Name	File Size	Creation Time	<input type="radio"/>	bulkDownload	ELAP192	bulkDownload_ELAP192...	19M bytes	Tue November 24 2009 12:12:28 EST	<input type="radio"/>	rtdbBackup	ELAP-78A	rtdbBackup_ELAP-78A...	19M bytes	Tue January 22 2013 18:09:31 EST	<input type="radio"/>	bulkDownload	ELAP-78A	bulkDownload_ELAP-78A...	2.0G bytes	Tue January 22 2013 17:55:51 EST	<input type="radio"/>	servdiDownload	STP	servdiDownload_STP...	843M bytes	Tue August 03 2010 13:13:53 EDT	<input type="radio"/>	bulkDownload	ELAP-78A	bulkDownload_ELAP-78A...	2.0G bytes	Mon January 21 2013 14:10:10 EST	<input type="radio"/>	bulkDownload	ELAP-78A	bulkDownload_ELAP-78A...	2.0G bytes	Mon January 21 2013 13:03:27 EST	<input type="radio"/>	bulkDownload	ELAP-78A	bulkDownload_ELAP-78A...	2.0G bytes	Sat January 19 2013 17:38:49 EST	<input type="radio"/>	bulkDownload	ELAP-78A	bulkDownload_ELAP-78A...	2.0G bytes	Thu January 17 2013 13:27:17 EST	<input checked="" type="radio"/>	bulkDownload	ELAP192	bulkDownload_ELAP192...	2.0G bytes	Tue November 24 2009 12:12:28 EST
Select	Type	Originating Host	File Name	File Size	Creation Time																																																									
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<input checked="" type="radio"/>	bulkDownload	ELAP192	bulkDownload_ELAP192...	2.0G bytes	Tue November 24 2009 12:12:28 EST																																																									
<p>5. <input type="checkbox"/></p>	<p>Active ELAP: Confirm the RTDB restore.</p>	 <p>ELAP_A_NAME Restore the RTDB</p> <p>Are you sure that you want to restore the RTDB from the file bulkDownload_ELAP192_20091124121228_3_DEC_09 ?</p> <p>Confirm RTDB Restore</p> <p>Wed January 23 2013 12:42:45 EST 2013 © Tekelec, Inc., All Rights Reserved.</p>																																																												
<p>6. <input type="checkbox"/></p>	<p>Active ELAP: Check for the RTDB restore completion banner message.</p>	 <p>Message History - 10.248.9.21</p> <table border="1"> <thead> <tr> <th>Time Added</th> <th>Time Cleared</th> <th>Side</th> <th>Message</th> <th>Hide</th> </tr> </thead> <tbody> <tr> <td>1/23/13 10:43:54 AM</td> <td>1/23/13 10:46:05 AM</td> <td>A</td> <td>RTDB restore completed successfully</td> <td></td> </tr> </tbody> </table> <p>Clear Refresh</p>	Time Added	Time Cleared	Side	Message	Hide	1/23/13 10:43:54 AM	1/23/13 10:46:05 AM	A	RTDB restore completed successfully																																																			
Time Added	Time Cleared	Side	Message	Hide																																																										
1/23/13 10:43:54 AM	1/23/13 10:46:05 AM	A	RTDB restore completed successfully																																																											
<p>7. <input type="checkbox"/></p>	<p>Active ELAP: Procedure complete.</p>	<p>This procedure is complete.</p>																																																												

A.5 Reload SM cards

Procedure 22: Reload SM cards

S T E P #	<p>This procedure reloads the SM cards at the Eagle STP.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR INCREMENTAL UPGRADE ASSISTANCE.</p>	
1. <input type="checkbox"/>	<p>Eagle STP connected to ELAP servers: Login to the Eagle STP.</p>	<p>login:uid=<Eagle_STP_username> password: <Eagle_STP_username_password></p> <p>Note. Password is not displayed.</p>
2. <input type="checkbox"/>	<p>Eagle STP connected to ELAP servers: Verify no other RTDB reload alarms are present on the Eagle.</p>	<p>rept-stat-trbl</p>
3. <input type="checkbox"/>	<p>Eagle STP connected to ELAP servers: Issue the command to display SCCP status.</p>	<p>rept-stat-sccp</p>
4. <input type="checkbox"/>	<p>Eagle STP connected to ELAP servers: Response to SCCP status command is displayed.</p> <p>Note card location of all SM cards: SM _____ SM _____ SM _____ SM _____ SM _____</p>	<pre>tekelecstp xx-03-09 19:47:19 EST Rel XX.X.X SCCP SUBSYSTEM REPORT IS-NR Active ----- SCCP Cards Configured= 4 Cards IS-NR= 4 Capacity Threshold = 60% CARD VERSION PST SST AST MSU USAGE CPU USAGE ----- -- 1218 XXX-XXX-XXX IS-NR Active ----- 29% 4% 1108 XXX-XXX-XXX IS-NR Active ----- 33% 5% 1111 XXX-XXX-XXX IS-NR Active ----- 39% 6% ----- SCCP Service Average MSU Capacity = 33% Average CPU Capacity = 5% Command Completed. ;</pre>
5. <input type="checkbox"/>	<p>Eagle STP connected to ELAP servers: Issue the initialize card command for 1 SM card.</p> <p>Note: This step should be done for 1 SM card, where xxxx is the location of a SM card.</p>	<p>init-card:loc=XXXX</p> <p>(Where XXXX is the location of a SM card recorded in step 4)</p>
6. <input type="checkbox"/>	<p>Eagle STP connected to ELAP servers: Response to the</p>	<pre>tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y * 0261.0013 * CARD XXXX Card is isolated from the system</pre>

Procedure 22: Reload SM cards

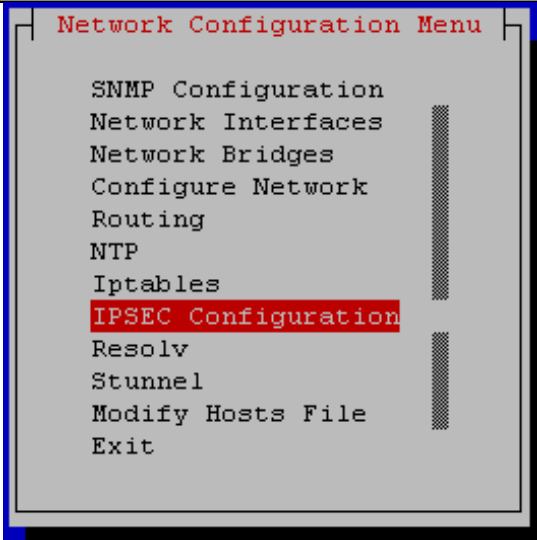
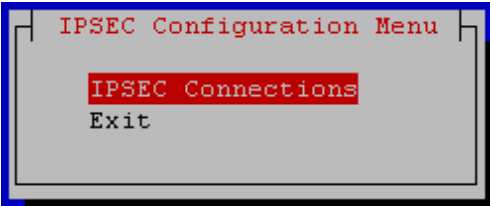
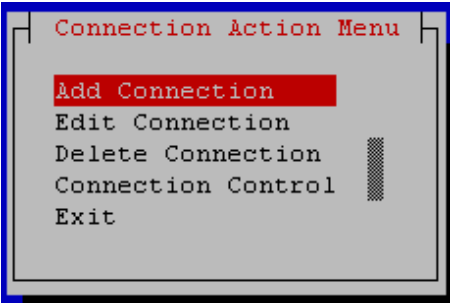
	initialize command is displayed.	; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5038.0014 CARD XXXX Card is present ;
7. <input type="checkbox"/>	Eagle STP connected to ELAP servers: Monitor the progress of SM card being reinitialized	Repeat steps 3 and 4 as necessary to monitor the progress of the SM card being reinitialized and until it is in normal state (IS-NR).
8. <input type="checkbox"/>	Eagle STP connected to ELAP servers: Issue the initialize card command for the rest of SM cards.	Repeat steps 5 to 7 for the rest of cards in 4 batches (booting 1/4 of the cards at a single time). Note: This step should be done for each SM card, where xxxx is the location of each SM card from steps 4, repeat this step until all SM cards have been reloaded but wait until the cards go IS-NR before initializing other set of cards.
9. <input type="checkbox"/>	Eagle STP connected to ELAP servers: Verify no other RTDB reload alarms are present on the Eagle.	rept-stat-trb1
10. <input type="checkbox"/>	Eagle STP connected to ELAP servers: Procedure complete.	This procedure is complete.

A.6 Configuring Optional IPSEC Connections


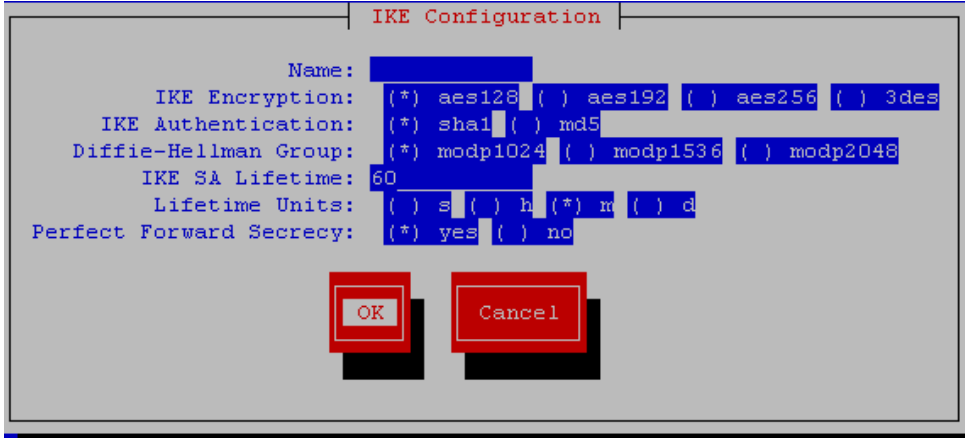
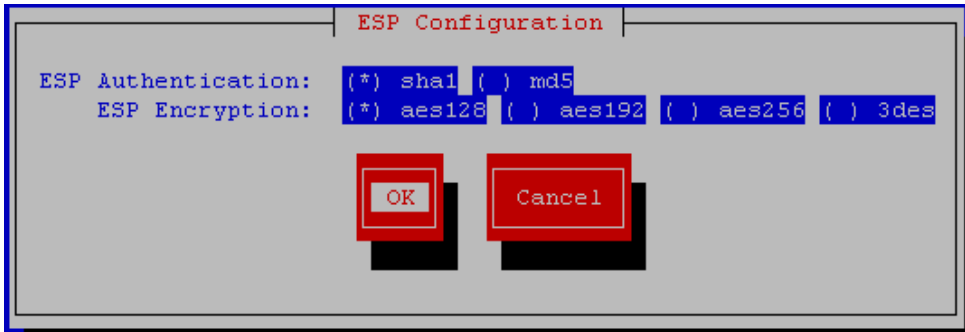
Procedure 23: Configuring Optional IPSEC connections using the ELAP VIP address

<p>S T E P #</p>	<p>IP Security, referred to as IPSEC, secures Internet Protocol (IP) communications by encrypting and/or authenticating all IP packets. IPSEC provides security at the network layer for connections configured for specified addresses.</p> <p>This procedure configures optional IPSEC connections to LSMS.</p> <p><u>Firewalling Note:</u> Before configuring the optional IPSEC connections in the customer network, configure the firewall for Inbound and Outbound access according to the information below.</p> <p>UDP protocol, port 500 AH(51) protocol ESP(50) protocol</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAIL, CONTACT TEKELEC CUSTOMER CARE CENTER AND ASK FOR <u>INCREMENTAL UPGRADE ASSISTANCE</u>.</p>	
<p>1 <input type="checkbox"/></p>	<p>LSMS A: Login as user platcfg on the server A.</p>	<p>[hostname] consolelogin: platcfg password: password</p>
<p>2 <input type="checkbox"/></p>	<p>LSMS A: Select “network configuration”.</p>	<p>From the Main Menu, select Network Configuration and press <i>Enter</i>.</p> <div style="border: 2px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <pre style="font-family: monospace; font-size: 0.9em;"> Main Menu ----- Maintenance Diagnostics Server Configuration Remote Consoles Network Configuration Security Exit </pre> </div>
<p>3 <input type="checkbox"/></p>	<p>LSMS A: Select “IPSEC configuration”.</p>	<p>From the Network Configuration Menu, select IPSEC Configuration and press <i>Enter</i>.</p>

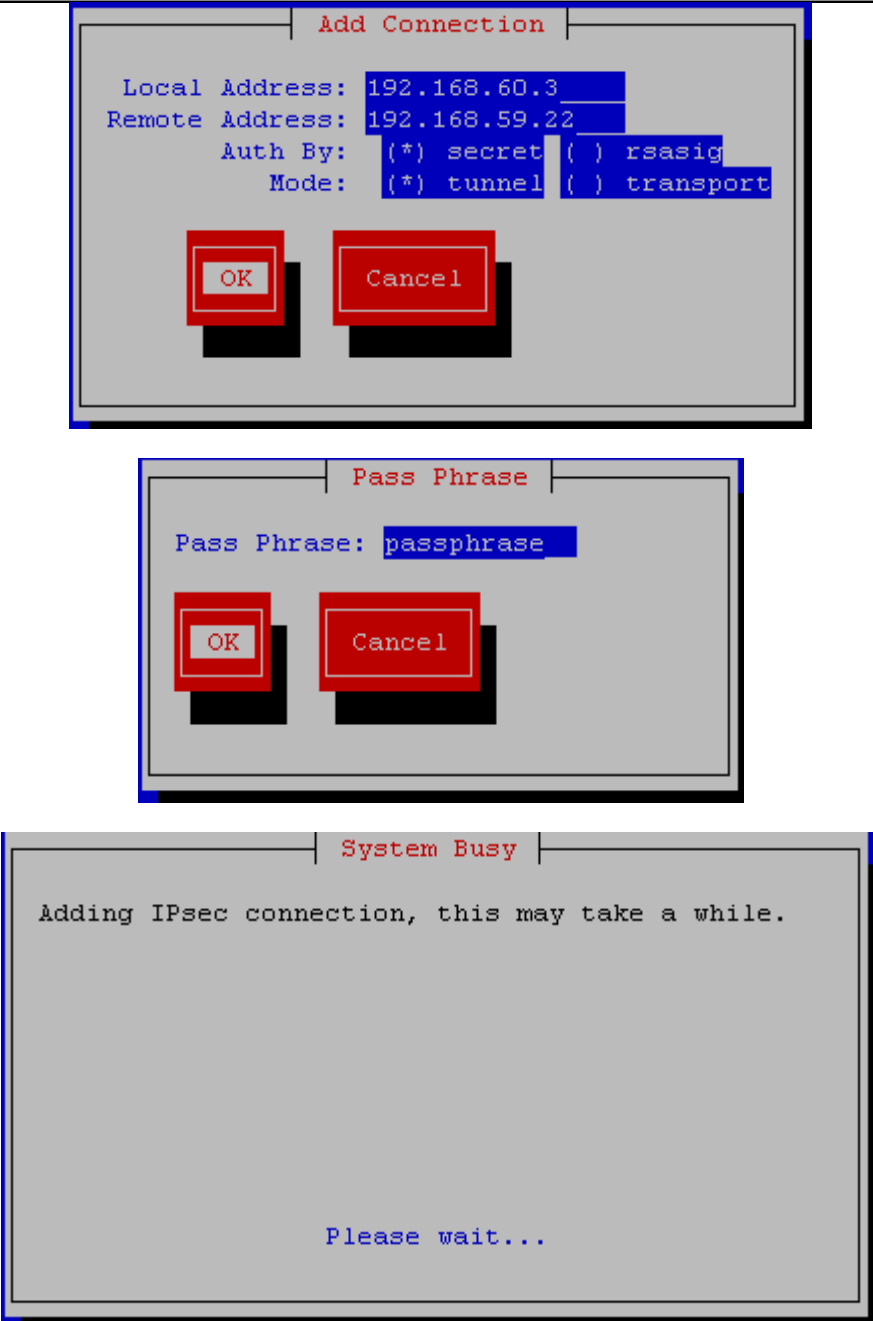
Procedure 23: Configuring Optional IPSEC connections using the ELAP VIP address

		 <p>The screenshot shows a terminal window titled "Network Configuration Menu". The menu items are: SNMP Configuration, Network Interfaces, Network Bridges, Configure Network, Routing, NTP, Iptables, IPSEC Configuration (highlighted in red), Resolv, Stunnel, Modify Hosts File, and Exit.</p>
<p>4</p> <p><input type="checkbox"/></p>	<p>LSMS A: Select "IPSEC connections".</p>	<p>From the IPSEC Configuration Menu, select IPSEC Connections and press <i>Enter</i>.</p>  <p>The screenshot shows a terminal window titled "IPSEC Configuration Menu". The menu items are: IPSEC Connections (highlighted in red) and Exit.</p>
<p>5</p> <p><input type="checkbox"/></p>	<p>LSMS A: Select edit "IPSEC connections".</p>	<p>From the IPSEC Connections screen, select and click the <i>Edit</i> button and then select <i>Add Connection</i> option.</p>
<p>6</p> <p><input type="checkbox"/></p>	<p>LSMS A: Add an "IPSEC connection".</p>	<p>From the Connections Action Menu, select Add Connection and press <i>Enter</i>. Then select IKEv1 and press <i>Enter</i>.</p>  <p>The screenshot shows a terminal window titled "Connection Action Menu". The menu items are: Add Connection (highlighted in red), Edit Connection, Delete Connection, Connection Control, and Exit.</p>

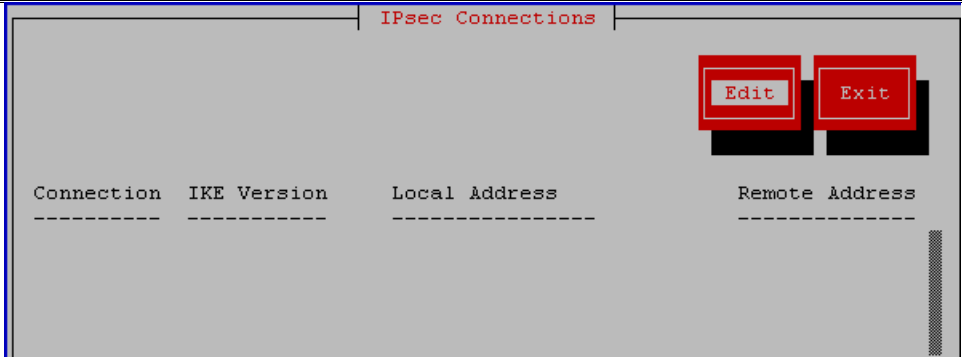
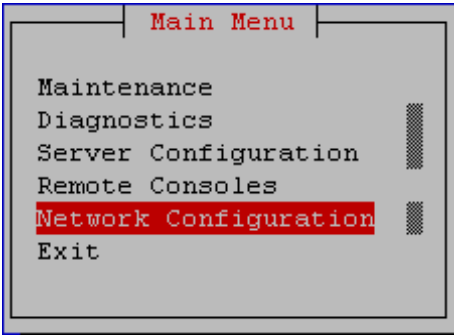
Procedure 23: Configuring Optional IPSEC connections using the ELAP VIP address

		
<p>7</p> <p><input type="checkbox"/></p>	<p>LSMS A: Add an “IPSEC connection”.</p>	<p>Keep the default IKE configuration and press OK.</p>  <p>Keep the default ESP configuration and press OK.</p> 
<p>8</p> <p><input type="checkbox"/></p>	<p>LSMS A: Add connection ipsec0, if required. Otherwise, press ‘Cancel’ and skip to the next step.</p> <p>Note: For local address, please check the ip-address corresponding to lsmsec-ems in /etc/hosts file of</p>	<p>Enter the Local Address (the ip-address corresponding to lsmsec-ems in /etc/hosts file of the LSMS), Remote Address (VIP of ELAP), Pass Phrase (which must be identical for both the LSMS and ELAP systems), and keep the default Auth by and Mode entries. When your entries are complete, press <i>Enter</i>.</p>

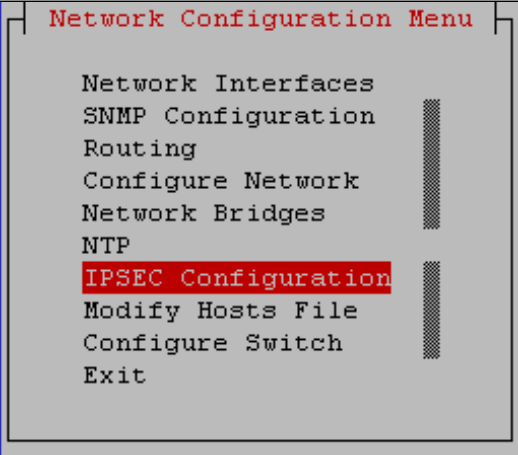
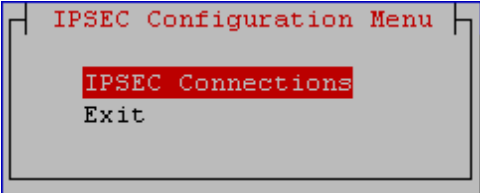
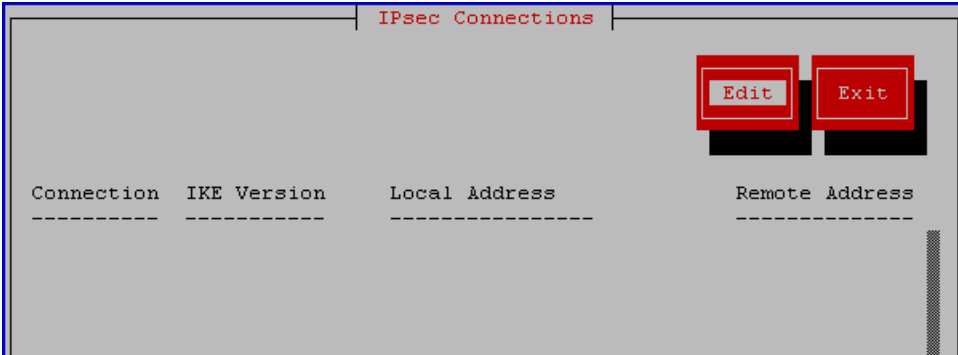
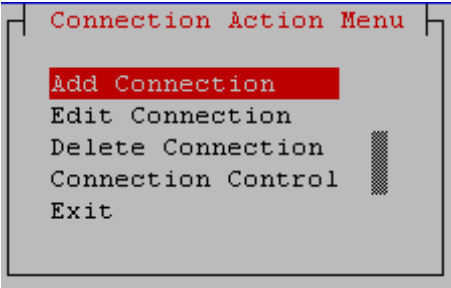
Procedure 23: Configuring Optional IPSEC connections using the ELAP VIP address

	<p>the LSMS in case LSMS B server</p>	 <p>The first screenshot, titled 'Add Connection', shows the configuration of an IPsec connection. It displays 'Local Address: 192.168.60.3', 'Remote Address: 192.168.59.22', 'Auth By: (*) secret () rsasig', and 'Mode: (*) tunnel () transport'. Below the text are 'OK' and 'Cancel' buttons.</p> <p>The second screenshot, titled 'Pass Phrase', shows the 'Pass Phrase: passphrase' field with 'OK' and 'Cancel' buttons.</p> <p>The third screenshot, titled 'System Busy', displays the message 'Adding IPsec connection, this may take a while.' followed by 'Please wait...'.</p>
<p>9 □</p>	<p>LSMS A: Exit the platcfg utility.</p>	<p>Repeatedly select Exit and press <i>Enter</i> until you have completely exited the platcfg utility.</p>

Procedure 23: Configuring Optional IPSEC connections using the ELAP VIP address

		
<p>10 <input type="checkbox"/></p>	<p>LSMS B: Login as user ‘platcfg’ to start platcfg utility on the server B.</p>	<p>[hostname] consolelogin: platcfg password: <i>password</i></p>
<p>11 <input type="checkbox"/></p>	<p>LSMS B: Edit the “IPSEC configuration” on the LSMS B server.</p>	<p>Repeat steps 1-9 on LSMS B.</p>
<p>12 <input type="checkbox"/></p>	<p>ELAP A: Login to ELAP A as elapdev and go to platcfg menu</p>	<p>console login:elapdev password:<password></p> <p>Go to platcfg menu. \$ sudo su - platcfg</p>
<p>13 <input type="checkbox"/></p>	<p>ELAP A: Select “network configuration”.</p>	<p>From the Main Menu, select Network Configuration and press <i>Enter</i>.</p> 
<p>14 <input type="checkbox"/></p>	<p>ELAP A: Select “IPSEC configuration”.</p>	<p>From the Network Configuration Menu, select IPSEC Configuration and press <i>Enter</i>.</p>

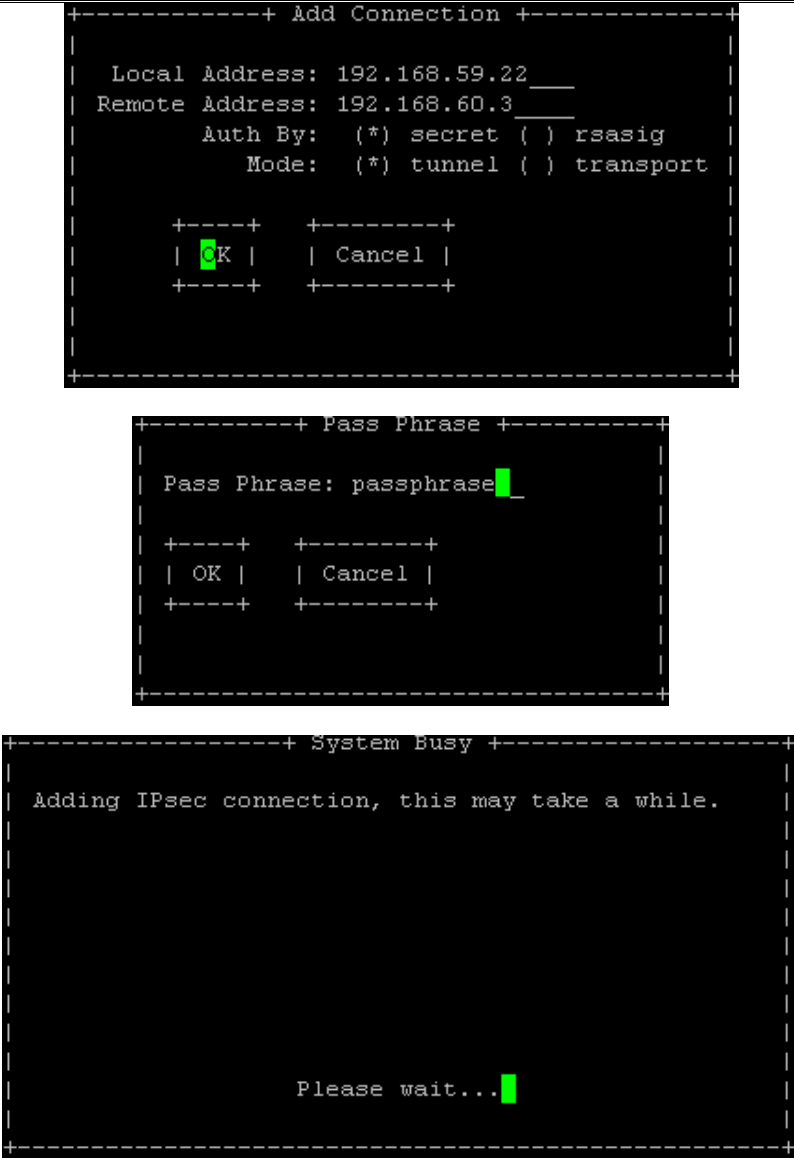
Procedure 23: Configuring Optional IPSEC connections using the ELAP VIP address

		 <p>Network Configuration Menu</p> <ul style="list-style-type: none"> Network Interfaces SNMP Configuration Routing Configure Network Network Bridges NTP IPSEC Configuration Modify Hosts File Configure Switch Exit
<p>15</p> <input type="checkbox"/>	<p>ELAP A: Select “IPSEC connections”.</p>	<p>From the Network Configuration Menu, select IPSEC Connections and press <i>Enter</i>.</p>  <p>IPSEC Configuration Menu</p> <ul style="list-style-type: none"> IPSEC Connections Exit
<p>16</p> <input type="checkbox"/>	<p>ELAP A: Select edit “IPSEC connections”.</p>	<p>From the IPSEC Connections screen, select and click the <i>Edit</i> button.</p>  <p>IPsec Connections</p> <p>Connection IKE Version Local Address Remote Address</p> <p>----- ----- ----- -----</p> <p>Edit Exit</p>
<p>17</p> <input type="checkbox"/>	<p>ELAP A: Add an “IPSEC connection”.</p>	<p>From the Connections Action Menu, select Add Connection and press <i>Enter</i>.</p>  <p>Connection Action Menu</p> <ul style="list-style-type: none"> Add Connection Edit Connection Delete Connection Connection Control Exit

Procedure 23: Configuring Optional IPSEC connections using the ELAP VIP address

<p>18</p> <p><input type="checkbox"/></p>	<p>ELAP A: Select the “IKEv1”.</p>	<p>From the Add Connections, select IKEv1 and press <i>Enter</i>.</p> <div data-bbox="673 283 1315 504" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre style="font-family: monospace; color: red;">Internet Key Exchange Version Menu IKEv1 IKEv2 Exit</pre> </div> <p>Keep the default IKE configuration and press ‘OK’.</p> <div data-bbox="516 592 1469 1001" style="border: 1px dashed black; padding: 5px; margin: 10px 0;"> <pre style="font-family: monospace;">+-----+ IKE Configuration +-----+ Name: █ IKE Encryption: (*) aes128 () aes192 () aes256 () 3des IKE Authentication: (*) sha1 () md5 Diffie-Hellman Group: (*) modp1024 () modp1536 () modp2048 IKE SA Lifetime: 60 Lifetime Units: () s () h (*) m () d Perfect Forward Secrecy: (*) yes () no +-----+ +-----+ OK Cancel +-----+ +-----+</pre> </div> <p>Keep the default ESP configuration and press ‘OK’.</p> <div data-bbox="516 1092 1469 1396" style="border: 1px dashed black; padding: 5px; margin: 10px 0;"> <pre style="font-family: monospace;">+-----+ ESP Configuration +-----+ ESP Authentication: (*) █ sha1 () md5 ESP Encryption: (*) aes128 () aes192 () aes256 () 3des +-----+ +-----+ OK Cancel +-----+ +-----+</pre> </div>
<p>19</p> <p><input type="checkbox"/></p>	<p>ELAP A: Add connection ipsec0.</p> <p>Note: For remote address, please check the ip-address corresponding to lsmspri-ems in /etc/hosts file of the LSMS in case LSMS B server.</p>	<p>Enter the Local Address(ELAP prov-vip address), Remote Address(the ip-address corresponding to lsmspri-ems in /etc/hosts file of the LSMS), Pass Phrase (which must be identical for both the LSMS and ELAP systems), and keep default values for Auth by and Mode entries. When your entries are complete, press <i>Enter</i>.</p>

Procedure 23: Configuring Optional IPSEC connections using the ELAP VIP address

		
<p>20</p> <input type="checkbox"/>	<p>ELAP A: Add connection “ipsecl” for LSMS B.</p>	<p>Repeat steps 12-19 for the ipsec1 connection.</p>
<p>21</p> <input type="checkbox"/>	<p>ELAP A: Exit the platcfg utility.</p>	<p>Repeatedly select Exit and press <i>Enter</i> until you have completely exited the platcfg utility.</p>
<p>22</p> <input type="checkbox"/>	<p>LSMS and ELAP: Procedure complete.</p>	<p>This procedure is complete.</p>

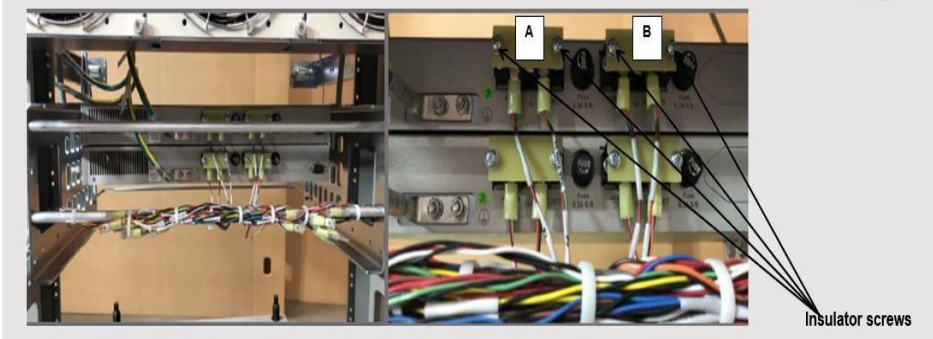
A.7 Remove the Accept Upgrade Failure Alarm


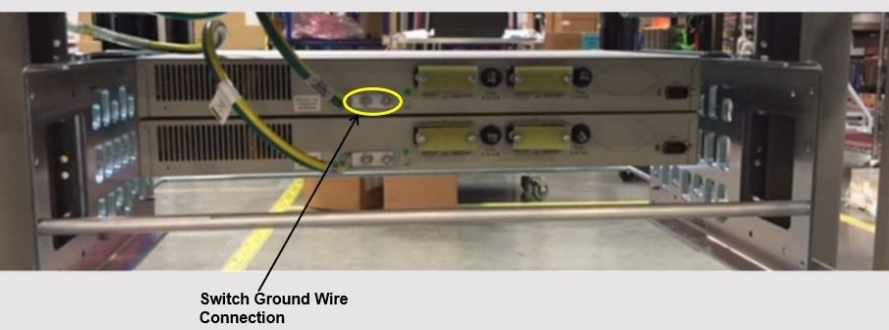
S T E P #	<p>This procedure is used to remove the false message of accept upgrade failure, when accept upgrade fails but disk redundancy is restored.</p> <p>Estimated time: 5 minutes</p>	
1. <input type="checkbox"/>	<p>MPS X: Log in to the server as the user "root".</p>	<pre>Login: root Password: <root_password></pre>
2. <input type="checkbox"/>	<p>MPS X: Blankout the /etc/motd file.</p>	<pre>Blankout the /etc/motd file # >/etc/motd</pre>
3. <input type="checkbox"/>	<p>MPS X: Add an entry "export POST_UPGRADE_ACTION=done" in the upgrade configuration file.</p>	<pre>Add an entry "export POST_UPGRADE_ACTION=done" in the upgrade configuration file. /var/TKLC/log/upgrade/upgrade.conf</pre>
4. <input type="checkbox"/>	<p>MPS X: Clear the alarm manually.</p>	<pre>Clear the false alarm "TKSPLATMI33". Following alarm is seen in alarmStatus. alarmMgr --alarmStatus SEQ: 7 UPTIME: 356 BIRTH: 1524100682 TYPE: SET ALARM: TKSPLATMI33 tpdServerUpgradePendingAccept 1.3.6.1.4.1.323.5 .3.18.3.1.3.33 32532 Processing Error Configuration Error To clear the alarm, run the following command: # alarmMgr --clear TKSPLATMI33</pre>

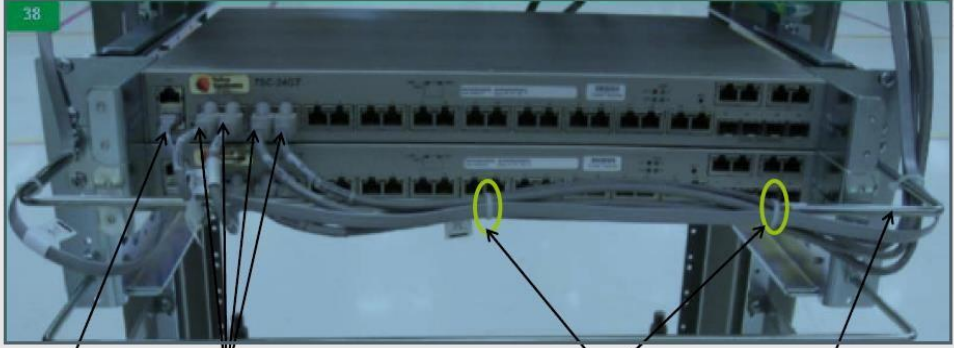
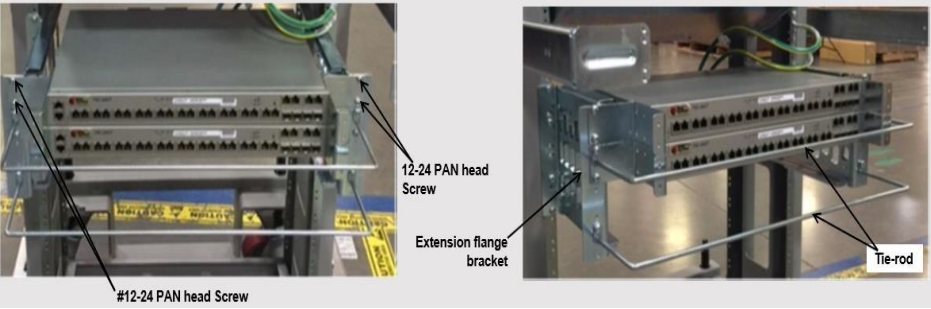
This procedure is complete!

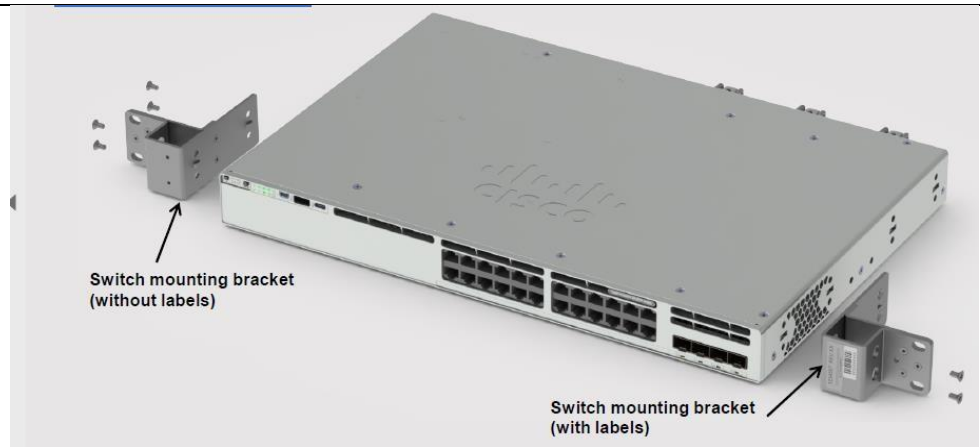
APPENDIX B TELCO TO CISCO SWITCH REPLACEMENT

A.1 Switch Replacement

S T E P #	<p>This procedure is for replacing the Telco switch with the Cisco switch.</p> <p>Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.</p> <p>IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.</p>	
<p>The following tools are required to perform this procedure:</p> <ul style="list-style-type: none"> • Ground Strap (Wrist or Heel) • #2 Phillips Screwdriver • #3 Phillips Screwdriver • 1/4" Nut Driver or Socket • 5/16" Nut Driver or Socket • Diagonal Wire Cutter (to cut Tie-wraps) • Multi Meter • Tie Wraps • Electrical Tape • Cable Tags/Marker (to label all cables) 		
<p>1. <input type="checkbox"/></p>	<p>Disable and disconnect switch power</p>	<p>Tools required: Ground Strap, #2 Phillips Screwdriver, Multi Meter, and Diagonal Wire Cutter</p> <ol style="list-style-type: none"> a. At the fuse panel, locate the fuse positions for the switch being removed. To power down the Switch, remove the fuses for both A and B feeds. b. Once the switch is off, unscrew and remove the terminal-block insulator covers from both terminals blocks A and B. c. With covers removed, using a Multi Meter, ensure that there is no power. d. Ensure that the power leads are marked -48V & RTN. e. With the cables marked, one at a time, remove the power cable and tape the terminal ring. Repeat these steps until all power connections are removed. <div style="text-align: right;">  </div> <p>Note: This procedure will reference replacing the Switch #1 location (top). Same procedure is applicable for other switch locations.</p>

		 <p style="text-align: center;">Cable-tie</p> <p>Note: For the replacement switch, if required, more cable slack/length can be added if the cable-ties are cut from the Tie-rod. See Step 8.</p>
<p>2. <input type="checkbox"/></p>	<p>Disconnect ground cable from switch</p>	<p>Tools required: Ground Strap and 5/16" Nut Driver or Socket</p> <ol style="list-style-type: none"> a. Remove the Switch Ground Wire from the grounding point, by loosening and removing Hex nut, Flat washer, and External tooth washer. b. Leave Ground Wire dangling. Do not disconnect ground wire attached to cabinet/frame. <p>Note: Hardware removed, nut, and washers are NOT required on the replacement switch.</p>  <p style="text-align: center;">Switch Ground Wire Connection</p>
<p>3. <input type="checkbox"/></p>	<p>Disconnect Front ENET and Console Cables</p>	<p>Tools required: Diagonal Wire Cutters</p> <p>Note: This procedure will reference replacing the Switch #1 location (Top). The same procedure used for other switch locations.</p> <ol style="list-style-type: none"> a. Make sure that all the cables are labeled and are in the correct position that they are terminated at. If not, ensure to mark or label before starting any removal. b. Disconnect the Console and Ethernet cables from Telco switch being replaced. Leave the cables dangling. c. (Optional) If cable management tie-rod is mounted to the switch being replaced, it may be necessary to cut or remove the cable-ties, holding the cables from the Tie-rod.

		 <p>Console cable Ethernet cable Cable-tie Tie-rod</p>
<p>4. <input type="checkbox"/></p>	<p>Remove the Switch being replaced</p>	<p>Tools required: Ground Strap and #3 Phillips Screwdriver</p> <ol style="list-style-type: none"> Remove the four (4) PAN head screws (Two (2) on either side of the switch). If there is no support under the switch, take care to support the switch while removing the screws. Remove the Switch from the Eagle rack. Keep the screws safely set aside. Required for mounting the new switch. <p>Note: If Tie-rod is attached via the screws being removed, then the Tie-rod needs to be set aside for reattachment when the replacement Switch is installed.</p>  <p>#12-24 PAN head Screw 12-24 PAN head Screw Extension flange bracket Tie-rod</p>
<p>5. <input type="checkbox"/></p>	<p>Assemble the replacement Cisco Switch</p>	<p>Tools required: Ground Straps and #2 Phillips Screwdriver</p> <p>Attach the mounting brackets with Cisco switch assembly.</p> <ol style="list-style-type: none"> Locate the supplied mounting brackets and screws from the Switch package.



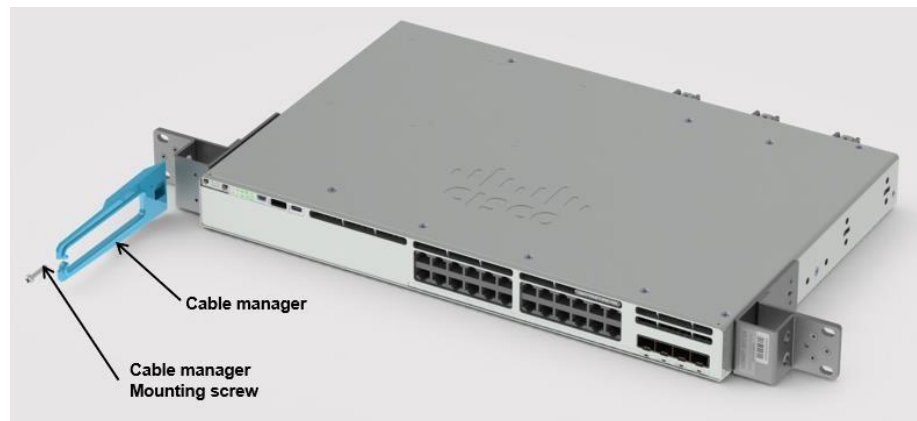
- b. Align the mounting bracket to the switch using four mounting holes.

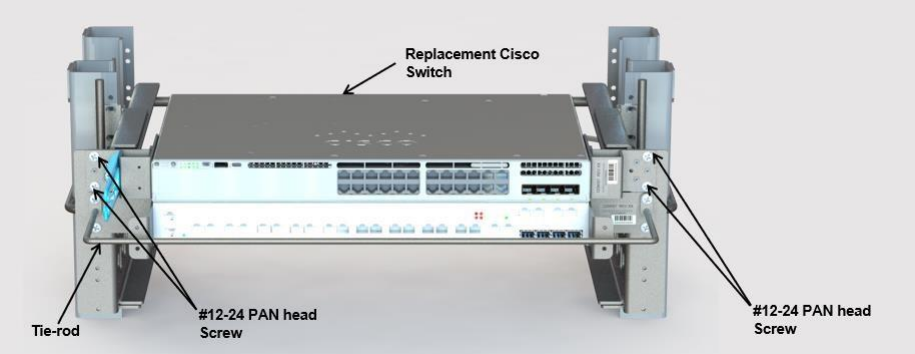
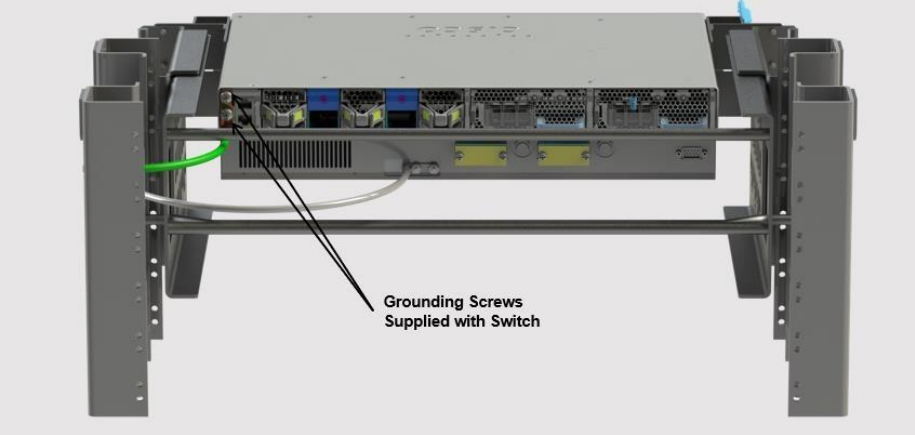

Note: Bracket with labels to be mounted on the right side of the switch.

- c. Insert four screws, supplied with each switch, and tighten.



- d. Repeat the steps b and c for the other side of the switch.
- e. Attach optional Cable Manager.
 - I. Locate Cable Manager and Screw from replacement Switch packaging.
 - II. Attach the Cable Manager to the rack mounting bracket using the supplied screw.

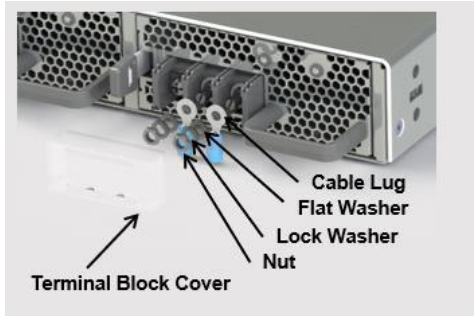


<p>6. □</p>	<p>Install Replacement Cisco Switch</p>	<p>Tools required: Ground Straps and #3 Phillips Screwdriver</p> <p>a. Align Replacement Cisco Switch in the slot where the original switch was removed.</p>  <p>b. Using screws removed from step 4, insert the four (4) PAN head screws (Two (2) on either side of the switch) and tighten.</p> <p>Note: If Tie-rod was removed in step 4, reattach at this time.</p>
<p>7. □</p>	<p>Reattach the ground cable</p>	<p>Tools required: Ground Straps and #2 Phillips Screwdriver</p> <p>Reattach the chassis ground wire (from Step 3) to switch where shown. Use Screws provided with replacement Cisco Switch.</p>  <p>In Replacement Switch Container, locate grounding screw packet with PN 48-2381-01.</p> 

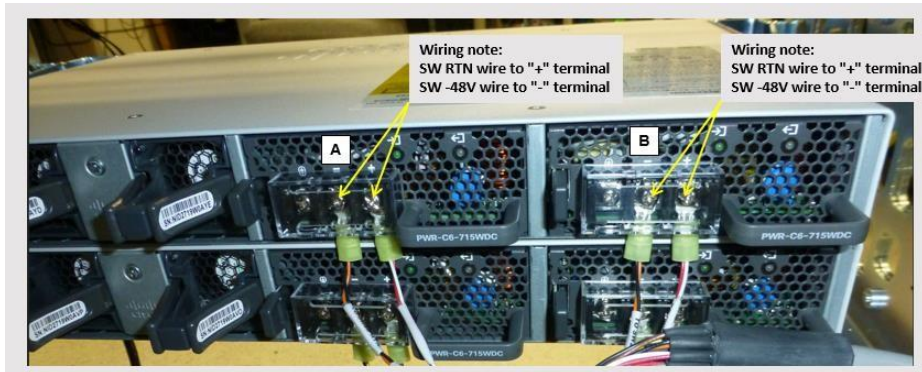
8. Connect power to the replacement Cisco Switch

Tools required: Ground Strap and 1/4" Nut Driver

- a. Remove terminal block cover.



- b. Remove Nuts and Washers from studs on A feed terminal block.
- c. Install the lugs from the power cable (A) to switch terminal block A.
- d. Secure the nuts after inserting flat washer and lock washer on top of the cable lug.
- e. Ensure connections to terminal block are as follows: SW RTN wire to "+" terminal, SW -48V wire to "-" terminal.

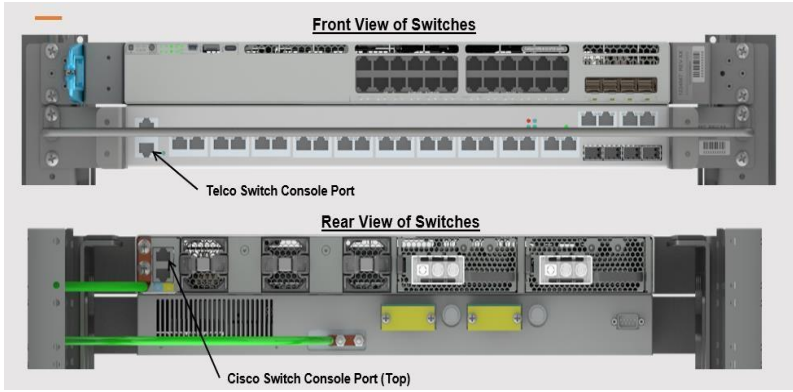


- f. Reattach protective cover.
- g. Repeat the above steps for the B feed connection.


9. Reattach Console Cable and Ethernet Cables

Tools required: Ground Strap

- a. Plug-in the console port cable to the Replacement Switch.





Note: The Console port on the New Cisco Switch is on the rear side where the power is applied.

		<p>b. Plug-in the Ethernet cables to Replacement Cisco Switch.</p> <p>Note: The Switch locations are marked on cable from Step 3.</p>
10. <input type="checkbox"/>	Reapply power	<p>a. Double check all the connections are in their proper place and are secure.</p> <p>b. Reinstall the A and B feed power fuses (removed in Step 1) one at a time.</p> <p>c. Check the switch power supply LED to ensure power is up. Then, install the other fuse and again check power supply LED.</p>  <p>The replacement switch is now ready to be set up and configured.</p>
11. <input type="checkbox"/>	Configure the new Cisco Switch	Refer to the following procedure “Switch Configuration” to configure the new Cisco Switch.

A.2 Switch Configuration

S T E P #	This procedure configures the Cisco Switches on an installed E5-APP-B ELAP server pair.	
	Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.	
	IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.	
1.	Make the cross-over cable connections.	<p style="text-align: center;">NOTE: THIS IS IMPORTANT</p> <p>CONNECT the cross-over cable from Port 1 of Switch1A to Port 1 of Switch1B.</p> <p>DISCONNECT the cross-over cable from Port 2 of Switch1A to Port 2 of Switch1B.</p> <p>Note:</p> <ul style="list-style-type: none"> • The switch configuration should only be attempted by a skilled technician and not by all. • All uplinks should be removed while switch configuration. • There should not be any loop in the switches during their configuration. • Switch1B must be configured first.
2.	Do minicom to enter the Cisco switch console. Run the command “minicom switch1A” for the	<pre>[root@Arica-A elapall]# [root@Arica-A elapall]# minicom switch1B</pre>

	console cable connected to MPS-A, and for console cable connected to MPS-B use "minicom switch1B".	
3. <input type="checkbox"/>	MPS X: Do not enter in the initial config dialog in the freshly connected Cisco switch.	<p>Autoinstall will terminate if any input is detected on console</p> <p style="text-align: center;">--- System Configuration Dialog ---</p> <p>Would you like to enter the initial configuration dialog? [yes/no]:no</p>
4. <input type="checkbox"/>	MPS X: Enter an Enable secret key :- "OracleSwitchC1"	<p>The enable secret is a password used to protect access to privileged EXEC and configuration modes. This password, after entered, becomes encrypted in the configuration.</p> <p>-----</p> <p>Secret should be of minimum 10 characters and maximum 32 characters with at least 1 uppercase, 1 lowercase, 1 digit, and should not contain [cisco].</p> <p>-----</p> <p>Enter enable secret:OracleSwitchC1 Confirm enable secret: OracleSwitchC1</p>
5. <input type="checkbox"/>	MPS X: Press 2 and enter	<p>The following configuration command script was created:</p> <pre>enable secret 9 \$9\$TsbinkhqCyICKE\$.kvHrY3IJTaqJEb.T9yJjjmzCRSu426mSirX4U3a1k ! end</pre> <p>Go to the IOS command prompt without saving this config. Return to the setup without saving this config. Save this configuration to nvram and exit. Enter your selection [2]: 2</p>
6. <input type="checkbox"/>	MPS X: Initial configuration building done.	<p style="text-align: center;">Building configuration... [OK]</p> <p style="text-align: center;">Use the enabled mode 'configure' command to modify this configuration.</p> <p style="text-align: center;">Press RETURN to get started!</p>
7. <input type="checkbox"/>	MPS X: Write "enable" and password set in step 3 which is "OracleSwitchC1"	<p>Switch>enable</p> <p>Password:</p>
8. <input type="checkbox"/>	MPS X: Once the switch is enabled to take configuration > sign changes to the # sign	<p>Switch>enable</p> <p>Password:</p> <p>Password:</p> <p>Switch#</p>

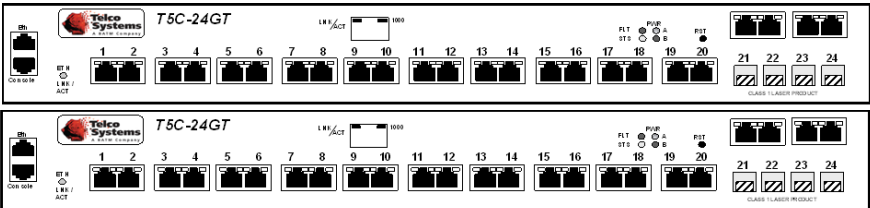
<p>9. <input type="checkbox"/></p>	<p>MPS X: Write command – “Configure terminal”</p>	<p>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)#</p>
<p>10. <input type="checkbox"/></p>	<p>MPS X: Here are the attached configs to be used for ELAP.</p>	<p>  Cisco1AElap.txt Cisco1BElap.txt</p>
<p>11. <input type="checkbox"/></p>	<p>MPS X: Open the attached config in notepad for the switch you want to configure.</p>	<p>Open in notepad and press Ctrl+A and then Ctrl+C.</p>
<p>12. <input type="checkbox"/></p>	<p>MPS X: Paste all the copied config to the switch. The shown example is for Switch1A.</p>	<pre>Switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname switch1A switch1A(config)#enable secret ENABLe switch1A(config)# switch1A(config)#\$estamps log datetime msec localtime show- timezone switch1A(config)#no service pad switch1A(config)#service timestamps debug uptime switch1A(config)#service timestamps log uptime switch1A(config)#service password-encryption switch1A(config)#no logging console switch1A(config)#logging on switch1A(config)#logging trap errors switch1A(config)#logging facility local6 switch1A(config)#line console 0 switch1A(config-line)#length 0 switch1A(config-line)#exit switch1A(config)# switch1A(config)#clock timezone gmt-5 -5 00 switch1A(config)# switch1A(config)# switch1A(config)#vlan 1 switch1A(config-vlan)# name default switch1A(config-vlan)# exit switch1A(config)# switch1A(config)#vlan 2</pre>

	<pre>switch1A(config-vlan)# name dsm-a switch1A(config-vlan)# exit switch1A(config)#interface vlan 1 switch1A(config-if)#ip address 169.254.1.1 255.255.255.0 switch1A(config-if)#no shutdown switch1A(config-if)#exit switch1A(config)# switch1A(config)#interface gigabitEthernet1/0/1 switch1A(config-if)# switchport mode trunk switch1A(config-if)#switchport trunk allowed vlan add 1 switch1A(config-if)#switchport trunk allowed vlan add 2 switch1A(config-if)# channel-group 1 mode on Creating a port-channel interface Port-channel 1 switch1A(config-if)# description Link_to_Switch B switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/2 switch1A(config-if)# switchport mode trunk switch1A(config-if)#switchport trunk allowed vlan add 1 switch1A(config-if)#switchport trunk allowed vlan add 2 switch1A(config-if)# channel-group 1 mode on switch1A(config-if)# description Link_to_Switch B switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/3 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description ELAP_A DSM A switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/4 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description ELAP_B DSM A switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/5 switch1A(config-if)# switchport mode trunk</pre>
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		<pre> switch1A(config-if)#switchport trunk allowed vlan add 1 switch1A(config-if)#switchport trunk allowed vlan add 2 switch1A(config-if)# description ELAP_A SYNC switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/6 switch1A(config-if)# switchport mode trunk switch1A(config-if)#switchport trunk allowed vlan add 1 switch1A(config-if)#switchport trunk allowed vlan add 2 switch1A(config-if)# description ELAP_B SYNC switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/7 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/8 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/9 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/10 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/11 </pre>
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	<pre>switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/12 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/13 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/14 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/15 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/16 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/17 switch1A(config-if)# switchport mode access</pre>
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	<pre>switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/18 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/19 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/20 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/21 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/22 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/23 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2</pre>
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		<pre> switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)#interface gigabitEthernet1/0/24 switch1A(config-if)# switchport mode access switch1A(config-if)# switchport access vlan 2 switch1A(config-if)# description EAGLE_A_Ports switch1A(config-if)#shutdown switch1A(config-if)#no shutdown switch1A(config-if)# switch1A(config-if)# switch1A(config-if)#no ip http server switch1A(config)# switch1A(config)#no cdp run switch1A(config)# switch1A(config)#line con 0 switch1A(config-line)# password cONsOlE switch1A(config-line)# login switch1A(config-line)#line vty 0 4 switch1A(config-line)#transport input telnet ssh switch1A(config-line)#password cONsOlE switch1A(config-line)# login switch1A(config-line)#line vty 5 15 switch1A(config-line)#transport input telnet ssh switch1A(config-line)#password cONsOlE switch1A(config-line)# login switch1A(config-line)# switch1A(config-line)# switch1A(config-line)#ntp server 169.254.1.100 switch1A(config)# switch1A(config)#logging host 169.254.1.100 switch1A(config)# switch1A(config)#end switch1A# </pre>
<p>13. <input type="checkbox"/></p>	<p>MPS X: Similarly, you need to configure all other connected Cisco switches.</p>	<p>Use the config attached in step 10 and repeat steps 2 to 12. Note: Make sure to select the exact same config from the step 10 as per the switch location.</p>
<p>14. <input type="checkbox"/></p>	<p>Connect the cross-over cable from Port 2 of Switch1A to Port 2 of Switch1B.</p>	 <p>The image shows two identical network switch diagrams, labeled A and B. Each diagram is for a 'Telco Systems T5C-24GT' switch. The switch has 24 ports numbered 1 through 24. Port 2 is highlighted with a red box. The switch also has a console port (CON) and a power port (PWR). The diagrams are used to illustrate the connection of a cross-over cable between port 2 of switch A and port 2 of switch B.</p>

<p>15.</p>	<p>Ping to Confirm connectivity.</p> <p>Note: IP address 169.254.1.1 associated with Switch1A and IP address 169.254.1.2 associated with Switch1B.</p>	<p>Ping from all the newly connected switches to the mentioned IP address, whichever is connected (169.254.1.1, 169.254.1.12, 169.254.1.100, 169.254.1.200), until you see a 100% success rate.</p> <pre> switch1A#ping 169.254.1.1 Type escape sequence to abort. Sending 5, 100-byte ICMP Echos to 169.254.1.1, timeout is 2 seconds: !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms switch1A#ping 169.254.1.2 Type escape sequence to abort. Sending 5, 100-byte ICMP Echos to 169.254.1.2, timeout is 2 seconds: !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms switch1A#ping 169.254.1.100 Type escape sequence to abort. Sending 5, 100-byte ICMP Echos to 169.254.1.100, timeout is 2 seconds: !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms switch1A#ping 169.254.1.200 Type escape sequence to abort. Sending 5, 100-byte ICMP Echos to 169.254.1.200, timeout is 2 seconds: !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms </pre>
<p>16.</p> <p><input type="checkbox"/></p>	<p>Procedure complete</p>	<p>Procedure is complete.</p>

APPENDIX D CUSTOMER SIGN OFF

*** Please review this entire document. ***

This is to certify that all steps required for the incremental upgrade successfully completed without failure.

Sign your name, showing approval of this procedure, and email this page and the above completed Table to Tekelec, email: incremental.upgrades@tekelec.com.

Customer: Company Name: _____ Date: _____

Site: Location: _____

Customer: (Print) _____ Phone: _____

Fax: _____

Start Date: _____

Completion Date: _____

This procedure has been approved by the undersigned. Any deviations from this procedure must be approved by both Tekelec and the customer representative. A copy of this page should be given to the customer for their records. The SWOPS supervisor will also maintain a signed copy of this completion for future reference.

Tekelec Signature: _____ Date: _____

Customer Signature: _____ Date: _____

APPENDIX E MY ORACLE SUPPORT

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

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

- For Technical issues such as creating a new Service Request (SR), select 1.
- For Non-technical issues such as registration or assistance with My Oracle Support, select 2.
- For Hardware, Networking and Solaris Operating System Support, select 3.

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year